

The London School of Economics and Political Science

**CONTESTING CORPORATE ENVIRONMENTALISM IN POST-APARTHEID
SOUTH AFRICA: A PROCESS OF INSTITUTIONAL AND ORGANISATIONAL
CHANGE**

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DECLARATION

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ABSTRACT

The environmental governance of multinational corporations in developing countries is relatively understudied. Much of the existing work on the greening of industry focuses on one scale of governance (international, national or local), without adequately accounting for the socio-spatial complexities, either external or internal to the firm, which influence the take up and implementation of corporate environmentalism at the site level. My thesis explores how and why corporate environmentalism has evolved in three South African fuel oil refineries (two in Durban and one in Cape Town) between 1994 and 2006.

Institutional and organisational theory, with insights from the literature on spatialities of corporate greening, informs this study. An analytical framework of multinational corporation complexity and organisational field dynamics is established to explore the process of institutional and organisational change. At the macro or organisational field level, actors compete to construct meanings of legitimate corporate environmental practice. Organisational fields are shaped by the interaction between institutional actors, institutional logics and governance structures. At the micro level, firm legitimation strategies and characteristics may explain how corporate greening differs.

The research findings are triangulated using key informant interviews, document analysis and social network analysis. Punctuated by key events, bifurcated processes of institutional and organisational change are documented. In Durban changing normative and cognitive institutions drove the evolution of regulation: above all, an internationally networked civil society exercised discursive power by demanding environmental justice and corporate accountability from the private and public sectors. In Cape Town the organisational field remained fragmented as community-driven discursive strategies did not achieve significant governance outcomes and institutional and organisational change evolved more slowly. The company with the most significant home country and parent company pressure, Shell/Sapref, made the most gains in repairing its legitimacy and improving its environmental performance. In sum, corporate environmentalism in post-apartheid South Africa has been contested and constructed by processes of scalar and place-based politics.

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LIST OF ABBREVIATIONS

AGM	Annual General Meeting
ANC	African National Congress
APPA	Atmospheric Pollution Prevention Act
AQMA	Air Quality Management Act
ASGISA	Accelerated and Shared Growth Initiative for South Africa
BEE	Black Economic Empowerment
BPD	Barrels Per Day
CAER	Community Awareness and Emergency Response
CBO	Community-Based Organisation
CFCs	Chlorofluorocarbons
CLF	Community Liaison Forum
CNPC	China National Petroleum Corporation
CO ₂	Carbon Dioxide
CONNEPP	Consultative National Environmental Policy Process
CPT	Cape Town
CSIR	Council for Scientific and Industrial Research
CWIU	Chemical Workers' Industrial Union
DEAT	Department for Environmental Affairs and Tourism
EIA	Environmental Impact Assessment
EMCAs	Environmental Management Co-operation Agreements
EMS	Environmental Management System
EPA	Environmental Protection Agency
ESHIA	Environmental, Social and Health Impact assessment
FCCU	Fluid Catalytic Cracking Unit
FOE	Friends of the Earth
FOEI	Friends of the Earth International
GEAR	Growth, Employment and Redistribution
GHG	Greenhouse Gas
GNA	Good Neighbour Agreements
GNPOC	Great Nile Petroleum Operating Company
GPN	Global Production Network
GRI	Global Reporting Initiative
HDI	Human Development Index
HSE	health, safety and environmental
HSSE	Health, Safety, Security and Environment standards
INGO	International Non-Governmental Organisation
JSE	Johannesburg Stock Exchange
LPG	liquefied petroleum gas
LRC	Legal Resources Centre
MAQP	Milnerton Air Quality Project
MEAC	Merebank Environmental Action Committee
MDS	Multidimensional Scaling
MNCs	Multinational corporations
MPP	Multi-Point Plan
MRA	Merebank Ratepayers Association
MRC	Medical Research Council
NCAMTG	Northern Communities Air Monitoring Task Group
NEMA	National Environmental Management Act

NGO	Non-governmental organisation
NOx	Nitrogen Oxide
OECD	Organisation for Economic Co-operation and Development
OEMS	Chevron's Operational Excellence Management System
PM10	Particulate Matter Less Than 10 Micrometers
PPM	Parts Per Million
RBV	Resource-based View of the Firm
RDP	Reconstruction and Development Programme
RMEF	Refinery Managers' Environmental Forum
Sapia	South African Petroleum Industry Association
SDB	South Durban Basin
SDCEA	South Durban Community Environmental Alliance
SEA	Strategic Environmental Assessment
SO2	Sulphur Dioxide
SPMU	Shell Social Performance Management Unit
TVRA	Table View Residents Association
UCT	University of Cape Town
UK	United Kingdom
UN	United Nations
US	United States
VOCs	Volatile Organic Compounds
WHO	World Health Organization
WSSD	World Summit on Sustainable Development
WWII	World War II

1 THE GOVERNANCE OF MNCs, CORPORATE ENVIRONMENTALISM AND SOUTH AFRICA

1.1 Introduction

Within the context of economic globalisation, there have been increasing calls for stronger governance of multinational corporations (MNCs) that span the social, economic, political and environmental impacts of their operations. The supposed limited capacities of the state have opened up new spaces for non-state governance such as market, civil society and industry initiatives (Glasbergen 1998: 4; Levy and Newell 2005; Newell 2001a; Sonnenfeld and Mol 2002; World Bank 2000). Foreign direct investment flowing into developing economies has increased from \$35.7 billion in 1990 to \$233 billion in 2004 (UNCTAD 2007). Through liberalisation and globalisation MNCs are arguably the most important actors in the global economy. The case can therefore be made for increased recognition of their responsibilities towards the countries in which they operate (UNCTAD 2003: 164). This trend can be demonstrated as MNCs operating in developing countries face increasing social and environmental risk both in terms of global 'reputational capital' and local 'social license to operate' (Kytte and Ruggie 2005; Joyce and Thomson 1999)

Indeed, MNCs operating in developing countries face unique risks and responsibilities. Operating in multiple societies around the world is complicated by the fact that MNCs have to respond to different and sometimes conflicting expectations. The study of the legitimacy of business in society is not new (Ruef and Scott 1998), but is gaining increased recognition as governance gaps in the management of environmental public or quasi-public goods – such as air, water and biodiversity – and delivery of equitable and sustainable development benefits are debated from the local to global. The field of what constitutes legitimate corporate environmental practice has been widely debated since the rise of the environmental movement in the 1970s. Corporate environmentalism is a discretionary activity that varies by sector, company and operating context; it can be defined as actions taken by firms that have substantive or symbolic commitment to improve corporate environmental performance (Mason 2005: 146). However, the meaning of corporate environmentalism has been contested throughout the last four decades (Prakash 2000; Howes et al. 1997; Hoffman 2001a).

This is a ripe research field: as Garcia-Johnson (2000) demonstrates, there is a specific type of “voluntary corporate environmentalism” being exported from advanced industrialised countries to developing countries through neo-liberal ideology. In addition, host country activism and foreign direct liability concerns in home countries construct new frames of what constitutes legitimate corporate environmental behaviour (Albertyn and Watkins 2002; O'Connor and Hallowes 2002; Ward 2001). Investigating how and why MNCs choose to respond to the often rapidly changing societal expectations and operational contexts in developing countries provides a unique opportunity for pragmatic and problem-oriented research (Davis and Marquis 2005; Wicks and Freeman 1998). Previous work on how MNCs seek to mitigate these risks often fails to recognise the complexity and interaction between international, regional, home and host country governance mechanisms. Often analysis is limited to one type of governance structure, such as international norms, standards and self-regulatory initiatives (e.g. Christmann and Taylor 2006; King and Lenox 2000) or at the level of industry sectors (Perkins 2007), therefore limiting the ability to rigorously explain changes in local corporate behaviour (Gouldson and Sullivan 2007). Corporate environmentalism drivers have been examined in advanced industrialised countries (see e.g. Hoffman 1999; Kagan et al. 2003), but beyond describing and prescribing corporate environmental behaviour (Utting 2002), comparatively little analytical research has taken place on its evolution in developing country contexts (Christmann 2004; Garcia-Johnson 2000).¹ This study seeks to fill these gaps in studies on corporate environmentalism by rigorously explaining changes in environmental behaviour of MNC subsidiaries at the site level in a developing country context.

A variety of new forms of environmental governance seek to influence corporate behaviour from local to global. Environmental governance depends on a complex web of relations and a multitude of different activities and processes, all of which conspire to shape and constrain actors' behaviour towards the environment (Levy and Newell 2005). Modes of environmental governance can range from conventional approaches where state or market actors take the lead role in governing corporate activity, to more ‘hybrid’ modes of governance, where state-market-community distinctions blur through multi-stakeholder partnerships and initiatives

¹ Christmann (2004) and Garcia-Johnson (2000) are notable exceptions.

(Carmen Lemos and Agrawal 2006). In addition to these external drivers, internal factors to the firm such as strategies, resources and culture may help explain variance in corporate responses to external pressures and subsequent corporate environmental performance outcomes (Bansal 2005; Delmas and Toffel 2004; Perkins 2007; Suchman 1995). Often studies focus on one mode of governance internal or external to the firm, as opposed to exploring their relationships and transitions over time. This study differs in that it recognises the spatial and socio-temporal complexity of corporate environmentalism, and therefore seeks to identify how actors at multiple scales interact to influence the corporate environmental performance of industrial facilities.

Understanding of corporate greening in developing countries is limited by a lack of rigorous theoretical and methodological approaches that take into account internal and external drivers from the local to the global. Thus, the aim of this study is to contribute to our theoretical, empirical and policy relevant understanding of corporate greening in a developing country context. In order to achieve this tripartite aim the thesis has six objectives:

1. To develop a novel analytical framework utilising institutional and organisational theory, informed by debates on the spatialities of corporate environmentalism;
2. To introduce agency and power into the analysis of institutional and organisational theory in order to identify mechanisms of institutional and organisational change;
3. To expose the complex dynamics and drivers of corporate environmentalism at the site level;
4. To develop a unique research design which utilises methodological triangulation in a process-oriented/longitudinal study;
5. To identify the policy-practical lessons learned from the analysis of corporate greening in post-Apartheid South Africa; and
6. To explore the generalisability of the research findings within and beyond South Africa and to recommend avenues for further study.

It follows that the overarching research question is: How and why has corporate environmentalism evolved in post-apartheid South Africa's oil refining sector? To explore this phenomenon the changing environmental performance at three oil refineries in South

Africa is studied: Sapref and Enref in Durban, and Calref in Cape Town.² To address the overarching research question, the study seeks to answer two secondary questions:

1. How has the environmental performance of Sapref, Enref and Calref evolved since democratisation in South Africa?
2. How and why has each refinery's environmental performance differed?

To address secondary research question one, environmental performance is assessed using primary and secondary data that demonstrates how internal and external processes and outcomes have evolved at each refinery (Ilinitich et al. 1998). To evaluate how and why each refinery's environmental performance has differed (secondary research question two), a theoretical framework of MNC complexity and organisational field dynamics (see Figure 2.2) is used to investigate the contestation of corporate environmentalism from 1994 to 2006 in Durban and Cape Town (Hoffman and Ventresca 2002a; Kostova and Zaheer 1999; Scott 2008). Through the analysis of these research questions the theoretical, empirical and applied aims and objectives of this thesis are addressed. A novel analytical framework and research design is established using a theoretical approach informed by institutional and organisational theory (Hoffman and Ventresca 2002b; Pierson 2000; Powell and DiMaggio 1991; Scott 2001). Within this study, theory is used to guide a reflexive research process that is not purely deductive hypothesis testing, or inductive 'grounded' theory building (Strauss and Corbin 1997; Esterberg 2002). The research process evolves iteratively as cycles of theory building and refinement emerges between the explanatory units of analysis and qualitative data (Eisenhardt 1989; Esterberg 2002).

One of the goals of this research is to unpack the 'black box' of institutional theory by identifying mechanisms of institutional and organisational change. The theoretical framework established in Chapter 2 seeks to identify these mechanisms through the analysis of interaction and co-construction between macro level organisational field dynamics and micro level firm legitimacy and characteristics. Organisational field dynamics, defined here as discursive spaces where actors contest and construct the meaning of issue areas (Hoffman and

² Sapref is jointly owned by Shell and BP; Shell is the operator. Enref (commonly known as the Engen refinery) is 80 percent owned by Petronas, Malaysia's national petroleum corporation, and 20 percent owned by Worldwide African Investment Holdings Ltd, a major black South African investment group. Calref (commonly known as the Caltex or Chevron refinery) is 75 percent owned by Chevron, and 25 percent owned by a variety of South African investors, see Table 3.2.

Ventresca 2002b), are explored using three analytical units: *institutional actors*, or the changing relational patterns and power dynamics of field actors (Hoffman and Ventresca 2002a); *institutional logics*, the belief systems and associated ideologies and practices taken up by field level actors (Scott 2008); and *governance structures*, such as the regulative, normative and cognitive institutions that govern organisational behaviour (McAdam and Scott 2005). The micro level factors include changing firm strategies which seek to gain, maintain or repair *host community legitimacy*, and firm characteristics such as *resources* and *culture* (Bansal 2005; Delmas and Toffel 2004; Perkins 2007; Suchman 1995). The research findings are triangulated using interview, document and social network analysis. This study's unique mix of theoretical constructs, methodologies and longitudinal analysis contributes to the study of institutional and organisational change, which as discussed in Chapters 8 and 9 should help guide future studies.

The analytical narrative examines the governance processes that have unfolded since democratisation in South Africa with particular attention given to factors internal and external to the firm at and between multiple scales. How the refineries change their environmental performance over time (secondary research question one) is the subject of the study and, in the language of deductive research, the dependent variable. The thesis makes the explanatory claim that differences in refinery environmental performance (secondary research question two) are a function of complex interactions between the macro and micro analytical units of analysis. Although the analytical approach adopted within this study is applied within a developing country context, it is equally suitable for analysis of site level environmental performance of MNC subsidiaries in developed countries. In order to explain how and why corporate environmental performance is governed, most previous work in this area has developed and/or tested propositions using statistical analysis of various MNC internal and external variables (Delmas and Toffel 2004; Hillman and Wan 2005; Hoffman 1999; Kostova 1999; Kostova and Roth 2002; Kostova and Zaheer 1999). Here, given the complexity of the qualitative data, a theoretical framework (Figure 2.2) guides the research inquiry as opposed to being used to develop testable hypotheses. Through detailed longitudinal analysis, thick description, pattern matching, and the discussion of rival explanations, the thesis highlights how and why the corporate environmental performance of each refinery has changed over time. It is hoped that a more clear understanding of the processes and mechanisms of institutional and organisational change are achieved through this study's historical tracing of the actor-spaces of corporate environmentalism.

Chapter 1 frames the study within the context of the broader literature on the governance of corporate environmentalism in developing countries, the spatialities of corporate environmentalism, and South Africa's historical and post-apartheid circumstances. Chapter 2 explores how institutional and organisational theory can be used to investigate the governance of corporate environmental performance. A theoretical framework of MNC complexity and organisational field dynamics is developed which informs the study's research design, strategy and methods. Chapter 3 links theory to method as the study's units of analysis, research design and indicators of rigour and relevance are discussed. Chapter 4 highlights the historical context of the South African liquid fuels industry and compares how the environmental performance and parent/subsidiary relations of Enref, Sapref and Calref have changed over time. Chapters 5 through 7 use longitudinal field level analysis and an in-depth qualitative narrative to explore how corporate environmental performance differs between each refinery.

Chapter 5 analyses how the post-apartheid pollution struggle emerges from 1995 to 1999 in relation to Enref and Sapref in Durban and Calref in Cape Town. Chapter 6 discusses and compares how discursive power is wielded and norms are contested from 2000 to 2003 in Durban and Cape Town, and Chapter 7 highlights how regulative institutions evolve in Durban and at the national level whereas the field remains fragmented in Cape Town. Chapter 8 compares the findings of Chapters 4 through 7 to identify mechanisms of institutional and organisational change and reflects on the role of power and scale within the analysis. Chapter 9 considers the study's theoretical and policy-practical relevance.

1.2 MNC environmental performance in developing countries

This study explores how industries' environmental performance is shaped and constrained in a developing country context. The following section clarifies how this study's subject, corporate environmental performance, is defined in the literature and how it is investigated within this thesis. Then, to situate the study within the changing discourse on MNC environmental performance in developing countries, a brief history of the literature is discussed.

1.2.1 MNC environmental performance

To explain how and why corporate environmentalism has evolved in post-apartheid South Africa, this study investigates how the environmental performance at three South African fuel oil refineries has evolved (secondary research question one), and how and why each refinery's environmental performance has differed (secondary research question two). Secondary research question one is the subject of this study or the dependent variable.³ In order to explain how the environmental performance of the oil refineries has evolved, the different dimensions of environmental performance and how they can be measured and analysed need to be specified.

The meaning of corporate environmentalism has evolved throughout the last four decades (Prakash 2000; Howes et al. 1997; Hoffman 2001a). Events such as the publication of Rachel Carson's *Silent Spring* in 1962, the Bhopal gas disaster in 1984, the Exxon Valdez oil spill in 1989, and Shell Nigeria's ongoing environmental and human rights controversies have all served to fuel the evolving definitions and interpretations of corporate malpractice and, broadly speaking, corporate environmental performance. Although there is little consensus on a common definition and consistent and reliable set of environmental performance indicators (Ilinitch et al. 1998), practitioners have responded by developing environmental performance benchmarks and reporting standards to normatively influence corporate behaviour (see Ceres 2006; FTSE 2006; GRI 2006). On the other hand, academics have developed theoretical models to provide consistent approaches within the rapidly evolving fields of corporate social and environmental performance (see Carroll 1979; Kolk and Mauser 2002; Lober 1996; Wood 1991; Ilinitch et al. 1998).

³ As will be discussed in Chapters 2 and 3, the independent variables or explanatory factors of the study are the complex interactions between the factors at the macro and micro levels of analysis.

Table 1.1: A corporate environmental performance matrix

	Internal	External
Process	<i>Organisational processes and structures</i> Indicators: e.g. environmental management systems and clear lines of responsibility up to senior management for corporate environmental performance	<i>Stakeholder Relations</i> Indicators: e.g. publication of environmental reports and data
Outcome	<i>Regulatory Compliance</i> Indicators: e.g. fines and penalties	<i>Environmental Impacts</i> Indicators: e.g. actual emissions levels and incidents

(Source: adapted from Ilinitch et al. 1998)

Process and outcome oriented dimensions of corporate social and environmental performance are common themes within this literature. For example, Ilinitch et al. (1998: 388) break corporate environmental performance criteria down into processes and outcomes that are both internal and external to the company (see Table 1.1). The general categories include internal organisational processes and structures, internal compliance with laws and regulations, external stakeholder relations and external environmental impacts. Indicators for these categories include adoption of environmental management systems, fines and penalties, publication of environmental reports and data, and actual emissions levels and incidents.

However, it is important to recognise the limitations of this typology; for example, internal regulatory compliance may be influenced by external factors such as threat of regulation. Also, internal processes such as environmental management systems may influence reductions in environmental emissions and public access to environmental data. Although some studies have narrowed the definition of corporate environmentalism to the examination of 'beyond compliance' corporate policies (see Prakash 2000), here the definition is kept broader to include both processes and outcomes in order to see the changing dimensions of corporate environmental performance over time. In developing country contexts, where regulation may be nonexistent or weakly enforced, it is relevant to maintain a broader definition of corporate environmentalism. This analysis also distinguishes symbolic versus substantive environmental performance improvements (Christmann and Taylor 2006), and seeks to explain how and why the oil refineries engage in these strategies.

Thus the environmental performance categories in Table 1.1 are useful to guide investigation, but the analysis and explanation must be developed using appropriate theory and methods. Chapter 3 discusses methods and Chapter 4 discusses how corporate environmental performance patterns emerge from the analysis of the three different refineries.

1.2.2 The changing MNC discourse

Since World War II MNCs have substantially increased their operations in the developing world. Some of the first studies examining the environmental impacts of industry in developing countries occurred during the rise of the environmental movement in the 1970s. Although the examination of corporate environmental performance in developing country contexts is relatively under-researched with few systematic and in depth studies, a variety of ongoing themes at multiple scales can be identified within the literature on the environmental performance of pollution intensive MNCs operating in developing countries. They include at the international and cross-national levels: the pollution-haven hypothesis (Leonard 1987, 1988); MNC versus domestic company performance (Pearson and WRI 1987); trade of hazardous products and waste (Castleman 1979); technology transfer (Gladwin 1977; Gladwin and Wells 1976); foreign direct investment and cleaner production (Wheeler 2001); and the export of environmental values (Brown et al. 1993). At the local level the study of technological risks, i.e. low probability/high risk events, emerged as a reaction to the Bhopal gas disaster in 1984 (Shrivastava 1992). The analytical focuses of these studies differ; they are typically divided between evaluating how either internal or external factors to the firm influence its corporate environmental performance.

In the 1970s and 1980s MNCs were often considered to be in opposition to the development goals of developing countries (Brown et al. 1993; Richter 2001). For example, the UN Code of Conduct for Transnational Corporations (UNCTC 1976) and the OECD Guidelines for Multinational Enterprises (OECD 1976) were initiated in early 1970s. Both documents assume the inherent conflict with MNC business objectives and host country development objectives. It is important to recognise the political context of the era in order to situate this oppositional discourse – the post-colonial independence of some countries and the socialist economic planning doctrines of others provided the backdrop in the decades following WWII for the distrust of Western MNCs operating in non-OECD countries (Jenkins 1991; Leys 1996). Of course, as is discussed in Chapter 4, the fuel oil industry in apartheid South Africa during this period was under unique state and global civil society pressures. However, within

the late 1980s and 1990s there was a discursive shift from a conflictual to a more conciliatory tone (Brown et al. 1993).

Coinciding with the fall of communism, the rise of neoliberal ideology and the acceleration of global capitalism, the vision of sustainable development rose to public prominence in the late 1980s with the publication of the landmark *Our Common Future* report by the Brundtland Commission (WCED 1987). Public discourse then embraced the long-term compatibility of the environment, social and economic development, replacing the presumption of conflict and incompatibility (Brown et al. 1993: 5). The role of business within this high-level debate also evolved. For example at the Earth Summit in 1992, Chapter 30 of Agenda 21 highlighted the role of business in achieving sustainable development. MNCs began to be considered part of the solution in so-called third world development as opposed to the problem.

The reframing of this MNC – host country relationship occurred within the context of growing recognition of developing country capacity limitations. For example, in some cases the pace of industrialisation has outpaced the ability of host countries to regulate the environmental impacts of MNCs. In addition, governance and institutional structures remain underdeveloped. Some developing countries often lack adequate financial resources, data and technical expertise, public participation in environmental decision-making, and the means of seeking redress in environmental matters (Petkova and WRI 2002; WRI 2003).

The corporate buzzwords of the last decade reflect this move towards MNC accommodation, MNC and host country cooperation, and industry self-regulation: terms such as “corporate environmentalism”, “public-private partnership”, “product stewardship”, “co-regulation”, “corporate social responsibility” and “corporate citizenship” exemplify this discursive shift (Brown et al. 1993: 5). Within the business and environment literature the accommodation and legitimisation of corporate practice is exemplified by advocates of eco-efficiency (Schmidheiny 1993), the compatibility of environmental regulation and competitiveness (Porter and van der Linde 1995b, 1995a), the move towards self and cooperative regulation (Glasbergen 1998), the development of markets in low income countries (Prahalad 2005), and the evolving corporate social responsibility debate (Carroll 1999). This win/win rhetoric spans multiple scales from the international, regional, home and host country, and host community levels of analysis.

However, there are counter currents to these conciliatory overtures. Some of the more recent academic literature on the 'greening of industry' in developing countries questions its uptake and implementation and characterises it as an ad hoc and predominantly symbolic exercise (Utting 2002; Tokar 1997; Greer and Bruno 1996). Civil society opposition has emerged at multiple scales that feels there cannot be corporate responsibility without accountability (Bendell 2004; Newell 2001b; Clapp 2005; FOEI 2002, 2006; O'Rourke 2004). Indeed actors engaging in the field of corporate environmentalism have advocated for corporate accountability legislation (CORE 2006; FOEI 2002; Richter 2001), foreign direct liability (Ward 2001; Newell 2001b), shareholder pressure (UKSIF 2006; SIF 2006) and environmental justice (Groundwork 2006; ESRC 2001). Many have been critical of how business seeks to accommodate stakeholder concern in order to legitimise their positions of power in society (Hamann and Acutt 2003; Idemudia 2007; Levy and Newell 2002; Utting 2000). Often the most vociferous and sustained opposition to subpar MNC environmental performance comes from activists in home countries and host communities.

1.3 Governance of corporate environmentalism

Paralleling this changing MNC discourse, as the processes of globalisation, privatisation and decentralisation rose to the fore in the 1980s and 1990s, the concept of governance entered the academic lexicon with increasing frequency (Rhodes 1996; Rosenau 1995). Governance is distinct from government, as it encompasses both state and non-state structures and actors whereas government primarily focuses on the institutions and actions of the state (Jordan 2008: 21; Lemos and Agrawal 2006: 298). *Environmental governance* in the last decade has emerged as a wide field within which explanations and prescriptions of human-environment interaction are sought. Its normative and prescriptive dimensions provide a common departure point for scholars investigating differing modes of environmental governance, i.e. that human-environment interaction should be changed and can be changed (Glasbergen 1998). The concept of environmental governance therefore encompasses a broad range of approaches that seek to analyse, explain and potentially influence social and environmental change (Jordan 2008). It moves beyond the study of environmental decision-making to include the wider socio-economic and institutional environment within which decisions are made.

Levy and Newell's (2005: 2-3) definition of environmental governance, which recognises both its 'hard' and 'soft' aspects, captures this dynamic interplay:

We use the term “environmental governance” to signify the broad range of political, economic, and social structures and processes that shape and constrain actors’ behaviour towards the environment. Environmental governance thus refers to the multiple channels through which human impacts on the natural environment are ordered and regulated. It implies rule creation, institution-building, and monitoring and enforcement. But it also implies a soft infrastructure of norms, expectations, and social understandings of acceptable behaviour towards the environment, in processes that engage the participation of a broad range of stakeholders.

The environmental governance of corporations from the ‘inside’ and the ‘outside’ is constantly evolving (Howes et al. 1997; Brown et al. 1993). Studies on the changing dimensions of corporate environmentalism have focused both on internal (see Prakash 2000) and external (see Hoffman 2001b) factors to the firm. While most studies have been conducted on the environmental performance of industry in advanced industrialised countries where environmental regulation has evolved significantly since the 1970s, free market economies are embraced and commitment to democratic government exists, there is an increasing body of literature emerging in developing countries (Perkins 2007). Different types of governance structures external to the firm range from conventional approaches where state, market, industry or civil society actors take the lead role in governing corporate activity, to more ‘hybrid’ approaches, where state-market-civil society distinctions blur such as through multi-stakeholder partnerships and initiatives (Carmen Lemos and Agrawal 2006).

How do these modes of governance drive corporate environmentalism? Three broad categories of primarily *external drivers* can be found in the literature: environmental regulation, global (i.e. international and firm-based) norms and standards, and community-driven environmental governance. As will be discussed below, studies often focus on one mode of governance, as opposed to exploring their relationships and transitions over time (Kagan et al. 2003 is an exception). This study differs in that it recognises the spatial and socio-temporal complexity of environmental governance, and therefore seeks to identify how and why a broad range of governance structures emerge, change and interact over time.

1.3.1 National environmental regulation

In both developed and developing countries *environmental regulation* is one of the key drivers of corporate environmental performance (Hoffman 2001a; Jenkins 2000; Kagan et al. 2003). There are a variety of different regulatory strategies and policy instruments ranging from being prescriptive (e.g. command and control) to more flexible and voluntary. In

advanced industrialised countries, 'new' environmental policy instruments (such as market-based instruments, information-based approaches, negotiated agreements and voluntary regulations) gained increasing preference in the 1980s and 1990s over the alleged burdens of traditional command and control regulation in the 1970s (see e.g. Carter 2007; Jordan 2008; Jordan et al. 2004; Fiorino 2006; Gouldson and Murphy 1998).

In a particularly insightful study, Kagan and colleagues (2003) explore the importance of regulation in shaping the corporate environmental performance of pulp and paper manufacturing mills in Australia, New Zealand, Canada and the US. In contrast to other studies, regulation is just one of the factors compared to other potential mechanisms which influence corporate environmental behaviour. They make a unique contribution to the literature by exploring the similarity and difference of environmental improvements at the site level through the recognition of the complex interaction between regulation, market pressures, local and national environmental activism, and corporate environmental management (Kagan et al. 2003). This study draws from Kagan et al.'s research design and considers a wide range of mechanisms which may influence corporate environmentalism in South Africa.

An issue particularly relevant for the implementation of regulation in developing countries is the degree to which it is enforced. If regulation is weakly enforced then it may have limited or uneven effects on pollution prevention and control (Jenkins 2000). Much of the debate on how best to regulate business activities has focused on command and control measures versus voluntary and self-regulatory initiatives (Utting 2002: 9). Yet there are limits to the take up and implementation of voluntary agreements, both in developed and developing country contexts (Darnall and Sides 2008; Hanks 2002). Environmental policy instruments are thus context specific and often a regulatory mix is needed (Potoski and Prakash 2004; Stavins 2003). Given much of the literature on environmental policy derives from developed country examples, questions have been raised about the extent to which policy instruments can be transferred and replicated from developed to developing countries (Utting 2002: 9). Indeed, some solutions unique to developing country contexts have been documented in the literature, particularly in relation to innovative public disclosure programmes (Blackman et al. 2004). As will be discussed in section 1.5.3, South Africa's environmental regulation has strong foundations but, within the timeframe of this study, the regulatory framework is quite fragmented, weakly implemented and enforced. It is expected that in the context of this study direct or command and control regulation will have little influence over each refineries'

corporate environmental performance, but that self- and voluntary regulation will have more significant impact.

1.3.2 Global diffusion of environmental norms and standards

In the context of weak host country regulation, scholars have explored how economic globalisation, trade liberalisation and foreign direct investment may influence the environmental performance of MNCs in developing countries. Controversially, some authors have claimed that MNCs will exploit cross-country differences, seeking to site manufacturing facilities where there is lax regulation thus MNC subsidiaries would adapt environmental policies, standards and technologies to the host country conditions (Christmann 2004: 747; Korten 1995; Leonard 1988, 1987; Pearson and WRI 1987). Others have explored how MNCs have increasingly self-regulated their environmental conduct, implementing uniform environmental policies and firm-based standards throughout their operations (Angel and Rock 2005; Christmann 2004; Christmann and Taylor 2001).⁴

It is not surprising that the evidence on whether or not developing countries have become 'pollution havens' for the pollution intensive industry of high-income countries and whether or not there has been a 'race to the bottom' in environmental standards in developing countries is mixed. Some find no evidence suggesting that the stringency of a country's environmental regulation significantly impacts competitiveness of pollution-intensive firms (Jaffe et al. 1995; Jänicke et al. 1997), whereas others have found some evidence of pollution haven pressures (Antweiler et al. 2001; Birdsall and Wheeler 1993; Cole and Elliott 2003; Mani and Wheeler 1998; Van Beers and Van den Bergh 1997). Vogel in fact suggests that trade liberalisation will influence the 'trading up' of environmental regulation in the global economy (Vogel 1995). What is of interest here is how these processes of economic globalisation may or may not drive the greening of industry in South Africa.

There is growing cross-national empirical analysis of themes such as technology transfer and the diffusion of environmental norms, values and standards (Angel and Rock 2005; Garcia-Johnson 2000; Christmann 2004; Christmann and Taylor 2001; Christmann and Taylor 2006;

⁴ As will be discussed in Chapter 7, there are cross-overs between these 'ideal types' of corporate environmentalism drivers. The spread of industry self-regulation through international diffusion processes may significantly influence national environmental regulation, e.g. types of host country co-regulation may be designed around the take up and implementation of these international norms and standards.

Cole and Neumayer 2005; Neumayer and Perkins 2004; Perkins 2003, 2007; Perkins and Neumayer 2008; Wheeler 2001). This literature often explores the growing convergence between industry's environmental performance in developed and developing countries. For example, using survey data from China, Christmann and Taylor (2001) find that multinational ownership, multinational customers and exports to developed countries increase self-regulation of environmental performance. In addition, Angel and Rock focus on the uniformity of environmental standards within MNCs and demonstrate that in Southeast Asia MNCs may go beyond compliance due to global firm-based standards, and that these standards "are providing a platform for learning and innovation within the firm" (2005: 1903).

Although the literature on the global diffusion of environmental norms and standards demonstrates potential benefits, it underspecifies how and why 'unevenness' in environmental performance outcomes occur in practice (Perkins 2007). For example, Ruud (2002: 116) reveals that global market forces demonstrated less influence over MNCs in India than domestic environmental regulations and firm-level environmental policies and programmes. Garcia-Johnson (2000) demonstrates the 'hegemonic' transfer of environmental ideas and practices from US MNCs within the host countries Brazil and Mexico, and Acutt et al (2004) highlight the limitations of implementing the global chemical industry's code-of-practice, Responsible Care, in South Africa and Mexico. In Mexico they find that there is little engagement with civil society, and in South Africa, although there is a stronger tradition of stakeholder engagement, the code-of-practice lacks societal legitimacy due to its narrow focus. Both Garcia-Johnson and Acutt et al demonstrate the global reach and influence of corporate environmentalism, but also demonstrate how the uptake and implementation of industry and firm-based norms and standards may lead to dissimilar outcomes.

Also germane to this study, within the last decade political scientists have explored the 'privatisation' of environmental governance and the changing role of states, firms and global civil society in global environmental governance (Biermann and Pattberg 2008; Cashore 2002; Clapp 1998; Falkner 2003, 2007; Levy and Newell 2005; Levy and Newell 2002; Pattberg 2005). They have highlighted the development and spread of new forms of private environmental governance, such as environmental management and certification standards like ISO14001 and the Forest Stewardship Council. Both industry and environmental non-governmental organisations (NGOs) have become key actors in the process of global environmental governance, which, it can be argued, serves to promote global self-regulation

and the international liberal paradigm (Falkner 2003). This literature breaks new ground by asking key questions about the role of business in global environmental governance, but it does not specifically address how and why the environmental performance of business is governed. Nor does this scholarship consider the environmental performance of industrial facilities at the site level; it biases the role of MNCs in international as opposed to local environmental politics.

Thus, *global norms and standards*, which may include international certifiable standards, industry initiatives and firm-based environmental policies and standards, may increasingly diffuse between parent and subsidiaries, but the quality of their take up and implementation is context specific. Driving this diffusion are a variety of pressures and processes, which include (Christmann and Taylor 2001; Angel and Rock 2005; Jenkins 2000; Perkins 2007):

- The increasing integration of global MNC production networks;
- MNC pressure on subsidiaries and domestic suppliers to self-regulate environmental performance;
- International interest group and NGO pressure on MNCs to improve worldwide environmental performance;
- Customer pressure to self-regulate the environmental performance of the supply chain and end market country regulatory standards, particularly as exports increase from developing to developed countries; and
- The need for global firms to maintain ‘reputational capital’ and minimise legitimacy risks as global brands may be one of their most valuable assets.

Although studies that explore the globalisation of environmental norms and standards are useful in identifying proximate drivers of corporate environmentalism, they often generalise at the national and industry sector levels, and give preference to top-down and cross-national processes as opposed to identifying potential heterogeneity in host community or site level outcomes (see e.g. Perkins 2007). Indeed, much of this work does not evaluate the quality of implementation and subsequent impacts of self-regulatory initiatives.⁵ From the above discussion it is apparent that international, industry and firm level norms and standards are

⁵ Although in an effort to identify ‘symbolic’ versus ‘substantive’ environmental performance in ISO-certified firms in China, Christmann and Taylor (2006) do investigate compliance with international certifiable standards.

putting increasing pressure on high profile polluters such as the petrochemical industry. However, the degree to which this pressure influences corporate environmental behaviour will depend upon a variety of different factors including the firm's reputational risk within the host and home countries. This study will show how these international drivers impact site level environmental performance in South Africa. Out of the three refineries, it is expected that Sapref and Calref, the Shell/BP (UK/EU) and Chevron (US) refineries respectively, will have more international, home country and parent company pressure to improve its environmental performance than Engen, which is owned by Petronas (Malaysia). Therefore we can expect Sapref and Calref to implement ISO14001 and other industry norms and standards before Enref.

1.3.3 Community-driven environmental governance

As highlighted in section 1.2.2 civil society has also engaged with business and government at multiple scales calling for corporate accountability. Related to the study of facility-specific corporate environmental performance, *community-driven environmental governance*, such as 'community-driven regulation' and 'environmental justice' activism, have significantly influenced corporate and government behaviour in certain contexts (Cock 2004; Lund-Thomsen 2005; O'Rourke 2004; Agyeman et al. 2003; McDonald 2002; Agyeman 2002; Bullard and Johnson 2000). Environmental justice can be defined as the "fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies" (Bullard and Johnson 2000: 558). This rights-based discourse emerged in the US in the 1970s and 1980s in relation to proposals to site polluting and toxic industries in predominantly poor and black communities, but since then the concept of environmental justice has evolved and become broader in scope to address injustices in a variety of contexts within, between and across both developed and developing countries (Walker and Bulkeley 2006: 655).

As Newell (2005: 548) highlights, poor communities can drive a type of 'accountability politics', where the legitimacy of private and public sector actors are queried and held to account. Indeed, O'Rourke (2002) demonstrates how complaints from community members have driven local environmental agencies in Vietnam to take action on industrial pollution issues; although he highlights how conflicts within the state between developmentalist and environmental concerns may create disincentives for enforcement of environmental

regulations. In South Africa, Lund-Thomsen (2005: 628) identifies three ways corporate accountability activists may spur changes in corporate environmental behaviour: first, civil society ‘critical governance’ engagement strategies have proved successful; second, anti-globalisation social movements have “increased environmental consciousness, transforming the environmental governance structures in South Africa”; and third, community-based organisations and NGOs have pressured the enforcement of existing legislation in South Africa, enabling corporations to be held to account for polluting practices. In Durban, Barnett (2003) has highlighted how the media can play an important role in naming and shaming private and public sector actors and influencing governance outcomes (Barnett 2003). Other authors have noted how, since democratisation, environmental justice campaigns have had mixed success in South Africa (Cock 2004; McDonald 2002).

Yet community-driven governance is not all about *confrontational politics*: as discussed in section 1.2.2, there is a *cooperational discourse*, which advocates ‘corporate social responsibility’, ‘corporate citizenship’ and ‘stakeholder engagement’ (Matten and Crane 2005; Moon et al. 2005; Zadek 2001). There are often multistakeholder initiatives where companies and communities find win/win solutions for the environmental governance of industrial facilities, such as through the establishment of Good Neighbour Agreements (GNAs) (Illsley 2002; Lewis and Henkels 1998) and other types of cross-sector partnerships (Egels-Zanden and Wahlqvist 2007; Selsky and Parker 2005). There is a growing literature on why firms ‘should’ incorporate corporate environmentalism into their core business strategy, though the evidence of firms actually doing so, particularly in developing countries, is sparse (Hoffman 2000; Jenkins 2000; Utting 2002). How and why these interventions have been successful and how sustainable they will be in the end is less clear. Many of these studies are normative, descriptive and to a lesser degree theoretical – stating the case for companies to be good corporate citizens, as opposed to ground-truthing the evidence (Waddock 2008). As mentioned in section 1.2.2, there is a healthy scepticism in some academic circles that seek answers to the difficult questions about the role of corporate power in environmental governance. As Jordan (2008: 30) emphasises, the literature needs to more explicitly address “governance for what and for whom”.

More recently, some academics have called for a renewed research agenda on the role of corporate social responsibility in developing countries. They have promoted a ‘critical research agenda’ to evaluate the extent to which corporate social responsibility initiatives can

reduce poverty and maximise sustainable development benefits for the poor and marginalised in the global South (Prieto-Carron et al. 2006; Blowfield and Frynas 2005). Some scholars have concluded that best practice corporate social responsibility initiatives should reinforce state-led development policy in low income host countries (Newell and Frynas 2007). This study does not directly engage with the normative literature on how MNCs should behave in developing countries, or more generally host countries and communities with weak governance structures, rather it takes an analytical approach to explore how and why corporate environmentalism has evolved over time driven by factors both external and internal to the firm.

In sum, communities engage both government and firms with a variety of different strategies including direct action, campaigning, educational, informational, civic science and cooperational approaches. However, this literature lacks specificity in relation to the type of conditions that lead to ‘successful’ outcomes (Newell 2005), i.e. those that are deemed efficient, effective, equitable and legitimate by all relevant stakeholders (Adger et al. 2003). The literature also gives preference to the poor and marginalised communities that have much less material and structural power than large MNCs and strong governments (see e.g. Garvey and Newell 2005; Muthuri 2007), rather than focusing on highly educated, middle-class communities that may (or may not) successfully influence a firm’s environmental performance. Another potential limitation of community-driven governance is that positive outcomes may be confined to particular communities that have suffered disproportionate environmental impacts and have achieved a strong degree of collective action and organisation (Jenkins 2000: 258). Within the context of this study (see section 5.1 for more detail), it is expected that Cape Town’s white middle-class host communities will engage more cooperatively with Calref and achieve more significant corporate environmental performance gains than South Durban’s Indian, Coloured and African communities. In contrast, it is expected that South Durban’s historically disadvantaged communities will engage more confrontationally using the rhetoric of environmental justice and rights than Cape Town’s northern suburbs, and that Enref and Sapref will resist engaging with community activists given the legacy of industrial secrecy in the Basin.

1.3.4 Managerial environmentalism versus environmental justice

This overview illustrates a variety of external and some internal drivers that may influence the corporate environmental performance of South Africa’s fuel oil refineries. *External drivers*

include domestic environmental regulation, the diffusion of international norms and standards, and community-driven governance. *Internal drivers* include parent company policies, practices and subsidiary environmental strategy. Clearly there is crossover between these ‘ideal types’ of corporate environmentalism drivers. The spread of industry self-regulation through international diffusion processes may significantly influence national environmental regulation. For example, types of host country co-regulation may be designed around the take up and implementation of these international norms and standards. In addition, communities may name and shame firms into adopting industry standards. Using an original research design, this study seeks to unpack the complexity and interaction between these different corporate environmentalism drivers within South Africa’s oil refineries.

Although not directly addressed but apparent from the above discussion, there are various ‘environmentalisms’ that may populate discursive spaces (i.e. organisational fields, see section 2.2) within the new South Africa. Discourse often revolves around dichotomies such as conflict versus consensus and radical versus incremental organisational and institutional change. Corporate environmentalism, as defined in section 1.2.1, can be considered a subset of a broader discourse, managerial environmentalism, favoured by technocrats and industry which falls into the latter incremental category seeking win/win business-environment outcomes. Critics have highlighted how neoliberal governments establish misguided approaches “that assume that firms and markets are the best arbiters of sound and efficient environmental policies” (Stevis and Assetto 2001: 251). Perkins definition is apposite:

Managerial environmentalism describes environmental commitments, policies and practices aimed at addressing environmental impacts in instrumental ways which do not fundamentally challenge dominant patterns of human-environment relations. The term overlaps with weak versions of ecological modernisation with their emphasis on incremental, technocratic approaches (Murphy and Gouldson 2000). However, managerial environmentalism refers to a broader category of regulatory approaches, including conventional directive-based ones rejected by proponents of ecological modernisation. (Perkins forthcoming: 1-2)

Thus, much of the above discussion on drivers of corporate environmentalism – i.e. national environmental regulation, global diffusion of norms and standards and cooperative approaches by communities and companies to establish voluntary regulatory initiatives – fits within Perkins’ definition of managerial environmentalism. What falls outside of this definition is environmental justice and corporate accountability activism that often seeks more radical institutional and organisational change using confrontational discursive strategies (as

discussed in section 1.3.3). Environmental justice seeks equal environmental protection for all populations, which, given the legacy of apartheid and South Africa's new constitution (which guarantees the right to a clean and healthy environment), resonates significantly with the formerly excluded majority. This analysis will pay close attention to how the discourses of managerial environmentalism and environmental justice influence governance processes and outcomes in both Durban and Cape Town.

1.4 Spatialities of corporate environmentalism

Implicit within the above discussion of corporate environmentalism drivers is a spatial structure. Indeed, scale is one of the foundational concepts in geography (Brown and Purcell 2005). Environmental regulation occurs at the national scale, global norms and standards at the international and community-driven governance at the local scale. These are the analytical lenses that academics often use to explore the drivers of corporate environmentalism. Although as alluded to above, there are clearly relationships and interactions between scales. In fact, as will be discussed below, scalar organisation and politics can help explain the diffusion and potential unevenness of corporate environmentalism at the site level.

Before assessing how the concept of scale can be applied within this study it is important to recognise the structural context within which this alleged move from 'government to governance' and the diffusion of managerial environmental approaches has taken place. Some geographers have been keen to highlight how the globalisation of neoliberal ideology provides the impetus for these changing scalar processes (Himley 2008; McCarthy 2005). Indeed, from an Anglo-American perspective it was the Reagan and Thatcher years that highlighted inefficiencies of command and control regulation and ushered in an era of market-based approaches and self-regulation. Yet the gap that the rollback of government left open in the US in the 1980s was initially populated by civil society organisations and NGOs seeking to hold companies and government to account (Hoffman 2001a). As Hoffman (2001a) explains it was in the late 1980s and early 1990s that environmental performance began to be 'institutionalised' within industry and firms began to more willingly adopt voluntary environmental improvements.

Thus through processes of 'neoliberal' environmental governance environmental goods and services have become increasingly privatised and commodified, governance has been rescaled "both 'downward' towards the local and subregional scales and 'upwards' toward the

supranational scale” (Himley 2008: 443), and there has been a rise in the role of social movements and other nonstate actors in contesting and reworking neoliberal forms of governance (e.g. environmental justice and corporate accountability activists) (Himley 2008: 444-446). Those critical of these trends highlight the extent to which these new spatial processes have eroded democracy and accountability (Bailey and Maresh 2009). Particularly relevant to this study is how South Africa’s adoption of neoliberal policies (as discussed in section 1.5) may influence the spatial organisation of environmental policy and governance.

1.4.1 Conventional scale

Traditionally environmental decision-making is conceptualised from the top-down – a cascading of policies and practices from the international level to the local level (Eckerberg and Joas 2004). Yet as discussed above the role of the nation state has been changing with the spread of neoliberalism. A ‘hollowing out’ of the nation state as a locus of political authority has been widely documented in the literature. Through processes of deregulation, devolution of authority, increasing interaction between state and non-state actors, it has been argued that traditional authority has moved away from the national state to local and regional government and civic and private organisations (Eckerberg and Joas 2004). Highlighting the importance of socio-spatial processes allows for a deeper and more meaningful approach to understanding the dynamics of changing corporate behaviour. For example, an analytical focus on how corporate environmental performance is changing at the local level should recognise the factors at multiple scales that may impact host locality processes and outcomes (Ostrom 1999).

In developing countries, as discussed in section 1.3.1, where state-based regulatory and enforcement structures may hold little formal or informal authority, traditional hierarchical forms of regulatory power may be dispersed and fragmented. Formal rules, such as laws and regulations, are only part of the story: informal rules, such as norms, beliefs and cognitive/cultural factors, may also influence corporate behaviour. In addition to explanations of top-down (push) diffusion, there is increasing acknowledgement of bottom-up activity, where actors “pull” innovations and formal and informal governance structures down from the global/regional scale to be applied at the local level (Perkins forthcoming: 12).

Thus, *vertical explanations* of the diffusion of corporate environmentalism give preference to top-down (push) and bottom-up (pull) accounts. Building on the discussion in section 1.3,

Table 1.2 identifies a wide variety of initiatives at multiple scales that aim to govern corporate behaviour. It is relevant to note that the instruments in Table 1.2 and framework in Figure 1.1 presents ‘ideal types’; there may be governance structures that do not fall neatly within its boundaries and these ‘types’ in actuality may blur between categories and scales. For example, the UN Declaration on Human Rights can be characterised as both international ‘soft law’ and a norm that may influence business practices at multiple scales.

Table 1.2: Environmental governance of the petrochemical industry

Categories	Types and scales	Examples of petrochemical industry environmental governance instruments
Global and private environmental governance	International ‘soft law’	ILO standards, Universal Declaration of Human Rights, UN Norms on the Responsibilities of Transnational Corporations, Voluntary Principles on Security and Human Rights
	Global and industry norms, standards and guidelines	ISO standards, UN Global Compact, AA1000, Global Reporting Initiative, Responsible Care, OECD MNE Guidelines
	International initiatives and campaigns	Extractive Industries Transparency Initiative (EITI), Publish What You Pay campaign, Business Leaders Initiative on Human Rights
	Home country	Foreign direct liability, e.g. U.S. Alien Tort Claims Act, non-financial reporting requirements, shareholder resolutions, consumer, NGO and media pressure
Environmental regulation	Host country	Direct and hybrid regulatory instruments; including command-and-control and market-based instruments, public disclosure programmes, negotiated and voluntary agreements, self regulation
	Host locality	Devolution, implementation and enforcement of environmental policy and management: e.g. permitting, air quality monitoring, multistakeholder initiatives and industry self regulation
Community/civil society-driven governance	Host country and host locality	Community, NGO, consumer and media pressure: e.g. information and education devices, citizen science, participatory community-company engagement, Good Neighbour Agreements, community-led monitoring and enforcement schemes

From a *top-down perspective*, as discussed in section 1.3.2, the processes driving global and private environmental governance may ‘push’ the implementation and take up of international corporate environmental norms, standards and guidelines to host countries and localities. Whereas from a *bottom-up perspective*, as discussed in section 1.3.3, civil society in host countries and communities may demand corporate accountability, thus ‘pulling’ international

norms and standards and applying them to specific point polluters to contest their social and environmental performance.

1.4.2 The 'relational turn'

The discussion above highlights how the diffusion and production of formal and informal rules to govern corporate environmental performance occurs at and between spatial scales from the global to local. Indeed, globalisation occurs not just at 'the global' but at the 'sub-global', thus is transforming a concept of space: "Space extends in globalisation through the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (Giddens 1990: 64; in Lange 2003: 415). Yet these global-local, top-down/bottom-up dualisms have been contested by some, who argue that in an increasingly networked world (e.g. through global flows of capital, information, communication and travel) conventional scalar explanations of changing socio-spatial dynamics are less relevant (see e.g. Amin 2002; Marston et al. 2005; Yeung 2005). As Jones (2009: 203) highlights, 'global business spaces' are characterised by increasingly complex interactions between actors and the multiple spaces that constitute them. Thus, the dynamics of environmental governance can be understood as *horizontal*, where *networks of state and non-state actors* interact in non-traditional ways to shape and constrain environmental processes and outcomes (see e.g. Bulkeley 2005).

For example, originating at the international level, the UN Global Compact seeks to embed within businesses ten universal principles in the areas of human rights, labour, environment and anti-corruption through multistakeholder global networks.⁶ In addition, originating at the local level, the Global Community Monitor, an environmental justice and human rights NGO, builds capacity within industrial communities to protect human health and hold industrial polluters to account through the use of environmental monitoring tools.⁷ The Global Community Monitor has created a global network of communities impacted by polluting industries. In relation to the environmental governance of the extractive industries there is a complex and fragmented global-local dynamic, where environmental NGOs follow the oil majors, support the creation of local NGOs, and engage with various aspects of resource extraction and production value chains (Bradshaw 1998, 2007; Hayter et al. 2003: 21). For

⁶ <http://www.unglobalcompact.org/AboutTheGC/>

⁷ <http://gcmonitor.org/>

example, Bradshaw (1998; 2007) has identified how non-state actors influenced governance processes and outcomes in relation to the development of oil and gas resources off of Sakhalin Island in the Russian Far East. In relation to this ‘resource periphery’, environmental NGOs have held international oil companies to account through the ‘greening’ of global project financing (Bradshaw 2007). Here transnational advocacy networks (see e.g. Keck and Sikkink 1998) were formed to campaign against the Sakhalin-II project. Of interest in the Sakhalin case is how local grassroots organisations were incorporated into global NGO networks. Bradshaw (2007) highlights important questions related to “governance for what and for whom” (Jordan 2008: 30), noting how these advocacy networks did little to benefit Russian society at the beginning of the campaign but did focus on local environmental issues towards its later stages. Thus the scalar organisation of corporate environmentalism can be quite ‘messy’ and complex in practice.

Factions within the disciplines of economic and human geography have embraced these *relational and network understandings* of space and place (see e.g. Amin 2002; Marston 2000; Marston et al. 2005; Massey 2005; Yeung 2005) As Sunley (2008) points out, there are two broad relational approaches within economic and human geography. The first relates back to the economic sociology of Granovetter (1985), which considers interpersonal and interorganisational relationships and interactions based largely on trust, reciprocity and collaboration. This is in juxtaposition to poststructuralist thinkers, who consider a wide range of networks and interactions between both human and nonhuman actors (i.e. actants as per actor-network theory). Driving much of this effort in the latter category within economic geography has been work on the spatialities of globalisation (see e.g. Amin 2002). As Amin (2002) argues, a ‘scalar epistemology’ is inadequate for conceptualising the nature of spatiality in the current era (see also Jones 2009: 208). He argues that “the growing routinisation of global network practices – manifest through mobility and connectivity – signals a perforation of scalar and territorial forms of social organisation” (Amin 2002: 395). Particularly germane to the study of corporate environmentalism at the site level, Amin (2002: 397) highlights the need for a shift in emphasis from a “politics of place to politics in place”. As discussed in the next section, Amin’s (ibid) recognition of a ‘cosmopolitan politics’ which occurs within spatial scales is highly relevant to this study.

More generally, Yeung (2005: 37) defines that the relational turn in economic geography “is concerned primarily with the ways in which socio-spatial relations of actors are intertwined

with broader structures and processes of economic change at various geographical scales”. Three distinct bodies of relational literature can be identified in economic geography, which include relational assets in local and regional development, relational embeddedness in networks, and relational scales (Yeung 2005: 40). Of interest here is the interaction between social actors, firms and organisations in the production of environmental governance processes and outcomes. This study pays particular attention to how actor networks may defy global-local categorisation in the production of new spaces of governance. Although some scholars have gone so far as to suggest eliminating scale altogether as a concept in human geography (Marston et al. 2005), this study does not take this more extreme line of argument (as discussed in the next section).

Another category of literature within economic geography’s ‘relational turn’, which is relevant to this study, is that of global production networks (GPNs). The study of GPNs has been inspired by global commodity/value chain analysis, the networks and embeddedness perspectives in economic and organisational sociology, and actor-network theory (Coe et al. 2008; Henderson et al. 2002; Hess and Yeung 2006). Research on GPNs “focuses on the organisationally and geographically complex webs of intrafirm, interfirm, and extrafirm networks that characterize contemporary production systems” (Hess and Coe 2006: 1207). In relation to the extractive industries, Bridge (2008: 389) applies a GPN approach to explore “the network configurations and regional development impacts” of the sector. He identifies how the application of a GPN framework to the extractive industries can advance stalled policy debates on the linkages between resource extraction and socio-economic development, and highlights the need to fully consider the materiality and territoriality of extractive commodities. Bridge expands our understanding of the typical linear production or commodity chain (i.e. upstream, midstream and downstream phases) of the oil industry, by typologising it as a “global production network of inter-firm and firm-state relations that link nationalised oil companies, resource-holding states and publicly traded, transnational oil companies” (2008: 389). Different from other GPNs, the GPN for extractive industries highlights the prominent role of the state as the primary resource holder, as major operators in the global oil industry, and as regulators at each stage of the chain including end consumption (ibid: 400). However, conspicuously absent from Bridge’s (2008: 399) illustration of the GPN framework for extractive industries is the role of civil society, which is particularly relevant to this study’s focus on the downstream (refining) sector. Although Bridge (2008: 415) does state in his conclusion how “civil society concerns ‘govern’ the environmental and

development effects of oil production...through direct pressure on firms and states”; the dynamics of the social relations of oil at each stage of the GPN could be identified in more detail within his framework.

Implicit in the above discussion, proponents of the GPN approach prefer the concept of networks over chains, to highlight the “the intricate links – horizontal, diagonal, as well as vertical – forming multi-dimensional, multi-layered lattices of economic activity” (Henderson et al. 2002: 442). Yet, the application of GPN frameworks and other network-based approaches have been criticised as overly descriptive and under-theorised (Levy 2008; Sunley 2008; Yeung 2005). GPN frameworks suggest the governance of economic activity, but as Levy (2008: 951) points out:

The discussion of governance emphasizes economic coordination rather than political contestation or the broader institutions and discursive structures in which markets are embedded. Moreover, the ideologies that constitute and legitimate particular forms of governance, production, and income distribution receive little attention.

Levy’s criticisms of GPN frameworks highlight a key gap in the application of network-based and relational approaches. To overcome this dilemma Levy borrows from organisational and institutional sociology and conceptualises GPNs as contested fields. He highlights the power dynamics and political contestation which underpin the order and structure within these economic and technological production networks. This study applies a similar field level approach (see Chapter 2) to the study of corporate environmentalism in post-apartheid South Africa, and utilises social network analysis as a methodology to explore the contestation of organisational fields (see sections 2.3 and 3.3.1).

1.4.3 The politics of scale and networks

The above discussion highlights both conventional, i.e. or vertical, understandings of environmental governance and relational, i.e. horizontal, understandings. How can these two divergent perspectives within the literature be reconciled? Bulkley (2005) argues that both a *politics of scales* and a *politics of a networks* can and indeed need to be incorporated into the spatial grammar of environmental governance. New hybrid geographies of environmental governance are taking shape that do not correspond to “nested hierarchies, the separation of levels of decision-making, and the divisions between territorially bound states and the fluid relations of non-state actors” (Bulkley 2005: 898). Bulkley (2005: 875) argues that common ground can be forged between scalar and network geographies, which are in fact mutually

constitutive. Through the empirical example of a transnational municipal network, Cities for Climate Protection programme, she demonstrates how “governing the environment involves both political processes of scaling and rescaling the objects and agents of governance, as well as attempts to create new, networked, arenas of governance” (ibid). Bulkeley (2005) contributes significantly to our understanding of the spatialities of environmental governance. This study adopts Bulkeley’s (2005: 897) argument that “networks have scalar dimensions which extend beyond their scope” and seeks to also integrate a politics of scale with a politics of networks (see also Brenner 2001).

Perkins (forthcoming) also adds to our understanding of the spatialities of corporate environmentalism. He identifies the complexity of the diffusion of managerial environmentalism and, like Bulkeley, discusses a range of networks and scales through which internationalisation processes and outcomes occur in practice. Perkins (forthcoming: 14) highlights the relevance of the concept of *multi-level governance* which incorporates both the vertical and horizontal dimensions of environmental governance:

Although multi-level governance has rarely been applied to the diffusion of managerial environmentalism per se, it nevertheless usefully highlights some of the complex vertical and horizontal networks through which new norms, knowledge and pressures may spread across geographic space.

As discussed in the next section, a multi-scale, multi-actor governance framework is used within this study as a heuristic to examine both a politics of scale and politics of networks.

Perkins also questions the ubiquity of globalisation and the cross-national convergence of managerial environmentalism:

Taken together, these insights suggest that it is unrealistic to assume that globalisation processes are contributing to the homogenisation of space, and a single, globally uniform model of managerial environmentalism. Rather, internationalisation is best understood as giving rise to the emergence of multiple nationally and/or regionally idiosyncratic managerial environmentalisms, constituting hybrids of various extra-local and place-based influences. (Perkins forthcoming: 19)

As discussed above in section 1.4.2, Amin’s (2002) argument about the ‘politics in place’ as opposed to the ‘politics of place’ is relevant. Indeed, theorists of scalar politics recognise that scalar configurations are “the outcomes of socio-spatial processes that regulate and organise social power relations...” (Swyngedouw 2004: 26). In order to better understand the adoption of managerial environmentalism, Perkins (forthcoming: 22-23) calls for a closer examination of the actor geographies of diffusion, the influence of domestic and extra-local pressures, and

more cross-disciplinary work. This study seeks to address the politics of scale and networks by identifying how governance structures emerge through the contestation of discursive strategies (e.g. environmental managerialism versus environmental justice discourses) at and between multiple scales of analysis.

1.4.4 Multi-scale, multi-actor governance

To illustrate the vertical/horizontal distinction as described by Bulkeley (2005) and Perkins (forthcoming), Figure 1.1 contextualises the MNC within a multi-scale, multi-actor framework. Implied within this diagram is how multiple actors at multiple scales seek to shape and constrain corporate behaviour. The corporate actor is located at the centre of the diagram, with governments, markets and civil society represented as external actors potentially influencing corporate behaviour. This framework provides a useful heuristic to unpack these relationships. Frameworks are a helpful starting point for inquiry into environmental governance because they specify the classes of factors, the relationships between the factors, and how they loosely fit together into structures governing human-environment interactions (Schlager 1999). This study posits that corporate environmental behaviour is influenced by the dynamic interplay between the external and internal factors at and between multiple scales.⁸

⁸ Although, as per Bulkeley's (2005) work, this study recognises the potential for hybrid geographies where processes of re-scaling may coincide with new networked spaces of governance.

Figure 1.1: A multi-scale, multi-actor governance framework

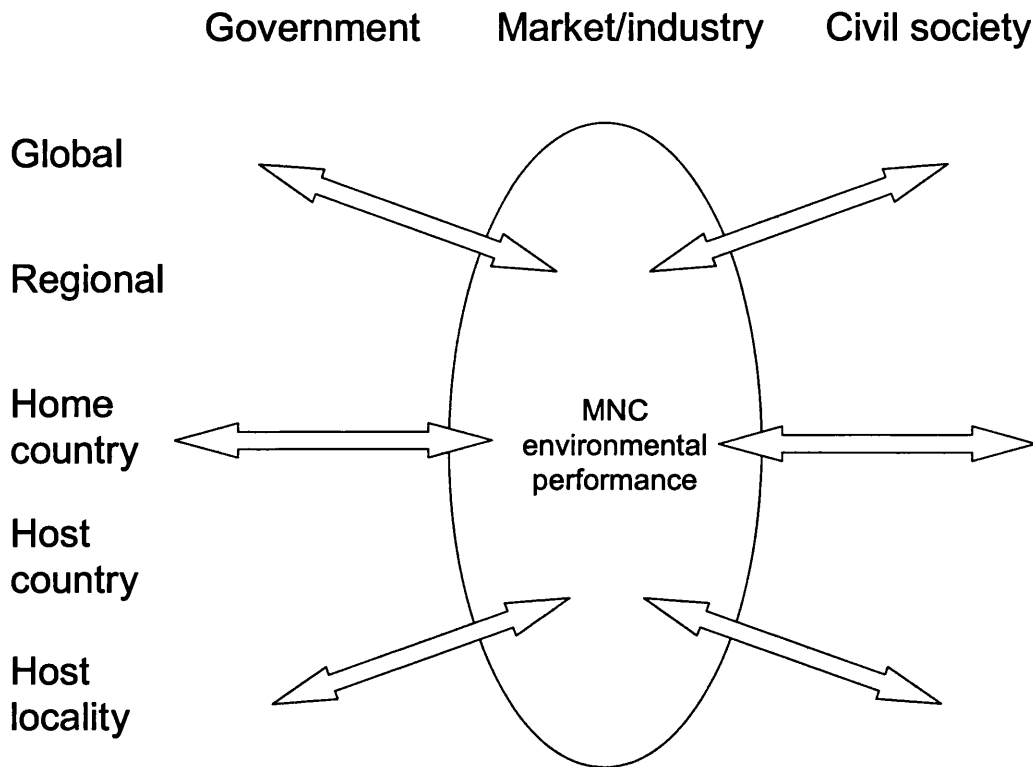


Figure 1.1 does not predict the direction through which governance processes emerge. For example, governance may be multi-directional; an organisation not only reacts but also interacts with its external environment (Hoffman 2001b). This raises the structure versus agency debate. How and why corporate actors make decisions at the local level are determined by a combination of rules, norms and beliefs that permeate through the multiple levels of governance. The emergence of governance structures is related to the ideologies, discursive strategies and interests of specific actors (Campbell 2004). For example, the environmental performance of each refinery may be significantly influenced by whether or not its dominant host community stakeholders pursue ‘efficient’ or ‘just’ corporate environmental outcomes.

Thus MNCs have multiple external pressures that emerge from the global to local scales, yet MNCs are also actors within this complex governance game. Not identified within Figure 1.1 are potential internal sources of firm environmental performance heterogeneity in response to these governance drivers (which will be discussed in more detail in section 2.4). In addition, the discussion so far has been limited to a description of governance instruments and structures, this so-called ‘hard’ architecture is often the focus of analytical attention, whereas

the underlying ‘soft’ architecture of norms, ideas and beliefs, may also significantly influence changing governance structures and corporate greening (as will be discussed in Chapter 2) (see also Perkins forthcoming: 17). The challenge is to identify which actors and ‘soft’ and ‘hard’ governance structures emerge to influence the environmental performance of South Africa’s fuel oil refineries. To help explain how this complex mix of internal and external factors influences corporate behaviour, institutional and organisational theory is drawn upon in Chapter 2. However, to situate this study within its research context, the South African historical background is discussed.

1.5 The South African context

To understand how and why corporate environmentalism has evolved in post-apartheid South Africa, the significance of three contextual factors must be recognised: the impact of the racist policies of the colonial and apartheid past on rural and urban environments; the Government’s prioritisation of liberal economic policies; and the foundations and fragmentation of environmental protection in South Africa.

1.5.1 The history and context of environmental degradation

The term “environmentalism” in South Africa is often referred to as a white middle-class concern, synonymous with conservation, finding comparatively little sympathy from the previously excluded majority (UNDP 2003; Whyte 1995). Indeed, there is a long history of environmental conservation in South Africa, dating back to its colonial and apartheid past. Yet there is a more recent history of *environmental justice activism* in South Africa that, instead of focusing on so-called ‘green’ issues, relates to campaigns against industrial pollution, lack of basic services and unequal access to natural resources, or so-called ‘brown’ and ‘red’ issues (UNDP 2003; Cock 2004; Bond 2002; McDonald 2002; Whyte 1995).

As Jacklyn Cock notes in the opening passage to her 1991 book *Going Green: People, politics and the environment in South Africa*:

South Africa, with its mix of First World environmental problems such as acid rain, and Third World environmental problems such as soil erosion, is a microcosm of the environmental challenges facing the planet. These challenges are slowly coming onto the agenda of the liberation struggle in South Africa. (Cock 1991: 1)

In the early 1990s environmental protection, pollution control and access to natural resources began to be framed using the rhetoric of human rights, social justice and equity. As discussed in section 1.3.3, this is indicative of the globalisation of environmental justice discourse as

environmental justice campaigners from the US linked up with activists in South Africa from the early 1990s (NGO5 2006). How this rights-based discourse has influenced the institutional environment within which MNCs operate is a primary theme of this study.

Yet these green, brown and red environmental issues have their roots in South Africa's colonial and apartheid past. The process of conquest and dispossession of Africans in the subcontinent dates back to the mid-seventeenth century when the Dutch station was founded at the Cape. The seventeenth and eighteenth century Dutch maritime empire and nineteenth century British imperialism brought waves of European expansion to South Africa (Beinart 2001). Manipulation of access to land resources has been a key area of political conflict in South Africa (Whyte 1995). The Land Acts of 1913 and 1936 reserved 87 percent of the most productive agricultural land for whites and 13 percent for blacks.

Yet some caution may be needed when discussing the racial division of land. Beinart (2001: 13-15) points out that land reserved for African occupation in the early twentieth century did not start as the worst land, as it was largely located within higher rainfall zones. In addition, Africans frequently stayed on white-owned farm land, and many rural communities in the early twentieth century favoured a system of migrant labour dominated by the mining industry in order "to be free from the threat of further dispossession" (Beinart 2001: 35).

After 1948, the National government's policy of apartheid "divide-and-rule" tactics broke up the remaining 13 percent into ethnic territories or "homelands" for the African population (Whyte 1995). It is estimated that between 1960 and 1985 more than 3.5 million people were forcibly relocated (Ramphela and McDowell 1991: 3). The homelands lacked both natural resources and trained human resources, and were characterised by poverty and overpopulation (Whyte 1995). Thus rural environmental issues such as soil erosion, desertification, water shortages and water pollution became prevalent.

This process of dispossession and forced removal occurred within urban areas under the auspices of the Group Areas Act, passed in 1950 and then repeatedly amended. It is estimated that between 1957 and 1981 600,000 "Coloureds" and Asians were forcibly relocated to segregated zones within urban areas (Ramphela and McDowell 1991: 5). This process of social engineering attempted to prevent black urbanisation. Dating back to 1921 it was argued that Africans should only enter towns as temporary workers. The Native Laws Amendment

Act of 1937 was enacted to control the flow of Africans to towns by establishing “pass laws”, which required “temporary” urban workers to carry passes (Ramphela and McDowell 1991: 5). Eventually more than one million workers with their families were expelled from white-owned farms, where they had often lived for generations, the homelands were consolidated, and Africans who owned land in white areas were expelled (Ramphela and McDowell 1991: 5).

The townships reserved for African occupation were located far from places of employment, and the township infrastructure was neglected as a deliberate strategy to discourage urbanisation (Ramphela and McDowell 1991: 5). Before 1986 the main population movement was to the overcrowded homelands, but with the repeal of influx regulations and the pass laws, “the flood gates of African urbanisation were opened” (Ramphela and McDowell 1991: 5). Overcrowding in the townships led to the rise of squatter settlements in most urban areas. Thus the ideology of “separate development” which drove the management of South African cities has left a legacy of quite severe green, brown and red environmental issues (Ramphela and McDowell 1991: 91), as is discussed in the Durban and Cape Town case studies.

In addition to the environmental degradation of the homelands and lack of basic services such as water, energy and sewage facilities to African townships, other large legacy issues facing post-apartheid South Africa include: resource intensive and environmentally degrading industrial agricultural; discriminating policies and practices preventing African ownership rights in natural resources; and weak regulations protecting workers in farms, factories and mines (UNDP 2003; McDonald 2002; Bond 2002). Three problems can be identified in relation to South Africa’s industrial sector at the end of apartheid (UNDP 2003: 126; Bethlehem and Goldblatt 1997): first, the continued dependence of the economy on the resource extractive industries, which exact a heavy toll on the natural environment by using it as a sink for waste products, often in proximity to poor communities; second, industry’s dependence upon access to low energy prices, primarily electricity from heavily polluting coal power; and third, the capital stock of equipment used by energy, mining and manufacturing industries is old and inefficient meaning that pollution levels are high and energy-efficient technology has largely not been adopted. This latter point is particularly relevant in the study of the environmental performance of South Africa’s fuel oil refineries.

1.5.2 South Africa's economic growth policies

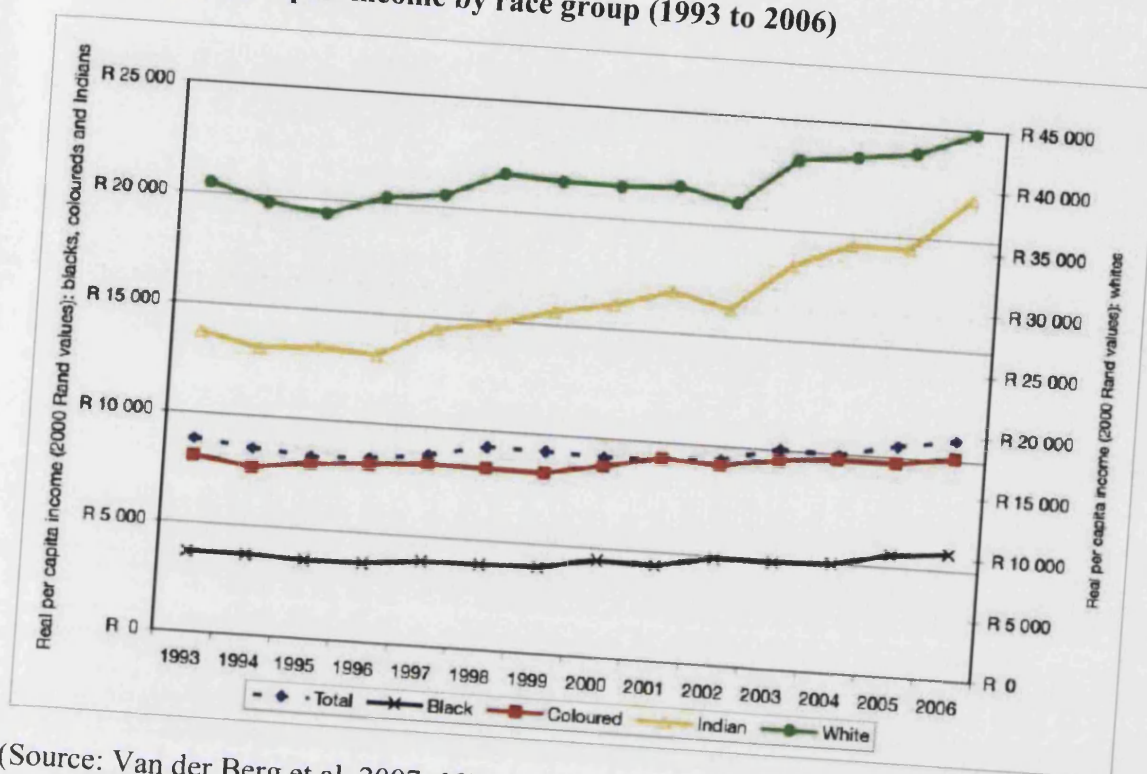
South Africa's economy transitioned to industrial capitalism in the late nineteenth century as the mining sector rapidly grew. Racial differences were institutionalised in order to ensure a steady supply of African labour to the mines and white farms, and to depoliticise the potential of an organised black political threat (Peet 2002). In the twentieth century South Africa industrialised through the growth of manufacturing around primary production, which has been termed the 'Minerals-Energy Complex' (Fine and Rustomjee 1996). This industrialisation process in relation to the fuel oil industry is discussed in Chapter 4. The apartheid economy grew impressively in the 1960s and 1970s as the government pursued a policy of economic nationalism (Beinart 2001: 176). But South Africa's comparison with mature industrial economies bifurcated in the late 1970s and 1980s as manufacturing growth faltered and the country was unable to emerge from economic recession. Foreign investors took flight as the manufacturing sector could not cope with international competition, and growing unemployment for Africans (estimated at close to 30 percent) fuelled political turmoil in the mid 1980s (Beinart 2001: 258-259). The apartheid economy's failure has been explained differently: liberals view the racist policies as market failures – the economy was condemned to an unskilled labour force and thus low productivity; whereas for the left the apartheid economy only functioned profitably when “resistance and the costs associated were sufficiently contained” (Fine and Rustomjee 1996: 6).

As apartheid was dismantled, South Africa experienced a miraculous transition to non-racial, multiparty democracy as opposed to revolution. Negotiations, elections and reconstruction unleashed a new politics in 1994 (Beinart 2001: 289). A remarkable achievement as the African National Congress (ANC), allied with the Congress of South African Trade Unions and the South African Communist Party, assumed rule with the consent and support of the majority of South Africans, which brought a decline in political violence and important steps towards deracialisation and developing effective economic management (Beinart 2001: 289-290). Political and moral leaders such as President Nelson Mandela and Archbishop Desmond Tutu articulated a philosophy of “reconciliation and of cultural pluralism in the ‘rainbow nation’” (Beinart 2001: 289). Of interest in this study is how transnational capital in the oil and gas sector both engaged and has been shaped by the ‘transformation’ of South Africa's economic, social and environmental institutions.

For some this promised transformation has not been sufficiently quick as the “legacy of apartheid remains too vivid” (Beinart 2001: 290). Economists cite an array of statistics to demonstrate that, after a decade since apartheid, poverty has grown among the poorest and unemployment remains high; although inequality between races diminished, inequality within races increased (Bond 2004; Republic of South Africa 2007; Pauw and Mncube 2007; Gelb 2003; Koelble 2004).⁹ Perhaps more telling is South Africa’s Human Development Index (HDI) downward trend since 1995 (0.745 in 1995, 0.707 in 2000 and 0.674 in 2005) (HDI 2008). Indeed, sub-Saharan Africa is the exception to increasing HDI trends in virtually all other global regions since the mid-1970s. Economic stagnation and the catastrophic impacts of HIV/AIDS on decreased life expectancy appear to be the cause (HDI 2008). However, as South Africa’s African Peer Review Mechanism report highlights, five legacies of the apartheid era have persisted: “a dualistic polity, poverty, unemployment, the inequitable distribution of wealth and income, and a high incidence of crime” (APRM 2007: 5). Figure 1.2 demonstrates South Africa’s legacy of racial inequality, and how in post-apartheid South Africa incomes of the Indian and white populations have increased more rapidly than those of the African and Coloured populations.

⁹ However since 2004 GDP growth has averaged over 4.5 percent, which is straining the economy in new ways, with shortages of materials and skilled labour (Republic of South Africa 2007: 5)

Figure 1.2: Per capita income by race group (1993 to 2006)



(Source: Van der Berg et al. 2007: 18)

Critics on the left claim that post-apartheid economic growth has been maximised to the detriment of the poor (Marais 2001). As Hart (2002: 3) notes: "Political liberalisation had coincided with a moment of intense market triumphalism, and powerful political pressures were gathering force from within and beyond to press South Africa to conform to free market neoliberal orthodoxy". In 1996, the ANC's pro-poor Reconstruction and Development Programme (RDP) was displaced by the neoliberal Growth, Employment and Redistribution (GEAR) policies. GEAR paved the way for more privatisation, deregulation and trade liberalisation with the goal of luring investment, unleashing rapid growth, tightening labour markets and driving up wages (Fig 2005: 600; Hart 2002: 20). As will be discussed throughout Chapters 5 through 7, the logic of economic growth set the structural context within which the governance of corporate environmentalism was embedded. In addition to the claims of the left, others, not only conservative whites, express concerns about authoritarianism and corruption within the ANC, and many express alarm that "social dislocation, crime, personal violence, and HIV/AIDS may fatally undermine the indisputably important advances that have been made" (Beinart 2001: 291).

Environmental analysts warned early on that there may be trade-offs between protecting the environment and enhancing social and economic development in post-apartheid South Africa (Cock and Koch 1991; UNDP 2003: 128). Yet the RDP highlighted the links between poverty and the environment as issues related to human rights, equity and devolution of resource management appeared to be embedded within ANC policy at that time (ANC 2004: section 2.10.2). Two years later the government introduced the macroeconomic GEAR framework to inspire growth. The environment was not integral to the policy recommendations, as industrial development and economic growth are prioritised over environmental concerns (UNDP 2003: 128; GEAR 1996: appendix 11).

One of the original GEAR architects, Stephen Gelb, claims that GEAR's reforms to restore and maintain macroeconomic stability were originally present and actually put in process during the RDP's period (Gelb 2003; 2006: 2).¹⁰ He posits that the reason for GEAR's underperformance comes down to two factors: first, policy is not only about formulation but also about implementation, i.e. that because 'populist' principles and positions were unclear, GEAR policy was a 'risky strategy'; and second, major policy initiatives need the backing of class alliances (Gelb 2006: 5). Gelb notes that the new Accelerated and Shared Growth Initiative for South Africa (ASGISA), which was initiated in 2004, seeks to reduce poverty and inequality through very different politics than GEAR: "The ASGISA process aims to produce policy stability and certainty by building broad-based support" (Gelb 2006: 5). Thus Gelb's overall thesis is that achieving macroeconomic policy goals rely more upon process rather than substance (Gelb 2006).

ASGISA may indeed be delivering upon its promises. Real incomes have increased on average by about four percent; more than 500,000 jobs have been created annually since 2004 (although still less than the ASGISA target); and in 2006 investment had grown at a rate of 19 percent, well ahead of ASGISA's ten percent annual target (Republic of South Africa 2007). Poverty has begun to decline as a result of a large expansion of social grants; one very promising indicator is that child hunger has halved in just four years since 2004 (Van der Berg et al. 2007: 41). However, some social outcomes such as health and education show

¹⁰ Gelb suggests that progressives in the ANC alliance (with COSATU and SACP) highlighted the differences between RDP and GEAR because they were marginalised in the process through which the GEAR policy was formulated (Gelb 2006: 1).

signs of little improvement, with severe problems in social delivery. Although poverty will probably continue to decline, inequality will remain high (Van der Berg et al. 2007: 41).

1.5.3 Foundations and fragmentation of environmental protection

In section 1.3 multiple environmental governance pathways were discussed from global to local, this section narrows the discussion to consider the regulatory context within which the fuel oil industry operated in post-apartheid South Africa. Alternative governance channels, i.e. community-driven governance and/or international efforts, are addressed in the empirical chapters (Chapters 4 through 7). Given the apartheid legacy and the prioritisation of economic growth and social delivery, opportunities for environmental protection may appear to be limited in the new South Africa. It can be argued that formulation and implementation of environmental policy initiatives are fragmented and contested due to conflicting government priorities and weak institutional and organisational capacity. Indeed, in the late 1990s the field of environmental and air pollution management lacked formal authority, given that the air pollution laws were based upon 1965 legislation and that government regulators lacked capacity to enforce existing permits. As consultants from the US summarised (Lents and Nikkila 2000: 4):

There are a number of similarities between South Africa's current air pollution control efforts and those of the US in the 1969 to 1975 timeframe. South Africa now has the opportunity to take advantage of the knowledge gained over the last thirty years by the US and air pollution management agencies throughout the world.

Foundations for environmental protection

The foundation for path-breaking environmental regulation, local level governance and citizen participation in environmental decision-making was enshrined in the 1996 South African Constitution. New political space was created for the previously excluded majority (Wiley et al. 2002). On the environment, section 24a of the Constitution's Bill of Rights guarantees a citizen's "right to an environment that is not harmful to their health or well-being", and section 24b states that everyone has the right "to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development" (Republic of South Africa 1996: 1251-52). The stage was

set for South Africa's industrial development priorities to be contested through an environmental rights-based frame.

On local level governance, there is a chapter in the Constitution on co-operative governance, which states that South Africa's government "is constituted as national, provincial and local spheres of government which are distinctive, interdependent and interrelated" (Republic of South Africa 1996: 1267). This progressive move away from a hierarchical, tiered top-down governance structure empowers local government to include communities in environmental decision-making (Republic of South Africa 1996: 1331). To what degree municipalities have autonomy in delivering these objectives depends on criteria in the Constitution and further national legislation. A key space for the contestation of environmental management and industrial pollution control is at the level of municipality by-laws: "A municipality may make and administer by-laws for the effective administration of the matters which it has the right to administer" (Republic of South Africa 1996: 1331). What is interesting is how this new South African environmental legislation has ascribed a degree of authority to local level/bottom-up governance processes. The Constitution's Bill of Rights also guaranteed citizen access to information (Republic of South Africa 1996: 1257). Thus the foundation was set to dismantle the veil of secrecy under which industry operated during apartheid.

The democratisation of environmental governance in South Africa began with the establishment of the Consultative National Environmental Policy Process (CONNEPP) launched in 1995 (SA DEAT 2004). This multi-stakeholder participatory policy development process resulted in a framework for sustainable environmental management, which was guided by the environmental rights enshrined in the Constitution. CONNEPP's blueprint for environmental governance was adopted by Parliament in the form of the White Paper on Environmental Management in 1997 (SA DEAT 2004: 58). The implementation of the environmental management policy was enabled by the promulgation of the National Environmental Management Act in 1998 (NEMA), which provides the framework legislation for environmental governance in South Africa. NEMA establishes decision-making principles, institutions and procedures for cooperative governance (Republic of South Africa 1998). It translates the rights and provisions of the Constitution into legislation. The central pillars of NEMA are: quality in environmental decision-making; cooperative governance in the environmental sector; facilitating the role of civil society in environmental governance;

the Constitutional imperative to respect, protect, promote and fulfil the environmental rights in the Bill of Rights (SA DEAT 2004: 59-60).

NEMA is a highly progressive document that includes a number of legally binding principles (UNDP 2003: 129), including numerous factors related to sustainable development, the pursuit of environmental justice so that environmental impacts are not distributed unfairly, the promotion of participation of all interested and affected parties in environmental governance, and the polluter-pays principle, i.e. the costs of remedying, controlling, or minimising pollution, environmental damage or adverse health affects fall upon those responsible for harming the environment (Republic of South Africa 1998). NEMA also provided provisions for the different spheres of government to enter into environmental management co-operation agreements (EMCAs) with “any person or community” in order to promote compliance with the Act’s principles (Republic of South Africa 1998: 56). Essentially EMCAs are a form of voluntary commitment, which becomes legally binding. As is discussed in section 4.1.2., attempts to establish EMCAs within South Africa provide insight into the power and politics of environmental decision-making in an emerging economy. In addition, NEMA enables interested parties to enforce environmental laws through private prosecution, enabling civil society actors to prosecute firms and company directors. Although this places increasing responsibility for monitoring and policing environmental transgressions on civil society, little legal action has been taken because although “NEMA provides a broad framework for environmental governance, specific laws remain weak and fragmentary” (SDCEA-DN 2003: 50).

Efforts have been made to develop a coherent body of environmental laws related to environmental management in the fuel oil industry: A White Paper on Integrated Pollution Control and Waste Management was published in 2000; NEMA was amended to allow for environmental management inspectors to enforce legislation in 2003; the Air Quality Management Act (AQMA) promulgated in 2005; amendments in 2003 to the Environmental Conservation Act allow for improved control of pollution and waste; and a Waste Management Bill was tabled for discussion in 2006 (SA DEAT 2004: 60-61; SA Treasury 2007). Also, an environmental management inspectorate (known as the ‘Green Scorpions’) was created in 2003 to enforce environmental legislation, and new environmental impact assessment (EIA) regulations were introduced in 2006 to streamline processing of EIA applications, which had resulted in serious backlogs.

Figure 1.3 outlines how South Africa's legislative framework for environmental protection is tiered. Informed by the Constitution, NEMA sets out the framework for a variety of national environmental management legislation. The laws falling under the remit of Environmental Quality and Protection programme are the most relevant for the fuel oil industry. Provincial and local/municipal government spheres of government also have responsibilities for creating laws as per the Constitution and implementing national legislation.

Figure 1.3: Legislative Framework for Environmental Protection



(Source: adapted from Acutt 2003b; SA DEAT 2004, 2006)

Fragmented environmental protection

Environmental protection is faced with a number of challenges in South Africa. As previously discussed the government has conflicting priorities as demonstrated by its emphasis on economic development. In relation to the fuel oil refining sector, the conflict between environment and development is exemplified by the resistance to EIA regulation from national and provincial politicians, which resulted in the streamlining of EIA regulations in

2006. In August 2006, President Mbeki said that green laws were contributing to development delays and contributing to “a quite considerable slowing down of economic activity”, and the Minister of Housing, Lindiwe Sisulu, launched a scathing attack on environmental regulation noting that housing delivery would no longer be “held hostage by butterfly eggs” (Macleod 2006: para 1 & 3). In addition to the environment versus development dichotomy, the juxtaposition of green versus brown and red issues in South African environmental management discourse is clearly represented by these statements. As a KwaZulu-Natal provincial government employee summed up, “we have been charged to do developmental environmental management” (PGov4 2006).

In addition, previous work has suggested that environmental protection has been underfunded in the new South Africa. For example, environmental protection budgets were cut (Acutt et al. 2004: 305), and in 2002 the National Department for Environmental Affairs and Tourism (DEAT) prioritised its funds for tourism over pollution control (Lund-Thomsen 2005: 625). After consulting South Africa’s national treasury budgets there is a somewhat more nuanced story. From 1996 to 2006 DEAT’s overall budget has in fact increased every year by an average of 20 percent. Within DEAT, the tourism budget is prioritised over other DEAT branches.¹¹ The core environmental management and pollution control programmes – air quality management, environmental impact management, pollution and waste management, and regulatory compliance – make up less than four percent of DEAT’s overall 2006/07 budget. With the 2010 football World Cup fast approaching it is perhaps understandable that tourism’s budget has been given such precedence (SA Treasury 2007).¹² Biodiversity and conservation interests need to be managed carefully in order to sustain the tourism industry which contributed 8.3 percent to South Africa’s GDP in 2007 (SA DEAT 2008). However, within national government, at least from a financial resource perspective, the priority is clearly given to green over brown and red environmental issues.

In addition to evidence of limited financial capacity to manage the environmental impacts of industrial development, South Africa is in the process of regulatory reform. As of 2006, much

¹¹ In addition to tourism, other DEAT branches include sector services and international relations, marine and coastal management, biodiversity and conservation, environmental quality and protection, and administration (in descending order of fiscal priority)

¹² In addition, tourism has been identified as an immediate priority area under ASGISA.

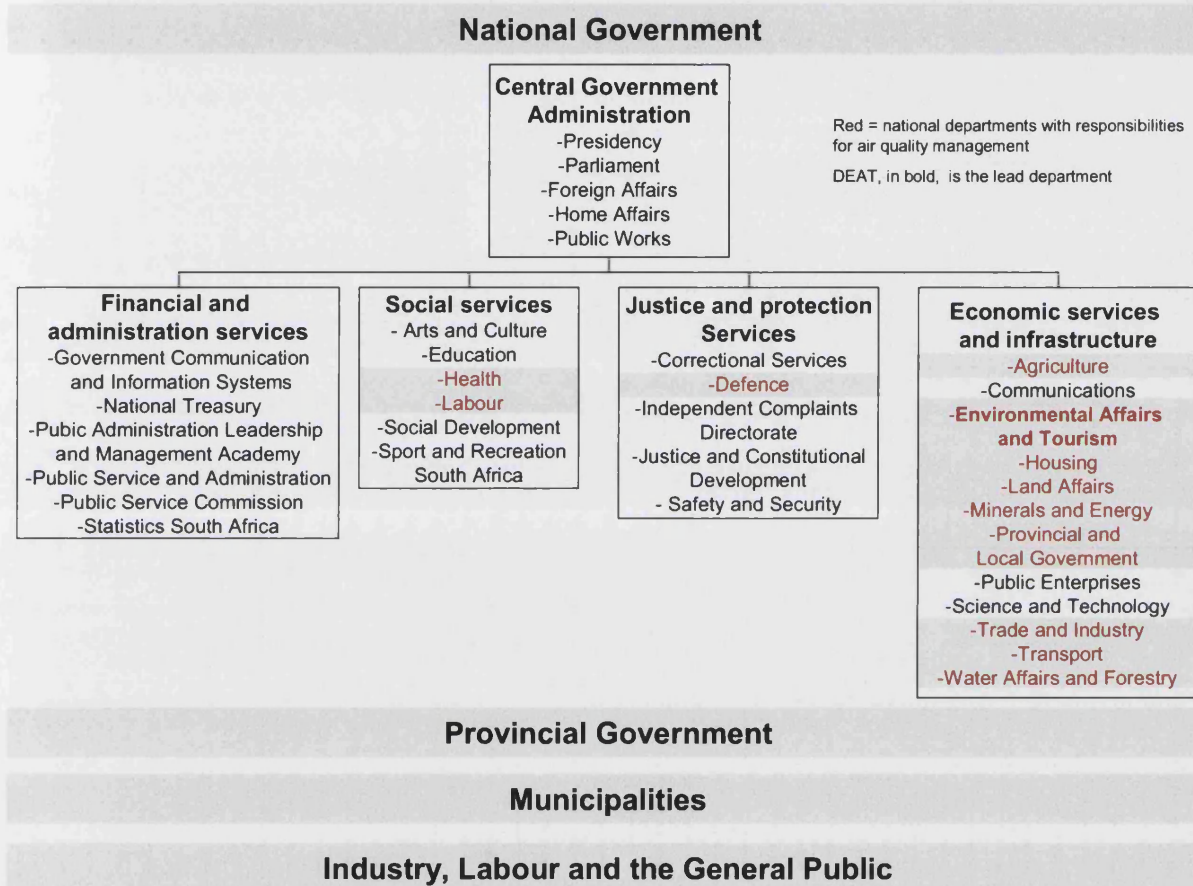
environmental management legislation was still being developed and implemented. Although the environmental inspectorate (the Green Scorpions) was established in 2003, until laws have been promulgated and implemented there will be a lack of strong sanctions to enforce compliance. For example, in 2006 there were few incentives for managers to comply with the guidelines set down by the AQMA, but by 2008 sweeping changes were made to environmental laws, which included large fines and jail terms for directors and managers who contravened the AQMA (Carnie 2008: 3).

Under apartheid environmental protection had become fragmented, outdated and a weakly enforced. For example, mining waste was the responsibility of the Department of Minerals and Energy, contamination of groundwater by waste fell within the Department of Water Affairs and Forestry, and the mitigation of air pollution was managed by the Department of Health before becoming under the responsibility of DEAT, albeit under the outdated 1965 Atmospheric Pollution Prevention Act (APPA) (SA DEAT 2004: 57). The legacy of fragmented regulatory responsibility under apartheid has been difficult to overcome. The Department of Minerals and Energy, which promotes mining and cheaper energy, is also responsible for regulating the mining sector to minimise its environmental impacts (SA Treasury 2008b: 625; Lund-Thomsen 2005), and the Department of Agriculture supports maximum growth and industrialisation of the industry, but is also charged with improving the sustainable management of agriculture and ecological systems in South Africa (SA Treasury 2008a).

Figure 1.4 illustrates the multiple actors responsible for air quality management in South Africa as deemed by the 2007 National Framework for Air Quality Management (SA DEAT 2007a). Although DEAT is the lead national agent for environmental management and implementation of the AQMA, 11 other national departments have responsibilities for managing atmospheric emissions within their jurisdictions. Similarly, although the 2007 draft National Framework document does not allude to this (SA DEAT 2007a: 17-22), a multitude of provincial and municipal departments share responsibility for air quality management (LGov4c 2006). The draft document also includes industry, labour and the 'general public' as important actors in the governance of air quality, emphasising the opportunities for these actors to participate in the development of the regulatory framework. Finally, the National Framework designates, in terms of the AQMA, specific responsibilities for industry mostly around compliance with relevant laws and regulations. In sum, since the AQMA promulgated

in 2005, progress has been made towards coordinating efforts to govern air quality in South Africa; however, with such a wide range of actors both within and outside of government tasked with some aspect of air quality management, it will be no small task to coordinate these efforts.

Figure 1.4: The multiple actors responsible for air quality management in South Africa



(Adapted from: SA DEAT 2007a)

In addition, institutional and technical capacity remained weak during the timeframe of this study. The rapid regulatory reform process was challenged by a lack of technical expertise and institutional memory within DEAT's staff. For example, the 2005 to 2010 strategic plans have an objective "to develop and train a representative and performing team" (SA DEAT 2006: 43). With 1561 total approved posts at DEAT, the 2005 baseline for improving employee retention is 25 percent turnover and for reducing vacancy rates is 28 percent, with a target for 2009/10 of 12 percent for both (SA DEAT 2006: 43). As discussed in Chapter's 5 through 7, the rapidly changing environmental protection institutional structures stretched the ability of national, provincial and local authorities to adequately regulate the fuel oil industry.

Although it has made noteworthy strides, South Africa had significant organisational, material, political and institutional hurdles to overcome in its efforts to manage the impacts of industrial development. Within the national sphere of government, particularly related to the Environmental Quality and Protection programme, DEAT, during the time period of this study from 1994 to 2006, appeared to be under-resourced and understaffed. Politicians focused on meeting economic growth targets streamlined environmental regulations to facilitate approval of development proposals. The environmental legislative framework is underpinned by path breaking foundations, but was struggling to transform a fragmented environmental protection history and balance environmental protection with achieving economic development goals. Although South Africa's apartheid, environmental and industrial history is unique, the lessons from this analysis (as discussed in Chapter 9) are to some degree generalisable to other developing/middle income country contexts that are encountering periods of profound institutional and organisational change.

1.6 Chapter summary

The environmental governance of multinational corporations in developing countries is a relatively understudied area. Much of the existing work on the greening of industry focuses on one scale of governance (international, national or local), without adequately accounting for the socio-spatial complexities, either external or internal to the firm, which influence the take up and implementation of corporate environmentalism at the site level. This study seeks to fill these gaps by rigorously explaining changes in environmental behaviour of MNC subsidiaries at the site level in a developing country context. This thesis explores how and why corporate environmentalism has evolved in three South African fuel oil refineries (two in Durban, one in Cape Town) between 1994 and 2006. South Africa provides an interesting opportunity to study the greening of industry, as it is a newly democratised developing country which is undergoing a tremendous period of change.

In addition to exploring the drivers and spatialities of corporate environmentalism, Chapter 1 has highlighted how the importance of contextual factors in influencing South Africa's governance processes and outcomes, which include: the impact of the racist policies of the colonial and apartheid past on rural and urban environments; the Government's prioritisation of liberal economic policies; and the foundations and fragmentation of environmental protection in South Africa. In order to investigate the overarching research question of how and why corporate environmentalism has evolved in post-apartheid South Africa, the

changing environmental performance at three South African oil refineries is explored. To address this question the study seeks to answer two secondary questions:

1. How has the environmental performance of the Sapref, Enref and Calref oil refineries evolved since democratisation in South Africa?
2. How and why has each refinery's environmental performance differed?

Secondary research question one, the subject of the study, is evaluated in Chapter 4 by interpreting indicators of environmental performance that assess how internal and external processes and outcomes have evolved at each refinery since democratisation (Ilinitich et al. 1998). Secondary research question two, the explanatory factors of the study, is explored in Chapters 5 through 7.

The framework of multi-scale, multi-actor governance (see Figure 1.1) is a useful heuristic to conceptualise how multiple external pressures may influence MNC behaviour, yet MNCs are also actors within this complex governance web. The challenge is to identify which actors and 'soft' and 'hard' governance structures emerge to influence the environmental performance of South Africa's fuel oil refineries. To help explain how this complex mix of internal and external factors influences corporate behaviour, institutional and organisational theory is drawn upon in Chapter 2.

2 ANALYSING INSTITUTIONAL AND ORGANISATIONAL CHANGE

The multi-scale, multi-actor governance framework presented in section 1.4.2 is a useful heuristic, but to explore answers to the 'how' and 'why' questions of this study a more theoretically informed approach is needed. As Ostrom (1999) notes, if the specification of factors within a framework helps to generate questions of inquiry, then the use of theory enables the analyst to determine which factors are relevant to the research questions, and to make working assumptions about these factors.

In order to answer secondary research question two - how and why each refinery's environmental performance has differed - some key questions need to be addressed. For example, how do multiple actors at multiple scales shape and constrain corporate behaviour? How do modes of governance emerge, persist and change over time? What is the interaction between 'hard' and 'soft' governance structures? How do firms interact with their external 'governing' environments? To explain how this complex mix of internal and external factors influences corporate behaviour, the theoretical lenses of institutional and organisational theory are used.

The chapter begins by exploring how various approaches, which fall under the wide-ranging umbrella of institutional and organisational theory, can be incorporated into an analytical framework to study the governance of corporate environmentalism. An analytical framework is established which seeks to unpack the complexity of changing drivers of corporate environmentalism at and between the macro and micro levels of analysis. At the macro level, the concept of the organisational field is adopted to identify convergence or heterogeneity in external pressures and the 'engine' of field level structuration is revealed through the study of changing institutional actors, institutional logics and governance structures; and at the micro level, firm legitimacy and characteristics are explored in order to explain corporate environmental performance similarities and differences.

2.1 Institutional and organisational theory

A wide range of analytical approaches falling under the heading of 'new institutionalism' have developed primarily in response to the behavioural emphasis of political studies in the

1950s and 1960s, i.e. agency without structure, and can be categorised into three ‘schools’: historical institutionalism, rational choice institutionalism and organisational (or sociological) institutionalism (Campbell 2004; Hall and Taylor 1996; Immergut 1998; Thelen and Steinmo 1992).¹³ In common, they all hold the primacy of institutions in influencing and potentially determining social, political and economic outcomes.

New institutionalism is a mid-range theoretical approach that works between the macro and micro – it can illuminate how different factors are linked in complex social environments as opposed to being limited by single variable explanations (e.g. Marxism: class, or pluralism: interest groups) (Thelen and Steinmo 1992). However, there are marked differences between the approaches. As a starting point they each define institutions slightly differently. As Campbell (2004: 4) elaborates, rational choice institutionalists may view institutions as either an equilibrium point between bargaining, utility maximizing actors, or they may define institutions as formal and informal ‘rules of the game’ and compliance procedures to reduce transaction costs among competing actors (see Bates et al. 1998; North 1990). New institutionalism in organisational analysis takes a broad perspective, drawn both from organisational sociology and institutional theory, and views institutions both as formal and informal rules and as embedded cultural norms, ideologies and beliefs (Jepperson 1991; Powell and DiMaggio 1991). Historical institutionalists borrow from both approaches, but in general they see institutions as formal and informal rules that follow self-reinforcing historical paths which provide the structures and context that shape actors’ behaviour (see Steinmo et al. 1992). The degree to which these approaches adequately account for the relationship between institutions and behaviour, and institutional origins and change is subject to wide debate.

New institutionalism is often criticised for not adequately accounting for the origins of institutions, the way institutions change and the causes of institutional change (see Campbell 2004; Gorges 2001; Hall and Taylor 1996; Immergut 1998). The critics highlight that rational choice institutionalism in particular tends to fall into functionalist accounts of human behaviour (i.e. the problem of institutional outcomes being explained by their consequences)

¹³ There is a potential fourth school, the ‘new institutionalism’ in economics, which overlaps significantly with the typology of rational choice institutionalism (Hall and Taylor 1996: 936), and a potential fifth school, ‘discursive’ institutionalism, which builds on the sociological and organisational traditions to elaborate the role of ideas and discourse in shaping institutional outcomes (Schmidt 2008).

(Campbell 2004; Pierson 2000; Thelen and Steinmo 1992). The problem of functionalism leads to the related structure/agency dilemma aptly characterised by Hall and Taylor (1996: 939): “The problem is to capture simultaneously the voluntary and determinative character of institutions”. However, the weaknesses of functionalist accounts have been demonstrated through sociological and constructivist approaches (e.g. through the noninstrumental behaviour of actors), and some rational choice theorists (e.g. North’s use of mental models and the notion of ‘bounded rationality’). Immergut (1998: 25) highlights that institutional contexts operate as the ‘black box’ between human action and social-political outcomes. This ‘black box’ can in fact be viewed as the common research project that unites the schools of new institutionalism – the study of institutional change and institutionalisation.

New institutionalism has also been criticised for giving preference to factors external (structure) to organisations as opposed to internal (agency). Hirsch and Lounsbury (1997: 412) criticise DiMaggio and Powell’s (1991a) treatment of old institutionalism as being overly static and based on values and norms at the organisational level, as opposed to recognising the role of organisational “leadership and agency in shaping institutions”. They highlight DiMaggio and Powell’s (1991a) preference for structuralism and higher levels of abstraction evident in new institutionalism in organisational analysis. Indeed, DiMaggio and Powell (1991a: 13) point out that in the old institutionalism organisations were conceptualised as embedded in their local communities whereas the new institutionalism abstracts to a higher level and focuses on how organisations are embedded within the field, sector or society. Even within the so-called ‘new institutionalism’ Hirsch and Lounsbury (1997: 414) highlight the bifurcation between approaches: “Institutional explanations that involve the building up of structures by individual actors (Jepperson 1991; Zucker 1977) are at odds with explanations that rely on action as determined by institutional structures (DiMaggio and Powell 1983; Scott and Meyer 1991).”

The distinction between macro (structure) and micro (agency) levels of analysis provides a hurdle to overcome in the study of corporate environmental behaviour at the site level. Yet some organisational sociology scholars have suggested that the distinction between the so-called ‘old’ and ‘new’ institutionalism is not clear cut, that in fact they should be viewed as complementary (Hirsch and Lounsbury 1997; Selznick 1996). Hirsch and Lounsbury (1997: 409) call for a “reconciliation between the new and the old that...will allow for more complete institutional theorising of both action and structure.” To unlock the ‘black boxes’ of

institutional and organisational theory a rigorous analytical and methodological approach is needed, which pays close attention to both structure and agency in institutional processes. Indeed, one of the primary interests in this study is the relationship between the macro and the micro levels of analysis, i.e. how social structures and processes influence organisational behaviour and how organisations in turn affect their structural environment. Yet this study is 'problem-driven' as opposed to 'theory-driven'; the study does not flow out of theoretical problems but seeks to find explanations for social and environmental issues in post-apartheid South Africa. Institutional and organisational theory is well suited for this task (Davis and Marquis 2005: 333). This study develops an analytical approach that is novel and apposite for the examination of changing corporate environmentalism at the industrial facility level in developing countries.¹⁴ It draws primarily on the work of organisational institutionalism and organisational theory and to a lesser degree historical institutionalism. Insights from the discussion on the governance and spatialities of corporate environmentalism are incorporated into this analytical approach.

2.2 Macro: Organisational fields

At the macro level *organisational fields* are discursive spaces where all relevant actors partake in the contestation of an issue area (Hoffman and Ventresca 2002b; Powell and DiMaggio 1991). Organisational fields can be strictly defined as "a community of organisations that partake of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field" (Scott 1995: 56). Organisational field approaches are not new.¹⁵ DiMaggio and Powell in their seminal paper (1983: 147), referring to Weber, discuss how bureaucratisation and organisational change is driven today less by competition and the need for efficiency and more by the 'structuration' (Giddens 1979) of organisational fields. They posit that highly structured organisational fields often lead to homogeneity of "firm structure, culture, and output" (DiMaggio and Powell 1991b: 64). DiMaggio and Powell apply Giddens' concept of structuration to explain the production and reproduction (i.e. institutionalisation) of organisational outcomes, and Bourdieu's concept of the 'field' (see e.g. Bourdieu and Wacquant 1992) to provide analytical rigour to the analysis of institutionalisation processes of 'local social orders' (Fligstein 2001).

¹⁴ This theoretical approach is not exclusive to the study of organisational behaviour in developing countries; it can be applied within studies of parent-subsidiary relations in advanced industrialised contexts.

¹⁵ See DiMaggio and Powell 1991, Powell and DiMaggio 1991, and Scott 2001 for excellent overviews.

As DiMaggio (1979: 1462-1463) explains: “‘Field’ is a critical metaphor in Bourdieu's work...field refers to both the totality of actors and organizations involved in an arena of social or cultural production and the dynamic relationships among them.”

Much of the early organisational literature aimed to explain variation and diversity of organisational forms (Hannan and Freeman 1977). A turn in the 1980s to the analysis of organisational fields demonstrated that once a field becomes established, the homogenisation of field participants and new entrants occurs (DiMaggio and Powell 1991b: 64). An advantage of the field level approach is that it allows for the analysis of the ‘totality of relevant actors’ whereas previous approaches directed analysis to competing firms or the interaction between them (ibid: 65). For example, the population ecology approach of Hannan and Freeman (1977) and the interorganisational network approach of Laumann, Galaskiewicz, and Marsden (1978) illustrates this. More recent approaches to field level analysis adopt an expanded view that conceptualise fields as centred on issue areas and domains of contestation, rather than on common technology and markets that comprise domains of stability (Hoffman and Ventresca 2002a: 9; Hoffman 1999; Levy 2008). Organisational fields have been conceptualised as arenas of power dynamics where actors may engage in forms of discursive contestation or “institutional war” when contesting particularly volatile issue areas such as industrial pollution (Hoffman 1999). *In the context of this study, fields are discursive spaces within which actors compete to construct meanings of legitimate corporate environmental practice in post-apartheid South Africa.*

2.2.1 Organisational field dynamics

In order to develop analytical insight into the process of institutionalisation and institutional and organisational change (Greenwood and Hinings 1996: 1023), an analytical framework is established (Figure 2.1) which represents the complex interaction between actors, institutional logics and governance structures within an organisational field (Delmas and Toffel 2004; Hoffman 2001b; McAdam and Scott 2005; Scott 2008; Scott et al. 2000). A similar framework was developed by Scott and colleagues’ to analyse changes in US health care systems’ institutional environments over time (McAdam and Scott 2005: 15; Scott et al. 2000: 20-21). They were able to identify three distinct eras of health care governance (the era of professional dominance, 1945-65; the era of federal involvement, 1966-82; and the era of managerial control to market mechanisms, 1983 to present) during which “a predominant logic prevailed and different types of actors were privileged within the healthcare field” (Scott

et al. 2000: 21-22). This study seeks to identify governance trends related to the issue area of corporate environmentalism in post-apartheid South Africa. It is posited that organisational field dynamics, moderated by parent company and subsidiary legitimation strategies and characteristics, will influence a plant's corporate environmental performance (see e.g. Delmas and Toffel 2004). As Hoffman summarises: "By connecting institutional and organizational-level analysis, new and more complex models of change can explain the genesis and alteration of legitimate corporate practice" (Hoffman 2001b: 150).

Figure 2.1: Organisational field dynamics



However, a degree of spatial complexity is absent from Figure 2.1; it does not specify distinctions between host, home and international fields that exist for MNCs. Indeed, studying the complexity of the organisational field can be difficult. As Davis and Marquis (2005: 341) highlight one of the problems in studying fields is that the "empirical properties of fields are somewhat limited". In addition, determining the boundaries of the organisational field, particularly within the context of the MNC which operates across national boundaries, is problematic (Westney 1993). In the context of environmental management, MNCs participate in several organisational fields. Westney (1993: 66-74) identifies three key issues that MNCs face through contradictory sets of isomorphic pulls: the problem of standardisation versus local tailoring of corporate structures and processes; the challenge of organisational learning across boundaries; and the relationship between host countries and the MNC. Field level

analysis then can be highly complex and difficult to manage. The methodological challenge for this study is to determine which field level structures and processes impact most significantly a subsidiary's corporate environmental performance in host countries.

2.2.2 MNC complexity and spatialities of field dynamics

From an MNC perspective, a distinction can be drawn between home and host country operations. For example, Shell considers itself a 'Group' of companies, which operate in more than 140 countries worldwide. MNCs can adopt a range of organisational patterns, from globally integrated and standardised to locally adapted and responsive to host country markets and contexts (Bartlett and Ghosal 1989; Prahalad and Doz 1987; Westney 1993). Indeed, section 1.3.2 identified how the diffusion of corporate environmental policies and practices is an increasing trend, but there is unevenness in the take up and implementation of these measures. Yet how corporate level policies and practices impact on site level processes and outcomes (Gouldson and Sullivan 2007), and how MNCs operate in multiple and sometimes conflicting organisational fields (Westney 1993) are understudied areas.

International management scholars often seek to contextualise MNC operating complexity in multiple host countries (Delmas and Toffel 2004; Hillman and Wan 2005; Kostova and Zaheer 1999). Kostova and Zaheer (1999) explore complexity in external host country institutional environments, in internal parent-subsidary relations, and in the process of legitimation, or how well an entity fits its legitimating environment (see section 2.4 for a discussion of how the concept of organisational legitimacy is used within this study). Kostova and Roth (2002) more specifically examine MNC subsidiary host country and parent company relations, what they term 'institutional duality', noting a variety of factors that influence how practices become institutionalised within MNC subsidiaries. This concept of institutional duality highlights how institutionalisation processes are not monolithic; they are contextually sensitive to factors both internal and external to firms.

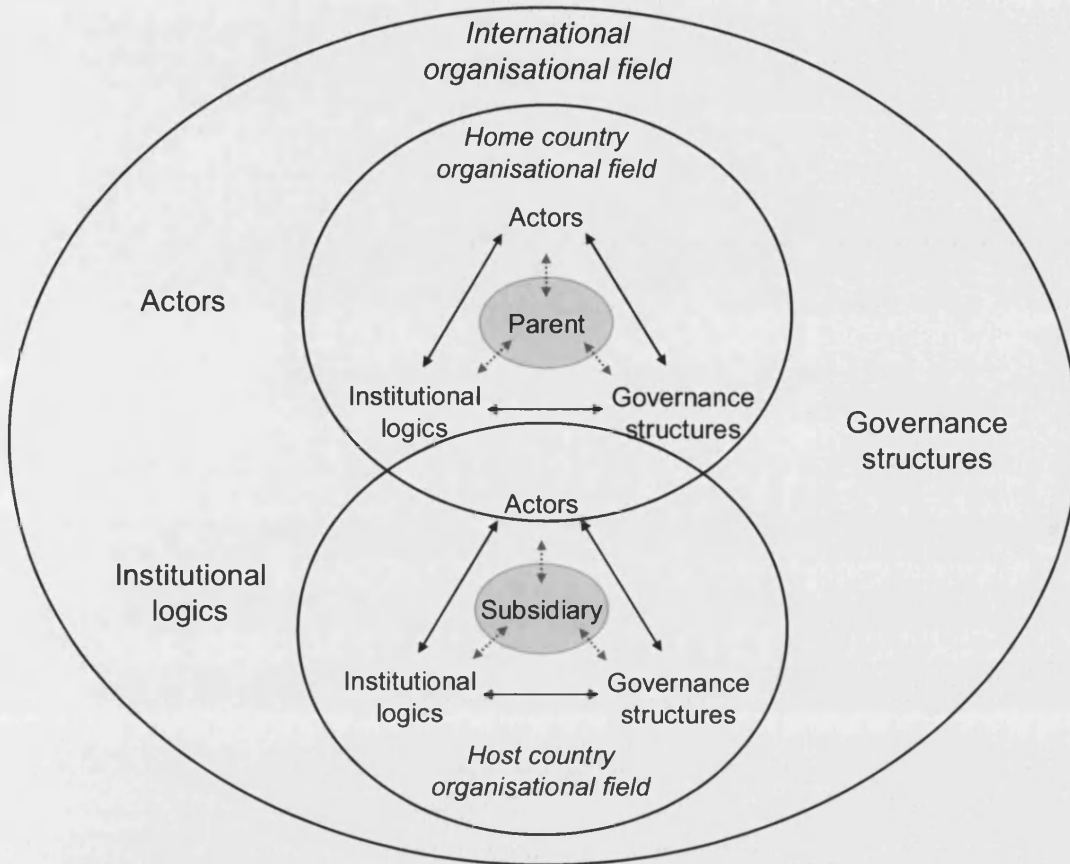
Providing useful insight into the institutional processes within subsidiaries, Delmas and Toffel (2004) develop a model that explains how institutional pressures that seek to influence corporate environmental performance are moderated by MNC parent and subsidiary plant characteristics. Their approach complements this study's research aims – to investigate external and internal drivers of corporate environmentalism at the facility level – but their proposed empirical measures suggest positivist hypothesis testing that would only provide

insight into environmental performance within a snapshot in time. Little understanding would be gained into how and why institutional processes influence environmental performance – i.e. how institutions emerge and change over time. In addition, the focus on stakeholder pressures within a firm’s institutional environment tends to underspecify processes and mechanisms of institutional change. This study seeks to rectify this limitation as it focus on actors, institutional logics and governance structures that make-up processes of organisational field structuration.

Figure 2.2 demonstrates MNC complexity in managing the relationships between parent-subidiaries and multiple organisational fields. Obviously the diagram simplifies MNC operating complexity, as large firms will operate in dozens of countries. Not explicit in the framework is the distinction between *internal and external legitimacy*. A subsidiary will have the pressure to maintain internal legitimacy within the MNC and external legitimacy within their host institutional environment (Kostova and Zaheer 1999) (as discussed further in section 2.4.1 on organisation legitimacy). However, the diagram does represent the spatialities of organisational field dynamics. There is clearly interaction and relationships between fields at multiple scales. Rarely do studies aim to unpack the complexity of these socio-spatial processes. The recognition of a politics of scale and networks is often absent from the corporate environmental literature. Indeed, the study of how corporate environmentalism emerges differentially in time and space is a novel contribution to this field.¹⁶ Often studies will focus on one category of analysis such as actors or stakeholder pressures (Delmas and Toffel 2004), governance structures (Kagan et al. 2003), institutional logics (Loundsbury et al. 2003), or internal legitimation strategies and organisational characteristics (Prakash 2000) instead of seeking to explore the interaction and dynamics between these factors. By paying close attention to these internal and external factors it is expected that mechanisms of institutional and organisational change will be identified.

¹⁶ See e.g. Jones (2008) for an approach used to explain complexity in the production of economic outcomes.

Figure 2.2: A framework of MNC complexity and organisational field dynamics



2.3 Analysing field structuration

Ultimately this study aims to shed light on the process of *field structuration*. Structuration processes can be viewed as synonymous with the ‘black box’ of new institutionalism discussed in section 2.1. By identifying the interaction between actors, institutional logics and governance structures as analytic units of analysis it is expected that the coproduction of structure and agency within field level dynamics can be rigorously analysed. The theoretical concept of structuration (Giddens 1979, 1984) highlights “that structures only exist to the extent that ongoing activities produce and reproduce them” (Scott 2008: 190). DiMaggio and Powell (1983) apply the concept of structuration to organisational fields more narrowly “to refer to the degree of interaction and the nature of the interorganizational structure that arises at the field level” (ibid: 190). Indeed, most studies of field structuration have focused on the extent to which social structure becomes more ordered over time, yet processes of fragmentation (or destructure), where patterns of behaviour, belief systems and governance structures are destabilised and disrupted, and (re)structuration, where attempts by new field level actors to contest and construct new logics and governance systems (Scott et al.

2000: 26-27), are highly relevant to this study given South Africa's period of radical institutional change.

Indeed it is important to recognise how external events can destabilise organisational fields and provide the opportunity for new field level actors to enter these discursive spaces. Events such as accidents/incidents and political, social, economic and technological change, can provide 'windows of opportunity' for new actors to enter fields, utilise new discursive frames, and influence institutional change (Kingdon 1995). Historical institutionalists have documented how the institutionalisation of rules and norms often goes through processes of punctuated equilibrium (or punctuated evolution) over time (Campbell 2004). Organisational institutionalists have also identified the impact of events. Hoffman's work on the evolution of corporate environmentalism in the petrochemical industry in the United States identified the significance of events in (re)structuring organisational fields (Hoffman 2001a). Scott and colleagues (Scott et al. 2000) also noted how destabilising events and processes "paved the way for disruptive change" within the health care delivery system in the San Francisco Bay area of the United States (McAdam and Scott 2005: 21).

From this discussion, fields, when viewed as issue areas, are not always homogeneous; they can in fact exist on a spectrum from fragmented to structured. The impetus for organisational and institutional change can be technical, social, political or regulatory. These types of events can destabilise field level institutionalisation processes through the introduction of uncertainty and ambiguity. In the case of industrial pollution in the South African petrochemical industry, numerous environmental incidents continued to occur with potential negative human health impacts, which has led to greater scrutiny by civil society groups, NGOs and the media (SDCEA-DN 2003). Within the context of this study, it is expected that refinery incidents and accidents and perhaps other external events¹⁷ provide windows of opportunity for civil society to mobilise against transnational capital in South Africa.

In 'traditional' organisational institutionalism processes of field structuration should be analytically detectable through the observation of: (1) increasing interaction between field

¹⁷ For example, global awareness and attention towards industrial environmental performance in developing countries can be heightened after significant events such as accidents (e.g. Bhopal) and global conferences (e.g. Rio 1992).

level actors; (2) well-defined interorganisational relationships that result in patterns of domination or coalition; (3) an increase in the information load that the organisations must contend with; and (4) a mutual awareness that they are involved in a common debate (Hoffman 1999: 352; DiMaggio and Powell 1991b: 65). Hoffman and Ventresca (2002a: 6-7) expand this perspective suggesting that field level analysis must pay attention to three aspects: (1) roles, or the “changing role and authority of actors who struggle, negotiate, and redefine the terms of policy issues”; (2) meaning systems, or “shifts in ideologies and cultural logics that specify conditions of feasibility and what is imaginable”; and (3) the dominant “governance arrangements that establish regulatory possibilities and implementation” in these fields. Hoffman and Ventresca’s field level analytical focus is very similar to Scott et al’s framework discussed in section 2.2. Thus, combining insights from DiMaggio and Powell, Hoffman and Ventresca and Scott et al (DiMaggio and Powell 1991a; DiMaggio and Powell 1983; Hoffman and Ventresca 2002a; Scott et al. 2000), Table 2.1 summarises the detectable units of analysis which may indicate varying degrees of field structuration within this study.

Table 2.1: Field structuration: detectable units of analysis

ACTORS
1. Increasing interaction between field level actors
2. Well-defined interorganisational relationships that result in patterns of coercion or cooperation, i.e. power relations
3. Changing role and authority of field level actors who struggle to redefine environmental issue areas
INSTITUTIONAL LOGICS
4. Shifts in meaning systems, beliefs and ideologies of what is feasible or imaginable
5. The identification of dominant logics representing consensus of powerful actors and secondary logics representing other subordinated or emergent interests
GOVERNANCE STRUCTURES
6. The dominant governance arrangements that shape and constrain corporate environmental behaviour, which can be formal and informal, public and private, and regulative, normative and cultural-cognitive institutional dimensions

(DiMaggio and Powell 1983; Hoffman 1999; Hoffman and Ventresca 2002a; McAdam and Scott 2005: 15; Scott et al. 2000: 173)

Given the influence of external events and environmental policy processes in South Africa (as per section 1.5.3), it is expected that a variety and increasing number of actors at multiple scales will participate in the field of corporate environmental performance. Methodological rigour is needed to analytically detect the changing social interaction patterns. Hoffman argues that “conceptualizing a field as centered around issues rather than networks reveals

greater complexity in field formation and evolution” (Hoffman 1999: 352). Yet Powell and colleagues (2005: 1134) highlight that the “linkage between network dynamics and the evolving structure of fields needs to be made in order to make progress in explaining how the behaviour of actors or organizations of one kind influence the actions of organizations of another kind.”

Thus to explore fields in terms of their network and relational properties is particularly apposite in developing country contexts where MNCs may operate in areas with weak and fragmented regulatory frameworks such as in South Africa. The distinction between state and non-state actors is often blurred and new forms of governance emerge within non-hierarchical spaces. Here exchange relationships and networks are established as multiple-actors at multiple-scales compete for power (Lange 2003: 414). It follows that a field, from a theoretical perspective, may be focused around an issue, however methodologically network analysis may be a useful tool to analyse the social interaction within the field. As will be discussed in section 3.2 and 3.3, social network analysis is one of the methodologies employed to identify changing field level patterns over time.

2.3.1 Actors and power

As discussed in section 1.3, a variety of external actors may influence corporate environmental performance. As per previous studies (Delmas and Toffel 2004: 213; Hoffman 2001b; Lober 1996), the most dominant actors are likely to be governments, customers, competitors, community and environmental activists, industry associations and shareholders. Given the expanded interpretation of the production and reproduction of field structuration, i.e. that actors with unique strategies, resources and interests contest legitimate corporate environmental practice using discursive strategies, *power becomes central to the analysis of field level processes*. Some organisational theorists have highlighted how organisational institutionalism lost its focus on power because it highlighted the more macro aspects of institutionalism: “...DiMaggio and Powell left out power by concentrating on mimetic isomorphism whilst downplaying the coercive and normative” (Clegg et al. 2006: 11). Institutional and organisational theorists such as DiMaggio and Powell have utilised Giddens’ theory of structuration to explain isomorphic institutional pressures within organisational

fields.¹⁸ As discussed, new institutionalism has favoured structure over organisational agency; in line with this theme, Giddens' work on the 'duality' of power and structure has been critiqued for favouring consensual forms of power over conflictual (e.g. structure over agency) (Haugaard 2002: 150).

To better account for the processes of institutionalisation and institutional change organisational theorists have recently called for a (re)focus on agency and power (Clegg et al. 2006). Often these approaches identify how *institutional entrepreneurs* use context-specific strategies to influence institutional processes during times of stability and change (DiMaggio 1988; Fligstein 2001; Greenwood and Hinings 1996; Greenwood et al. 2002; Greenwood and Hinings 2006; Lawrence 1999; Lawrence and Suddaby 2006; Scott 2008). These entrepreneurs may drive processes of de/re-institutionalisation and radical organisational change. Relevant to this study, Fligstein (2001) identifies how institutional entrepreneurs influence institutional processes by getting dissimilar groups to cooperate in both the reproduction of fields and their transformation during times of crisis or change. Fligstein saliently points out that actors use different types of 'social skills' during times of stability and change. Given South Africa began a period of radical transition in 1994, it is expected that there is a significant opportunity for institutional entrepreneurs (which could be civil society, industry or government actors) to influence the structuration of the field.

Although this recent work in organisation and institutional theory highlights the role of agency and power, it is not specific about how power can be conceptualised within field level processes. Indeed, as Reed (2006: 29) highlights: "Power remains the most overused and least understood concept in organizational analysis". This study adopts a framework developed to analyse power within policy practices by Arts and Van Tatenhove (2004). They aim to bring power back into current policy analysis and combine insights from Giddens, Clegg, Lukes and others to establish a 'multi-layered' approach (Arts and Van Tatenhove 2004). They engage clearly and concisely with the structure-agency debate that runs through institutional and organisation theory:

...actors do have and exercise power, but are always embedded within historically and socially constructed structures, e.g. in terms of institutions and discourses.

¹⁸ Giddens is concerned with the 'duality' of power and structure, that "power is generated by structural reproduction which takes place in the moment of agency" (Haugaard 2002: 149).

These to a substantial degree constitute their identities as well as enable and constrain certain types of behaviour more than others. (Arts and Van Tatenhove 2004: 347)

Building on Lukes' three dimensions of power, Giddens' conception of power within structuration theory, and Clegg's three circuits of power,¹⁹ Arts and Van Tatenhove define power as:

Power is the organisational and discursive capacity of agencies, either in competition with one another or jointly, to achieve outcomes in social practices, a capacity which is however co-determined by the structural power of those social institutions in which these agencies are embedded. (Arts and Van Tatenhove 2004: 347)

The linkage between the micro and macro levels of analysis is one of the key challenges of this study, and Arts and Van Tatenhove's framework provides a useful avenue through which to explore three types or 'layers' of power:

(1) relational power linked to agencies-in-interaction at the level of policy innovation, either in its transitive form (zero-sum power games) or intransitive form (power games in joint practices); (2) dispositional power linked to organisational rules and resources at the level of policy arrangements; and (3) structural power linked to order of signification, legitimisation and domination at the level of political modernisation. (Arts and Van Tatenhove 2004: 353)

Table 2.2 highlights how these modes of power can be applied within this study. Relational power exists on a continuum from coercive to cooperational. The interaction between field level actors structures the possibility of institutional and organisational change. Dispositional power, such as rules, resources and ideologies, shapes the actors' capacities and interests to act. Structural power within this context highlights how social orders, within which actors are embedded, vary in terms of signification, domination and legitimisation (Arts and Van Tatenhove 2004: 351). Arts and Van Tatenhove (2004: 351) point out that this form of power is more related to Giddens' structuration theory rather than Clegg's third facilitative circuit (which draws theoretical inspiration from Foucault), as these orders or structures are 'materialised' in discourses as well as in political, legal and economic institutions (Giddens 1984). Actors are enabled and constrained by these discourses and institutions (Arts and Van Tatenhove 2004: 351).

¹⁹ They feel Clegg is overly Foucauldian, Giddens is too meta-theoretical with the duality of structure, and that Lukes' Marxist heritage (i.e. Lukes' third dimension of power) and the decision/non-decision debate (Lukes' first and second dimensions of power) are outdated. They discard Clegg's circuits of power model because they feel a Foucauldian concept of power limits the possibility of agency: "the knowledgeability and capability of human agencies to intervene in social systems – an important premise for any meaningful policy analysis – will be too easily denied" (Arts and Van Tatenhove 2004: 349).

Table 2.2: Three modes of power

Type of power	Focus
Relational (coercive & cooperational)	Structuration of organisational and institutional change by interaction between field level actors
Dispositional	Positioning of actors in field dynamics mediated by rules and resources
Structural	Structuring of social orders mediated in orders of signification, domination and legitimisation

(Source: adapted from Arts and Van Tatenhove 2004: 350)

This typology helps to identify modes of power of specific interest to institutional and organisational theory, i.e. the dual-direction of influence between the field and the firm. However, multiple actors may be engaged in field level debate. Of keen interest to this study is the politics of relational modes of power.²⁰ In the spirit of Lukes' first and second dimensions of power, actors using coercive or cooperational strategies may get others to do what they would not otherwise do, or they may attempt to set agendas and shape issues in order to covertly or overtly mould preferences of various field level constituencies often resulting in a 'qualified' consensus (Carter 2007; Lukes 2005). In an insightful typology, Litfin conceptualises a spectrum of power relations:

At one end, we would find *force*, where a powerful actor removed the effective choice to act otherwise. Following force might be *coercion*, where one actor threatens another; then *authority*, where an actor is recognized as having either a legal or a moral right to impose decisions. Finally, the knowledge-based power of *persuasion* relies upon evidence and argumentation. (Litfin 1994: 18)

Litfin's discursive conception of knowledge-based power resonates here: "Knowledge structures the field of power relations through linguistic and interpretive practices, through organizational strategies, and through the contingencies of particular contexts" (1994: 23). The study of field level processes illuminates how relationships between actors produce and reproduce discursive frames related to specific issue areas. This is a form of relational power in the spirit of Foucault but still recognising the role of agency, i.e. that power does not reside

²⁰ Indeed scholars have argued that a relational conception of power is useful to better understand "the complex relationships between industries, institutions and social relations that exist in the contemporary global economy" (Jones and Search 2009: 810).

in a specific institution, but in the relationships between actors who produce and reproduce discourses that define institutions (see Hajer 1995: 49). Therefore, power lies in the relative strength of the field level constituencies and their subsequent institutional channels, as opposed to the scientific validity of their claims. Given the lack of strong regulation and enforcement mechanisms in South Africa between 1994 and 2006, it is expected that relational and knowledge-based power, rather than material or dispositional power, will be the primary driver of field structuration.

2.3.2 Institutional logics

The characteristics of the relationships and interactions between field level actors should illuminate how ‘meaning systems’ within a particular issue area emerge and evolve over time. Scott and colleagues (2000: 170) define *institutional logics* as the “belief systems and associated practices that predominate in an organizational field.” Institutional logics emerge in the field and their take up by field level actors may vary in breadth and depth (Scott 2008: 187). As MacAdam and Scott (2005: 15) highlight: “It is possible and useful to identify dominant logics that reflect the consensus of powerful actors as well as secondary and/or repressed logics representing other, subordinated or emergent interests.” The construction of institutional logics is very similar to the process of ‘framing’, which “denotes an active, processual phenomenon that implies agency and contention at the level of reality construction” (Benford and Snow 2000: 614). The processes of strategic framing which actively seeks to construct shared understanding around issues and viable courses of action has been studied in depth by social movement scholars (Benford and Snow 2000; Campbell 2005: 49). A process of strategic framing may actively seek to construct shared understanding around issues and viable courses of action (Campbell 2005: 49). ‘Collective action frames’ are the resultant products of meaning construction (or framing) undertaken by social movement organizations or movement activists (Benford and Snow 2000: 614). As Scott (2008: 188) highlights, the concept of a cultural frame is very similar to an institutional logic: “Issues of how things are interpreted and represented connects fairly seamlessly to considerations how things are to be done.” There are some excellent studies in the literature on the emergence and influence of field level dynamics and institutional logics on governance outcomes (e.g. Loundsbury et al. 2003 on recycling in the US; e.g. Scott et al. 2000 on health care in the US), however there is a gap in the empirical understanding of changing corporate environmentalism at the site level.

This study intends to identify how field level framing processes emerge (or not) into institutional logics. As discussed in section 3.3.2, discourse analysis is an appropriate methodology to explore how these discursive processes originate, diffuse and persist within and between organisational fields.

2.3.3 Governance structures

Fields are discursive spaces within which actors compete to construct meanings of legitimate corporate environmental practice. When field level discursive frames gain shared understanding then the possibility exists for these frames to emerge into institutional logics, which in turn affects the realm of possible governance outcomes. Within the context of this study governance structures are the formal and informal rules that shape and constrain corporate behaviour (Scott 2001). These governance structures are observable through changing regulative, normative and cultural-cognitive institutions (ibid). Institutions originate within the firm's business, economic, political and social networks that constitute its organisational field (Hoffman and Ventresca 2002b). *Within this study institutions are defined broadly as governance mechanisms which include formal and informal rules, monitoring and enforcement mechanisms, and the more sociological aspects of norms, ideologies, and beliefs* (see Hall and Taylor 1996; Meyer and Rowan 1977; Campbell 2004; North 1990). The distinction that North (1990) makes between institutions as 'rules of the game' and organisations as the 'players of the game' is adopted here. Thus, the terms *governance structures* and *institutional dimensions* are used synonymously throughout the thesis.

Scott (2008: 51) highlights how different institutional logics underpin each of the three institutional dimensions which may put isomorphic pressure on organisations: regulative institutions are coercive mechanisms such as rules, laws and sanctions underpinned by the logic of instrumentality; normative institutions are societal norms and values based upon the logic of social appropriateness; and cultural-cognitive institutions are beliefs and shared understandings supported by the logic of orthodoxy (Powell and DiMaggio 1991; Scott 2001).²¹ New spaces of governance are characterised by a complex mix between regulative,

²¹ Scott's approach is similar to DiMaggio and Powell's (1991b) seminal typology; that there are three main pressures that lead to isomorphism (i.e. organisations to be more homogeneous): coercive, normative and mimetic.

normative and cultural-cognitive institutional dimensions that both constrain and enable organisational behaviour and activity (Hoffman and Ventresca 2002b).

This study seeks to identify how different institutional dimensions emerge, evolve and influence organisational behaviour over time. Table 2.3 is from Scott's (2008: 51) seminal text on institutional and organisational theory. The table compares how theorists conceptualise each of the three institutional dimensions (he calls them 'pillars'). Different disciplines will often emphasise one dimension over the other. For example, economists and rational choice political scientists may emphasise regulatory perspectives (e.g. North), sociologists and political scientists may embrace normative conceptions of institutions (e.g. Parsons, Selznick, March and Olsen), and anthropologists, sociologists and organisational scholars (e.g. Geertz, Douglas, Berger, Goffman, Meyer, DiMaggio, Powell and Scott) may stress the culture-cognitive elements of institutions (Scott 2008: 50-59). However, as Campbell (2004: 40) highlights: "...if we want to determine which pattern of institutional change best characterizes a particular empirical episode, we need to identify and examine over time all the relevant institutional dimensions."

As highlighted in Table 2.3, a variety of regulative, normative and cultural-cognitive institutions may influence corporate environmentalism in the oil refining sector in South Africa. From a regulative perspective, emerging rules, laws and potential sanctions in the newly democratised South Africa could coerce firms to 'green' their operations. Indeed, section 1.5.3 discussed how South Africa's emerging environmental management legislation, based on its new constitution, was setting the foundation for an effective environmental regulatory regime. However, emerging win-win business and environment rhetoric may influence voluntary regulatory pressures such as the pursuit of GNAs with host communities. Normative institutional pressures might include health studies, educational material produced by NGOs, the adoption industry norms and standards such as ISO14001 environmental management certification (also a form of self-regulation), and the influence of industry associations. A cultural-cognitive institutional perspective may find disjunctures between community and company accepted beliefs. For example, within industry the flaring of gas at an oil refinery may be culturally supported as a safety issue, but community understanding may frame the issue as an environmental or social issue. If the refineries begin to put additional controls on flaring activity then it is possible that 'taken for granted beliefs' within the industry are changing to conform more closely with societal expectations.

Table 2.3: Three pillars of institutions

	Regulative	Normative	Cultural-Cognitive
<i>Basis of compliance</i>	Expedience	Social obligation	Taken-for-grantedness
<i>Basis of order</i>	Regulative rules	Binding expectations	Constitutive schema
<i>Mechanisms</i>	Coercive	Normative	Mimetic
<i>Logic</i>	Instrumentality	Appropriateness	Orthodoxy
<i>Indicators</i>	Rules; laws; sanctions	Certification; accreditation	Shared logics of action; isomorphism
<i>Affect</i>	Fear guilt/innocence	Shame/honour	Certainty/confusion
<i>Basis of legitimacy</i>	Legally sanctioned	Morally governed	Comprehensible; recognisable; culturally supported

(Source: Scott 2008: 51)

It follows from the above discussion that there may be overlaps and influences between the three institutional pillars. International environmental norms may influence the take up of host country regulations and stakeholders' conceptions of social reality. Whereas environmental regulations, such as ambient air quality standards, may at first be introduced as 'binding expectations', but as sanctions and enforcement mechanisms are put in place, they may become 'taken-for-granted' by the regulated. In addition, environmental justice activists may have very different beliefs than industry and/or government representatives over what constitutes legitimate environmental behaviour. Cultural-cognitive understandings within host communities may significantly influence the evolution of environmental normative and regulative institutional dimensions. How actors, institutional logics and governance structures are produced and reproduced within and between each refinery's organisational fields are results of complex socio-spatial processes. However, how organisational field dynamics subsequently influence corporate environmentalism is mediated by firm legitimacy and characteristics, as will be discussed next.

2.4 Micro: Firm legitimacy and characteristics

At the micro level *organisational legitimacy and characteristics* determine how well a firm fits its legitimating environment and by what means and strategies it seeks to do so. An organisation's legitimation strategies and characteristics, can explain how it reacts and interacts with field level demands (Bazerman and Hoffman 1999; Suchman 1995). As

discussed above in section 2.1, linkages between the macro and micro (i.e. social structure and organisational agency) are often under-theorised within explanations of changing organisational behaviour (Hoffman 2001b). As Hoffman and Ventresca (2002a: 9) underscore, often the perspective is taken that the field has unidirectional isomorphic impacts on the firm, whereas in an expanded analytical view there can be a dual-direction of influence between the field and the organisation.

2.4.1 Organisational legitimacy

When a firm begins to actively engage in the field, what techniques and discursive strategies it uses to gain and maintain its legitimacy are examples of the type of questions that need to be evaluated within this study. As outlined in section 2.2.1 and Figure 2.2, MNCs have internal and external legitimacy demands (Kostova and Roth 2002). Subsidiaries operating overseas must respond to demands from the parent company as well as the host country organisational field. How and why MNCs seek to manage these various legitimacy risks should shed light on how and why each firm's environmental performance and field level interaction differs. In addition, organisational characteristics such as firm resources and culture may reveal an organisation's strategy and motivations for pursuing certain legitimisation strategies.

To begin with, the construct of legitimacy is useful to examine how an organisation reacts and interacts within field level institutionalisation processes. Scholars have examined legitimacy at the level of classes of organisations (Meyer and Rowan 1977) and at the organisational level (Dowling and Pfeffer 1975; Kostova and Zaheer 1999; Suchman 1995). Here organisational legitimacy is explored at the MNC subsidiary level (Kostova and Zaheer 1999: 65). Legitimacy can be defined broadly as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman 1995: 574). Organisational legitimacy can be evaluated as how well an entity fits its external and internal legitimating environment. For example, fuel oil refineries in South Africa must maintain external legitimacy at the local, provincial, national and international levels, and internal legitimacy must be maintained with local employees and the headquarters of parent companies. In the case of Shell Nigeria scholars have identified competing pressures between the external and internal legitimacy demands, as well as lack of consistency between home country corporate

leadership and strategy to host country local leadership and operational behaviour (Wheeler et al. 2002: 312).

Suchman (1995) identifies two broad categories of legitimacy – institutional and strategic. In the former the legitimation process is virtually synonymous with the institutionalisation process where external institutions shape and constrain organisational behaviour, but in the latter the organisation's legitimation is “purposeful, calculated, and frequently oppositional” (ibid: 576). Highlighting organisational agency, Suchman (1995: 600) identifies legitimation strategies to *gain, maintain and repair organisational legitimacy*. Within each of these goals he breaks down how organisations may employ strategies to conform, select or manipulate their legitimating environment.

Indeed some scholars have been critical of how business seeks to accommodate stakeholder concern in order to legitimise their positions of power in society (Hamann and Acutt 2003; Levy and Newell 2002; Utting 2000). In order to explore the black box of the institutionalisation process, this study takes a middle range approach that seeks to incorporate firm agency and power into the analysis of field level dynamics. As Suchman summarises: “Because real-world organisations face both strategic operational challenges and institutional constitutive pressures, it is important to incorporate this duality into a larger picture that highlights both the ways in which legitimacy acts like a manipulable resource and the ways in which it acts like a taken-for-granted belief system” (1995: 577).

How a firm seeks to strategically maintain its legitimacy and maximise its competitive interests becomes increasingly complex within a fragmented organisational field. How to configure internal resources to external institutional uncertainty provides an MNC with a seemingly irreconcilable problem. Indeed many international business operating contexts provide such challenges: for example, Nike's child labour and supply chain issues; Shell's environmental and human rights issues in Nigeria; and Coca Cola's water extraction issues in India (ChristianAid 2004). Each one of these examples represents a contested and fragmented organisational field where corporate strategy plays a significant role in the ongoing struggle to maintain organisational legitimacy. As Meyer and Rowan (1977: 358) hypothesised: the more that organisations incorporated ‘institutionalised myths’ into their structure, the more that internal and external legitimacy would be maintained. If institutions set the ‘rules of the game’ and organisations are the ‘players of the game’ (North 1990) then organisations have

opportunities to both influence the institutional logics of the field and to make substantive changes in environmental performance (Christmann and Taylor 2006). Organisational legitimation strategies are investigated within this study to give balanced attention to an organisation's agency within its institutional environment, but how and why firms may or may not adopt environmental performance improvements can be further explained by organisational characteristics such as resources and culture.

2.4.2 Firm characteristics

Organisational behaviour can vary from firms that make substantive improvements to their environmental performance to those which resist pro-environmental isomorphic trends. The leaders may differentiate themselves from the laggards by strategically influencing institutional change through their field level engagement strategies. Variation in legitimation strategies can be explored by comparing firms' organisational characteristics such as *resources and culture*.

The literature on the *resource-based view of the firm (RBV)* is a useful starting point. The RBV literature highlights that an organisation's resources can be tangible assets, such as its physical and financial capital; intangible assets, such as reputation or intellectual capital; and personnel-based assets, such as human resources and organisational capabilities (Bansal 2005; Barney 1991; Grant 1991; Hart 1995; Russo and Fouts 1997: 537). RBV argues that these resources are capable of leading the firm to sustained competitive advantage if they are unique and valuable; and if the firm is able to protect against imitation, substitution or transfer (Barney 1991). Thus management has to strategically identify, develop and deploy key resources to maximise their interests. Traditionally the RBV evaluates the connection between firm resources and sustained competitive advantage in terms of associating abnormal rents with unique resource capabilities. Hart (1995) incorporates the constraints of the natural environment into the RBV and develops a theoretical framework to link sustained competitive advantage to three strategies: pollution prevention, product stewardship and sustainable development. Within this framework he specifies how these strategies may move from internal competitive processes to external legitimacy-based activities, thus recognising the importance of external stakeholders. The analysis pays attention to how resource capabilities may explain how firms gain and maintain competitive advantage and organisational legitimacy through environmental performance improvements.

Another avenue for exploring/explaining organisational legitimacy is through the analysis of *organisational culture*. Bazerman and Hoffman (1999: 51-58) discuss organisational environmental practice using a three level framework developed by Schein (1992; 1990). The three levels of organisational culture include: 1) artefacts, the visible and apparent structures and processes of the organisation; 2) espoused values, the embedded norms within an organisation manifest through corporate missions, strategies and values; and 3) basic underlying assumptions, the most basic level of organisational culture represented through beliefs, behaviour, and cognitive processes. Breaking down organisational culture into structures/processes, norms and beliefs is a very similar typology to the tripartite distinction made within institutional dimensions (Hoffman 2001b; Scott 2001). It follows that the most apparent and easy level to research are visible organisational artefacts, then with increasing level of difficulty are espoused values, and finally the most challenging research level and the most fundamental to understanding processes of institutional change are the organisation's underlying assumptions (Hoffman 2001b).

Thus organisational behaviour is not completely constrained by the isomorphic characteristics of its institutional environment (Hoffman 2001b). Hoffman ties the field to the organisational level through the communication channels with field level participants. Hoffman summarises: "The organizational response is as much a reflection of the institutional pressures that emerge from the outside the organization as it is the form of organizational structure and culture that exist inside the organization" (2001b: 137). Where there are clear field level pressures there can be clear organisational responses (ibid: 146). Field level actors will make culturally framed forms of demands on corporate environmental practice, and how firms respond to those demands will depend upon its functional experience and organisational culture (ibid: 136). In practice resistance to field level change can occur through organisational structure and cultural barriers (ibid: 147).

In sum, an organisation will respond to field level demands more quickly when it has the appropriate functional experience and when the cultural-cognitive logics of the demands are 'in sync' with those of the organisation. As superior corporate environmental performance becomes orthodoxy, one would expect to find that more of the responsibility for carrying out corporate environmental activities will fall to core functions of the firm (Hoffman 2001a: 15). This analysis pays close attention to how Enref, Sapref and Calref respond to field level demands in relation to legitimate corporate environmental practice.

2.5 Chapter summary

This chapter has argued that institutional and organisational theory, with insights from the literature on spatialities of corporate greening, is apposite for the study of how and why corporate environmentalism is evolving within South Africa's oil refining sector. As Chapter 1 demonstrated, much of the existing work on the greening of industry focuses on one scale of governance (international, national or local), without adequately accounting for the socio-spatial complexities, either external or internal to the firm, which influence the take up and implementation of corporate environmentalism. As discussed in section 2.2.1, this study posits that organisational field dynamics, moderated by parent company and subsidiary legitimation strategies and characteristics, will influence a facility's corporate environmental performance.

The novel theoretical framework utilised within this study combines insight from macro and micro levels of analyses. The macro structure of the organisational field provides the theoretical starting point for this study, and a framework is developed that explores how field structuration is influenced by the interaction between institutional actors, institutional logics and governance structures. At the micro level firm legitimacy and legitimation strategies and firm characteristics such as resources and culture are explored to highlight how heterogeneity in corporate environmental performance may be explained. This framework seeks to shed light on the 'black box' of new institutionalism – the processes and mechanisms of institutional and organisational change – by rectifying a bias in new institutionalism for the study of structure over agency. As McAdam and Scott highlight (McAdam and Scott 2005: 9):

...the vast majority of organizational studies works up to the present focus on structure...organizational studies scholars have emphasized organizations over organizing, structure over process.

As discussed in the following chapter, these units of analysis are theoretically linked but methodologically distinct.

3 LINKING THEORY AND METHOD

The way we think the world is (ontology) influences: what we think can be known about it (epistemology); how we think it can be investigated (methodology and research techniques); the kinds of theories we think can be constructed about it; and the political and policy stances we are prepared to take. (Fleetwood 2005: 197)

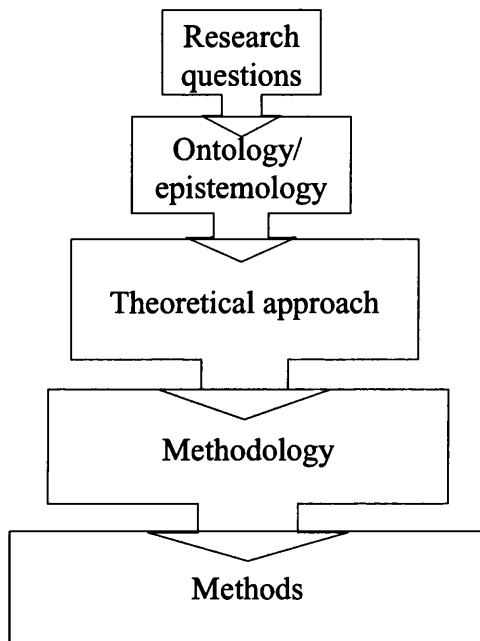
An analytical framework drawing from the work of institutional and organisational theorists, with insights from the literature on spatialities of corporate greening, was established in Chapter 2 in order to provide a ‘blueprint’ for what data is collected and how it is analysed (Yin 2003: 28-29). Theory is used to guide a reflexive research process that is not purely deductive hypothesis testing, or inductive ‘grounded’ theory building (Strauss and Corbin 1997; Esterberg 2002). Although this study’s starting point is problem-driven, the research process evolves iteratively as cycles of theory building and refinement emerges between the explanatory units of analysis and qualitative data (Eisenhardt 1989; Esterberg 2002). Indeed, earlier iterations of this study began with the problematisation of multi-scale, multi-actor governance and then incorporated institutional and organisational theory, parent-subsidiary complexity and finally spatialities of corporate environmentalism into the analysis (for an evolution of the author’s theoretical approach see e.g. Van Alstine 2006, 2007, 2008, 2009a; Van Alstine 2009b; Van Alstine 2009c, 2009d). This theoretical refinement establishes a more rigorous framework for the identification of processes and mechanisms of institutional and organisational change.

Fleetwood’s quote at the beginning of this chapter exemplifies how best practice social science research design makes explicit how its ontological and epistemological approach links to theory, methodology and data collection methods (see also Crotty 2003). This chapter begins with a discussion of the study’s ontological and epistemological underpinnings, and then defines its analytical and observational units of analysis derived from the theoretical framework established in Chapter 2 (see Figure 2.2). Next, the comparative case study research design is presented, including specific methods for collecting and analysing the data. The chapter concludes with reflections upon the study’s public accountability, and defines best practice qualitative research indicators for the project.

3.1 Starting points

To clarify how this study's knowledge interests and research design is cohesively linked, Figure 3.1 illustrates one way of thinking about a nesting of research questions to methods of data elicitation. It is important to recognise that this may not be a top-down linear process, as often research design and a study's knowledge interests evolve iteratively.

Figure 3.1: Linking research questions to methods



(Source: adapted from Crotty 2003: 4)

To investigate this study's overarching research question, how and why corporate environmentalism has evolved in post-apartheid South Africa, a 'moderate' social constructivist approach is adopted (see e.g. Fleetwood 2005; Jones 2002). The thesis documents and explains how and why environmental performance has changed at three oil refineries in South Africa. Although the subject-object is in some sense co-constructed – i.e. the air emissions of the refineries are the product of human actions – there is still an object that is being studied, i.e. changing corporate environmental performance.²² As Jones (2002: 250) argues:

²² Although this study takes its roots from social constructivist ontology and epistemology, it is not anti-realist. It does not take the postmodern-deconstructivist stance that all knowledge is discursively created.

...by adopting an ontologically realist yet epistemologically relativist position, the naivety of 'pure' realism is avoided and the impracticality and absurdity of 'pure' relativism averted. This paves the way for the negotiation and reconciliation of environmental problems exhibiting a high degree of constructedness.

Regarding the study's theoretical approach, as discussed in Chapter 2, a macro and micro level framework is developed informed by institutional and organisational theory and the spatialities of environmental governance. The theoretical framework is particularly apposite given this study's knowledge interests in the social construction of issues and action within field structuration processes. Ultimately this study is interested in improvements in the 'material' reality of air quality (Fleetwood 2005: 201), but in order to explore how and why refineries have or have not improved their environmental performance, the study focuses on the social and discursive internal and external realities which co-construct the firms' corporate environmental performance. Triangulated qualitative methods are used to collect and interpret the data, which is well suited for exploratory moderate constructivist research where the goal is in-depth understanding in 'open systems' characterised by complexity (Crotty 2003; Yeung 1997; Esterberg 2002).

3.2 Units of analysis

In order to unpack the complexity represented in Figure 2.2 this study employs multiple units of analysis (Yin 2003: 40). A distinction is made between analytical and observational units of analysis. Ragin (1987: 7) notes that units of analysis are often underspecified within comparative research as they are used in reference to both data and theoretical categories. He makes a useful distinction between an observational unit, "the unit used in data collection and data analysis"; and an explanatory unit, "the unit used to account for the pattern of results obtained" (Ragin 1987: 8-9). Table 3.1 identifies this study's analytical units, observational units, methods and data collection techniques.

In this study three analytical units of analysis are specified: first is corporate environmental performance, which is the subject of the study; and the other two are the study's explanatory factors – organisational field dynamics and firm legitimacy and characteristics. At the macro level organisational field dynamics, as indicated in section 2.2, are complex discursive spaces where actors compete to define meaning related to issues areas such as legitimate corporate environmental practice. At the field level, the analysis focuses on the interaction between three sub-analytical units: institutional actors, institutional logics and governance structures.

The observational units of analysis for the organisational field dynamics and firm legitimacy and characteristics include the detectable units of analysis of field structuration (as indicated in Table 2.1) and firm legitimation strategies, resources and culture.

These units of analysis are theoretically linked but methodologically distinct. Corporate environmental performance is analysed using longitudinal comparative data analysis, organisational field dynamics with social network analysis, discourse analysis, longitudinal comparative case study analysis and thick description, and firm legitimacy and characteristics also with longitudinal comparative analysis and thick description. Although methodological pluralism is used, the study has common 'moderate' social constructivist origins. It follows, epistemologically, that the world as humans know and experience it is constituted in communication processes. Therefore, two modes of social data can be distinguished: formal and informal communication (Gill 2000). This study uses formal and informal text to analyse how discursive spaces construct, contest and are negotiated into present realities. Formal text sources include newspapers, policy documents, press releases and corporate reports, and informal texts sources include key informant semi-structured interviews and participant observation at public meetings.

Table 3.1: Units of analysis

	Study subject	Explanatory factors			
Analytical units	<i>Corporate environmental performance</i>	<i>Macro: Organisational field dynamics</i>			<i>Micro: firm legitimacy and characteristics</i>
		<i>Institutional actors</i>	<i>Institutional logics</i>	<i>Governance structures</i>	
Observational units	Indicators of internal and external processes and outcomes	-Increasing interaction between field level actors -Relational patterns of domination or coalition -Changing role and authority of field actors	-Shifts in meaning systems, beliefs and ideologies -Identification of dominant and/or secondary logics	Changes in and emergence of the dominant governance structures which can be: - formal and informal; - public and private; and - regulative, normative and cultural-cognitive institutions	-Changing firm strategies which seek to gain, maintain or repair host community legitimacy -Firm characteristics such as a resources and culture
Methodologies	Longitudinal comparative data analysis	-Social network analysis -Discourse analysis -Longitudinal comparative case study analysis -Thick description			-Longitudinal comparative analysis of firm strategies and characteristics -Thick description
Methods to collect data	Written and spoken formal and informal texts: -Formal texts: Document analysis of NGO, industry, government, and newspaper text -Informal texts: Semi-structured interviews with key informants				

3.3 From theory to method

The different types of methods employed in this study are linked to the analytical units of analysis illustrated in Table 3.1. For example, as discussed in section 2.2, organisational fields from a theoretical perspective may be focused around an issue; however, methodologically network analysis is a useful tool to analyse the social interaction, discursive framing and spatialities within the field. In addition, discourse analysis is the appropriate method to identify how discursive processes may or may not emerge into institutional logics.

Analysing firm characteristics, such as organisational culture, poses challenges to the researcher. Without preferred access to actors and activities within the firm through some sort of participatory action research, getting access to primary data can be difficult. It follows that, methodologically, firm level legitimacy and characteristics are analysed through spoken and

written, formal and informal texts. Culture is inferred both through primary data, i.e. interviews with corporate managers, and through the patterns that emerge in the case study data over time. For example, when a company responds to demands of the field level issue area, the measures they take and how these measures change should reveal aspects of embedded organisational culture such as beliefs.

Thick description is also incorporated as a methodology within this study to tease out the relationships and interaction between the macro and micro levels of analysis. As Adger and colleagues (2003) argue, interdisciplinary approaches are needed to explore the processes and outcomes of environmental decision-making through ‘thick description’ (in the tradition of Geertz) in order to shed light on the ‘specificity of environmental decisions.’ They suggest that “institutions, scale and context” need to be analysed “simultaneously and interactively” (ibid: 1100-1102), and that this type of ‘thick’ understanding would better inform global to local integrated policy processes (ibid: 1107). Indeed, this study seeks to contribute to the literature by pursuing a ‘thick’ analysis of the evolution of corporate environmentalism in post-apartheid South Africa. As highlighted in sections 1.3 and 1.4, this approach differs from most previous studies, which have focused on one scale of analysis (global, national or local), have adopted narrow definitions of corporate environmentalism (e.g. take up environmental policies or environmental efficiency improvements), and have tested hypotheses using large-N datasets and statistical techniques. It is hoped that a more complex understanding of the processes and mechanisms of institutional and organisational change are achieved through this ‘thick’ case study analysis.

This following discussion provides more detail of how social network and discourse analysis are used within this study.

3.3.1 Field structuration and social network analysis

Within this study social network analysis is one of the methodologies employed to identify changing field level patterns over time. The methodological strength of social network analysis is that it can be used to explore both social structure and organisational agency (Scott 2000). A network can be defined as a set of actors or nodes, connected by a specific type of relation or ties; the structure of the network is then interpreted through the patterns of ties between the nodes (Diani 2002: 175). As Börzel (1997: 2) notes there is often a divide between quantitative and qualitative network analysis: quantitative approaches consider

network analysis to be a method of social structure analysis investigating the relations between actors in terms of their “cohesion, structural equivalence, and spatial representation”; whereas qualitative approaches use methods such as in-depth interviews and discourse analysis focusing “less on the mere structure of interaction between actors but rather on the content of these interactions”.

The use of network analysis is well suited for analysing complex social phenomena, such as how and why firms engage in corporate environmentalism, but lacks explanatory power as a stand-alone theoretical approach (Börzel 1997; Mol 1995). Here social network analysis is used in an exploratory way combining both quantitative and qualitative approaches.²³ In other words, hypotheses are not tested using statistical techniques, but both the structure and content of the interaction between actors at multiple scales that populate the organisational field are explored in order to identify relevant patterns.

Network ties are often investigated in terms of ‘one-mode’ networks, where all the actors come from one set of relational data (Scott 2000; Wasserman and Faust 1994), but there are other types of relational data where two sets of actors or a set of actors and events are represented. This is known as a ‘two-mode’ or affiliation network, where one set of actors has ties to actors or events in another set (Wasserman and Faust 1994: 30). The concept of affiliation networks is adopted, but instead of noting actors and events, actors’ participation in various issue areas was coded.²⁴ These issue areas then comprise the larger organisational field. A total of 809 newspaper articles published between 1994 to 2006, were analysed and selected by keyword searches pertaining to Sapref, Enref and Calref (see Appendix A for detailed information).²⁵ Chapters 5 through 7 examine which issues are more and less central in the discursive space, and the dynamics of how issues and actors connect and are perceived over time (Anheier and Katz 2004: 216). This visual form of newspaper content analysis will detect to what degree the field of corporate environmentalism has become structured or

²³ See Börzel 1997 for excellent overview of the extensive policy network literature.

²⁴ Per newspaper article, the relationship between actors engaging in issue areas were captured. Often multiple actors were engaging in one or two different issue areas per article.

²⁵ Searches were made on the following keywords: Sapref, “Engen refinery”, Enref, Genref, “Engen and Durban”, Calref, Caltex refinery, “Chevron refinery”, Chevron, “Oil refinery and air”, and “Air pollution”. A variety of local, national and international newspaper article and news portal online sources were consulted, including: Sabinet; the Mail & Guardian; Business Day; Independent Online; and LexisNexis’ all English language news search engine. 809 articles were coded that were published within the time period of 1994 - 2006.

fragmented within the communities of Durban and Cape Town, as per the detectable units of analysis in Table 3.1 (see e.g. Van Alstine 2009b).

It is important to recognise the potential weaknesses of using newspaper data. First, possible bias is introduced through purposeful sampling strategies (Earl et al. 2004; Barranco and Wisler 1999). However, this was guarded against as all of the articles found through keyword searches were used in the analysis. It is possible, however, that relevant articles framed in unusual ways were missed by this technique. Second, it is difficult to get around the selection and description bias of news agencies (Earl et al. 2004: 72; Barranco and Wisler 1999). Indeed, there is a reliance upon what the press deems as “newsworthy” and how the “who, why, what, when, where” of issues is reported. By picking a variety of daily, weekly, local, national and international news sources, it is intended that this bias be mitigated. Within the context of South Africa’s post-apartheid media reform (Barnett 2003), it is expected that the newspapers will report on the issues of greatest social concern. However, it is possible that Durban has more proactive investigative journalism than other South African communities such as Cape Town, and thus is more supportive of community activists. It is also possible that the refineries have media strategies and thus have diverging levels of negative publicity because of regular media interaction. To guard against these biases the newspaper data is triangulated with data from semi-structured interviews. Key events are highlighted in the historical analysis from 1994 to 2006. The pattern of issue areas and events found from the analysis of newspaper data using social network analysis is compared to that of the coded key informant interviews. In sum, newspaper data is one of the few sources of event and issue area longitudinal data, and although flawed it remains a useful data source (Earl et al. 2004: 77).

Social network analysis and the use of network diagrams facilitate the exploration of how field level interaction has changed over time. The use of network diagrams or spatial maps to visualise relational data in two-dimensional space is an active research area that strives for more rigorous approaches that “retain the mathematical properties of the graph and allow new features to be discovered” (Scott 2000: 148). For example, the mathematical approach of multidimensional scaling (MDS) uses the concepts of closeness and distance to map relational data so that nodes that are more “similar” are represented as closer together. Though there are many different definitions of what it means for nodes to be “similar” within MDS and other scaling tools, these techniques can provide considerable insight when employed in

exploratory research (Hanneman and Riddle 2005). In the context of this study using a spatial map to visualise the connection between issues and actors requires the reproduction of distances between issues, between actors, and between issues and actors in two-dimensions.

The network analysis software Ucinet and Netdraw are used to analyse the data and render the network diagrams (Borgatti et al. 2002). The network diagrams are generated using Netdraw's 'spring embedding' algorithm, which generates a graphic that is easier to read because it separates nodes that are "too close" to visualise and draws together nodes that are "too far" using regular MDS. Nodes and ties are considered as a system of forces where nodes sharing a tie are represented as an attractive force and nodes without a shared tie are pushed apart based upon predefined constraints. The algorithm then calculates the network iteratively until the nodes are located so that the smallest path lengths to one another are closest in the graph (Hanneman and Riddle 2005). The location of actors and issue areas are to some degree interpretable but their distances and directions are somewhat arbitrary. Hanneman et al (2005: chapt 4, para 12) explains: "the result is a graph that preserves many of the features of the dimensional scaling approach (distances are still somewhat interpretable; directions are often interpretable), but is usually easier to read -- particularly if it matters which specific nodes are where (rather than node types or clusters)".²⁶

Within this study the "closeness" or "distance" between issues and actors is explored: two issues are close if they have many actors in common; two actors are close if they are connected to many of the same issues; and an actor and an issue are close if that actor is frequently cited in discussion of that issue. To make the data more accessible, hypergraphs, or contours around actors participating in the different issue areas, are used to show how different categories of issues have evolved (Wasserman and Faust 1994). The contours are colour-coded to denote the types of categories: red signifies incidents; green is civil society activism; grey indicates industry or market initiatives; olive represents industry environmental upgrades; yellow shows health issues; and blue represents government initiatives or action. In addition, ties are weighted by strength, i.e. how many times an actor referred to an issue area, and nodes are by shape and colour. Red circles are actors and blue squares are issue areas. Chapters 5, 6 and 7 combine the use of network diagrams and qualitative narrative to present

²⁶ See Chapter 4: http://faculty.ucr.edu/~hanneman/nettext/C4_netdraw.html#location

the contestation of the organisational field as it relates to industrial pollution and the three fuel oil refineries' environmental performance in Durban and Cape Town.

It is important to point out that although social network analysis is employed within this study, it does not follow that this study adopts an actor-network theoretical approach. In other words, this is not an application of Latour's actor-network theory (Latour 1999; Law 1992). Social network analysis is used here as a methodology not as a theory. Latour's notion that 'networks' of natural and social entities (actants) co-construct reality is not adopted here (Mason 2006). Social network analysis is used to demonstrate a *visual content analysis* – how issues and actors evolve over time – in order to illuminate the process of field level change. This is a novel approach within the study of organisational and institutional change that has made a contribution within the academy (Van Alstine 2009b; Van Alstine 2009c).

3.3.2 Institutional logics and discourse analysis

Implicit within the discussion in section 2.3, competing discourses and ideas emerge within the field (which may or may not evolve into institutional logics). The relationship between ideas, institutionalisation and discursive processes is not new (Campbell 2004; Thelen and Steinmo 1992); however, the role that ideas play in influencing or being influenced by an organisation's interests is relevant to field level analysis (Holm 1998). Indeed, Campbell (2004) has highlighted how organisational institutional theorists have given little attention to how actors operate in different 'ideational realms'. For example, as discussed in section 2.3.1, a variety of actors might engage as institutional entrepreneurs within the organisational field, but they may come with different understandings, beliefs and ideas of what constitutes legitimate corporate environmental performance. In fact, these entrepreneurs may apply discursive strategies and various 'institutional logics' for strategic use (Powell 1991; Fligstein 1997; Troast et al. 2002).

From the newspaper data, a longitudinal qualitative narrative, using thick description, is constructed in Chapters 5 through 7, which is compared and supplemented with data from key informant interviews. One of the key objectives is to identify emerging discourses within each refinery's organisational field. As discussed in section 2.2 and 2.3, organisational field processes may or may not be structured in ways that elicit homogeneous organisational responses. One of the key observational units of analysis is to identify dominant and/or

secondary institutional logics. These logics are discursively constituted social processes, thus discourse analysis is an appropriate methodology to analyse how institutions arise and evolve.

Indeed there has been a broad 'discursive turn' within the social sciences in which discourses have been given a new significance (Rydin 2003: 16). As Hajer (1995: 43) discusses, social constructivist ideas are now widely accepted especially due to the influence of authors like Berger and Luckmann (1967), Kuhn (1970), Douglas (1987) and Giddens (1979). Rydin (2003: 16) summarises these influences on the environmental field: "The basic premises of the social constructivist approach to the environment is that social and cultural process shape our perceptions of the environment and the ways in which we represent it through image and word." However, how discursively constituted social processes shape, constrain and enable human behaviour is the subject of much debate.

Hajer (1995: 44) defines discourse as "a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities." Whereas Dryzek (1997: 8) defines discourse as a "shared way of apprehending the world. Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories or accounts." Dryzek goes on to emphasise the enabling potential of discourse, whereas Hajer uses discourse to critically examine how human activity is shaped and constrained.²⁷ Discourses are not coherent; they arise from a variety of disciplines. The environmental field pulls together a multitude of actors with their own legitimate perspectives, and modes of talking or engaging in an issue (Hajer 1995: 46).

One of the key questions is how do dominant or secondary institutional logics emerge from an inter-discursive field marked by competing interests and knowledge claims? Hajer's (1995) use of discourse to explain the construction of institutional processes and outcomes is adopted here. Hajer considers how discourse becomes institutionalised and how it produces and reproduces the rules, norms and beliefs that constitute social order. He concludes that "institutions (and the practices that constitute them) need discursive 'software' to operate and produce effects" (1995: 60).

²⁷ For a comprehensive overview of discursive approaches within the field of environmental planning, specifically related to the work of Hajer and Dryzek, see Rydin 2003: 24-37.

Hajer employs a dual methodological approach using the concepts of story lines and discourse coalitions.²⁸ Story lines are narratives on social reality that play essential roles in the “clustering of knowledge, positioning of actors, and ultimately, in the creation of coalitions amongst the actors of a given domain” (Hajer 1995: 63).²⁹ Discourse coalitions then are defined as “ensembles of (1) a set of story-lines; (2) the actors who utter these story-lines; and (3) the practices in which this discursive activity is based (ibid: 65).” Hajer’s dual methodological approach is not dissimilar to the organisational field and institutional approach adopted within this study. Story lines, actors and discursive practices define an organisational field just as they do discourse coalitions. Both are critical approaches which seek to explain how ‘discursive orders get maintained or transformed’. Hajer identifies how story lines can become ‘institutionalised’, and notes that it is necessary to evaluate the institutional environment within which competing discourses are embedded as this “co-determines what can be said meaningfully” (Hajer 1995: 2). Therefore, the analysis of institutional logics and institutional dimensions occurs at both the observable (i.e. descriptive) and discursive levels.

Hajer’s work underscores the importance of discourse in the study of institutional change and institutionalisation. Drawing from this approach, the study pays close attention to whether or not authoritative narratives, collective action frames and/or institutional logics emerge in the field of corporate environmentalism. As discussed in section 2.3 indicators of these emerging institutional logics and governance structures are identified over time. Given that this study’s timeframe is a period of transition within South Africa’s history it is expected that, as the previously excluded majority begin to exercise their rights under the new constitution, these discursive processes by community activists will strongly influence the realm of institutional possibilities. Indeed, recent efforts by leading scholars within organisational institutionalism and social movement theory have addressed synergies between the two fields of study (Davis et al. 2005). The advantage of incorporating the concept of discourse into the analysis of

²⁸ Additionally, in the formation of his research design, Hajer introduces the concept of a hegemonic discourse if two conditions are met: (1) the condition of discourse structuration, “if the credibility of actors in a given domain requires them to draw on the ideas, concepts, and categories of a given discourse...” (1995:61); and (2) the condition of discourse institutionalisation, “if a given discourse is translated into institutional arrangements” (ibid).

²⁹ This is very similar to the collective action frames discussed in Morrill and Owen-Smith (2002, chapt. 4 of Hoffman and Ventresca).

institutional and organisational change is that it highlights agency and contention within the structuration process (McAdam and Scott 2005).

3.4 Research design

3.4.1 A comparative case study analysis

This study utilises an ‘explanatory’ multiple-case study research strategy to explain how and why corporate environmentalism has evolved at three oil refineries in South Africa (Yin 2003). An explanatory case study approach is appropriate when: ‘how’ and ‘why’ questions lead the inquiry; the researcher cannot influence behaviour directly; and contemporary evidence can be gathered (i.e. persons involved in the events can be interviewed) (ibid: 3). By comparing changing explanatory units of analysis between the cases (organisational field dynamics and firm legitimacy and characteristics), insight can be given into the relative importance of internal and external corporate environmentalism drivers. Within case study analysis, theory takes on the role of ‘analytic generalisation’ (generalising from case to theory) as opposed to ‘statistical generalisation’ (an inference made about a population) (Yin 2003). By pursuing a multiple-case design over a single-case design it is expected that the results will yield not only analytical generalisations but also a degree of external validity leading to more explanatory power (ibid). Therefore, the faults of ‘false uniqueness’ and ‘false universalism’ are guarded against (Rose 1991). Nonetheless, there is a danger that with comparative analysis over-generalisation is made because the cases were too dissimilar, or that the research design (e.g. time and scale) was not suitably defined.

In order to infer explanations about changing corporate environmental performance, the project researches a relatively generic category of industrial installations, namely oil refineries. Although oil refineries operate relatively similarly around the world, which facilitates comparison, their environmental performance varies due to a variety of factors including their level of complexity, year built, date of last major upgrade, type of crude oil refined and geographical location (Leffler 2000). Thus drivers of corporate environmental behaviour for three out of the four oil refineries in South Africa are compared: Shell’s Sapref

refinery and Petronas' Enref refinery, both located in Durban, and Chevron's Calref refinery located in Cape Town.³⁰ All three of these refineries are coastal and of similar complexity.

Table 3.2: A comparative case study analysis

Sapref	Enref	Calref
50/50 joint venture between Shell and BP; Shell is the operator	80% owned by Petronas; 20% owned by Worldwide African Investment Holdings Ltd	75% owned by Chevron; 23% owned by African Legends Investment Holdings Limited, The South African National Taxi Council, Lithemba Investments and Ditikeni Investment Company Limited; 2% owned by an Employee Share Trust
120,000 bpd (1992), 165,000 bpd (1997), 180,000 bpd (2006); complex; commissioned in 1963	70,000 bpd (1992), 105,000 bpd (1997), 135,0000 bpd (2006); complex; commissioned in 1954	100,000 bpd (1992, 1997, 2006); complex; commissioned in 1966
Located in Durban, coastal refinery	Located in Durban, coastal refinery	Located in Cape Town, coastal refinery
(Sources: Mbendi 2007; Engen 2006; Oil & Gas Journal 2003; OGJ 2003; Sapia 2005)		

South Africa is chosen for a variety of reasons; including the author's previous research experience,³¹ ease of access to state and non-state actors, variety of oil refinery ownership and lack of language barriers. A growing body of academic and NGO research has been pursued within the field of corporate environmentalism, sustainable development, and the oil and gas sector within South Africa, paving the way for this study (see e.g. Wiley et al. 2002; SDCEA-DN 2003; Lund-Thomsen 2005; Barnett and Scott 2007; Patel 2000; Acutt 2003a; Acutt et al. 2004; Groundwork 2006; Nurick and Johnson 1998).

³⁰ The fourth South African refinery, Natref, is not included in the research design given time and resource constraints. Natref is also an inland refinery, so has different operating constraints than the Calref, Sapref and Enref, the three coastal refineries.

³¹ In September 2004, working as research assistant with Dr. Andrew Gouldson, the author conducted exploratory research in Durban, South Africa on the CSR policies of the Sapref and Engen refineries. This study originally planned to research three of Shell's oil refineries in three different country contexts, but after speaking with Shell I realised that getting internal access to the refineries would be very difficult. The costs for a multi-country study were also prohibitive, thus the focus on South Africa's fuel oil industry.

In addition, the comparative research design needs to be sensitive to the ‘event’ or ‘episode’ that it seeks to study and explain. Determining the boundaries of the study has critical ‘time’ and ‘scale’ considerations (Barzelay and Gallego 2004). Not everything is comparable, therefore identifying similarities and differences among the cases and justifying one’s research frame or ‘corpus’ based upon these factors is critical (Bauer and Gaskell 2000). Indeed, critiques of new institutionalism suggest that a ‘genuine’ historical approach should be taken that highlights an ‘intertemporal’ view of social-political processes and outcomes, as opposed to taking a snapshot view of them (Pierson 2000: 494; Thelen and Steinmo 1992: 13).

Within a multi firm study about evolving corporate environmentalism the specific time period and scope needs to be specified in order to determine factors endogenous and exogenous to the study. The timeframe considered in the study is from South Africa’s democratisation in 1994 to 2006. This period is appropriate because it constitutes a period of rapid institutional change with a definitive starting point, democracy in 1994, and end, the implementation of new air quality legislation in 2006. In sum, by holding constant the industrial facility, country, corporate environmental performance indicators and the units of analysis, the investigation can focus on how and why the environmental performance outcomes may have occurred over time (Yin 2003: 52).

3.4.2 Data collection methods

As previously discussed in section 3.2 the study uses multiple explanatory and observational units of analysis at multiple scales. Regarding data collection and sampling methods, Bauer and Aarts (2000: 20) make a useful distinction between statistical random sampling, which is formalised in quantitative research and “describes the distribution of already known attributes in social space”; and ‘corpus construction’, which seeks to rectify selection of evidence in qualitative research as not a deficient form of sampling but as a functional equivalent that “typifies unknown attributes”. The basic guidelines of corpus selection were followed in this study: the choice of social evidence was done iteratively; representations of the topic were maximised by considering the multitude of social strata and functions represented in social space; and the study sought to find the saturation point in evidence gathering (Bauer and Aarts 2000).

The methods used to collect data were written and spoken formal and informal texts. Formal texts included: NGO reports and newsletters; industry documents such as stakeholder, sustainability, and annual reports and internal newsletters; government documents such as departmental reports at national, provincial, and local levels; and newspaper articles. These documents functioned in some cases as both primary and secondary data. For example the newspaper articles coded for social network analysis were clearly primary data, but the articles were also used as secondary sources to cross-reference accounts of interviewees. The texts were read literally, to identify the narrative of events, and interpretatively, to highlight and compare variance in accounts and perspectives related to the field of corporate environmentalism in South Africa. Primary data was thematically coded and categorised in order to identify patterns. Theory informed the process of data collection and analysis; for example, corporate environmental performance data was distilled from corporate reports and documents according to the typology of internal and external processes and outcomes discussed in section 1.2.1.

For informal textual sources, semi-structured open question interviews were used with ‘key informants’ (Foddy 1993; Esterberg 2002; Gaskell 2000; Blee and Taylor 2002). The qualitative interview provides “the basic data for the development of an understanding of the relations between social actors and their situation” (Gaskell 2000: 39). A qualitative, semi-structured interview approach fits well within this study’s research interests. First, it allows for adaptability in the framing of questions and the probing of answers – providing a depth of interviewee responses that would most likely be absent in more rigid quantitative methods. Second, the overarching research question necessitates a flexible approach to allow for fine-tuning of the topics discussed and their scope. Third, there was a core group of key actors willing to be interviewed – this provided a wide range of differing and well-informed perspectives.

However, given the high subjectivity of this research technique there is the potential for bias to creep into the process. Interviewees may want to give the ‘right’ response to a question, and the interviewer may influence the research process by revealing their opinions and beliefs (Esterberg 2002). Given that co-construction of the research process through action or participatory research was not the intention of this study, a degree of distance was maintained between the interviewer and interviewees. Yet every effort was made to mitigate the ‘rationalisation of inequity’ between the interviewer and interviewee (ibid). Trust and rapport

was built as an agreeable style was adopted with all parties in order to elucidate their perspectives and not cause conflict. The author also attended and took detailed notes at community, local government and academic meetings related to the discussion of corporate environmentalism in South Africa.

Interviews followed a protocol that covered consistent themes related to the contestation of the organisational field over time, key events and turning points, changing institutional dimensions at multiple scales, and firm characteristics such as legitimation strategies and environmental performance (see Appendix B for a copy of the interview topic guide). Respondents were chosen based upon exploratory research in 2004. A 'snowballing effect' occurred so that new key informants were located through interviewee and other recommendations. In addition, a saturation point was sought where no new interpretations or versions of reality were found from the interviewee responses (Gaskell 2000: 43). Interviews were recorded, transcribed, then coded and categorised using the computer-assisted qualitative data analysis software package QSR NVivo 7 so that theoretically informed relationships and results could be inferred (see the enclosed CD for examples of transcriptions and Appendix D for the coding frame).

Field work was undertaken during a two week exploratory research trip in 2004 and then two months of intensive follow up in 2006.³² A total of 60 'unique' individuals were interviewed in 65 semi-structured interviews (some individuals were interviewed twice). In 2004, 19 exploratory interviews were conducted with 23 individuals (some were group meetings), mostly related to the Durban case. In 2006, 46 in-depth interviews were conducted with 52 individuals related to both the Durban and Cape Town cases (there is some overlap between individuals interviewed in 2004 and 2006).

On Enref and Sapref's environmental performance in Durban a wide range of actors were interviewed, including: individuals from the parent and subsidiary company and other industry representatives (n = 15); local and provincial government (n = 14); local NGOs, international NGOs, and communities (n = 18); and media and academics (n = 7). On Calref's environmental performance in Cape Town, interviewees included: industry representatives (n

³² One month in March/April in 2006 (primarily focusing on Durban) and another in September 2006 (primarily focusing on Cape Town).

= 4); local and provincial government (n = 6); and local NGOs and communities (n = 4). Some interviewees were knowledgeable of both contexts, including: industry representatives (n=2); national government (n=1); national NGO representatives (n=4); and academics (n=1). See Appendix C for an interviewee list.

Table 3.3: Individuals interviewed

	Exploratory interviews 2004	In-depth interviews 2006
Community	Durban: 6	Durban: 6 Cape Town: 2
NGO	Durban: 1 Both: 2	Durban: 5 Both: 2 Cape Town: 2
Academic	Durban: 5	Durban: 1 Both: 1
Media		Durban: 1
Local government	Durban: 4	Durban: 6 Cape Town: 4
Provincial government	Durban: 2	Durban: 2 Cape Town: 2
National government		Both: 1
Industry	Durban: 3	Durban: 11 (1 in 2007) Both: 2 Cape Town: 4

3.5 Reflections on confidence and relevance of study

Having discussed this study's comparative case study research design, units of analysis and data collection techniques it is important to reflect on how the rigour (i.e. confidence) and relevance of the study's research results are ensured. Qualitative research has often been criticised for under-specifying best practice for evidence interpretation (Gaskell and Bauer 2000; Esterberg 2002; Yin 2003). Quantitative analysis has codified these measures of reliability, validity and inference, but qualitative analysis has not come to consensus on them. Reliability here concerns the consistency of measurement and validity is the extent to which the instrument captures what it is designed to measure. Inference is the extent to which the sample studied is representative of the wider context.

Different arguments emerge from the literature with regards to approaches to resolving the debate (Gaskell and Bauer 2000: 342-344). First, some believe that indicators of reliability, validity and inference should be determined as strictly as with quantitative research. Of course given that there are no numerical measures for qualitative indicators it is irrelevant to this

inquiry, which is interested in meanings and interpretation, not numbers. Second, some outright reject the 'positivist' project to codify these indicators for qualitative research. Finally, a third position supports developing indicators of reliability, validity and inference for qualitative research but believe that the criteria should be unique to qualitative tradition. As do Gaskell and Bauer (2000), this study supports the latter 'middle way', and adopts a mix of best practice indicators uniquely suited to qualitative research.

These criteria fall within the larger concern of public accountability of research methods. They can be divided into the broad categories of *confidence* and *relevance* (Gaskell and Bauer 2000: 345-348). *Confidence indicators* allow the reader and receiver of research to be confident that the results of the research represent 'reality' and are not just a product of the researcher's imagination. For quantitative research confidence indicators include reliability of measures, internal validity and sample size. For qualitative research confidence is indicated by triangulation of methods and reflexive understanding through inconsistencies, procedural clarity, corpus construction and thick description. *Relevance indicators* refer to the extent to which the research is linked to theory 'internally' or is a surprise to some external common sense understanding. For quantitative research, criteria include representative sampling, external validity and validity of measures. For qualitative research, relevance is indicated by corpus construction, thick description, surprise value and in some cases by communicative validation (i.e. discussing interpretation with sources of text or interview data). Table 3.4 outlines how confidence and relevance are addressed within this study.

To begin with, *confidence and relevance* are both addressed in the study by constructing a corpus related to the environmental performance of Sapref, Enref and Calref. As discussed in section 3.4.2, the sampling strategies focused on written and spoken formal and informal texts. A *snowballing process* was used to reach a saturation point where little new information was found in Durban and Cape Town using semi-structured interviews. In addition, a visual longitudinal content analysis was completed (using social network analysis software) which included all the newspaper articles identified in the key word searches. Also, the data is interpreted using *thick description*: social network diagrams, interview data, corporate reports and environmental performance data, government documents, NGO reports, and historical analysis of the issue areas all contribute to a robust narrative.

Specific *indicators of confidence* include triangulation of methodologies and data sources, reflexive understanding, and procedural clarity. Using formal and informal texts *methodologies and data sources are triangulated*: historical data analysis of each refinery's environmental performance, longitudinal social network analysis to identify how and why organisational field processes have evolved, discourse and historical comparative analysis to interpret changing institutional outcomes, and longitudinal comparative analysis of refinery host communities and firm characteristics is conducted. *Reflexive understanding* is demonstrated by identifying inconsistencies and confirmations of sequence and relative importance of events, highlighting differing perspectives of actors, and illustrating how the issue area and corporate environmental performance has changed over time. *Procedural clarity* is assured through the use of clearly defined research questions, theoretical grounding, and explanatory and observational units of analysis with associated methodologies and data collection methods. In addition, the research 'episode' occurs within a defined time period, interviews follow a topic guide, and data is interpreted and coded using best practice qualitative research techniques.

Indicators of relevance include surprise value and communicative validation. The study seeks to identify patterns and potential *surprise value* by comparing the environmental performance of the three refineries and exploring how and why their corporate greening differed over time. As discussed in Chapter 8, each refinery responded and interacted with field dynamics and emerging institutional logics differently, but the refinery with the most home country pressure and subsequently parent company intervention (Sapref and Shell), made the most strides in repairing its host community legitimacy by 2006. There is an element of 'surprise' in this finding, particularly related to the importance of parent company oversight in host country and community contexts, which can be characterised by relatively weak, fragmented or transitioning governance structures.

In addition, the study seeks to ensure relevance through the process of *communicative validation* by presenting the research results to both academic and practitioner audiences. Sapref's results have already been published in the internationally peer-reviewed journal *Business, Strategy and the Environment* (Van Alstine 2009b). In addition, a book chapter was published through the United Nations Research Institute for Social Development, which compares and contrasts Enref and Sapref's changing corporate environmental performance over time (Van Alstine 2009d). Some interviewees and academic peers have also been asked

to comment on draft papers. Although there will be more academic outputs from this study, communicative validity within and beyond the academy is well underway. In sum, this study's research design is constructed to ensure both rigorous and relevant research results.

Table 3.4: Confidence and relevance indicators within the study

Confidence indicators and examples of how the study addresses them
<p><i>Triangulation of methodologies:</i></p> <ul style="list-style-type: none"> • Historical data analysis to interpret the refineries' environmental performance • Longitudinal social network analysis to identify how and why organisational field processes have evolved • Discourse and historical analysis to interpret changing institutional outcomes • Longitudinal comparative analysis of refinery host communities and firm characteristics
<p><i>Triangulation of data sources:</i></p> <ul style="list-style-type: none"> • Formal texts such as government documents, corporate reports, NGO reports, and newspaper articles • Informal texts such as transcribed semi-structured interviews and notes from public meetings
<p><i>Reflexive understanding:</i></p> <ul style="list-style-type: none"> • Inconsistencies and confirmations of sequence and relative importance of events are gained through triangulating the data • Differing perspectives of actors are captured through interview analysis • Longitudinal analysis of newspaper articles and corporate reports reveals both how the issue area and corporate environmental performance has changed over time
<p><i>Procedural clarity:</i></p> <ul style="list-style-type: none"> • Clearly defined research questions, theoretical grounding, and explanatory and observational units of analysis with associated methodologies and data collection methods • The research 'episode' occurs within a defined time period • Interviews follow a topic guide • Data is interpreted and coded using best practice qualitative research techniques
Confidence and relevance indicators and examples of how the study addresses them
<p><i>Corpus construction:</i></p> <ul style="list-style-type: none"> • Interviewees are determined using 'snowballing' • Saturation points are reached where little new information was found within each host locality • All newspaper articles identified using key word searches of media search engines are coded and analysed using social network analysis software
<p><i>Thick description:</i></p> <ul style="list-style-type: none"> • Interpretation of data is discussed using social network diagrams, interview data, corporate reports and environmental performance data, government documents, NGO reports, and historical analysis of the issue area
Relevance indicators and examples of how the study addresses them

Surprise value:

- Patterns are identified by triangulating methodologies and data related to the explanatory units of analysis
- Patterns are identified by comparing the environmental performance data at the three refineries and by comparing the internal and external drivers of changing organisational behaviour over a defined time period

Communicative validation:

- The research has been presented at numerous academic conferences, published in conference proceedings, and published in a peer-reviewed article and book chapter
- Some interviewees and other experts have been contacted for comments on draft articles

3.6 Chapter summary

As illustrated in Figure 3.1 this chapter has established an integrated research design from research questions to ontology, epistemology, theoretical approach, triangulated methodologies and data collection methods, and finally to best practice qualitative research criteria. Figure 3.2 demonstrates each of the research design's components. Linking these aspects of the research approach makes the qualitative researcher's choices explicit, thus protecting against the problems of best practice research design and evidence interpretation in qualitative research. For example, when choosing the appropriate methodological approach, the danger is that a researcher becomes inclined to use the same approach for every research project. This is what Gaskell and Bauer (2000) term the 'hammer and nail mentality' – the researcher needs to use the right tool for the job, not just attack every research problem with the same approach. Having chosen the right qualitative 'tool' for the job, the researcher confronts problems of 'best practice'. It is intended that through a theoretically informed longitudinal comparative case study research design using methodological triangulation, that both confidence and relevance best practice guidelines are adhered to within this study.

Figure 3.2: An integrated research design: from research questions to best practice indicators



Primary research question:

How and why has corporate environmentalism evolved in post-apartheid South Africa?

Secondary research questions:

1. How has the environmental performance of the Sapref, Enref and Calref oil refineries evolved since democratisation in South Africa?
2. How and why has each refinery's corporate environmental performance differed?

Ontology: Moderate constructivist

Epistemology: Moderate constructivist

Theoretical perspective: Institutional and organisational theory

Methodologies:

Corporate environmental performance: longitudinal comparative data analysis

Organisational field dynamics: social network analysis, discourse analysis, longitudinal comparative case study analysis and thick description

Firm legitimacy and characteristics: longitudinal comparative case study analysis of firm legitimacy and characteristics, and thick description

Data collection methods:

Formal texts: Document analysis of NGO, industry, government, and newspaper text

Informal texts: Semi-structured interviews with key informants

Best practice qualitative research criteria:

Indicators of confidence: triangulation, reflexivity, and procedural clarity

Indicators of confidence and relevance: corpus construction, thick description

Indicators of relevance: surprise value, communicative validation

Chapter 4 highlights the historical context of South Africa's fuel oil industry, and then explores and details the subject of the study – the comparison of how the environmental performance and parent/subsidiary relations of Sapref, Enref and Calref have changed since democratisation. This sets the stage for the analysis of how the interaction between field level dynamics and firm level legitimacy and characteristics influences each refinery's environmental performance over time in Chapters 5, 6 and 7.

4 GOVERNING THE SOUTH AFRICAN FUEL OIL INDUSTRY

Past policy on oil supplies was directed at self sufficiency, self protection and secrecy. South Africa now fortunately has new priorities - based on reconstruction and development, and attracting new investments. Within this miraculous change, the petroleum industry as a whole must undergo its own transformation. (Sapia 1996: 11)

The South African liquid fuels industry was in a process of transition from an industry that served the apartheid era to one that is more closely in line with the democratic and economic needs of South Africa. The above quote from the South African Petroleum Industry Association's (Sapia) 1996 Annual Report highlights these profound changes. The history of the fuel oil industry sets the context for its post-apartheid environmental legitimacy challenges.

The refineries were built over 40 years ago and have had a complex past. The apartheid government gave primacy to Sasol, the now privatised but formerly state-owned oil company, and the synthetic fuels industry in order to ensure energy security under trade sanctions. The downstream oil and gas sector in South Africa has survived by a complex set of government incentives and regulations that, since democratisation, have slowly moved towards market liberalisation. Prescribing the mix of incentives needed to change industry's environmental behaviour has not been straightforward. Post-apartheid South Africa has chosen an economic growth development model, thus the fuel oil industry has played a critical role as a key source of tax revenue, foreign exchange, jobs and human resource development, yet the capital stock in manufacturing is generally quite old (Whyte 1995). Investment in new capital equipment was needed, along with the incorporation of environmental upgrades (ibid).

This chapter analyses Research Question 1: how the environmental performance of Enref, Sapref and Calref's environmental performance has evolved since democratisation in South Africa. The discussion begins by reflecting upon pre-1994 and post-1994 developments that have influenced the extent to which the South African liquid fuels industry has in fact transformed its relationship with society. A framework for evaluating the corporate

environmental performance of the fuel oil refineries is discussed, then the environmental performance and subsidiary oversight of the parent companies Petronas, Shell and Chevron is analysed, followed by a discussion of environmental performance at the three fuel oil refineries. A comparative analysis highlights key differences in both parent-subsidary relations and refinery environmental performance.

4.1 The liquid fuels industry

A 1995 *Financial Times* article also underscores the importance of South Africa's transition to democracy and its impacts on corporate structures:

The year 1994 was one in which the operations of European oil giants in South Africa have been reintegrated into the international fold of their multinational parents in much the same way the country has regained international acceptance (FT 1995c: 4).

1994 was a moment in time that would affect radical institutional and organisational change in South Africa's fuel oil refining sector.

4.1.1 Pre-1994

The oil industry was established in South Africa in 1884 when the first oil company was founded in Cape Town to import refined products (Mbendi 2007). In the first decade after World War II (WWII) the demand for fuel products increased to such a point where the development of a refining industry became viable. Prior to 1954 all liquid fuels consumed in South Africa were imported by one of the four Majors - BP, Shell, Mobil and Caltex – who were operating as wholesale marketers at the time (DME 1998). Given the apartheid regime's aim of self-sufficiency “the early reliance upon imports set the basis for subsidization and support for locally refined or manufactured liquid fuels” (SA 2006: 41). Four fuel oil refineries were established within two decades: Genref in 1954 by Mobil in South Durban, which is now operated by Engen (referred to as Enref); Sapref in 1964 by Shell and BP also in South Durban; Calref in 1966 by Caltex in the northern suburbs of Cape Town, which is now operated by Chevron; and Natref in 1971/72 by Sasol and Total in Sasolburg (see Table 4.1).

Table 4.1: Overview of South African Oil Refining Industry

Company	Refinery	Location	Type
BP Southern Africa	Sapref	Durban/eThekwini ³³	Crude oil
Shell South Africa	Sapref	Durban/eThekwini	Crude oil
Engen	Enref	Durban/eThekwini	Crude oil
Chevron	Calref	Cape Town	Crude oil
Sasol	Natref	Sasolburg	Crude oil
Sasol	Secunda	Secunda	Coal to liquids
PetroSA	PetroSA Refinery	Mossel Bay	Gas to liquids
Total	Natref	Sasolburg	Crude oil

(Sources: Sapia 2005, 2006)

The history of the liquid fuels industry in South Africa is intertwined with that of the synthetic fuel programme. South Africa has abundant and relatively cheap supplies of coal but, until recently, lacked natural oil. Given trade sanctions and a policy of economic nationalism, the apartheid government sought energy security through the development of a synthetic fuel programme using technology from pre-WWII Germany (Beinart 2001: 176). The parastatal company Sasol was launched in 1951 and in 1954 Sasol I was established to convert coal into synthetic fuel (DME 1998: 65; Beinart 2001). After the OPEC oil embargo in 1973, the United Nations oil embargo against South Africa in 1977 and a similar move by Iran in 1979, a massive expansion of Sasol was planned in Secunda in the eastern Transvaal (now the province of Mpumalanga) (ibid). Sasol II was commissioned in 1982 and Sasol III in 1983. Finally the state-owned Mossgas, established in 1987 to convert natural gas to synthetic fuels, and Soekor, created in 1965 to pursue on and offshore oil and gas exploration, were consolidated in 2001 to form the state-owned PetroSA (SA 2006).

During the apartheid era the veil of secrecy over industry was strong. The National Key Points Act (Act No. 102 of 1980) regulated safety measures for places or areas of critical national concern. Refineries were (and still are) listed as Key Points given their national strategic interest and vulnerability to sabotage, and thus were afforded high levels of security.³⁴ They were also sited to prevent clustering and thus the potential of supply disruption (SA 2006: 42).

³³ Durban is the municipality's colonial name; eThekwini is its Zulu name.

³⁴ Oil refineries, sites of key strategic capital, were targeted for attack by the ANC's military wing. One of the most famous ANC military attacks was on the Sasol oil refinery in Secunda in 1980.

Exacerbating the lack of refinery investment was the pressure to disinvest from South Africa in the late 1970s and 1980s. It is claimed that this political and economic uncertainty led to inadequate investment by the oil companies in refinery maintenance (SA 2006: 43). In addition, market demand drove capacity expansion in the late 1980s and early 1990s, which led to technical problems (SA 2006: 43). Due to laws enacted by the US Congress, Mobil sold its Southern African assets to Gencor in 1989, and these were consolidated by Gencor to form Engen (SA 2006; Kreisler 1989). In contrast, Shell, BP, Caltex and Total did not withdraw during the apartheid era. Despite shareholder and activist protest, MNCs often defended their presence in apartheid South Africa as a progressive force for change, noting their equal opportunity labour policies (Mangaliso 1997).

This history provides important context for today's liquid fuels industry; as a result of political and economic influences, it is marked by a unique regulatory framework and a significant degree of government involvement (DME 1998). It also hints at why underinvestment at the crude oil refineries persisted, and why, in some cases, communities living in close proximity to the refineries may seek to aggressively protect their environmental rights. It is a complex legacy of government intervention, sabotage threats, a veil of secrecy, competition with parastatal companies, new environmental rights but limited environmental regulation and enforcement, and post-1994, a slow liberalisation of the liquid fuels industry.

Using the language of this study's theoretical framework, the organisational fields related to the environmental performance of the refineries were structured and stable leading up to the early 1990s. Just as South Africa's refineries existed within a context of economic nationalism and trade sanctions under apartheid, pressure and innovation for superior environmental performance in line with international best practice was stymied. Given the country's relative international isolation, few civil society actors, from local to internationally networked NGOs, demanded government and industry to improve corporate environmental performance (Cock and Koch 1991). In fact, as discussed in section 1.5.3, up until 2005 when the AQMA promulgated, air pollution regulation was based upon 1965 laws.

4.1.2 Post-1994

The veil of economic secrecy was lifted in the early 1990s. In 1993 the Liquid Fuels Industry Task Force introduced daily reporting of pricing in newspapers (SA 2006: 47). As the Minister of Finance's 2006 Task Force report pointed out, in 2006 there were few if any

aspects of the liquid fuel industry's regulation that were kept secret, because since 1996 the consultation process and consensus building were widened to include other stakeholders beyond industry, e.g. the consultations on the Green Paper and then White Paper on Energy Policy in 1998 (SA 2006: 47). Although consultation is a prominent feature in these processes, a weakness in this approach is the ability of the "poorly organised and poorly resourced...to take up the opportunity to express their opinions" (SA 2006: 47).

Sapia was founded in 1994, which aims to "promote understanding of the industry's contribution to economic and social progress and also acts as a voice for systematic and stable transition of the national industry in an era of transformation" (Sapia 2003: 1). The independent oil companies were founding members: Sasol became a member in 2001, Mossgas in 2001, and then with the formation of PetroSA replacing Mossgas in 2002.³⁵ Sapia succeeded in bringing South Africa's diverse refining and marketing industry under one umbrella, and sought to promote cooperation without inhibiting competition among its members.

Sapia was quick to point out the strategic importance of the oil industry: the total oil industry's turnover in 2005 was R109 billion with total assets of R57 billion; and indirect taxes collected amounted to R25 billion (Sapia 2005: 42). However, a point of contention between communities, government and industry has been the mandate for economic growth and thus refinery capacity expansion. Table 4.2 demonstrates how, since the early 1990s, the conventional refineries (Enref, Sapref, Calref and Natref) have restored formerly disused capacity and/or added new capacity. This drive for industry expansion provides important context for the industry's post-apartheid social and environmental legitimacy crises.

³⁵ The founding members include BP Southern Africa, Chevron South Africa, Engen Petroleum, Shell South Africa, Total South Africa, and Zenex Oil (now part of Engen)

Table 4.2: Capacity of South African Refineries

Refineries	Capacity (bbl/day)		
	1992	1997	2006
Enref	70,000	105,000	135,000
Sapref	120,000	165,000	180,000
Calref	50,000	100,000	100,000
Natref	78,000	86,000	108,000
Sasol	150,000*	150,000*	150,000*
PetroSA³⁶	45,000*	45,000*	45,000*
TOTAL	513,000	651,000	708,000

*Crude equivalent

(Source: Sapia 2006: 68; Engen 2006)

As discussed in section 1.5.2, South Africa's drive for economic growth and its adoption of neoliberal policies set the stage for conflicting environmental protection and developmental goals. As will be discussed in the analytical narrative in Chapters 5 to 7, the expansion strategies of the refineries in the mid 1990s and particularly for Enref in the 2000s, sparked civil society concern about air quality and the health impacts of industrial air pollution. This structural context sets the stage for changing organisational field dynamics.

As discussed in section 1.3, industry associations can be quite influential in setting environmental performance norms, standards and guidelines for its members. Although Sapia's primary objective was to assist industry, it claims to articulate social and environmental policy within the South African fuel oil industry. On its website Sapia says that it "encourages consultation among members, government and other organisations on matters of mutual and public interest such as health, safety and the protection of the environment" acting as a voice for the industry as a whole (Sapia 2007). However, the evidence does little to support Sapia's claim to be the conduit through which environmental decisions are made within the fuel oil industry.

Sapia's 2005 Annual Report explores issues related to sustainable development under the economic and social domains. It notes that the South African oil industry, although highly competitive in its production and marketing operations, has a more cooperative approach to environmental protection and management, citing examples of how the industry has worked

³⁶ PetroSA came on stream in the 4th quarter 1992.

together to develop common environmental standards (Sapia 2005: 60). The 2005 Annual Report also includes some health, safety and environmental performance indicators in the appendix, but exclude refinery data. It can be inferred that either consensus on reporting key performance indicators is difficult to achieve in practice, or consensus on the environmental performance of refineries is represented in other forums.

Specifically mentioned in Sapia's 2005 Annual Report is the Refinery Managers' Environmental Forum (RMEF), a subcommittee of the South African Refinery Managers' Committee that was formed in 2000. Chaired by a refinery general manager it has functioned primarily to provide input into emerging legislation as requested by the Government. Initially DEAT sought industry's participation in the development of EMCAs, although these voluntary initiatives failed to be implemented given lack of trust between stakeholders, and industry's concern that new air quality standards needed to be in place before commitments could be made over and above regulation (RMEF 2007; Acutt 2003a). The liquid fuels industry actively participated in organised industry learning visits to Europe and the US, and has invited experts from the US to advise the South African fuel oil industry in terms of what has and has not worked regarding the regulation of environmental performance (RMEF 2007). However, the RMEF appears to now be inactive given few updates have been posted on the website since 2003 and as one community activist highlighted, the RMEF numbers and members were falling short in the mid 2000s because government lobbying was no longer needed after the AQMA promulgated in 2005 (RMEF 2007; NGO9 2006).

With regard to the RMEF process, NGOs were invited to open meetings but there was little consistent representation. One local government employee felt that environmental justice activists, after initially attending, perceived it was a way for industry to "keep tabs" on their behaviour – a form of indirect control – thus NGO representation tapered off over time (LGov10 2006). In addition, some industry representatives felt that the RMEF had served its purpose – to increase cooperation among refinery environmental managers and to provide input into the rapidly changing regulatory environment (Ind13a 2006). Yet others questioned whether the RMEF could ever be a vehicle for change given that key industry champions with a passion for the environment had left the process (LGov10 2006). More cynically, as one industry representative highlighted: given the cultural chasm between Sasol and the coastal oil refineries (Chevron, Engen and Sapref), the RMEF functioned to legitimate the laggards (e.g. Sasol), and offered little benefit to the coastal refineries that had already endured sustained

community pressure to improve environmental performance (e.g. Engen and Sapref) (Ind13a 2006). This brief discussion provides evidence of little voluntary consensus within the fuel oil industry on uniform environmental management and performance indicators or approaches. From this evidence, it can be expected that each of the refineries will have unique responses and strategies for changing field level pressures in a newly democratic and liberalised South Africa.

4.2 Evaluating MNC environmental performance

Society's expectations regarding what constitutes legitimate organisational behaviour in post-apartheid South Africa evolved in context specific ways. Shell's Social Performance Review of Sapref in 2002 summarised the challenges (Shell 2002b: 12): "The major implication for South African industrial facilities such as Sapref is that they can no longer rely on their pre-1994 relationship with government for their license to operate, but must instead proactively engage with a range of other stakeholders." Within this dynamic host country and community context, Enref, Sapref and Calref made efforts to improve their environmental performance. As discussed in section 1.2.1, in order to explain how the environmental performance of the oil refineries has evolved, the different dimensions of corporate environmental performance, and how they can be measured and analysed, need to be specified.

A typology from Ilinitch and colleagues (1998) is adapted for use in this study (see Table 1.1). Criteria for evaluating corporate environmental performance are divided into processes and outcomes both internal and external to the company. Examples of the types of environmental performance indicators the study might find include: internal organisational processes and structures, such as the implementation of health, safety and environmental (HSE) management systems and clear lines of responsibility up to the senior management team for corporate social and environmental performance; internal outcomes, for instance compliance with laws and regulations and the implementation and achievement of HSE internal targets; external processes, such as corporate social responsibility and community engagement initiatives and the publication of corporate environmental reports; and external outcomes, for instance changes in actual emissions levels and environmental upsets or incidents. What is of interest here is not only what the indicators of corporate environmental performance are, but also how and why they evolved over time. In order to explain these how and why questions, Chapter 8 compares the environmental performance trends found in the

current chapter with the detailed narrative that explores the changing organisational field dynamics for each refinery in Chapters 5, 6 and 7.

As discussed in section 1.2.1, this typology has its limitations, as there may be interaction between the internal categories and external drivers. For example, the reduction of actual emissions may be influenced by the implementation of internal processes such as environmental management systems and the introduction of internal environmental emissions targets. The threat of government regulation and/or parent company oversight may also put pressure on the refineries to reduce emissions 'voluntarily'. By comparing how these trends evolve over time (i.e. the interplay between internal and external factors), the study seeks to identify patterns in the data that identify mechanisms of institutional and organisational change.

4.3 Parent company characteristics and environmental performance

The environmental performance categories in Table 1.1 are useful to guide investigation and to categorise patterns that emerge from the analysis of environmental performance. Yet MNCs are highly complex entities with myriad policies, structures and practices that exist and interact between the parent and subsidiary company levels. As discussed in section 2.2.2, MNCs are faced with simultaneous pressures for global integration and local responsiveness (Goshal and Westney 1993: 4). Organisational fields overlap and Enref, Sapref and Calref may encounter various internal parent company legitimacy pressures (Kostova and Roth 2002). Strength and style of parent-subsidiary oversight may be a significant factor in influencing refinery environmental performance (Rosenzweig and Singh 1991). In order to infer potential differences in parent-subsidiary relations the following discussion considers the parent company characteristics and environmental performance. Table 4.3 summarises the findings into six categories: history, ownership and operations; social and environmental legitimacy; internal processes and structures; internal outcomes; external processes; and external outcomes.

Table 4.3: Parent company characteristics and environmental performance

	Petronas	Shell	Chevron
History, ownership and operations	<ul style="list-style-type: none"> - Founded in 1974 - Malaysian state-owned company - Operates in over 30 countries - 2007: ranked 121st in Fortune Global 500 - Operates four refineries 	<ul style="list-style-type: none"> - Founded in 1907 - Headquartered in UK and the Netherlands, public company - Operates in over 110 countries - 2007: ranked 3rd in Fortune Global 500 - Operates 40 refineries 	<ul style="list-style-type: none"> - Origins date back to 1879 - Headquartered in US - Operates in over 180 countries - 2007: ranked 7th in Fortune Global 500 - Operates 18 refineries
Social and environmental legitimacy	<ul style="list-style-type: none"> - Less home country and international activist pressure than western companies 	<ul style="list-style-type: none"> - Organised home country and international activist campaigns seeking to influence corporate environmentalism/ accountability in specific host country contexts 	<ul style="list-style-type: none"> - Ongoing complaints, lawsuits and shareholder resolutions relating to its environmental impacts in various host country contexts
Internal processes	<ul style="list-style-type: none"> - Pre-2002: began implementing HSE management system to have refineries become ISO14001 certified - 2005: Established Guidelines for Business Conduct and a Corporate Sustainability Framework 	<ul style="list-style-type: none"> - Has single control framework that includes: <ul style="list-style-type: none"> o Shell's General Business Principles o Code of Conduct (established 2006) o HSSE standards - Organisational processes include: <ul style="list-style-type: none"> o HSE standards and targets o ISO14001 certification for all major installations o Regular internal HSE system audits o Environmental, health and social impact assessments o Site level Stakeholder Engagement Plans, Social Performance Plans and Social Performance Reviews - Internal structures include: <ul style="list-style-type: none"> o 2002: Established Social Performance Management Unit o Board level Social Responsibility Committee o CEO has management responsibility for sustainable development o Sustainable development performance counts 20% in determining staff bonuses 	<ul style="list-style-type: none"> - Comprehensive set of business and management systems, which include: <ul style="list-style-type: none"> o Corporate Governance Guidelines o Business Conduct and Ethics Code o Operational Excellence Management System (OEMS) (established in 2001) - Ongoing process of aligning OEMS with ISO14001 - 2006: released Environmental, Social and Health Impact assessment (ESHIA) process
Internal outcomes	<ul style="list-style-type: none"> - Little public information available on internal minimum standards or regulatory compliance 	<ul style="list-style-type: none"> - Commits to being in compliance with all relevant laws and regulations - Sets internal improvement targets for key safety and environmental indicators - Has public targets for flaring and GHG emissions - Decisions on site-specific standards are devolved to local level 	<ul style="list-style-type: none"> - Does not publish internal targets, but does publish aggregate health and safety fines and settlements

	Petronas	Shell	Chevron
External processes	<ul style="list-style-type: none"> - 2007: Published its first Group Sustainability Report - Does not mention participation in any international corporate responsibility norm-making initiatives (e.g. the EITI or the Global Compact) 	<ul style="list-style-type: none"> - 1995: began corporate responsibility - Reports in accordance with GRI and seeks external verification of reports - Has some specific issue and location reports <ul style="list-style-type: none"> o Early 2000s: began hotspot reporting - Has external perception survey - Has site level external panels and observers in some contexts - Supports: <ul style="list-style-type: none"> o Extractive Industries Transparency Initiative (EITI); o Global Compact; o OECD Guidelines for Multinational Enterprises; and o the Voluntary Principles on Security and Human Rights. 	<ul style="list-style-type: none"> - 1994: Began reporting on corporate responsibility - Reports in accordance with GRI - 2007: began to seek external verification of reports - 2007: began investing substantially in community engagement initiatives globally - Supports: <ul style="list-style-type: none"> o the EITI; o Global Sullivan Principles; and o recognises the 'relevant ideals' expressed in the UN Declaration of Human Rights.
External outcomes	<ul style="list-style-type: none"> - Reported on effluent discharge incidents, emissions to air incidences, and waste management incidences 	<ul style="list-style-type: none"> - Reports aggregate data for: <ul style="list-style-type: none"> o GHG emissions; o methane; o carbon dioxide (CO₂); flaring; o sulphur dioxide (SO₂); nitrogen oxide (NO_x); o chlorofluorocarbons (CFCs); o volatile organic compounds (VOCs); o spills; o oil in effluent to surface environment; o fresh water use; o waste; o energy intensity, in refineries, chemical plants, oil sands business, and exploration and production; and o external perception of environmental performance. 	<ul style="list-style-type: none"> - Reports aggregate data for: <ul style="list-style-type: none"> o quantity and volume of petroleum spills; o VOC emissions; o SO_x; NO_x; o number of HSE fines and settlements; o GHGs; o GHGs from flaring and venting; o energy efficiency performance; and o air emissions for downstream, upstream and other, and US refining.

(Sources include: Amnesty International 2005; Amnesty International USA 2008; Chen 2007; Chevron 2006, 2007b, 2007a; ChevronTexaco 2002; CNNMoney.com 2008; Context 2006; Co-op America 2008; FOEI 2006; Greene 1985; Ind2 2006; Jaffe and Soligo 2007; Oil & Gas Journal 2001; Petronas 2002, 2005, 2007a, 2007b; Shell 1997, 2002a, 2006b, 2006c, 2006a, 2007a, 2007b; Von Der Mehden and Troner 2007; Wheeler et al. 2002)

4.3.1 Parent company characteristics

Clearly there are wide differences between Petronas, Shell and Chevron; for instance Figure 4.1 demonstrates the geographic relations of parent to subsidiary. Petronas was incorporated

in 1974, is wholly-owned by the Malaysian government, and owns and controls all of the petroleum resources in Malaysia. From 1974 to 1991 Petronas was primarily interested in domestic upstream resource extraction as it was going through the process of learning the oil business (Von Der Mehden and Troner 2007). Since 1991 the company has transformed into an integrated global oil and gas company with upstream and downstream operations in over 30 countries in Africa, the Middle East, Asia, Europe and Australia. In 2007 Petronas ranked 121 among the Fortune Global 500 largest corporations in the world with revenues of US\$51 billion (CNNMoney.com 2008). It operated four oil refineries producing more than 465 thousand barrels per day (bpd) (Petronas 2007a).³⁷

Shell on the other hand was founded in 1907: it is a publicly traded company headquartered in the Netherlands,³⁸ and considers itself a ‘Group’ of companies, which operate in more than 110 countries worldwide. Shell was structured as a partnership between Royal Dutch and Shell Transport and Trading until 2005 when one company was created, Royal Dutch Shell.³⁹ It is one of the ‘supermajor’ vertically integrated international oil companies (Jaffe and Soligo 2007: 8),⁴⁰ and in the 2007 Fortune Global 500 Shell ranked third with US\$318.8 billion in revenues (CNNMoney.com 2008). Shell had interests in more than 40 refineries worldwide, which processed almost 3.5 million bpd of crude oil in 2007 (Shell 2007a: 47-49).

³⁷ Petronas has three domestic refineries in Malaysia, which processed an average of 362,500 bpd in 2007, and the Engen refinery in Durban, which processed an average of 102,500 bpd in 2007.

³⁸ In 2005 Shell’s official headquarters moved to The Hague, although Shell Centre continues to operate in London.

³⁹ The term Shell will be used synonymously with Royal Dutch Shell and the Shell Group throughout the paper.

⁴⁰ The supermajors include BP, Chevron, ConocoPhillips, ExxonMobil, Royal Dutch Shell, Total and ENI.

Figure 4.1: Parent – subsidiary relationships

Physical Map of the World, June 2003



Chevron can trace its origins back to 1879 when the Pacific Coast Oil Company was founded, which then became the Standard Oil Company of California, or Socal. In 1984 Socal merged with Gulf Oil, and became the Chevron Corporation. In 2001, after its merger with Texaco, Chevron rebranded as ChevronTexaco, but changed the name back to Chevron Corporation in 2005. Chevron, like Shell, is a publicly traded company and is considered one of the international oil company supermajors. It is headquartered in San Ramon, California and operates in over 180 countries worldwide. Chevron ranked 7th in the 2007 Fortune Global 500 with US\$200.6 billion in revenues (CNNMoney.com 2008). The restructured ChevronTexaco Corporation, post 2001, combined the Caltex's nine Asian and African refineries with Chevron and Texaco's 14 US and two Western European refineries under one corporate entity (Oil & Gas Journal 2001). In 2007, Chevron had interests in 18 refineries worldwide, which processed approximately 1.8 million bpd of crude oil (Chevron 2007b: 3).

Petronas, Shell and Chevron have different histories, ownership structures and home country stakeholders. There is a wide range of revenues and refining experience. Shell has the most downstream experience with 40 refineries worldwide. Chevron, which has given primacy to its upstream business in the past (Greene 1985: 180), has 18, and Petronas has only four, with Enref its only international refinery. From a resource-based view of the firm (see section

2.4.2), it would appear that access to tangible assets such as physical and financial capital, intangible assets such as reputation or intellectual capital, and personnel-based assets such as organisational capabilities would be more readily available within Shell or Chevron than Petronas. Thus internal factors could be an explanatory factor if the environmental performance of Sapref or Calref is superior to that of Enref.

As discussed in section 2.4.2, corporate culture is another way to infer how firms tackle environmental challenges. Although corporate culture, particularly beliefs and underlying assumptions within a firm, are difficult to understand without doing ethnographic or action-based research internal to the firm, some observations about structures, practices and values can be made from primary and secondary sources. Petronas has been characterised as a “generally well-run company with leadership that has developed a good reputation for administrative and financial accountability” (Von Der Mehden and Troner 2007: 34). Although it is a national oil company, it is relatively free from corruption, has little government interference in its day-to-day operations, and profit-making is one of its core objectives (ibid). Yet Petronas enters so-called pariah states not usually emphasised by the majors, such as Myanmar, Sudan and Iran, and it has supported state-led Malaysian mega-projects outside its core interests such as the construction of the Petronas Twin Towers in Kuala Lumpur (ibid).

When operating internationally, Petronas has considerably less home country and international pressure than western companies to participate in corporate responsibility initiatives, particularly in the human rights domain. For example, when the Sudan-based consortium the Great Nile Petroleum Operating Company (GNPOC), which produces most of the country’s oil, was put under pressure from then consortium member Talisman, a Canadian oil and gas firm, to sign a corporate code of conduct, GNPOC members China National Petroleum Corporation (CNPC) and Petronas declined to sign individually (Chen 2007: 61). Talisman divested in 2002 after coming under intense criticism from human rights and religious activists, who claimed oil profits helped to sustain the central government’s war in southern Sudan. In the context of this study, it is likely that Petronas will come under less stakeholder pressure to improve its subsidiary’s environmental performance than Shell and Chevron.

Shell has had a unique evolution in the world of the oil majors. In a mid-1980s analysis of the major oil companies' strategies, Greene (1985: 212) notes that Shell has a competitive advantage in host country legitimacy: "Its diplomatic style of management and the indigenoussness of its local subsidiaries are greater strategic investments in political acceptability, if lower in profitability, than other Majors have chosen to make." However, the last decade has proved challenging for both Shell's public image and competitive position, particularly in relation to its social and environmental performance .

The North Sea Brent Spar incident in 1995, ongoing human rights record and environmental performance in Nigeria, radical restructures in 1998-99, the reserve crisis in 2004, and more recently the 2006 loss of its majority shareholder position to Gazprom in the Sakhalin II project all exemplify Shell's ongoing struggle to maintain organisational legitimacy. Within this context, fence-line communities in both developed and developing countries have organised to campaign against Shell's perceived unjust social and environmental performance (FOEI 2006). This has led some to highlight how the decentralisation of the Shell Group resulted in lack of consistency between home country corporate leadership and strategy to host country local leadership and operational behaviour (Wheeler et al. 2002: 312). This study will pay close attention to how Shell corporate seeks to influence (or not) Sapref's environmental performance improvement strategy.

Chevron (then Socal) is known for discovering oil in Saudi Arabia in the 1930s. It has been characterised as a conservative, engineering, and exploration-oriented company (Greene 1985), and Texaco, which merged with Chevron in 2001, has been called a "legalistic, autocratically and centrally administered company" (ibid : 203). Caltex, the former parent company of Calref, was founded in 1936 as a 50/50 joint venture between Socal and Texaco. Socal could provide Middle East oil to Texaco's marketing outlets in Africa, Asia and Australasia (Caltex 2008). Caltex was fully acquired by Chevron in 2001, and in 2005, when ChevronTexaco rebranded to Chevron Corporation, the name of the company in South Africa changed from Caltex Oil South Africa Pty to Chevron South Africa Pty, although Caltex still continues as the brand for Chevron in South Africa (Caltex 2008). It can be inferred that Caltex Oil South Africa operated with a wide degree of autonomy given both its independence from Chevron and Texaco and that Caltex was structured around geographical rather than functional lines up until the late 1990s (Caltex 2008).

Regarding social and environmental legitimacy, Chevron has been the target of numerous complaints, legal disputes and shareholder resolutions regarding its record on the environment, human rights and transparency. Most notably, related to Texaco's legacy in the Ecuadorian rain forest, an ongoing lawsuit was filed in 1993 on behalf of more than 30,000 Ecuadorian jungle settlers and Amazon Indians for environmental destruction (Amnesty International USA 2008). A 2006 shareholder resolution called on the Chevron Board of Directors to release information regarding expenditures related to the Ecuador sites including legal fees, public relations/media fees, lobbying, and remediation costs (ibid). Chevron has also been targeted for alleged human rights abuses in Nigeria and in the Chad-Cameroon Pipeline (along with Petronas) (Co-op America 2008; Amnesty International 2005; Amnesty International USA 2008). From this brief analysis it is expected that Calref will have less parent company oversight than Sapref, particularly up until 2001 when Caltex was fully acquired by Chevron.

As the discussion above highlights, each of the parent companies has unique histories, culture and characteristics. From a resource-based view of the firm, it appears that Shell and Chevron might have superior environmental performance to Petronas given the size and breadth of their refinery operations. In addition, each parent company has a unique history, which may inform how it interacts with its subsidiaries, and in turn how Sapref, Enref and Calref seek to engage in South Africa's emerging environmental protection field. It is expected that Sapref will have more parent company pressure than Calref and Enref. This internal context may provide insight into corporate environmental performance trends, parent-subsidiary interaction and firm agency within a process of field structuration.

4.3.2 Internal processes and outcomes

Petronas^{41,42}

Regarding Petronas' *organisational processes* (as summarised in Table 4.3), it has been implementing an HSE management system since before 2002 to meet the requirements of becoming ISO14001 certified (Petronas 2007b: 5; 2002).⁴³ In addition, Petronas established Guidelines for Business Conduct and a Corporate Sustainability Framework in 2005 (Petronas 2005). Petronas' Malaysian refineries were ISO14001 certified prior to 2002 (Petronas 2002: 36), but Enref was still in the certification process as of 2006 (Petronas 2007a). The Corporate Sustainability Framework encapsulates seven key result areas for group-wide implementation, which include shareholder value, natural resource use, HSE, product stewardship, societal needs, climate change and biodiversity (Petronas 2007b). No statements could be found in Petronas' publicly accessible information specifying its HSE influence on subsidiaries and joint ventures or on its adherence to internal minimum standards or *regulatory compliance*.

Shell

Shell's *organisational processes* which are designed to influence its environmental performance are quite sophisticated. It has a single control framework that describes how it is organised and managed. The control framework includes Shell's General Business Principles, which were established in 1976 and revised in 1997 to include reference to human rights and sustainable development principles, its Code of Conduct established in 2006, and its Health, Safety, Security and Environment (HSSE) standards (Shell 2007b: 34; 1997). Shell recognises that environmental performance varies from site to site, but in order to implement corporate policies throughout the organisation it uses a variety of policies and practices. These include HSE standards and targets, ISO14001 certification for all major installations, regular internal HSE system audits, and environmental, health and social impact assessments prior to any new project or significant modification of an existing one. In addition to implementing staff

⁴¹ Internal processes within the context of this study, as per sections 1.2.1 and 4.2 and Ilinitch et al (1998: 389), are organisational processes and structures designed to improve environmental performance. Internal outcomes refers to the degree to which firms set and meet internal targets and are in compliance with legal minimum standards.

⁴² The comparison of parent company environmental performance in sections 4.3.2 and 4.3.3 is primarily distilled from corporate documents, such as annual reports, sustainability reports and corporate websites. As will be discussed in section 4.5 this provides useful insight into parent-company relationships, which adds an important dimension for the comparison of corporate environmentalism.

⁴³ Petronas' publicly available reports do not specify when it began working towards ISO14001 certification.

training and education, sustainable development performance counts 20 percent in determining staff bonuses (Shell 2006a, 2007b).

On the social side, Shell requires all of its businesses to establish and implement a Stakeholder Engagement Plan, a Social Performance Plan and Social Performance Reviews (Shell 2006b). In its downstream business, Shell trains local staff to carry out social performance reviews for operations in their country or region (Shell 2007b: 35). In addition, Shell created a Social Performance Management Unit (SPMU) in 2002 that works with business units to mitigate their adverse impacts on communities and society. The SPMU has moved from capturing best practice and producing guidelines to intervening and building capacity at so-called “hotspot” sites (Ind2 2006). Shell began “qualitative hotspot reporting” in the early 2000s to give a “meaningful picture” of its environmental performance; hotspot reporting involved “in-depth case studies on some of the most important issues or site level challenges” the company faced (Shell 2002a: 11). Sapref is one of Shell’s designated hotspots; so there has been pressure from the parent company to find a “practical fix” for the reputational risk in Durban (Ind2 2006).

Shell has significant *organisational structures* in place to manage corporate environmental performance. One of the four committees of the Board of Royal Dutch Shell is the Social Responsibility Committee, which assesses and advises the Board on its policies and performance with respect to its Business Principles, Code of Conduct, HSSE and major issues of public concern. The Chief Executive has management responsibility for sustainable development, and he chairs Shell’s Sustainable Development and HSSE Executive Group. Other corporate functions that support the business units include the SPMU, HSSE and issues management staff (Shell 2007b: 35).

Regarding *regulatory compliance*, Shell commits to be in compliance with all relevant laws and regulations, sets *internal improvement targets* for its key safety and environmental indicators and has public targets for eliminating the disposal of gas by continuous flaring, and for managing greenhouse gas (GHG) emissions from its operations (Shell 2007b: 34). All of its sites contribute to corporate aspirations and targets, but decisions on site-specific standards are devolved to the local level. These commitments apply to any Shell company and joint ventures under its control. Shell seeks to promote these commitments in other ventures, and

contractors are required to operate in line with Shell's HSSE management systems (Shell 2007b: 34).

Chevron

In 2002, Chevron (then ChevronTexaco) was engaging in a comprehensive post-merger integration process. Its 2002 corporate responsibility report summarises its approach:

As a decentralized company whose operations span the globe, we have found it effective to do a great deal of listening, learning and dialoguing directly at the local level. As we work to develop a more integrated approach to corporate responsibility, we also are looking at ways to be more systematic in engaging our stakeholders and others. We aim to build better processes to transfer learning from the local level throughout the company so that we can better understand and respond to emerging issues. At the corporate level, we are focusing on being more proactive in engaging on important, global issues that cut across our operations. (ChevronTexaco 2002: 6)

Implied in this statement are the challenges of integrating corporate responsibility throughout a decentralised corporate structure. As a consequence of both Caltex and more recently Chevron's 'hands-off' approach to managing subsidiaries, Calref has had limited internal parent company legitimacy risk to contend with. The key question here though is to what extent this may influence corporate environmental performance.

Regarding its *organisational processes*, Chevron, like Shell, has a comprehensive set of business and management systems, which include Corporate Governance Guidelines, Business Conduct and Ethics Code, and Operational Excellence Management System (OEMS) (Chevron 2006: 4). Chevron's OEMS was first published in 2001 after its merger with Texaco, to bring together and provide a common set of expectations for Chevron's businesses, and is designed to conform to ISO14001 (ChevronTexaco 2002: 6). The process of aligning its OEMS with ISO14001 companywide is ongoing (Chevron 2006: 9). In addition, Chevron has recently released an Environmental, Social and Health Impact assessment (ESHIA) process to be applied to new capital projects across its worldwide operations (Chevron 2006: 6). Absent from Chevron's corporate annual and responsibility reports is the mention of operational oversight of joint ventures and subsidiaries.⁴⁴ Chevron

⁴⁴ For a discussion of how subsidiaries report within Chevron's structures, see Note 8, p. 64, Chevron Corporation Annual Report 2007. (Chevron 2007a)

does not publish internal targets, but regarding *regulatory compliance* it does publish aggregate health and safety fines and settlements.

4.3.3 External processes and outcomes

*Petronas*⁴⁵

Regarding *stakeholder relations* and *environmental impacts*, Petronas published its first Group Sustainability Report in 2007, where it reported on total sickness absence, group lost time injury frequency, effluent discharge incidents, emissions to air incidences, and waste management incidences (Petronas 2007b). Petronas reported that its air emissions incidents jumped from two in 2006 to 196 in 2007, which the report explains “was largely due to the introduction of more stringent air quality regulations in Durban, South Africa where our refinery is located” (Petronas 2007b: 5). From this statement, it can be inferred that Petronas is focused on compliance, and either does not mandate internal targets/standards for subsidiaries, or has targets but does not report on them.⁴⁶

Petronas’ Sustainability Report is only 12 pages long, and has very limited information on environmental and social performance. Even with Petronas’ increased efforts to provide HSE and sustainability performance information relevant to stakeholders, it is difficult to find this information on its website. There are no country level reports, nor is there direct discussion of social and environmental risks and challenges, especially related to operating abroad.⁴⁷ Given Engen’s experience with sustainability reporting since 2003, it appears that Petronas could learn from its subsidiary. Finally, Petronas does not mention participation in any international corporate responsibility norm-making initiatives, such as the EITI or the Global Compact.

Shell

Shell’s *stakeholder relations* are quite extensive. It began reporting on corporate responsibility in 1995 and then switched to sustainability in 1997, reports in accordance with the Global Reporting Initiative (GRI), and seeks external verification of its reports (Context

⁴⁵ As per sections 1.2.1 and 4.2, External processes are evaluated through various indicator such as stakeholder relations, CSR initiatives and corporate environmental reports, and external outcomes are assessed through environmental impacts, i.e. changes in actual emissions levels and environmental upsets or incidents.

⁴⁶ Prior to 2007 the Engen refinery would presumably be operating similarly, so we can assume that what were incidences in 2007 would also have taken place in prior years. What changed was the regulation, not the environmental performance of the refinery.

⁴⁷ As of May 2008

2006). Shell's specific issue and location reports are chosen on the basis of having the highest impact on their reputation and financial performance (Shell 2006c). Therefore, not all of Shell's companies and joint ventures report at the site level. Shell does extensive stakeholder engagement both at the global and local levels. One of its key global performance indicators, the Reputation Tracker survey conducted by the market research agency MORI, provides external perception of environmental performance (Shell 2007b: 36) At the site level, Shell has, in some cases, external panels and observers, including community panels, to help monitor environmental and social performance (Shell 2007b: 35).

Not surprisingly, Shell participates in or pledges support for international corporate responsibility norm-making initiatives, which Petronas does not, such as: the Extractive Industries Transparency Initiative (EITI); the Global Compact; the OECD Guidelines for Multinational Enterprises; and the Voluntary Principles on Security and Human Rights. Regarding disclosure of its *environmental impacts*, Shell reports aggregate data for: GHG emissions; methane; carbon dioxide (CO₂); flaring; sulphur dioxide (SO₂); nitrogen oxide (NO_x); chlorofluorocarbons (CFCs); volatile organic compounds (VOCs); spills; oil in effluent to surface environment; fresh water use; waste; energy intensity, in refineries, chemical plants, oil sands business, and exploration and production; and external perception of environmental performance. It appears that although Shell subsidiaries may traditionally have had substantial autonomy (Greene 1985), with its increasing legitimacy risks since the mid-1990s, Shell has improved oversight of its subsidiaries' social and environmental performance.

Chevron

Regarding Chevron's *stakeholder relations*, it began reporting on corporate responsibility in 1994, reports in accordance with the GRI, and began seeking external verification of its reports in 2007 (Context 2006; Chevron 2007b). In 2007 Chevron invested US\$119 million in community engagement initiatives globally (Chevron 2007b: 4). Its 2007 Corporate Responsibility report uses case studies to demonstrate its commitment to community engagement initiatives. The report identifies that partnerships are at the heart of its community engagement initiatives and, in 2007, the company introduced a community engagement tool kit for staff (Chevron 2007b: 27). Regarding support of international corporate responsibility norm-making initiatives, Chevron supports: the EITI; Global Sullivan Principles; and recognises the 'relevant ideals' expressed in the UN Declaration of Human

Rights. Noticeably missing is Chevron's support for the Global Compact and the OECD Guidelines for Multinational Enterprises.

On disclosing *environmental impacts*, Chevron reports a number of aggregate environmental indicators, including: quantity and volume of petroleum spills; VOC emissions; SO_x; NO_x; number of HSE fines and settlements; GHGs; GHGs from flaring and venting; and energy efficiency performance. In addition, Chevron disaggregates and publishes air emissions for downstream, upstream and other, and US refining. No air emissions or HSE indicators for South Africa are publicly available, yet as noted in Chevron's 2007 Corporate Responsibility report: "Global SO_x emissions decreased by 22% compared with 2006 in part due to improvements at a US refinery and the Cape Town Refinery in South Africa, and because of changes in crude feedstock for the Cape Town Refinery..." (Chevron 2007b: 37). It is difficult to search the footnotes of Chevron's corporate reports to find this site specific information, and, not having separately reported refinery data in South Africa, sets it apart from Enref and Sapref.

Before comparing and contrasting corporate environmentalism between the three companies, the characteristics and environmental performance of their respective South African fuel oil refinery subsidiaries are considered.

4.4 Refinery characteristics and environmental performance

4.4.1 Refinery characteristics

Enref and Sapref are both located in South Durban: Enref 10km south of Durban in the suburb of Wentworth, and Sapref 14km south of Durban in the suburb of Prospecton. Calref is located approximately 20km northeast of Cape Town in the suburb of Milnerton. Enref is operated by Engen Petroleum Ltd, which is 80 percent owned by Petronas, and 20 percent owned by Worldwide African Investment Holdings Ltd, a South African Black Economic Empowerment (BEE) firm, whereas Sapref is a 50/50 joint venture between Shell South Africa and BP Southern Africa, which are subsidiaries of parent companies Shell and BP respectively, and Shell is the operator of the refinery.⁴⁸ Calref is owned and operated by

⁴⁸ While Shell and BP jointly own Sapref, Shell is the operator; consequently, this analysis will focus more specifically on Shell's corporate policies and practices.

Chevron South Africa Pty Limited (Chevron SA), a subsidiary of Chevron. Shareholding interest in Chevron SA is 75 percent held by Chevron, together with 23 percent held by a consortium of South African BEE partners and 2 percent by an employee share trust.

Figure 4.2: South African coastal fuel oil refineries



Commissioned in 1954, Enref is the oldest fuel oil refinery in South Africa, whereas Sapref, commissioned in 1963, is the largest crude oil refinery in southern Africa with 35 percent of South Africa's refining capacity (Sapref 2007). Calref was commissioned in 1966. All three refineries are highly complex with output capacities in 2006 of 135,000 barrels of crude oil per day (bpd) for Enref, 180,000 bpd for Sapref and 100,000 bpd for Calref. Enref has about 500 permanent staff, Sapref about 620, and Calref about 350, however these numbers may double or even triple when contractors are included (TradeInvestSA 2008; KwaZulu-Natal Business 2008).

Enref's facilities consist of the refinery and a lubricating oils blend plant, and its products include petrol, diesel, liquefied petroleum gas (LPG), cleaning solvents like benzene, jet fuel, paraffin, lubricants and grease, bitumen and fuel oil. Enref's target markets are Engen's retailing division and the motoring public. Sapref's operations consist of the refinery, a single buoy mooring, where 80 percent of South Africa's crude oil imports are offloaded from tankers, the Island View harbour storage facility, joint bunkering services, and seven product

transfer pipelines that run 12 kilometres between the refinery and the storage facility (Sapref 2007). Sapref's products include petrol, diesel, jet fuel, lubricating oil, LPG, paraffin, solvents, bitumen, marine fuel oil and chemical feed stocks. Sapref's refined crude oil is distributed to the retail networks of its owners Shell SA and BP SA.

Calref's facilities consist of the refinery and the Killarney Tank Farm, where crude oil and refined products are stored. The crude is transferred to the refinery by underground pipeline from Saldanha Bay, which is 110km north, while three underground pipelines transfer both crude and refined product between the refinery and the Cape Town harbour, which is 14km south (TradeInvestSA 2008). The Chevron Refinery manufactures a range of petroleum products including petrol, diesel, jet fuel, paraffin, LPG, sulphur, bunker fuel oil and bitumen. Calref supplies the Western Cape market and also exports fuel to countries in East and West Africa (TradeInvestSA 2008).

Although the size of the refineries differ, other aspects of their characteristics facilitate comparison: they are all coastal refineries that were constructed within twelve years of each other, are of similar complexity and thus are designed to refine similar types of crude oil.

4.4.2 Internal processes and outcomes

Similar to the analysis of parent company environmental performance, how and why each refinery's progress has differed can be investigated by breaking environmental performance criteria down into processes and outcomes that are both internal and external to the firm. Table 4.4 details Enref, Sapref and Calref's changing environmental performance over time with a focus on air emission reductions. The timing and substance of these initiatives are significant.

Table 4.4: Refinery environmental performance⁴⁹

Internal processes	Enref	Sapref	Calref
1999	- DuPont STOP safety system introduced		
2000		- ISO14001 certified, R1m - Performance incentive scheme - Implemented best practice incident reporting system	
2001	- Incident reporting via SiteSafe		- Implementation of quality management and training programme, Chevron's project management programme
2002		- Shell Performance Review - Enlarged HSE department	- ChevronTexaco becomes 75% owner of Caltex South Africa along with some BEE groups - Implementation of behavioural safety training programme at refinery
2003		- ISO9000 certified	
2004	- Implementing integrated health, safety, environment and product quality management system that can be ISO9001 and 14001 accredited	- Near miss and learning event reporting - Hearts and Mind behavioural safety approach - Tip-offs initiative - First aid case reporting	- Calref focuses on implementing 'Operational Excellence' - ISO9001: 2000 certification
2005	- 'Great Days' programme – staff incentives tied to refinery performance - Employees trained in DuPont's "STOP for the environment" system	- Transfer line risk management system - Hazards and effects management process - Spills prevention team - Develop a transfer line risk management system	- Calref GM stresses reliability focus and implementation of Operational Excellence
2006	- Implementing ISO 14001 - Implementing Global Reliability System, based on ExxonMobil's GRS system - Implementing Process Safety Management	- Business Improvement Review	
Internal outcomes	Enref	Sapref	Calref

⁴⁹ Much of this data is self-reported by refineries, but their corporate reports (when available) have been verified by external consultants. The self-reported refinery data is also scrutinised by local NGOs and journalists so the trends found by categorising the data are believed to be reliable. An indicative list of sources, which includes corporate reports, interviewees and newspaper articles is included below the table. If a year is not included or left empty it is because no recorded initiatives or events were found in the data.

1997			- Calref and Kynoch were pinpointed as the source of SO ₂ exceedances of the WHO guidelines for 10-minute, one-hour and one-day averages. It was the first time since October 1994, when continuous monitoring began, that these guidelines had been exceeded
1998	- Committed to GNA with communities		- Voluntary implementation of GNA
2000		- Voluntarily undertook reductions to self imposed limit of 37t/day versus permitted 50t/d	
2001		- 2001 onwards: HSE performance targets (published)	
2003	- Refinery safety record, 2,800,000 man hours without accident - Engen is awarded Petronas group HSE Merit Award for improvements in safety performance programme - Alan Munn won the South Durban Industrial Basin Business Personality award of the year	- Using Multi-Point Plan (MPP) data to assess its own environmental impacts	
2004	- Cathodic protection system of pipelines fallen behind international best practice and needs immediate upgrade	- Stayed below self-imposed limit of 20t/day yearly average. - One short-term exceedance of WHO guideline of 191 parts/billion over 10 minute average	
2005	- Acquired 5-year schedule trade permit from local government - Fined R10,000 for SO ₂ exceedances - Reduction of maintenance staff because of increased refinery reliability	- Three SO ₂ exceedances of Atmospheric Pollution Prevention Act (APPA) permit, 25t/d	- Implement first Capital Stewardship and Organisational Capability Gold Standard Assessment, score 70%, will continue process until achieve 90% of Gold Standard - City of Cape Town served Calref an abatement notice to install a passive VOC monitoring system
2006		- Acquired 5-year schedule trade permit from local government	- Fine levied by Cape Town for contravention of notice service on Calref in Feb 05 - Served notice by DEAT of an intention to issue a directive after reoccurrence of pollution incidents
External processes	Enref	Sapref	Calref

Pre-1994			<ul style="list-style-type: none"> - 1985: Introduces environmental information programme - Early 1990s: annual meetings with residents
1994	- Attempted to get CAER committee together		<ul style="list-style-type: none"> - Formation of Milnerton Air Quality Project (MAQP), R1m - Caltex Chairman promises to reduce SO₂ emissions by 80%
1995	- Engaged proactively with communities		- GNA process began, but failed in the end
1997			- Calref GM reneges on SO ₂ reduction promise
1998	- Established GNA with communities		- Voluntary implementation of GNA
1999			- Public meetings held on refinery risk assessment
2001		- Began publishing stakeholder reports	
2002	- Stakeholder assessment, conducted by external consultant	- Hires two new external affairs staff	
2003	- Began publishing Sustainability Report	<ul style="list-style-type: none"> - Stakeholder engagement plan - Began publishing online emissions data - Community Liaison Forum established - Community survey 	- Steve Woodward, GM, engages more openly with communities in press and in person
2004	<ul style="list-style-type: none"> - Began reporting in accordance with the GRI - Community Liaison Forum established - Began reporting according to King 2 Report Guidelines - Corporate sponsor of National Business Trust Barometer survey, Engen rated 'average' 	<ul style="list-style-type: none"> - Increased refinery visits - Began reporting in accordance with the Global Reporting Initiative 	
2005	- Conducted a social impact study		
External outcomes	Enref	Sapref	Calref
Pre-1994	- 1993: New sulphur recovery complex commissioned		<ul style="list-style-type: none"> - Since 1990: Tank seals, R6m; smell/VOC - Since 1993: Reduction of SO₂ by 79%
1995		<ul style="list-style-type: none"> - Since 1995: Reduction of SO₂ by 60% - Since 1995: Tank seals, R1m/yr, VOCs 	
1996			- 1996/97: Electrostatic precipitators, R40m, dust and SO ₂
1997			- SO ₂ reductions, R30m

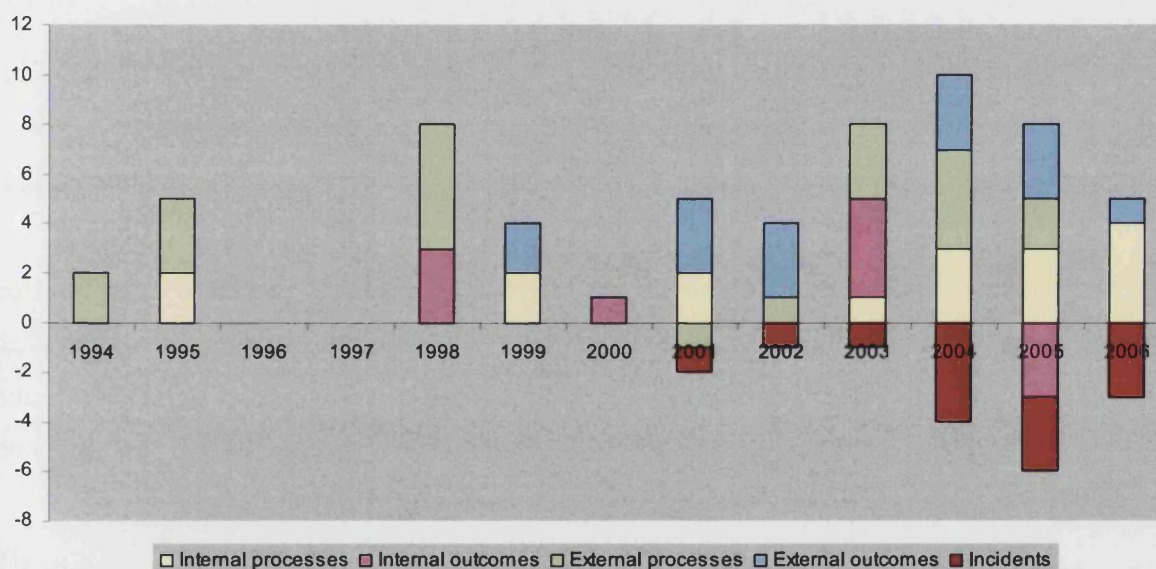
1998	- Since 1998: Reduction of SO ₂ by 65% - Since 1998: Have reduced waste by 50%	- Conversion from heavy fuel oil to fuel gas, R3m, SO ₂ , NOx, Pm10	- New boiler, R28m, dust, SO ₂ , NOx and smoke
1999	- Since 1999: Reduction of VOCs by 67% - Conducted VOC survey	- Since 1999: Reduction of VOCs by almost 35%	
2000			- Tailgas treating unit; R71million; SO ₂ reductions
2001	- Switch from heavy fuel oil to gas for SO ₂ reductions		
2002	- SO ₂ and VOC reduction upgrade, R109m	- SO ₂ reduction upgrade, R350m, SRU4/SCOT unit - FCCU cyclones, R27m, PM10 - Flare pilots, R5m, GHGs - CO boiler, R52m, GHGs - Storm water unit, R20m, soil/water	- Sulphur pastillation plant, SO ₂
2004	- NOx and particulates reduction projects, R125m - Upgrade to storm water containment ponds, R18m		- Emissions abatement programme; R40m; smell
2005	- Implement initiatives to overcome nuisance issues - Clean fuels project, R210m - Revamp FCCU	- VOC leak detection programme initiated - Implemented cleaner fuels programme, R700m	- Power reliability (Eskom), R12.4m, VOCs and Smoke - Clean fuels project, R200m, SO ₂ reductions - Water conservation & recycling project - 2005-07: Effluent improvement initiative, R57m, VOCs reduction
2006		- Agreed to replace 7 product transfer pipelines, R340m	

(Sources include: Beverley 1996; Bramdaw 2000; Business Day 1997; Caltex 2008; Cape Argus 2006; Cape Times 1994a, 1994b; Carnie 2001d, 2002f, 2006c; Challenor 1999; Dreyer 2004a; Dube 2000; Engen 2004, 2005, 2006, 2007a, 2007b; Gosling 2005a; Ind4 2006; Ind9 2006; Ind13b 2006; IOL 2001; Jenvey 2003, 2005; Jones 2001a; NGO5 2006; NGO9 2006; NGov1 2006; Nhlapo 2001g, 2001e, 2001c; Pather 2000; Peek 2002; Peters 2005a, 2005b; Peters and Steenkamp 2005; Planting 2004; Sapref 2004, 2005, 2006a, 2006b, 2007; Shell 2002b; Smith 1997; Smith 2003b; Sookha and Naidoo 2005; Steenkamp 1994, 1995; Thiel 2004)

Figures 4.3, 4.4 and 4.5 represent Enref, Sapref and Calref's environmental performance over time. On a scale of negative five to plus five, ratings were assigned per year for categories of environmental performance as discussed above. These include internal processes (off-white), external processes (light green), internal outcomes (pink); and external outcomes (light blue). Incidents (red) are also included. The indicators were derived iteratively from the analysis of

the media and interview data. For example, in 1998 Enref received a plus five on external processes for establishing a GNA and a three on internal outcomes for setting targets for emissions reductions based upon the GNA. Environmental performance indicators deemed negative, such as Enref's fine in 2005 and Calref's directives in 2005 and 2006, are also represented below the x-axis as negative internal outcomes (in pink) (see Excel file titled *env_perf_data.xls* in the enclosed CD). Although specific incidents are not discussed in this chapter, which are included in the graphs are covered extensively in the media and interviews and will be highlighted in Chapters 5 through 7.

Figure 4.3: Enref's corporate environmental performance



Enref

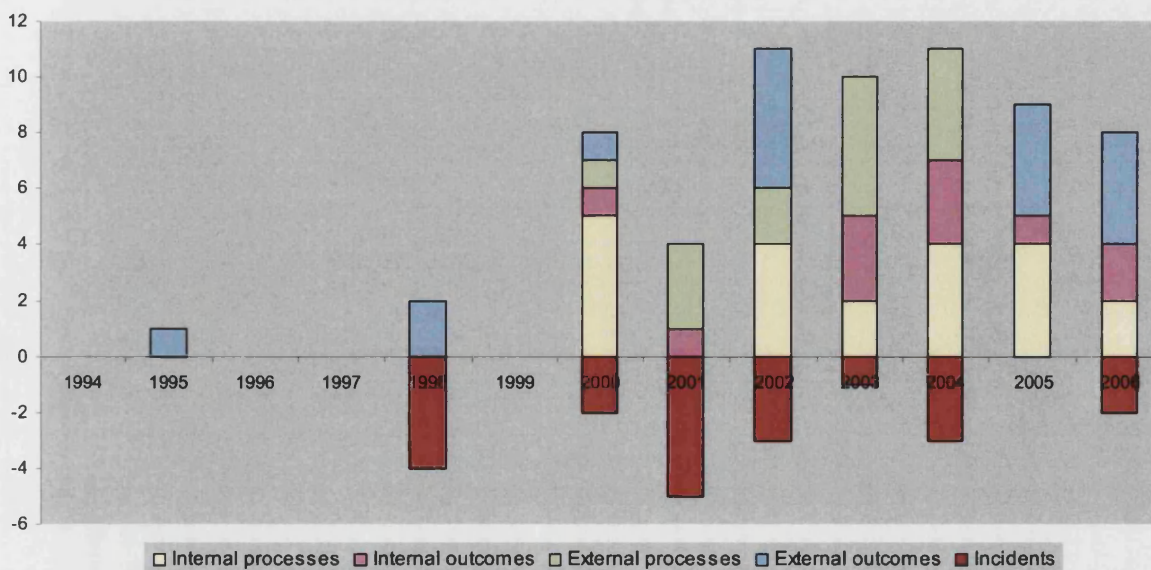
On *organisational processes*, although Enref began to improve its safety systems in the late 1990s, it did not begin to externally accredit its environmental management system until 2004. In 2005, Enref also increased efforts to improve staff HSE performance by linking staff incentive structures to refinery performance and training employees in DuPont's "STOP for the environment" system, and in 2006, Enref initiated systems to improve reliability and process safety of the refinery. It appears Enref was a relatively late mover in improving its internal environmental processes.

Regarding *regulatory compliance*, Enref led the way in South Durban by committing to a five-year GNA with local communities in 1998. The agreement specified a number of

environmental improvements to be achieved by 2002, including: major reductions in SO₂, particulates and nitrous oxides NO_x emissions, noise reductions; improvements to flares and visual impact; the establishment of a community awareness and emergency response (CAER) programme; and improved reporting of emissions data (Engen 2005: 32). Enref notes in its 2005 report that the majority of the GNA commitments were met, although there were some technical difficulties achieving the particulate emissions target that still needed to be resolved. Enref also pointed out that the CAER programme was not successful due to a number of reasons, including lack of community support. Both the GNA and attempts to establish a CAER programme are discussed in more detail in Chapter 5.

Other internal outcomes reflect Enref's focus on safety policies and procedures. In 2003 the refinery set a safety record for 2,800,000 man hours without accident safety record and it received a Petronas group HSE merit award for improved safety performance. However, a study commissioned by the municipality revealed that Enref's pipeline protections systems had fallen behind international best practice. It was difficult to verify if Enref works towards environmental performance targets (Engen 2006: 21), because the yearly goals are not always reported. Yet Enref received its 5-year schedule trade permit from the municipality in 2005, but was fined R10,000 for SO₂ exceedances that same year. Overall Enref's internal environmental outcomes are mixed.

Figure 4.4: Sapref's environmental performance



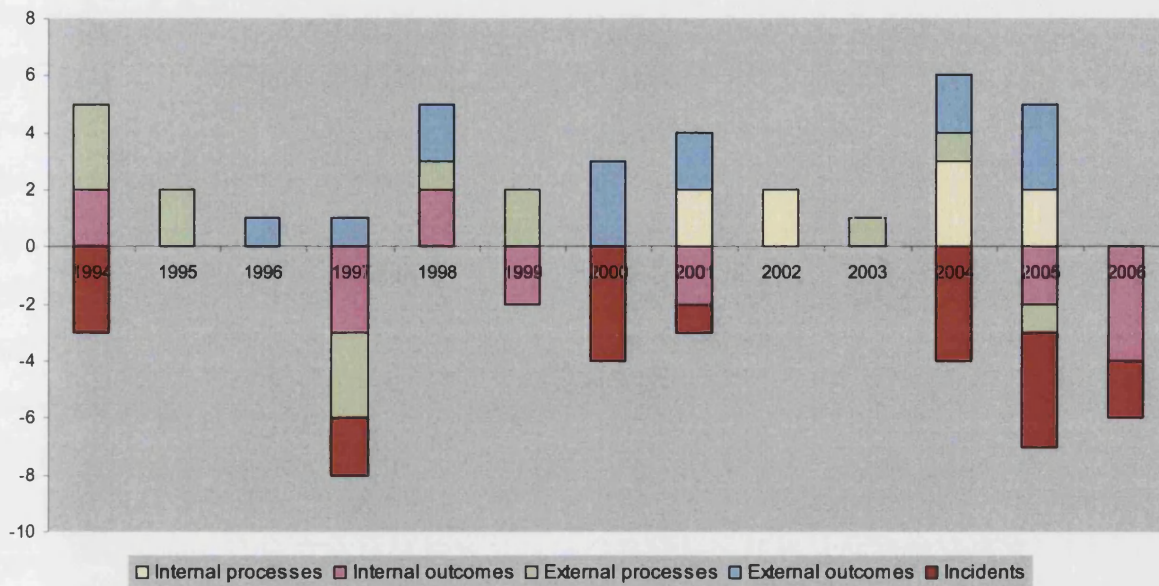
Sapref

Regarding Sapref's *organisational processes*, the refinery became recognised as a hotspot area by Shell in the early 2000s, and through parent company pressure, Sapref became ISO14001 certified in 2000 and underwent a Shell Performance Review in 2002. To change employee behaviour, Sapref linked staff incentives to refinery HSE performance in 2000. Sapref also introduced a behavioural change programme and 'near miss' reporting in 2004 to transform the safety culture at the refinery (Sapref 2004). The refinery's increase in safety and reliability management processes coincided with the arrival of a new managing director, Wayne Pearce, in 2004.⁵⁰

Sapref responded differently to community pressure than Enref. Regarding *regulatory compliance*, the refinery chose not to engage in a GNA, but voluntarily undertook SO₂ reductions. From 2001 onwards, HSE *performance targets* were published within its stakeholder reports. Also, from 2003, Sapref began using air emissions data supplied by the municipality to assess its performance. In 2004, Sapref stayed below its self-imposed SO₂ limit of 20 tonnes per day yearly average and reported one short-term exceedance of World Health Organization (WHO) guidelines of 191 parts/billion over a 10 minute average. In 2005, Sapref noted three SO₂ exceedances of its APPA permit of 25 tonnes per day, and 2006 the refinery acquired its five-year schedule trade permit from eThekweni municipality.

⁵⁰ Wayne Pearce left the refinery in November 2007, and has been replaced by Bart Voet. Wayne Pearce moved to The Hague to become Global Manager Process Safety Assurance, and Bart Voet was Shell Vice President Wind Energy. <http://www.sapref.com/news/8Nov07.htm>

Figure 4.5: Calref's environmental performance



Calref

Calref began to improve its *organisational processes* in the early 2000s as it began to implement quality and safety management programmes (Schulze-Hulbe 2001), and with the ChevronTexaco acquisition of Caltex South Africa in 2002, it began to implement Chevron's 'Operational Excellence' management system (Abrahams 2004). As Calref's general manager reiterated in 2005, Chevron's corporate vision for Operational Excellence, as articulated by Chairman and CEO David O'Reilly is "to be recognised and admired by industry and the communities in which we operate as world-class in safety, health, environment, reliability and efficiency" (Woodruff 2005: 6). In 2004, Calref became ISO9001 certified and in 2005 the general manager stressed the need to focus on operational reliability (Woodruff 2005). Absent from Calref's internal processes, based upon corporate interviews and review of their limited publicly available information, is an explicit focus on improving its environmental management systems.

Regarding *regulatory compliance*, Calref made attempts to establish a GNA with its surrounding communities in the mid 1990s, however this process broke down and the refinery chose to voluntarily implement the draft agreement in 1998. Chapter 5 discusses the contestation of Calref's proposed GNA in detail. There is very little mention of *internal targets* in Calref's internal newsletter until 2005, when the refinery initiated its first internal benchmarking exercise, a Capital Stewardship and Organisational Capability Gold Standard

Assessment (Oosthuizen 2005). Yet the general manager, in a 2005 presentation, noted that there had been a number of ground level SO₂ concentration exceedances between 2000 and 2005 (Woodruff 2005).

Also in 2005, Calref came under *regulatory compliance pressure* from the city of Cape Town when it was served an abatement notice to install a passive VOC monitoring system, and the refinery was subsequently fined in 2006 for breach of this notice. In 2006, Calref was served notice of an intention to issue a directive after having been found to have failed “to take reasonable measures to prevent significant pollution or degradation of the environment from occurring, continuing or recurring”, in breach of Section 28(1) of NEMA (LGov9 2006). Yet Calref’s general manager stated that the refinery’s mission from 2005 to 2007 would be zero injuries, zero incidents, 84.5 percent plant utilisation, and 100 percent engagement with employees and external stakeholders (Woodruff 2005).

4.4.3 External processes and outcomes

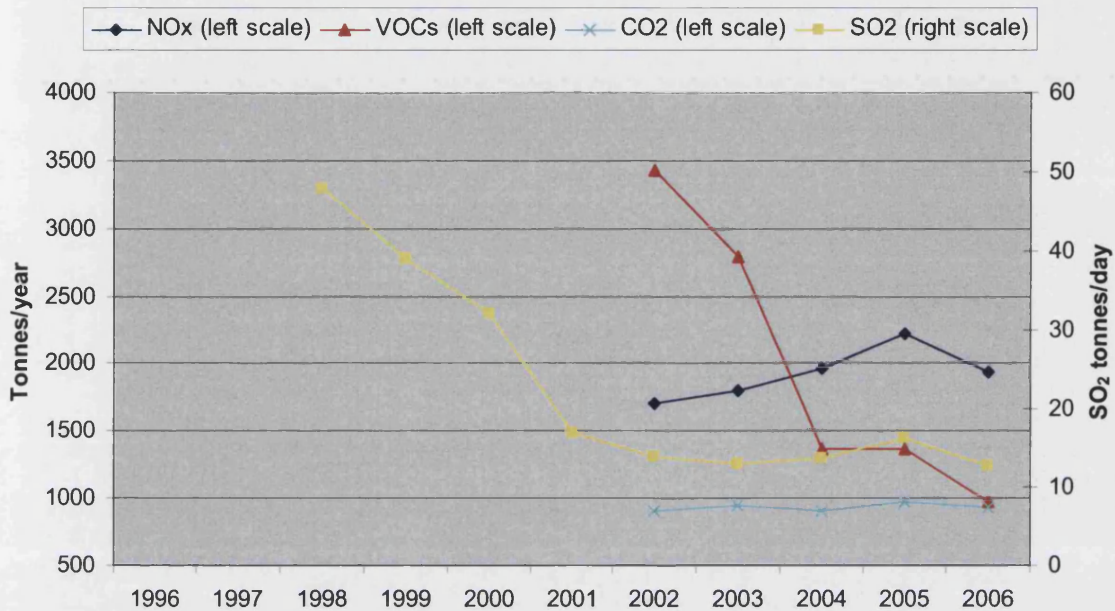
Enref

Regarding *stakeholder engagement*, Enref and Sapref differ significantly. From the mid 1990s, Enref engaged proactively with local stakeholders and established the landmark GNA with the surrounding communities in 1998. Enref’s efforts to renew its GNA in 2003 failed and the legacy of mistrust persisted, although its external reporting efforts did increase in the early 2000s. Enref had a stakeholder assessment conducted in 2002 and Engen began publishing sustainability reports in 2003, which reported Enref’s environmental performance. In 2004, Enref established a Community Liaison Forum (CLF), Engen began reporting according to external guidelines such as the GRI, and, in 2005, Enref conducted a social impact study.

On *environmental impacts*, Enref has made substantive reductions to some emissions. Since 1998, the refinery has reduced SO₂ by 65 percent, waste by 50 percent, and, since 1999, VOCs by 67 percent. Enref began making reductions to SO₂ when it commissioned a new sulphur recovery complex in 1993. A VOC survey was instigated in 1999, and a major SO₂ and VOC reduction upgrade, for R109million was installed in 2002. In 2004, Enref initiated projects, at R125million, to reduce NO_x and particulates emissions. More recently, in 2005, it implemented projects to overcome nuisance issues, such as a “kill the stink” initiative,

revamped the fluid catalytic cracking unit (FCCU) to further reduce SO₂ emissions, and invested R210million to upgrade the plant to meet the 2006 clean fuel regulations.

Figure 4.6: Enref's emissions



(Source: Engen 2004, 2005, 2006)

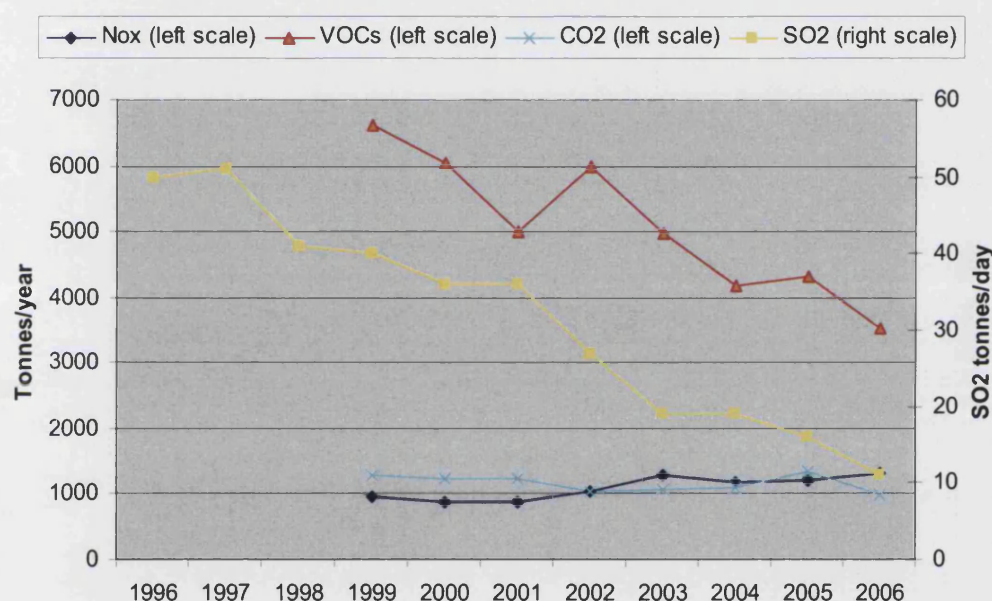
Sapref

Sapref did not openly engage with community stakeholders in the South Durban Basin until 2000. The refinery became more strategic with its *stakeholder engagement* from 2001 to 2004. It began publishing stakeholder reports in 2001 and hired two new external affairs staff in 2002. In 2003, it established a stakeholder management plan and a CLF, conducted a community survey, and started publishing emissions data online. In 2004, Sapref further lifted the veil of secrecy by opening the refinery up to public visits and began reporting according to GRI guidelines.

Sapref has invested over R450 million since 1993 in plant environmental upgrades; as a result, Sapref has made substantive improvements to its *environmental impacts*: SO₂ emissions have been reduced by over 60 percent since 1995, and VOCs have been reduced by almost 35 percent since 1999. Sapref initiated VOC reduction projects in 1995 by replacing tank seals, and in 1998, Sapref's conversion from heavy fuel oil to fuel gas reduced SO₂, NOx, and particulate matter less than 10 micrometers (PM10) emissions. In 2002 Sapref

implemented a significant SO₂ reduction upgrade when it installed a new sulphur recover unit. Other emission reductions in 2002 included a particulates reduction upgrade, new flare pilots, new carbon monoxide (CO) boiler, and FCCU cyclones to reduce PM10s. In 2005, Sapref initiated a comprehensive VOC leak detection programme, and implemented its cleaner fuels programme for R700 million (Sapref 2005). Also in 2005 Sapref chose to replace seven product transfer pipelines for R340 million, which was an important ‘win’ for community activists as discussed in Chapter 7.

Figure 4.7: Sapref’s emissions



(Source: Sapref 2004, 2005, 2006b, 2007)

Calref

Stakeholder engagement appears to have begun much earlier in Cape Town than in Durban. Calref introduced an environmental information programme in 1985, and began engaging with local residents on a regular basis after an incident in 1991 (NGO9 2006).⁵¹ Responding to community pressure, Calref funded SO₂ monitors in the area, and funded the Milnerton Air Quality Project (MAQP) in 1994, which sought to explore sources and impacts of primary air pollutants (Ind9 2006). Also in 1994, Caltex’s chairman made a verbal commitment to

⁵¹ This is not surprising given, as will be discussed in Chapter 5, Calref was surrounded by predominantly middle-class white communities, whereas Enref and Sapref were surrounded by Coloured, Indian and African communities.

substantively reduce all emissions. As discussed in Chapter 5, this commitment became the fault line for community-company controversy. Calref reported that the MAQP found no health risks from the refinery's pollutants in 1996, but these results were contested by local residents, who felt that air quality monitoring was inadequate in the area (Cape Times 1996).

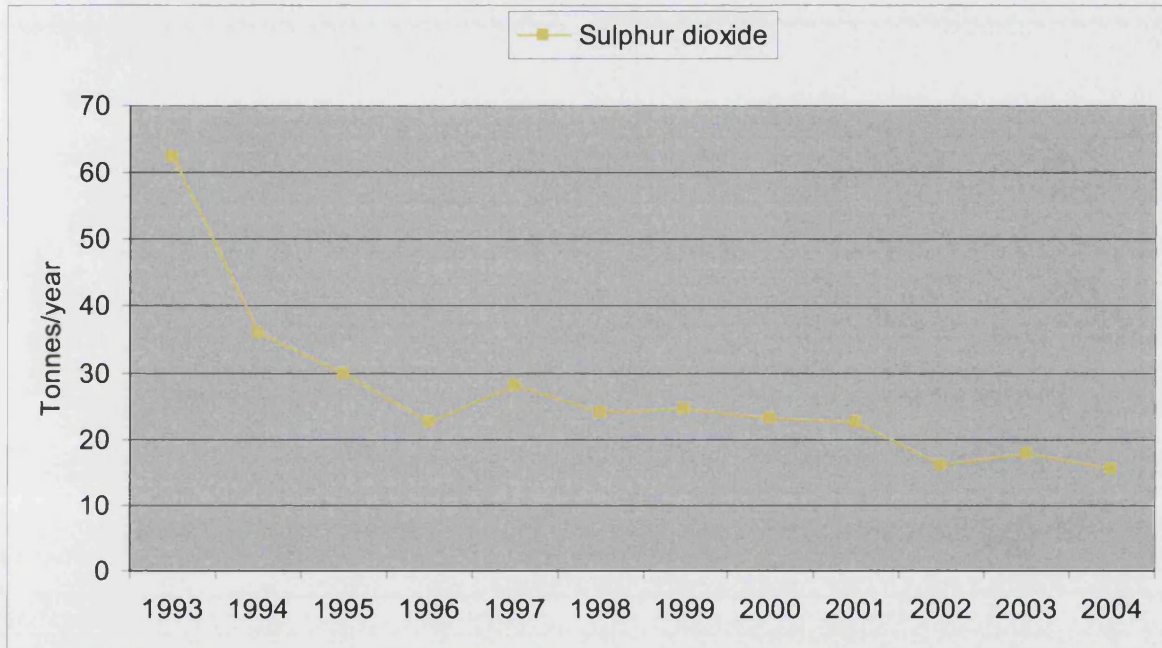
In 1995 Calref and local residents began discussions to establish a GNA, following on the model that Enref established. As a result of the MAQP the Northern Communities Air Monitoring Task Group (NCAMTG) was formed in 1996. In 1997 Calref held a public meeting to explain why all of the 1994 goals were not achievable, however it chose to voluntarily implement the GNA, and in 1999, held public meetings on a refinery risk assessment (Ind9 2006). In 2005, Calref's general manager noted that the refinery would partner with environmental groups and air quality authorities to implement fence-line VOC monitoring, and would make efforts "to introduce neighbours" to the refinery (Woodruff 2005).

In contrast to the refineries in Durban, Calref has published no stakeholder reports or emissions data. However, regarding *environmental impacts*, Calref has invested over R250 million to reduce environmental emissions since 1990 and claims to have reduced SO₂ emissions by 79 percent (Woodruff 2005). In 1990 the refinery began introducing seals on its oil storage tanks to reduce smells and VOCs. In 1994, Calref installed low NO_x burners to reduce NO_x and smoke. Electrostatic precipitators were implemented in 1996/97 to reduce dust and SO₂, and further SO₂ reductions were made in 1997. In 1998, a new boiler was installed to reduce dust, SO₂, NO_x and smoke. In 1998, after public concern, Calref agreed to fund extra air quality monitoring stations (Ind9 2006). In 1999, a public safety risk assessment found that the refinery met local and international standards, and thus posed no significant risk to public or residents. Yet this report, as discussed in Chapter 5, was contested by local residents because it did not assess environmental emissions.

In 2000, Calref implemented power failure mitigation, fugitive emission, and tailgas treating unit projects to reduce smoke, smells and SO₂. In 2002, Calref implemented a sulphur pastillation plant to reduce SO₂ emissions, and in 2003 and 2005 it implemented further power reliability projects for VOCs and smoke reductions. Also in 2005, the refinery implemented its clean fuels project for R200 million and an effluent improvement initiative for reducing VOCs. Figure 4.8 illustrates, from a general manager's presentation in 2005, Calref's SO₂

reductions over time. The refinery, distinct from Enref and Sapref, does not publish stakeholder reports or environmental performance data, and the refinery's environmental managers would not provide more than SO₂ data, thus other emission trends are not available.

Figure 4.8: Calref's SO₂ emissions



(Source: Woodruff 2005)

4.5 Comparing corporate environmentalism

Table 4.5 summarises the findings of the refineries' environmental performance. This table is derived from the data and discussion in sections 4.3 and 4.4. The weak (red), mixed (yellow) and strong (green) categories are qualitative and based upon the degree to which internal and external processes and outcomes are implemented at each of the firms. For example, a company that is ISO14001 certified will mostly likely get a 'strong' internal process rating, whereas a company that does not have or does not disclose its environmental management system will most likely be rated 'weak', and a company that has an 'in-house' but not externally accredited environmental management system will most likely be rated 'mixed'. In addition, it is important to recognise that this analysis is not exhaustive. The data is distilled primarily from corporate reports, semi-structured interviews and newspaper articles, so there may be more examples of environmental performance activities that the analysis does not capture. However, the objective here is to identify patterns and trends in the data to facilitate

comparison between the refineries as opposed to quantify each refinery's environmental performance.

From the parent company perspective, Shell clearly has stronger environmental performance than Petronas and Chevron. However, an important caveat must be stressed, this parent company analysis was largely conducted from publicly accessible documents and data. Given that Shell's reporting is superior to Petronas and Chevron's, there is a bias implicit in the results. Yet, the results are still relevant because they raise the issue that Petronas is less transparent than Shell and Chevron, and Chevron does not provide as much detail on policies and practices as Shell. In fact, the results are further supported by a recent Transparency International report evaluating the upstream revenue transparency of 42 leading national and international oil and gas companies. Although revenue transparency is distinct from environmental performance, the report found that Shell was a high performer, Chevron a middle and Petronas a low performer abroad (Transparency International 2008).

One of the key differences separating Shell from Chevron and Petronas is that Shell specifies its policies with regards to influencing environmental behaviour within joint ventures and subsidiaries, whereas Chevron and Petronas do not.⁵² However, Chevron, like Shell, does achieve strong environmental outcomes. Yet, as discussed in the refinery case studies, an important finding is that Petronas and Chevron, and formerly Caltex, exerted less parent company pressure on subsidiaries to improve environmental performance than Shell. A key question that remains is why this has occurred; is it because of internal strategy, access to resources or corporate culture, or because of differences in external home and host country pressures? How the interplay of internal and external legitimacy challenges has played out in practice, in relation to the three parent-subsidiaries, is discussed in detail in Chapter's 5 through 8.

⁵² However Shell could do more in its sustainability reports to demonstrate how they influence social and environmental outcomes in practice in its subsidiaries and joint ventures, particularly those it does not have operating control over.

Table 4.5: Comparing corporate environmental performance

	Petronas			Shell			Caltex/Chevron		
	1998-1999	2000-2003	2004-2006	1994-1999	2000-2003	2004-2006	1994-2000	2000-2003	2004-2006
Internal processes	weak	mixed	mixed	mixed	strong	strong	weak	mixed	strong
Internal outcomes	weak	weak	weak	mixed	strong	strong	weak	mixed	mixed
External processes	weak	weak	mixed	mixed	strong	strong	weak	mixed	mixed
External outcomes	weak	weak	mixed	mixed	strong	strong	mixed	mixed	strong
	Enref			Sapref			Calref		
	1994-1999	2000-2003	2004-2006	1994-1999	2000-2003	2004-2006	1994-1999	2000-2003	2004-2006
Internal processes	weak	weak	strong	weak	strong	strong	weak	mixed	mixed
Internal outcomes	mixed	strong	mixed	weak	strong	strong	weak	weak	weak
External processes	strong	mixed	mixed	weak	strong	mixed	mixed	mixed	weak
External outcomes	weak	strong	mixed	mixed	strong	strong	mixed	mixed	mixed

Regarding each refinery's environmental performance over time, Sapref's environmental performance improvements appear to be more substantive than those at Enref or Calref. In addition, by comparing Figures 4.3, 4.4 and 4.5 it is visually obvious that Sapref and Enref's environmental performance is more closely linked (i.e. they both have improved more consistently from 2000 onward) than with the environmental performance trends of Calref. This is a tantalizing clue to the potential influence of host community field level impacts. It appears that environmental performance has been more clearly institutionalised within industry in Durban, but not in Cape Town. The analysis will revisit this comparative discussion in Chapter 8.

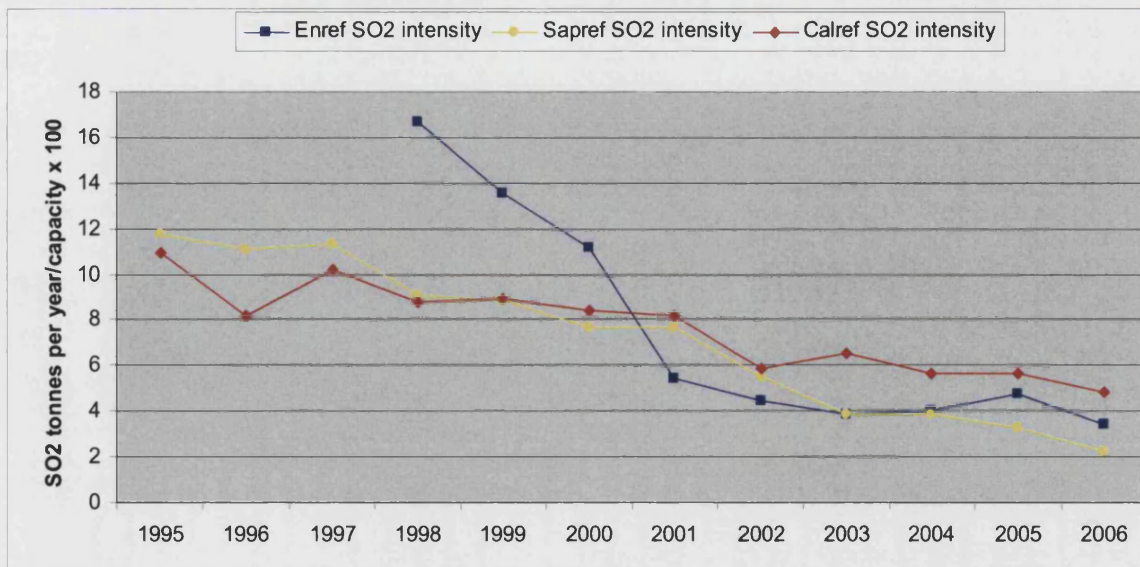
To summarise the trends and justify the refinery environmental performance categories in Table 4.5, on internal processes (i.e. organisational systems), all three of the refineries appeared to do little in the late 1990s to improve environmental management systems; however, Sapref became ISO14001 certified in 2001, whereas Enref and Calref continue to work towards that goal. On internal outcomes (i.e. regulatory compliance), in the late 1990s Enref led the way with commitments made in its GNA. Calref's general manager made verbal commitments but could not deliver and Sapref chose not to make any voluntary commitments during this time period. From 2001 onward, Sapref made the most consistent progress

succeeding in meeting internal targets and external compliance, whereas Enref was fined in 2005 for SO₂ exceedances and Calref was fined and served a directive in 2005 and 2006.

On external processes (*i.e. stakeholder engagement*), Enref started out strongest in the mid 1990s, followed by Calref. Both refineries actively engaged with local communities to attempt establishing GNAs, with Enref being successful. From 2000 to 2006, Sapref improved its external outcomes and thus relationship with local communities, whereas Enref found it difficult to improve upon the optimism of the late 1990s. Calref, without publishing any data on refinery environmental performance, has not kept up with best practice.

On external outcomes (*i.e. environmental impacts*), from 1994 to 1999 all three refineries exhibited weak environmental performance. Substantive environmental upgrades and emissions reductions, in particular SO₂ and VOC emissions (although Calref does not publish its VOC reductions), were not made until the early 2000s. Figure 4.9 is particularly revealing. SO₂ intensities were determined by dividing aggregate emissions per year by refinery capacity. Enref clearly took the lead in the early 2000s as it substantially reduced its relative SO₂ emissions. However, Sapref's steady environmental improvement progress overtook Enref's by 2004. Calref, on the other hand, appears to be the laggard. This analysis of SO₂ emission intensities reinforces the qualitative trends identified in Table 4.5.

Figure 4.9: Comparing SO₂ intensity



Even though the refineries have made significant emissions reductions, their external outcomes remain mixed or weak because they have continued to have a steady rate of fires and spills since 2001 (Engen 2006; Woodruff 2005; Sapref 2006b). Though most of these incidents are considered minor, some have potential health impacts and are highly visible to local communities, exacerbating lack of trust in plant integrity and management. These ongoing incidents to some degree are related to the apartheid legacy of poor plant maintenance, limited upgrades, the knock on effects of needing to refine suboptimal crude under trade sanctions and the drive for increased refining capacity since the early 1990s. Yet the refineries are making efforts to change their environmental performance and repair their internal (e.g. parent company) and external (e.g. host community) legitimacy. This legitimisation process, or the interplay between the refineries and the multiple actors engaged in the field of environmental improvement, is discussed in Chapters 5 through 7.

4.6 Chapter summary

The democratisation of South Africa in the mid-1990s exposed its fuel oil industry to changing societal expectations. Industry's 'transformation' however has been mixed. Each refinery has made some substantive environmental performance improvements. Sapref, the refinery with the most parent-company pressure, has made the greatest overall improvement, but Enref is not far behind. Calref appears to be the clear laggard. This is an interesting finding, and counterintuitive given Calref is the subsidiary of a Western multinational and Enref of a national oil company. It highlights the potential power of field level dynamics to institutionalise norms, rules and beliefs regarding legitimate corporate environmental practice. Chapter 4 has answered secondary research one: How has the environmental performance of Sapref, Enref and Calref evolved since democratisation in South Africa?

Questions remain whether the dominant factors influencing refinery environmental performance are internal or external, and to what extent the internal and external factors interact to influence corporate environmental behaviour. Chapters 5 through 7 seek to clarify understanding through in depth qualitative analysis and by answering secondary research question two: How and why has each refinery's environmental performance differed?

5 1994-1999: THE POLLUTION STRUGGLE EMERGES

South Africa's international isolation is at an end, with next month's polls (*in April 1994*) set to usher in a new political era and also pave the way for the restructuring of the country's energy industry -- once the most secretive in the world. (Spicer 1994: para 1, italics by author)

The oil and petrochemical industry would not escape the metamorphosis that lay ahead. In a future democratic South Africa, the comfortable position that the oil industry had been in would rapidly disappear. (Engen 2007b: 75)

As the above quotes highlight, the veil of secrecy began to slowly come down around South Africa's fuel oil industry as South Africa became a constitutional democracy in 1994. Industry could no longer rely upon its pre-1994 relationship with government for its 'license to operate'. The ANC's coalition party was elected into power in April 1994 under an interim constitution, and after two years of negotiations and settlements, the constitution was signed into law by President Nelson Mandela in December 1996. South Africa, in the early 1990s moved from confrontation to negotiation.

Chapter 4 analysed secondary research question one: how the environmental performance of Enref, Sapref and Calref evolved from 1994 to 2006. To explain secondary research question two, how and why each refinery's environmental performance has differed, Chapters 5 through 7 broaden the discussion to consider the mix of external and internal factors to the firm that may influence corporate environmental behaviour. What is of interest here is to identify how field level dynamics and firm legitimation strategies and characteristics influences refinery's environmental performance trends identified in Chapter 4.

Multiple methodologies are employed. The use of social network diagrams, distilled from newspaper article analysis, illustrates how actors and issues interact and how relational patterns evolve over time. The accompanying 'thick' qualitative narrative provides insight into the contestation and structuration of the organisational fields, i.e. the interaction between field level actors at multiple scales and the coproduction of institutional logics and governance structures. Attention is given to how the discursive strategies and power dynamics

influence institutional logics, and particularly how each refinery employs strategies to gain, maintain and/or repair its social and environmental legitimacy. A longitudinal comparative analysis is employed to consider how the organisational field of industrial air pollution is structured as related to three fuel oil refineries in two localities: Durban and Cape Town. This chronological approach facilitates the analysis of processes and mechanisms of institutional and organisational change. Between 1994 and 1999 a post-apartheid pollution struggled emerges in both of these host communities.

This chapter first compares and contrasts the host community contexts, i.e. Durban and Cape Town, it then explores on a yearly basis from 1994 to 1999 field dynamics and firm legitimation strategies in Durban and Cape Town. The analysis explores the evidence regarding field structuration and firm legitimacy in order to illuminate processes and mechanisms of institutional and organisational change.

5.1 Contrasting host community contexts

This study is ultimately concerned with corporate environmental performance at the site level. As discussed in section 1.3.3, host communities may put pressure on industrial facilities to improve their environmental performance through various modes of community-driven governance. The similarities and differences between each refinery's host community is a relevant factor to consider within this study. As Scott (2008: 69) highlights: "Social action is always grounded in social contexts that specify valued ends and appropriate means; action acquires its very reasonableness from taking into account these social rules and guidelines for behaviour". The local characteristics that are compared include the history, people, place and economy of Durban and Cape Town, with a particular focus on the South Durban Basin and Cape Town's northern suburbs.

The history of the refineries within the host communities is highly relevant particularly given South Africa's apartheid past. How corporate environmental performance has evolved may indeed be related to how historical perceptions of corporate behaviour (i.e. lack of transparency, accountability etc) have been reproduced over time (Pettigrew 1997: 341). The study is longitudinal; it compares and contrasts how internal and external contexts have evolved between the three refineries from 1994 to 2006. The different types of people and communities living adjacent to the refineries are compared. Here socio-economic indicators, such as population, per capita income, unemployment and race are used for comparison

between the two different 'places' (i.e. the South Durban Basin and Cape Town's northern suburbs) and three different refineries (Enref, Sapref and Calref). Categorising and comparing fence-line community socio-economic status and race is standard methodology for the study of environmental justice issues, i.e. communities disproportionately affected by the 'environmental bads' of industrial development or, in this case, point polluters.

The concept of 'place', broadly speaking, is the study of the co-production of physical and human environments. Places, from a human geography perspective, can be defined as:

...bounded settings in which social relations and identity are constituted...Such places may be officially recognized geographical entities or more informally organized sites of intersecting social relations, meanings and collective memory. The concept of place, the uniqueness of particular places and place-based identities are hotly contested concepts in the contemporary context of increasing globalization and the perceived threat of growing placelessness. (Johnston et al. 2000: 582)

This study is not only interested in comparing and contrasting the physical and human contexts of the refinery host communities, but also how their identities are constituted within these different places. As Escobar highlights: "Place is, of course, constituted by sedimented social structures and cultural practices" (2001: 143). It is important to give attention to this cultural aspect of places, particularly to inform the co-construction of field level processes and institutional outcomes. Escobar raises a pertinent point for this study (2001: 141):

Not only are scholars and activists in environmental studies confronted with social movements that commonly maintain a strong reference to place and territory, but faced with the growing realization that any alternative course of action must take into account place-based models of nature, culture, and politics.

In the analysis of how and why the corporate environmental performance of each refinery differs, it is important to pay attention to how host community place-based contexts influence processes and outcomes.

Finally, how the economy, or market-based factors, influence refinery environmental performance is also highly relevant. Pressures for economic growth and oil production expansion are relevant factors to investigate given the potential human and environment impacts of refinery pollution. More generally, the changing patterns and impacts of industrial development over time in the South Durban Basin and northern Cape Town suburbs are important processes to consider, again, given the potential human and environmental impacts. The following sections on the history, people, place and economy of the South Durban Basin and Cape Town's northern suburbs provide relevant detail for the in depth discussion of how

and why actors and issues evolved over time related to Sapref, Enref and Calref's environmental performance.

5.1.1 The South Durban Basin

The South Durban Basin is bordered by two high-lying ridges, south of the port city of Durban. South Durban is the second largest industrial area in South Africa, and as the economic hub of KwaZulu-Natal, contributes approximately eight percent of the gross national product (CitiesNetwork 2008). Enref and Sapref are both highly complex refineries, which maintain approximately 60 percent of South Africa's liquid fuel oil refining capacity. Also located in this relatively small area are Africa's largest chemical storage facility, a Mondi paper mill, an international airport, a sewage treatment plant, a busy freeway and over 180 smokestack industries (Wiley et al. 2002). In addition the flight paths for the airport limit the smokestack heights, preventing the proper dispersion of emissions from the refineries. It is not surprising that the Basin is recognised as one of the country's pollution hotspots.

The legacy of plant underinvestment and unjust urban planning has made South Durban a test case for environmental protection (Wiley et al. 2002). Many of the issues relating to the contestation of corporate environmental performance in South Durban's industrial district are a direct consequence of the apartheid-planning regime. In the 1950s, land was made available for industrial development and the refineries were built. Under the apartheid government's Group Areas Act, land adjacent to the refineries was subsequently set aside for residential developments to house African, Coloured and Asian populations. By locating relatively deprived communities next to the refineries, apartheid planning provided a basis for many of the issues relating to perceived environmental injustices that are apparent in the area today. Under the apartheid regime, opportunities for local community members to access information, to participate in decision-making or even to express dissent were almost entirely absent.

Yet the current governmental priority given to economic growth and international competitiveness has set up a potential conflict between environment and development. How Enref and Sapref have responded to changing societal expectations is interrelated. The two refineries are located a few kilometres apart, but Enref has closer proximity to communities such as Austerville and Wentworth, which are predominantly Coloured, and Merebank, which is Indian.

Figure 5.1: Industry and communities in the South Durban Basin



(Adapted from: Google Earth 2008)

Table 5.1 highlights the socioeconomic characteristics of the communities adjacent to Enref and Sapref. Enref is bordered by communities on all sides, whereas Sapref has communities directly bordering the plant on only two sides. Austerville/Wentworth are the most deprived communities bordering Enref, whereas Merebank may be the worst situated given its proximity to Enref, Sapref and Mondi. Enref also has neighbouring white communities in Brighton Beach or what is commonly known as the Bluff area, given its prime location on a ridgeline overlooking the Indian Ocean.

Table 5.1: Enref and Sapref's adjacent communities

Community	Population	Racial composition (in %)				Unemployed (in %)	Average income (per annum)
		African	Coloured	Indian	White		
Austerville/ Wentworth	24344	5	92	1	1	14	R19201 – R38400
Brighton Beach	5353	12	11	10	67	4	R76801 – R153600
Isipingo	9554	37	1	62	0	11	R38401 – R76800
Isipingo Beach	3634	20	1	78	1	9	R38401 – R76800
Lamontville	29880	99	0	1	0	28	R9601 – R9200
Merebank	19679	5	7	87	0	9	R38401 – R76800
Treasure Beach	1697	11	75	9	5	5	R76801 – R153600
Umlazi	31124	100	0	0	0	33	R4801 – R9600
Wentworth/ Brighton Beach	5008	18	11	11	60	6	R38401 – R76800

(Durban 2008)

The history, people, place and economy of the South Durban Basin differs significantly with that of Cape Town's northern suburbs, as is discussed below.

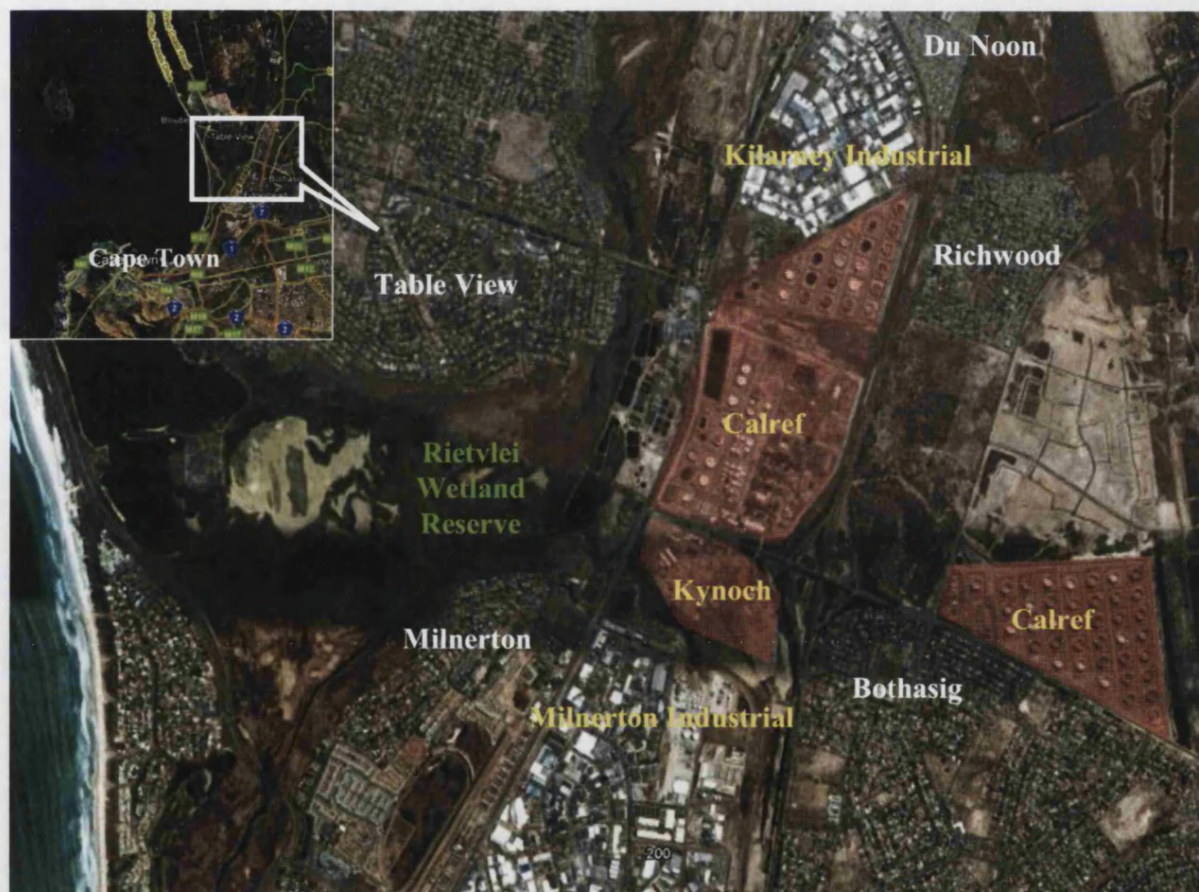
5.1.2 Cape Town's northern suburbs

In contrast to Enref and Sapref, Calref is situated in a relatively flat area, 15 km north of Cape Town. It is located next to a protected wetland called the Rietvlei Wetland Reserve. Cape Town is famous for its tourism and services industry and although it contributes approximately 14 percent to South Africa's GDP, its manufacturing sector is significantly smaller than Durban's (CitiesNetwork 2006). Cape Town's northern suburbs differ from South Durban in that they are not in the midst of a strategic industrial development area. However, there is a concentration of industry with Calref and the chemical fertiliser plant Kynoch adjacent to each other and Calref is a strategic industry in the region given it supplies the majority of petrol, diesel and jet fuel to the Western Cape market. When the refinery shuts down unexpectedly, the region risks fuel shortages.

Also unlike the refineries in South Durban, Calref pre-dates the predominantly white middleclass communities the have populated Cape Town's northern suburbs. The refinery was built on a greenfield site in the 1960s, and as communities expanded out of Cape Town's

city centre in the 1970s and 1980s, residents moved adjacent to the refinery attracted by the natural landscapes of the wetlands and coastal beach environments. Table View's beaches in the Atlantic Ocean provide one of the world's best kite surfing locations.

Figure 5.2: Industry and Cape Town's northern suburbs



(Adapted from: Google Earth 2008)

Table 5.2 details the socioeconomic characteristics of Calref's surrounding communities. They are all predominantly white except for Du Noon, which is an extremely deprived African township to the north of Calref. Bothasig is slightly less affluent than Milnerton, Richwood and Tableview; otherwise, Calref's surrounding communities are quite homogenous.

Table 5.2: Calref's adjacent communities

Community	Population	Racial composition (in %)				Unemployed (in %)	Average income (per annum)
		African	Coloured	Indian	White		
Bothasig	12502	1.74	8.27	0.86	89.13	5.80	R19201 – R76800
Du Noon	9036	89.65	10.08	0.07	0.20	53.37	0 – R19200
Milnerton	7153	4.28	7.66	2.03	86.02	4.67	R76801 – R307200
Richwood	2844	0.95	9.28	0.42	89.31	2.62	R76801 – R307200
Table View	23455	2.88	3.37	1.27	92.48	4.56	R76801 – R307200

(Cape Town 2008)

Intuitively, given Calref is located next to middle-class white communities, one might expect Calref's environmental performance to be superior to that of Enref and Sapref's, however Chapter 4 demonstrates that this is not the case. Chapters 5 through 7 pays close attention to how discursive strategies differed between the communities in the South Durban Basin versus northern Cape Town in order to assess to what extent host community context and organisational field dynamics are relevant factors in explaining divergent refinery corporate environmental performance. Cape Town's northern suburbs and the South Durban Basin are very different in terms of history, people, place and economy.

5.2 1994: The beginning of a new politics

This analysis begins in 1994, a paradigm-shifting year that set into motion the space for radical institutional and organisational change within the South African oil refining sector. As discussed in section 3.3.1, social network analysis is used to explore how field level interaction changed over time. The connection between issues and actors is visualised using a two-dimensional spatial map or network diagram. In Figure 5.3 the complete network of issues and actors is displayed in the upper left, but to identify the dominant issues and actors the network ties or the connection between actors and issues have been reduced by one tie. The actors are then identified in the callout box to the right titled "Network: minus 1 tie". Issue areas in the simplified graph are identified in the callout box below titled "Dominant issues". Hypergraphs, or colour-coded contours, are placed around the actors participating in

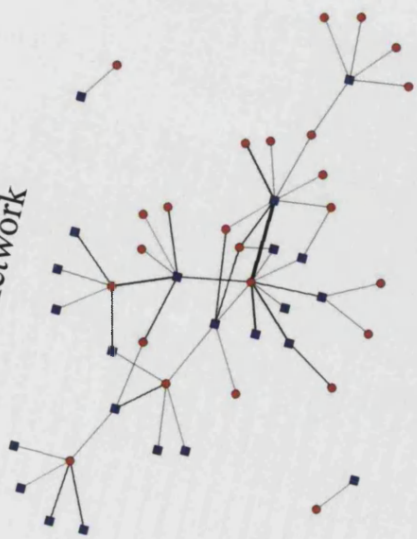
the different issue areas.⁵³ Using newspaper articles as data (see Chapter 3, Section 3.3.1 and Appendix A for detailed information); the results identify how the relationship between issues and actors changes over time. The use of network diagrams and hypergraphs results in a *visual content analysis*, which can then be analysed to identify patterns in the data.

Figure 5.3 highlights how the field was dominated by pollution and environmental health issues related to Calref and Cape Town. Health studies (in yellow) and refinery incidents (in red) catalysed community concerns in Cape Town's northern suburbs. In response, Calref proposed a variety of environmental upgrades (in olive) to mitigate community impacts. Although issues associated with Enref's financial performance and the overall expansion of refinery capacity and market deregulation did get some media coverage (in grey), it is interesting to note that, related to pollution, Cape Town received the most early attention in the press. The dominant actors within this network diagram include those engaged in the issue areas of environmental health, air pollution and refinery upgrades, such as (unsurprisingly) Calref, the South African Medical Research Council (MRC), and the Milnerton Residents Association Committee.

⁵³ The contours are colour-coded to denote the types of categories: red signifies incidents; green is civil society activism; grey indicates industry or market initiatives; olive represents industry environmental upgrades; yellow shows health issues; and blue represents government initiatives or action. In addition, ties are weighted by strength, i.e. how many times an actor referred to an issue area, and nodes are by shape and colour. Red circles are actors and blue squares are issue areas.

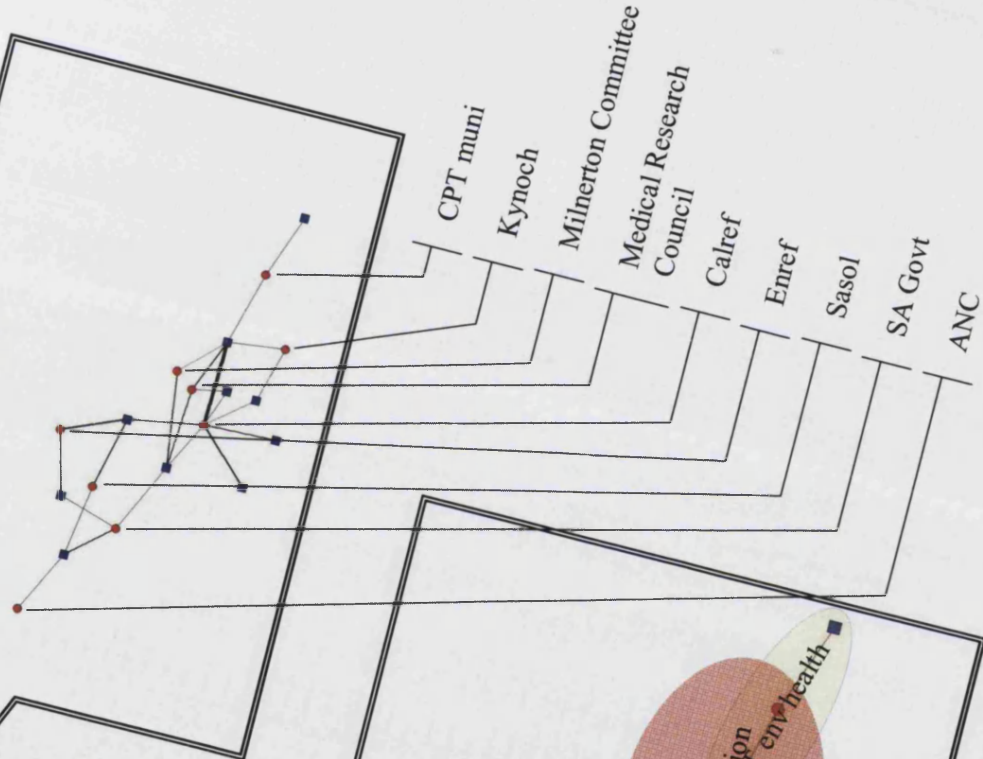
Figure 5.3: 1994 field dynamics

Complete network

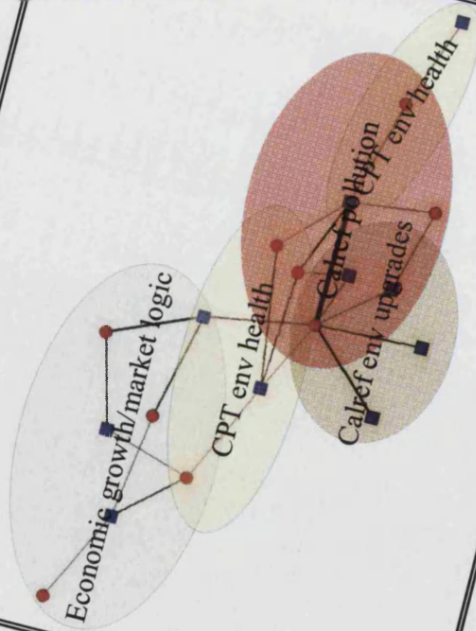


Node key:
 Circles = Actors
 Squares = Issues

Network: minus 1 tie



Dominant issues



5.2.1 South Durban Basin

There was little discussion of Enref and Sapref in the press in 1994. Drawing some attention was Engen's financial performance; its net income for the year dropped by 13 percent (Rissik 1994a). In 1994, Enref was unique compared to the other fuel oil refineries. In 1990, Gencor, which owned Enref after Mobil divested in 1989, listed the company on the Johannesburg Stock Exchange (JSE) as Trek Holdings.⁵⁴ Enref's financial performance was under more public scrutiny, as the other fuel oil refineries were not required to publish financial statements. As the Engen's historical volume *A History of Success* notes:

As a listed company, Engen was the only player in the oil industry compelled to divulge information. While this removed much of our competitive advantage it did give Engen the opportunity to talk about what it was doing. (Engen 2007b: 83)

Sapref, Calref and Natref were to some degree cushioned to the economic shocks related to local market prices and international refining margins by their world-wide exploration and production capabilities as their parent companies were integrated energy companies (Rissik 1994b). This also led Engen to seek foreign investors, which explains the prolonged courtship with Petronas. Engen's *A History of Success* highlights the company's vulnerability in the early 1990s:

Engen was completely on its own, like a lone fish swimming in a big ocean. In order to survive in the long term, it had to have the backing of a large company. Independence would have to be sacrificed in order to ensure continued growth and the ability to stay competitive. The search for a potential multinational partner was underway. (Engen 2007b: 84)

This level of transparency and independence was unique and may help explain Enref's relatively early start with host community engagement as will be discussed in section 2.3.1.

5.2.2 Cape Town's northern suburbs

In 1994, the MRC announced the completion of a study into the effects of Calref's pollution on local residents. Calref took this study very seriously, as it was slow reviewing the report before it was made public, which raised community concern. The MRC noted in a local newspaper: "Although the council was willing to release the details of the report, it was prevented from doing so because of a stipulation by Caltex preventing this" (Steenkamp 1994: 8). The refinery had increased its production by 70 percent in 1993, but Calref maintained that

⁵⁴ Engen was listed on the JSE from 1990 until 1998 when it became a wholly owned subsidiary of Petronas, which is when it was delisted from the JSE.

after an initial increase in SO₂ emissions the levels had been reduced to the same levels before the production increases (Steenkamp 1994). The report found that existing data could not determine if air pollution in the area constituted seriously health risks or was just a nuisance, that air monitoring in the area was inadequate and that continuous monitoring for a variety of pollutants, including SO₂ was necessary (Yeld 1994a).

A new initiative was developed out of the MRC study, called the MAQP, which sought to monitor air pollutants in the vicinity of Calref and the fertiliser plant Kynoch. The project cost R1 million, was co-funded by industry, and in its first year aimed “to state categorically what the levels of pollution are...and whether or not there was a health hazard from Calref” (Cape Times 1994a: 7). Here the juxtaposition between technocratic approaches to science and community perceptions of health risks is evident. The chairman of the Milnerton Residents’ Association said:

We are glad that at least there is going to be public participation in a committee to monitor air pollution. In the past they never disclosed figures, hiding behind government legislation concerning their kind of industry. I gather that is now going to change. (Cape Times 1994b: 3)

Air pollution in Cape Town’s northern suburbs was not the only concern, the city of Cape Town’s air pollution issue, known as “brown haze”, also came under scrutiny. Brown haze occurs over Cape Town during certain months of the year caused by temperature inversion which traps pollutants near the ground, the haze was projected to increase by 48 percent over the following ten years given projected vehicle, population and industrial growth (Business Day 1997). The University of Cape Town’s (UCT) Energy Research Institute began a comprehensive study into the issue.

Calref stoked community concern after a power failure led to the plant bellowing smoke and flares. This incident spurred a local paper, *The Cape Times*, to question Calref’s long-term viability in the area (Cape Times 1994c: 4). Calref’s initial response was to deny that the smoke was a health hazard, which was actively challenged by community members (Yeld 1994c). Eventually Calref, under growing pressure by the local media and residents, responded to the increasing concern by taking out a full page advertisement in a local paper promising to reduce its SO₂ emissions by 80 percent over the next five years. Mike Rademeyer, Caltex Chairman and Calref Managing Director, signed the advert noting:

To reside in a pollution-free environment is indeed a right which is accorded to citizens in terms of the Constitution...while there are numerous causes of poor air

quality – for example, car exhaust emissions, industries and household fires, we accept that our control programme needs to be accelerated and enhanced. Caltex does care about our environment. You have my personal word, commitment and pledge on it. (Yeld 1994b: 7; Cape Times 1994b: 3)

As discussed in section 5.5, Calref's over-optimistic promise would eventually undermine its legitimacy within the surrounding communities and with regulators. More peripheral within the media were issues related to economic growth and market logics such as deregulation, refinery margins and industry expansion. Upgrading and "de-mothballing" fuel oil refinery capacity at Calref, Enref and Sapref was well-underway in 1994 (Spicer 1994).

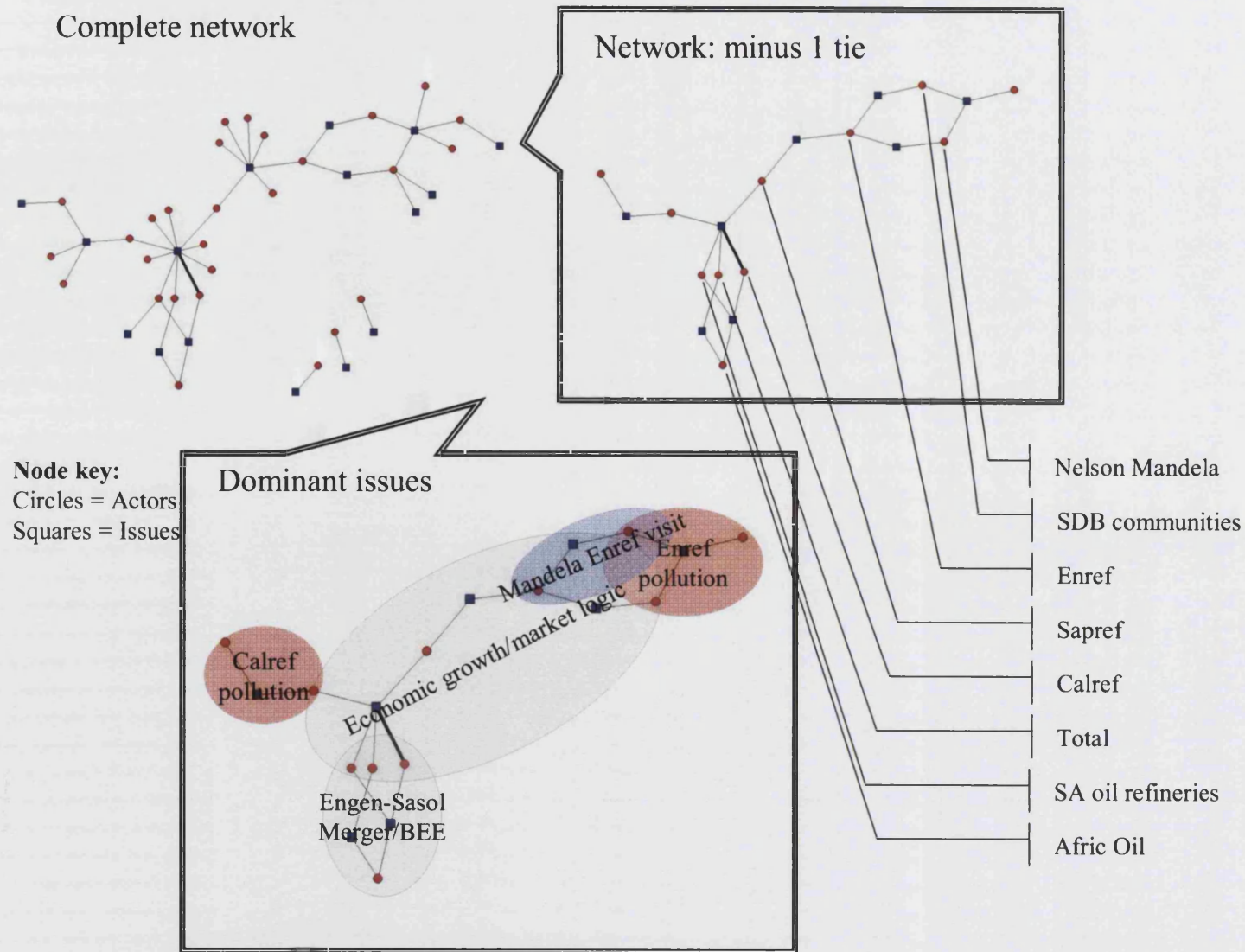
It is interesting to note how the politics of pollution began in earnest in Cape Town, where, as discussed in the following section, it began in Durban a year later. Initiated by health studies and then driven by media and community pressure, Calref actually took the initiative and actively engaged with local stakeholders. The dominant 'logic' driving Cape Town's governance process was a technocratic industry-driven scientific approach. Given the scientific uncertainty of the MRC study, and the potential ramifications of alarmist conclusions, Calref exerted its authority and power by delaying the release of the study until it was certain of the results. However, local media and residents began to assert more public pressure on Calref. By highlighting the uncertainty of the MRC study's findings a new governance process emerged – the MAQP. Media and civil society actors within the host community exerted coercive power to influence field structuration. An emergent 'logic' within this field is that of 'participation'. The Milnerton spokesperson was optimistic that the formerly 'closed' environmental governance processes would now become more open to civil society participation. Thus the MAQP is evidence of normative institutional change, and the Calref general manager's public acknowledgement that communities have a right to a clean and healthy environment as per the constitution is evidence of cultural change within the firm. From a scalar perspective, there is little articulation beyond the host locality organisational field at this point in time.

5.3 1995: From confrontation to negotiation

Figure 5.4 demonstrates how, in 1995, pollution in Durban and Cape Town and economic concerns were the primary issues within the field. Mandela's visit to Enref and the rise of South Durban communities and local government as actors engaged in the pollution debate are identified in Figure 5.4. However, as indicated by the large grey contour in the network

diagram, an economic growth discourse dominated the field and linked Durban and Cape Town. Concerns about deregulation, economic growth and infrastructure in the fuel oil sector were prevalent in the media. In line with the pro-economic growth logic supported by GEAR, President Mandela reaffirmed government's commitment to reducing uncertainty on the question of deregulation and tariff protection through cooperation with all industry and societal sectors (Sherrocks 1995). He also emphasised that Enref's investment would strengthen foreign confidence and attract much needed foreign investment (Sherrocks 1995).

Figure 5.4: 1995 field dynamics



5.3.1 South Durban Basin

In South Durban, the post-apartheid pollution struggle emerged in 1995, however its trigger can be found in late 1994 when Enref called upon local communities to engage in a CAER committee as part of the Chemical Industry's Responsible Care Initiative (NGO5 2006). As community activist and NGO director Bobby Peek summarised:

The Wentworth folk start emerging in this debate in 1994 and it was precipitated or catalysed by Engen coming to the community and saying we want to develop with you a CAER System which is based upon the Responsible Care initiative by the industry which of course is based upon the outcomes of the complete mess up they made in Bhopal. Of course this was a greenwash response to all this. This starts in late 1994. Unbeknown to us the reason why they are starting this at the Engen oil refinery is in March 1995 Mandela is coming to the oil refinery, they want to make sure that they, before Mandela's arrival, get all the people that possibly could be trouble makers, or, alternatively just get people on board to show Mandela that they were speaking to the community. There were no trouble makers yet for the oil refinery, not yet, but they opened the door, and people started saying oh well fine, so this is what you have. (NGO5 2006)

The red contour labelled 'Enref pollution' indicates media coverage of a nascent environmental pollution protest in the Basin. On reducing Enref's industrial pollution, Enref and the community activists failed to agree on refinery performance improvements, so when President Mandela arrived at Enref in March 1995 to open a R1.5 billion expansion, he was met by protesters (Sherrocks 1995). President Mandela called upon the Deputy Minister of Environment Affairs and Tourism, Bantu Holomisa, to address the environmental concern. In an example of nascent regulative pressure, he organised a series of meetings that included stakeholders such as national, regional and local government representatives, community-based organisations, industry and trade union groups (Leader 1995). Solutions to the environmental problems in South Durban were discussed, and it was agreed that a participatory and integrated approach would be taken with commitment by industry for a pollution reduction programme that would serve as an environmental management model for other metro, provincial and national contexts (Leader 1995). Here it is evident how commitment from the highest level of government spurred action at the local level.

Enref was the focal point of community activism during this time. As Alan Munn, Enref's sustainability manager, described:

You cannot divorce the refinery from the community. The majority of people who work here live around it. So in the mid 1990s a lot of pressure came from within

the company about our environmental performance. The Groundworks (*an environmental justice NGO*) of the world, the Bobby Peeks of the world, I get along well with Bobby, like to take the credit for the changes. They deserve a lot of credit, but I think within the company the employees were seeing that there were problems. Some of us who had technical knowledge, being brought up in the UK and educated there, realised we could actually do better. So I think that, in 1995/96, we were putting pressure on management to change. (Ind4 2006)

The refinery began to realise the need to repair its host community legitimacy, and the pressure from internal environmental performance ‘champions’ was significant. President Mandela’s visit started a long process of negotiations between Enref and the communities that catalysed the South Durban communities into an organised pressure group. During apartheid most environmental activism in the Basin came from representatives of the Merebank Ratepayers Association (MRA) (LGov1a 2004; NGO5 2006). However, President Mandela’s visit marked the rise of Wentworth post-apartheid activism (Chari 2005; Sparks 2006). Here two community leaders from Wentworth emerged: Bobby Peek, a master’s student at the time, and Desmond D’Sa, a trade unionist and community advocate.

The expansion of refinery capacity was also discussed in the media. BP noted that it would look to expand capacity at Sapref (SAPA 1995). Yet the aging and outdated infrastructure in Durban received attention in November 1995 when an article was published on the financial impacts of disrupted power supplies in the Basin (Jenvey 1995). In light of Engen’s precarious position in the market, a discussion emerged in the media on the proposed Engen-Sasol Oil merger (FT 1995b). The tension between societal concern for public health, economic growth and aging capital became apparent.

5.3.2 Cape Town’s northern suburbs

In 1995, there was also some mention of air pollution related to Calref, although not with nearly as much frequency as in 1994. Calref announced it would expand production to start producing jet fuel, and Kynoch, the adjacent chemical fertiliser plant, announced that they would expand existing plant to process 2,000 tonnes of lime in the area (Steenkamp 1995). These potential production increases stoked community concern. The only other media mention of Calref was when Rejoice Mabudafhasi, ANC MP at the time, cited Calref and Enref as refineries of major concern (Sawyer 1995). She noted that she would have the DEAT Minister Dawie de Villiers check whether regulation was adequate and if DEAT approved of Calref’s emissions discharges. She said: “We want you (*Calref and Enref*) to comply with Milnerton and Wentworth residents’ standards, satisfy them or move the refineries” (Sawyer

1995: 12). This is a very strong statement coming from an MP, which not only targeted industrial polluters, but also legitimised the community grievances in Durban and Cape Town. It is evidence that a degree of normative and cognitive change in the host communities spurred regulative pressure. Finally, BEE emerged as an issue within Calref's organisational field as Caltex was first of the large oil companies to do a BEE deal (FT 1995a).

What is interesting about 1995 was how the South Durban Basin began to move in a unique trajectory: Mandela's intervention sparked a participatory process, which Enref pursued voluntarily, to reduce refinery emissions in the Basin. Wentworth activism began to emerge, as did Enref's internal environmental champions. Calref similarly sought to reduce emissions voluntarily, but received comparatively little pressure from government to make these improvements. Particularly in Durban, scalar politics influenced local action. Enref, driven by international norms and a distinctly South African corporate culture, attempted to implement the self-regulatory Responsible Care Initiative. Through the process of establishing a CAER committee, Wentworth activism was instigated. By attempting to be a 'good neighbour' through institutionalising the norms of transparency, participation and accountability, Enref opened itself up to host community scrutiny. Of course, as discussed above, Enref's proactive approach was partially driven by Mandela's visit. Thus there is a complex interplay between host community, home country (at this point South Africa is Enref's home country as Petronas has not become majority shareholder yet) and international field dynamics.

Enref's attempt to establish a CAER committee can be interpreted, as one community activist suggested, as a way to accommodate community concern, shape the issues in the Basin and legitimise industrial expansion/pollution (NGO5 2006). Akin to Lukes' second dimension of power, from this perspective Enref can be viewed as seeking to set the discursive agenda in the Basin and shape community preferences. However, Enref's consensual approach backfired. Community activists were sceptical of Enref's motives and countered with protest activism – a form of coercive and overt power, akin to Lukes' first dimension. After the conflict boiled over, Mandela and the environment minister's intervention established a participatory and multistakeholder governance process to seek consensus on these divisive issues. Here an emergent logic of participation and reconciliation in Durban's organisational field is evident. In Durban there is the beginning of normative institutional change driven by a process contestation between industry-driven international norms and local level cultural understandings and ideologies. There is evidence of cognitive change within community

groups and perhaps even regulatory change as Enref considers forms of voluntary regulation and national government steps in to facilitate community-company relations. In Cape Town, normative pressure for Calref to improve its environmental performance continues as the MAQP develops.

5.4 1996: Building capacity and understanding

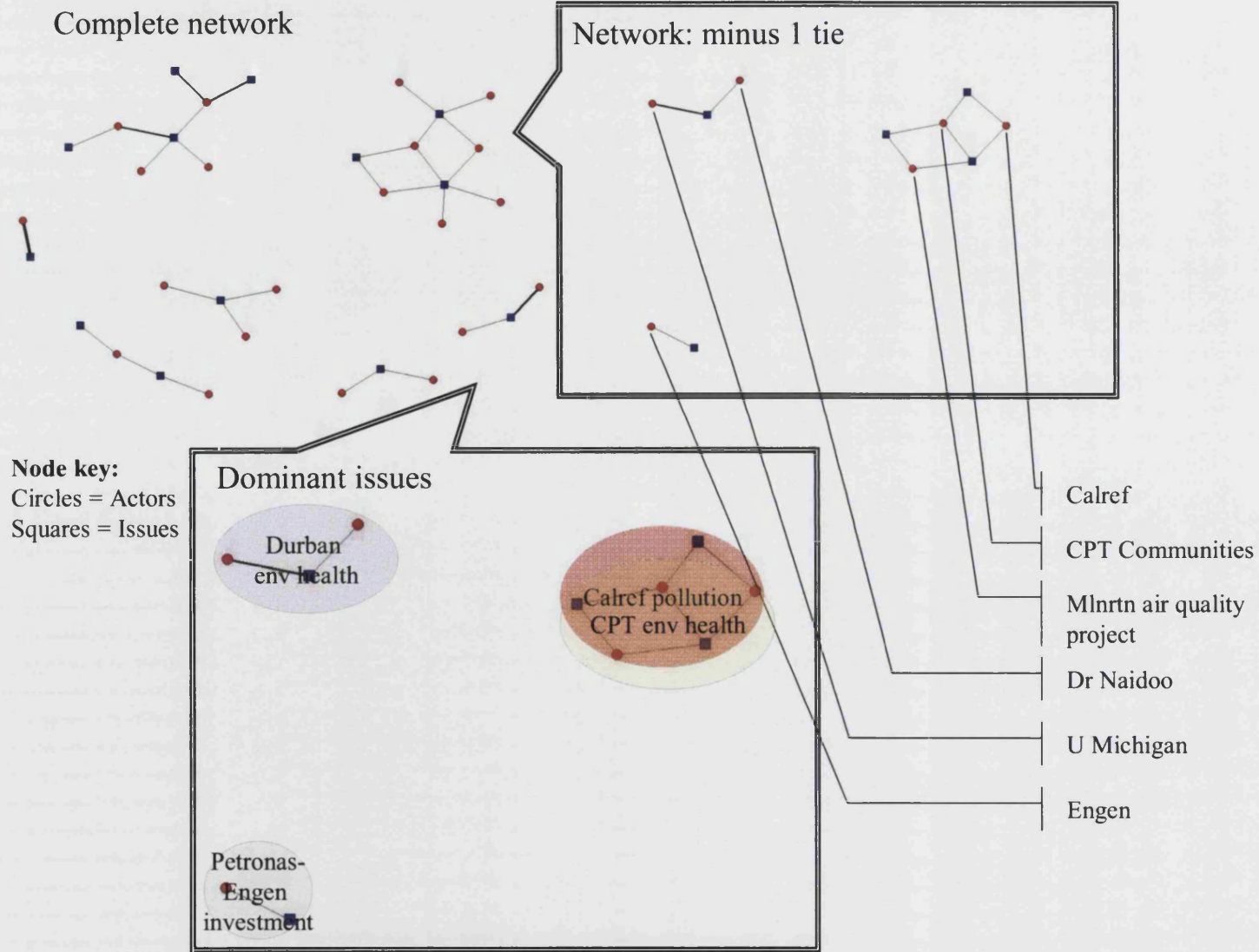
Figure 5.5 illustrates a fragmented organisational field. After one network tie is removed the field is reduced to three issue clusters: environmental pollution and health issues in Cape Town; environmental health in Durban; and a Petronas-Engen investment deal.

5.4.1 South Durban Basin

In South Durban, a community milestone occurred in 1996, under the leadership of Bobby Peek, white, African, Coloured and Indian communities came together to form the South Durban Community Environmental Alliance (SDCEA). SDCEA used the rhetoric of environmental justice to fight industrial polluters (NGO5 2006). Also in 1996, the profile of environmental health concerns was raised in Durban and KwaZulu-Natal. Although not specifically related to health concerns in the Basin, a collaborative study between the University of Natal medical school's department of community health and the University of Michigan's school of public health found high lead levels in the blood of disadvantaged children living in and around Durban. Utilising this finding to influence government, Dr Rajen Naidoo, of the University of Natal medical school, publicly called upon both Durban and KwaZulu-Natal health officials to take action to detect and treat lead poisoning (Jackman 1996).

Economic and market-based discourse entered the field as Petronas surprised the South African fuel oil industry by making a 30 percent investment in Engen (Ashurst 1996). Although screened out of the network diagram after one tie was reduced, Sapref was also eyeing expansion opportunities. Peter Fransen, Sapref's general manager, announced that Sapref had begun a R200 million upgrade to electronically control production to increase efficiency, output, environmental performance and the ability to refine high-value products. He also noted that Sapref had completed a study that could lead to a R250-350 million expansion as early as 1998 (Beverley 1996).

Figure 5.5: 1996 field dynamics



Community members expressed dismay, given they had been reassured that the refinery had no plans to increase size (Beverley 1996). Bobby Peek, speaking on behalf of the Wentworth Development Forum, expressed community sentiment at Sapref's strategy of going to the press first with the expansion announcement:

This is a dirty tactic and we are disgusted with Sapref, Shell and BP, who claim to be transparent. We're calling for more transparency from government and industry in the area. Sapref is a signatory of the Responsible Care Charter and a member of the Chemical and Allied Industrial Association which calls for transparent and responsible management. However, it is operating contrary to its commitments. (Jones 1996: 1)

Here the interplay between international norms and standards with local community-based activism is apparent. This cross-scale interaction is relevant: community leaders in Durban were reframing and contextualising the implementation of global norms and industry standards. However, there was no mention of expansion plans at Calref in 1996. The economic growth, industrial development discursive frame was more prevalent in the South Durban Basin than in the northern suburbs of Cape Town.

5.4.2 Cape Town's northern suburbs

In Cape Town, there was discussion of the MAQP, the health study commissioned in 1994 by the Council for Scientific and Industrial Research (CSIR) and City Council. In 1996 the Project released its final report and found that, inter alia: SO₂ released in isolated incidents at Calref was an acute health risk to sensitive individuals, but were not a chronic risk to the community; high levels of benzene were an "unacceptable health risk"; the odour limit of hydrogen sulphides had been exceeded several times in Table View; and fungal spore levels were high enough from time to time to cause allergic reactions in sensitive individuals (Cape Times 1996). As part of the MAQP, Calref funded the implementation of three air monitoring stations in the area. Nazeema Abraham, Calref's HSE manager, said the study demonstrated that the refinery was not a chronic risk to the community and that it highlighted the impact of motor vehicle emissions and fungal spores on community members' health. She noted that the report recommended the continuation of air pollution monitoring indefinitely (Ind9 2006).

However, the local media felt that Calref and the Kynoch fertiliser plant were responsible for the pollution (Cape Times 1996), and Andy Birkinshaw, Chairman of the Table View Residents Association (TVRA), reiterated his distrust of the study. Discussing the study's findings he said: "They (*Calref*) told blatant lies. They cannot measure emissions from the refinery two kilometres away, but that is what they said..." (NGO11 2006). These conflicting

perceptions would provide the impetus for community groups to continue building normative understandings through further health studies.

Although the field was relatively fragmented in 1996, refinery pollution and environmental health issues received media attention in both localities. As discussed in Chapter 6, Durban's early environmental health study set the precedent for future University of KwaZulu-Natal and University of Michigan research collaboration. This cross-scale academic interaction helped to build international networks with the aim of impacting normative institutional change in Durban. Also in Durban, an environmental rights-based logic emerged as the community group SDCEA came together to fight industrial pollution. Sapref exerted a form of dispositional power by moving forward with expansion plans without consulting communities, and Bobby Peek countered with coercive power as he openly attacked Sapref's plans in the press. In Cape Town, the mixed results of the MAQP highlighted the contested process of normative institution building. Industry agreed and praised the results of the MAQP, whereas community members did not trust the results. This emergent logic of managerial environmentalism (i.e. get the science 'right' first) was, on the surface, cooperational, but in fact differing perceptions, resources and knowledge imbalances simmered just below the surface.

Enref attempts to gain legitimacy by negotiating with local stakeholders, but Sapref loses legitimacy over its expansion plans. In Cape Town, Calref's legitimacy appeared to be in the balance as the health study proved inconclusive. As a result, the normative institutional dimensions in Calref were contested, but in Durban they continued to become better defined, particularly related to Enref's environmental practices.

5.5 1997: Falling profits and broken promises

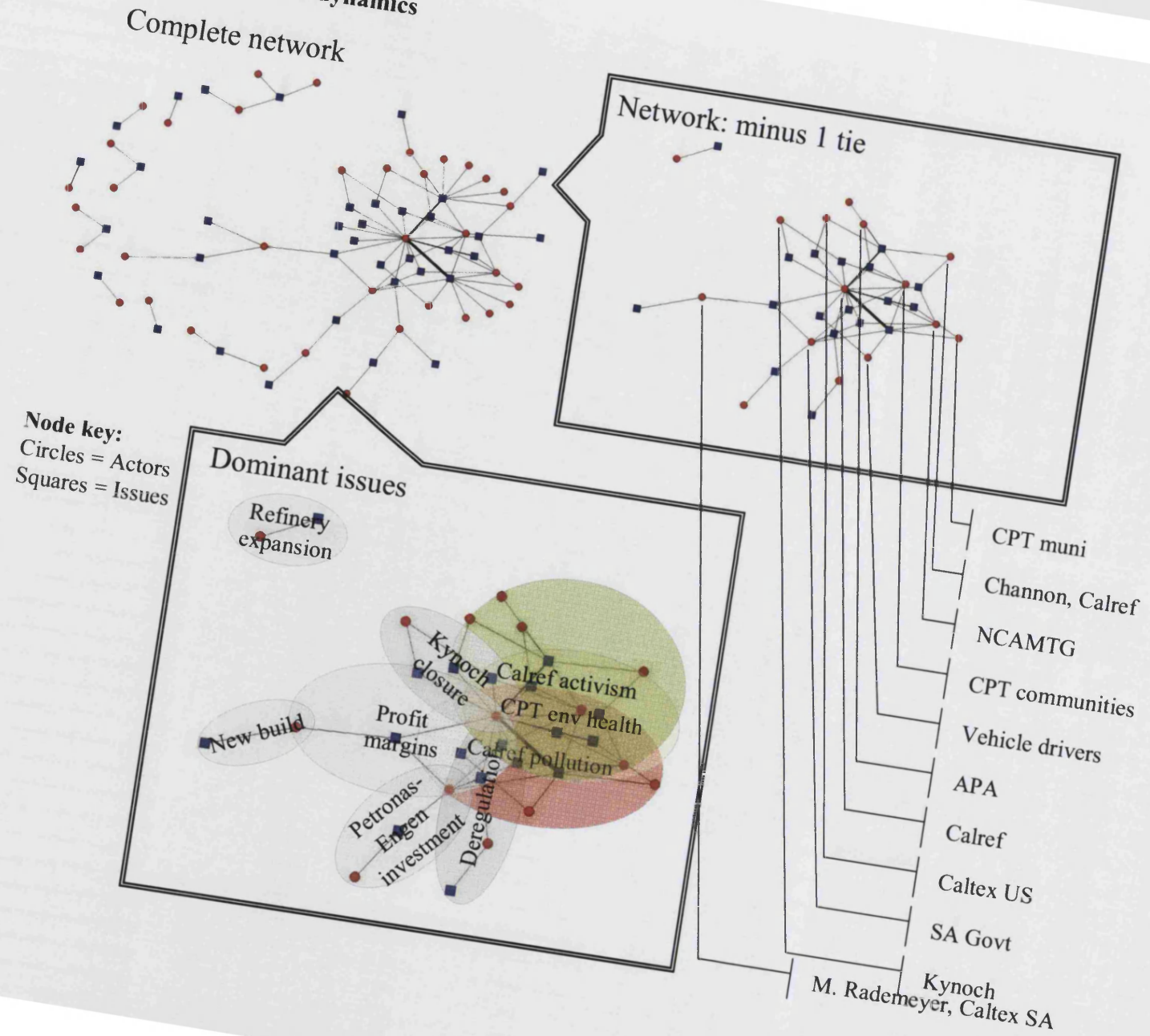
The organisational field in 1997 was structured by the contestation of Calref's broken promise, the opportunities for industry expansion and the Asian Crisis' impact on refinery profit margins. After one network tie is reduced, Figure 5.6 illustrates how issues related to activism (in green), environmental health (in yellow) and pollution (in red) in Cape Town form a tightly knit cluster of actors and issues. As indicated by a number of the grey issue areas, industry was poised to significantly expand production capacity. A proposal for a new refinery was even discussed by the Department of Minerals and Energy. However, the conflict

between demands for growth and environmental protection was well articulated by a US and Foreign Commercial Service report:

Industry, represented by Sapia members, has sent a clear message to government that additional private investment is not economic under current regulations and is lobbying aggressively for greater certainty on the direction of government policy and plans for restructuring state assets, particularly oil pipelines...Growing environmental lobbies from communities near refineries are also affecting expansion plans which must now be accompanied by costly reductions in emission levels. With South Africa facing shortages of between 600 million and 1.6 billion litres of gasoline a year by 2000, refinery expansion is essential... (US&FCS 1997: para 2)

Here Sapia, as discussed in section 4.1.2, appears to be lobbying much more on behalf of the fuel oil industry's growth as opposed to its environmental innovation. The quote also highlights how community activists had gained authority within the organisational field.

Figure 5.6: 1997 field dynamics



5.5.1 South Durban Basin

In Durban the communities appeared to keep a low profile in 1997, as only two citations were found in the articles reviewed where communities raised concern about refinery environmental performance and more generally industry expansion. However, in 1997 local government attempted to respond to community concerns and undertook a Strategic Environmental Assessment (SEA) aimed to guide future development of the South Durban Basin according to sustainable development criteria (Nurick and Johnson 1998; Roberts and Diederichs 2002). The SEA is an indicator of a degree of normative and regulative institutional change, but, as discussed below, the SEA provided the tinderbox for an adversarial community campaign aimed at both government and industry.

5.5.2 Cape Town's northern suburbs

1997 was a pivotal year for Calref's host community legitimacy. Calref was scrutinised on a number of different fronts. The dominant issues in Figure 5.6 highlight a concentration of environmental health, pollution and industry expansion issues related to the Cape Town refinery. The two-year "brown haze" air pollution study was completed in 1997. The study found that exhaust emissions were responsible for 65 percent of the brown haze air pollution problem, and the report recommended that air pollution control capacity of the municipal government should be upgraded (Business Day 1997). Calref and Kynoch were pinpointed as the source of SO₂ exceedances of the WHO guidelines for 10-minute, one-hour and one-day averages. It was the first time since October 1994, when continuous monitoring began, that these guidelines had been exceeded.

The NCAMTG approached the firms to explain and propose what mitigating measures would be put in place to prevent future exceedances (Yeld 1997). The NCAMTG formed around 1995; it grew out of the community forum that was created to participate in the MAQP (Ind11 2006; NGO9 2006). Interesting debate ensued. The NCAMTG threatened to ask the Environmental Affairs Minister Pallo Jordan to intervene and re-assess Calref's permit. This exchange highlights how international norms and standards, in this case a WHO air quality guideline, helped create space for institutional change at the local level.

Calref's environmental legitimacy began to be seriously questioned by civil society actors. As previously discussed, in August 1994 Calref pledged to reduce SO₂ emissions by 80 percent,

and since mid-1996 had been negotiating a GNA with the Anti-Pollution Alliance (Weiss 1997b), which formed in 1994 when Calref was seeking to expand its operations (NGO9 2006). The GNA was looking to set targets for NO_x, particulates, VOCs and SO₂. In September 1997, Calref wrote to residents admitting that it would not meet its target of cutting SO₂ emissions by 80 percent (Weiss 1997a: 1). The Anti-Pollution Alliance said that Calref's announcement would set back negotiations on a GNA that they were discussing (Weiss 1997a: 1). Calref's explanation included that margins in the refinery industry had come under severe downward pressure, which had impact on its ability to generate the "considerable investment and operating expense funds necessary to support the original programme as scheduled" (Weiss 1997b: 12). The Anti-Pollution Alliance called on Calref to address why it could not meet its publicised goals in a public meeting, and some local residents called on Calref to relocate (Weiss 1997b). Normative contestation and a degree of community cognitive change exemplifies this issue/event.

Calref countered the public outcry by writing a letter to the editor of a local newspaper, claiming it was doing the best it could to clean up the environment, and noting it spent R200 million over the previous few years on improved environmental quality (Cape Argus 1997: 9). Calref reiterated that it expected to achieve a 60 percent SO₂ emissions reduction by 1998, albeit not an 80 percent reduction. It took offence to the charge they were "reneging" on a promise, and pointed out that the brown haze study demonstrated that almost two thirds of Cape Town's haze is caused by vehicle emissions, with only 20 percent originating from industry (Cape Argus 1997). A public meeting was eventually held to discuss Calref's emission reduction plan and "anger boiled over" when Calref said it could not stick to its 1994 pledge to reduce SO₂ emissions by 80 percent (Steenkamp 1997: 18). Members of the Anti-Pollution Alliance interrupted Calref's managing director, Mike Rademeyer, while he was speaking and called for Calref to relocate.

The Alliance chair, William Barker, said that Calref had always balked at having a proper medical study done in the area, to establish beyond all doubt whether sulphur emissions affect the health of people living in the area (Steenkamp 1997: 18). The goodwill Calref had attempted to establish in 1994 through initiating the 80 percent emissions reduction pledge, the MAQP and continuous air quality monitoring in the area, appeared to evaporate in 1997. The economic realities of the Asian Crisis were beginning to impact refinery margins. Not surprisingly, economic factors trumped environmental performance goals. Calref learned the

lesson to not over promise and under deliver; a lesson that Enref was going to learn in the early 2000s.

Durban's SEA is an indicator of a degree of normative and regulative institutional change. In Cape Town, normative change was contested as Calref reneged on its pollution reduction promise, and host community engagement strategies became more confrontational as Calref's legitimacy was vociferously contested. The structural power of the Asian crisis significantly impacted Calref's financial ability to implement environmental upgrades and Calref's exceedance of WHO guidelines is another interesting example of cross-scale governance structures impacting refinery environmental legitimacy. Institutional logics in both Durban and Cape Town appeared to be relatively undefined in 1997.

5.6 1998: Economic downturn and refinery incidents

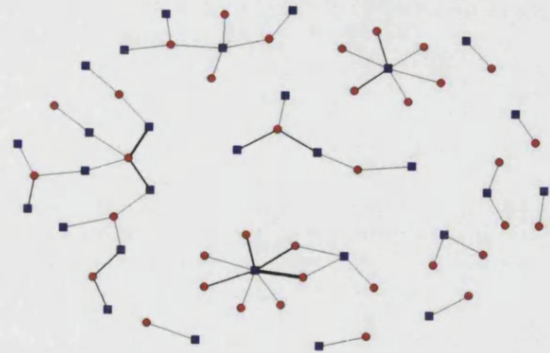
Figure 5.7 illustrates that in 1998, after one network tie is removed from the graph, the field is quite fragmented. What remains are unconnected issues related to pollution in the South Durban Basin, Sapref incidents and expansion plans, BEE in the fuel oil industry, fuel shortages and labour disputes in Cape Town.

5.6.1 South Durban Basin

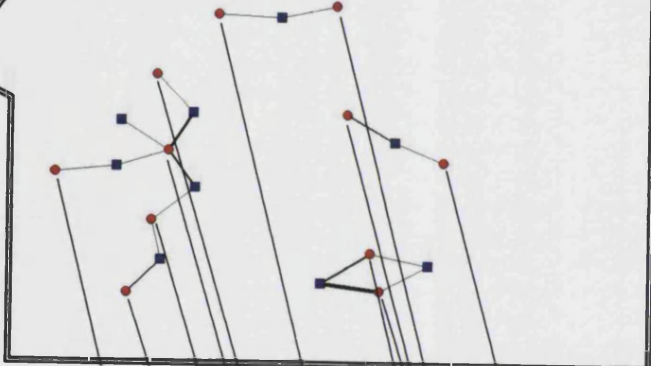
In 1998 the CSIR produced a report on air pollution in the Basin, which outlined the industries responsible for SO₂ pollution, but did not comment on the health implications of the pollution (Peters 1998b; Daily News 1998). Given the publicity of the report, a variety of local actors entered the pollution debate in South Durban and raised concern. For example Dr Mark Colvin, from the MRC and a member of SDCEA, noted the frequency of severe asthma in the Basin, and a residential doctor highlighted that "besides the high amount of sulphur dioxide pollution, there is a 'cocktail' of chemicals in the air those people breath" (Peters 1998b: 2). Desmond D'Sa, representing the Wentworth Development Forum, voiced his frustration: "The people have lived with this problem for far too long. Meetings have been held, tests have been done, but no answers are forthcoming, and no changes take place" (Peters 1998b: 2).

Figure 5.7: 1998 field dynamics

Complete network

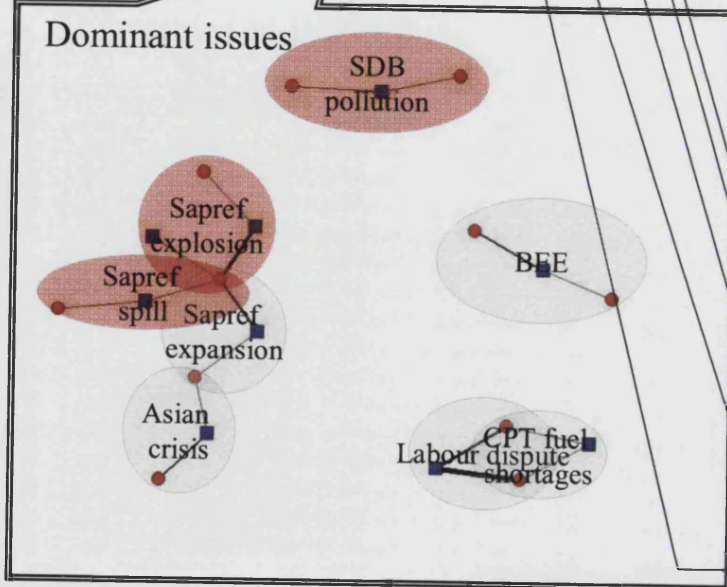


Network: minus 1 tie



Node key:
Circles = Actors
Squares = Issues

Dominant issues



- Tepeco-Sapref
- SDB industry
- Caltex
- Chemical workers
- Calref
- Durban muni
- BP
- Sapref
- Asian crisis
- Polifin
- B.Peeck, SDCEA

This research was commissioned by the Durban Metro Council as part of its R2 million SEA study into the competing pressures between environment and development in the Basin. The air quality report was just one of five strategic areas being studied to assess the short and long term planning for the Basin; the others were: living environments, waste generation, the contribution to the local economy, and institutional frameworks (Daily News 1998). The SEA provided the tinderbox within which the conflict between environment and development would come to a head. As the SEA project leader John Marshall commented on the CSIR health study: “These findings should be viewed against the backdrop of the study aiming to create both a healthier environment for people as well as clear development parameters which would encourage and attract future industrial investments to South Durban” (Daily News 1998: 10).

If communities in the Basin could ‘prove’ that industrial pollution negatively impacted their health, then perhaps further industrial expansion and pollution would be mitigated. Yet in 1998, industry acknowledged its impact on the environment, but “claim there is no scientific evidence to prove damage to health” (Peters 1998b: 2). The contestation of science would continue as the Durban health department allocated R1.7 million to conduct a health research project in the region, to explore the impacts of air pollution on the communities living in the Basin (Peters 1998b; Daily News 1998). This example of changing normative logics set the stage for future conflict between communities and industry.

Bobby Peek, SDCEA’s founder, brought international recognition and authority to the new post-apartheid pollution struggle by winning the prestigious Goldman Environmental Prize in 1998. Previous winners included the late Nigerian Ken Saro-Wiwa, who was executed as a result of his environmental justice campaigns, a significant connection as both Saro-Wiwa and Peek gained international recognition through their campaigns aimed at Shell. In a newspaper interview, Peek remarked:

This award is another victory for South Africa in our ongoing transition towards democracy. In South Durban, the communities are struggling to make that democracy real by ending the pollution there that the apartheid government created...One of our rights guarantees that citizens have the right not to be harmed by their environment. Herein lies the challenge to our industries, our government and our local authorities to make that right a reality in every community. (Peters 1998a: 2)

The community-led articulation of a rights based discursive frame is clear and powerful. Particularly in 1998, the precedence for community activism in the South Durban Basin was

fuelled by refinery incidents. Sapref had two incidents in 1998 that were noted in the press, first was an oil spill in January and second was a fire and explosion in May, which triggered a refinery manager's review and apparently marked the start of an internal transformation process (Ind13c 2006).

Economic and labour concerns also populated the field. Sapref, along with other petrochemical industry players, had to put its planned expansion on hold due to the Asian economic crisis, and the South African government announced it would scrap its plans to build a new refinery. This period of low margins and market uncertainty may have slowed development of the petrochemical industry in the Basin and allowed civil society's capacity to articulate its concern about environmental health related issues to develop. As is apparent in future years, the issues of environmental and human health and industry expansion become intertwined in Durban.

5.6.2 Cape Town's northern suburbs

In Cape Town, after a tumultuous end to 1997, there was little mention of Calref in the press in 1998. The Asian Crisis, as with Sapref and Enref, squeezed Calref's margins and forced job cuts. Labour issues preoccupied the industry: Enref workers went on strike after it was alleged that American workers were hired at a higher hourly rate; and the Chemical Workers' Industrial Union (CWIU) went on an industry-wide strike over wages, which caused national fuel shortages (Barnes 1998). In response to the CWIU strike, there was a run on petroleum in the Western Cape as drivers feared price increases and fuel shortages. After two weeks the strike was resolved.

BEE in the fuel oil industry also made headlines as Caltex was in discussion about a BEE deal with Afric Oil, and Shell South Africa spearheaded a BEE deal through a Sapref production sharing deal with Tepco Petroleum, an emerging integrated oil sector empowerment player (Sharpe 1998). Finally, talk re-emerged in the press of a Sasol-Engen merger, as Petronas upped its stake in Engen to 61.5 percent. In sum, 1998 was dominated by economic downturn, which coincided with industrial action. Durban's civil society continued to stir in relation to refinery pollution, whereas Cape Town's went silent.

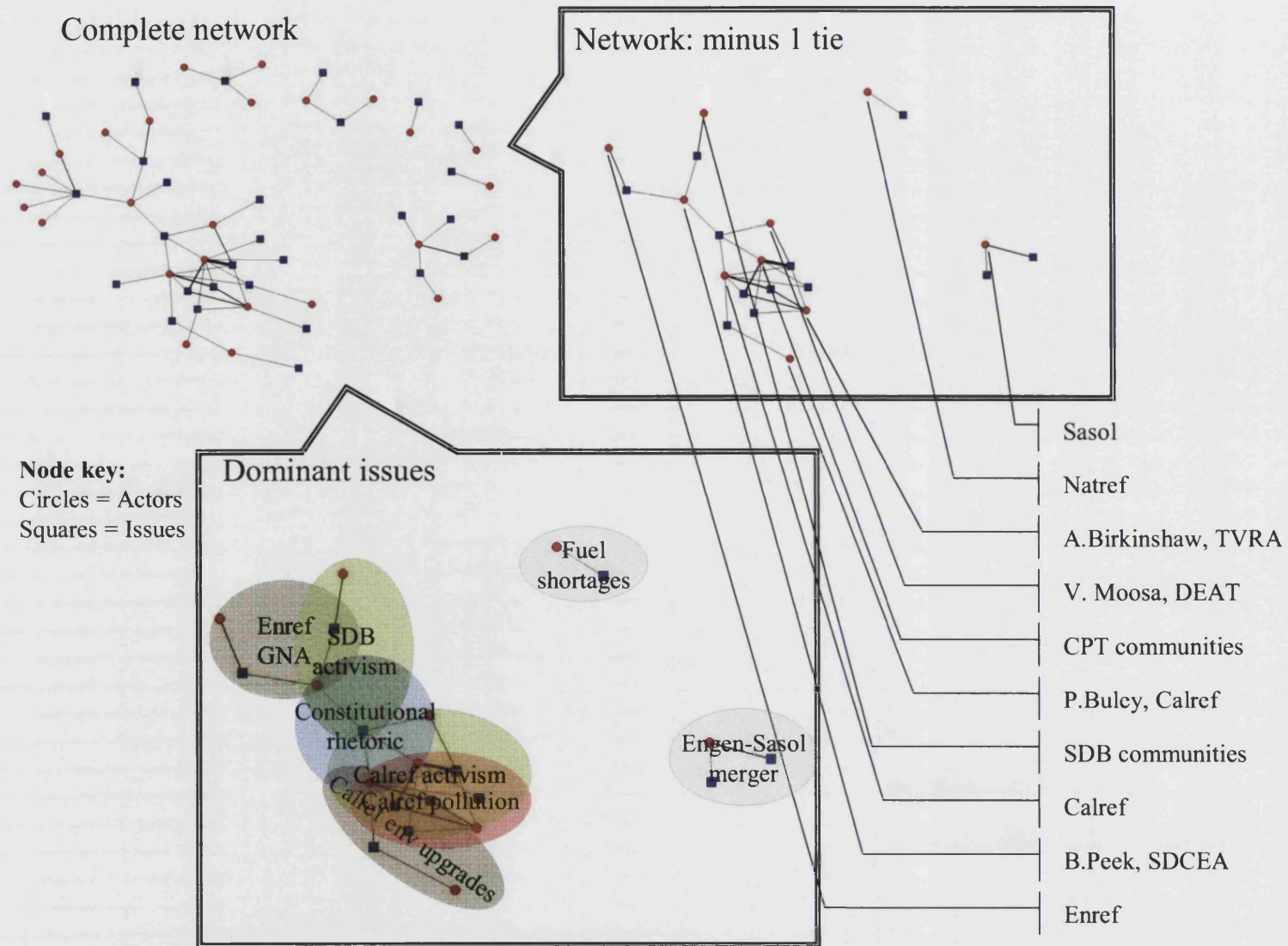
Community activists in Durban began to contest the results of the SEA and thus opportunities for normative and potentially regulative institutional change. The environment versus

development, environmental justice and contested science issue areas rose in prominence as key actors, such as Bobby Peek, gained field level power as he became an internationally recognised (and networked) community leader. The interplay between field level actors, power relations and institutional logics is significant: Durban's community activists had constructed an environmental justice logic, which sought to counter the logic of managerial environmentalism that the SEA process symbolised. In Cape Town, there was little evidence of institutional change or contestation, as issues related to the economic downturn dominated the field. The logic of managerial environmentalism, driven by Calref and community groups, came to a head in 1997 and it was unclear in 1998 how the debate would be taken forward into the new millennium.

5.7 1999: Negotiation and confrontation

In 1999 the field became more structured, as indicated in Figure 5.8, the issues and actors were more interconnected than in previous years. After reducing one tie, a cluster of connected issues and actors remain, which include: Calref's environmental upgrades (in olive); activism by Calref's neighbouring communities (in green); pollution at Calref (in red); constitutional rhetoric by the environment minister Valli Moosa (in blue); activism against industry expansion in South Durban (in green); and Enref's GNA (in olive). A variety of community actors, both in Durban and Cape Town, increasingly leveraged the local media to publicly register the perceived injustice of industry expansion and pollution.

Figure 5.8: 1999 field dynamics



5.7.1 South Durban Basin

In 1999, the tension between a history of injustice and the post-apartheid government's drive for economic growth culminated in South Durban with the unveiling of the CSIR report, which, as part of the SEA process, suggested the best development option for the Basin would be to build a new container port and expand the petrochemical industry (Jenvey 1999). Growing tension between municipal government and local communities undermined the impact of the study (Roberts and Diederichs 2002). After the study's recommendations were announced, thousands of South Durban community members met to voice their opposition (IOL 1999). Bobby Peek in an article in a local newspaper highlighted the injustices of the past, stresses a community versus industry dichotomy and begins to focus criticism on government (Peek 1999: 19). This backlash highlights the tension and disjuncture between conflicting institutional logics: the managerial environmentalism of industry and local authorities and environmental justice rhetoric of community activists. Peek goes on to highlight the conflict between environment and development in the Basin:

Through another expensive and time-consuming process, the SEA fails to make definitive proposals to this end, and the document says little new on the state of the environment in South Durban. In effect it is a thinly disguised public relations exercise for the expansion of toxic industry with little more than lip service paid to the fact that industry needs to clean up. (Peek 1999: 19)

The government intervention after Mandela's visit in 1995 culminated in the SEA; however, given its ambiguous outcomes, alternative or 'hybrid' forms of environmental governance would be pursued.

Yet, a milestone was achieved in 1999 when a voluntary agreement was reached between Enref and SDCEA. Enref committed to a five year environmental improvement programme, i.e. GNA, with SDCEA, thus securing a historic 'win' for the communities. This apparently was the first voluntary agreement between industry and civil society within the 'spirit' of NEMA (Challenor 1999). It was agreed in the environmental improvement programme that Enref would reduce SO₂ emissions from 72 tons a day to 25 tons a day, and make reductions of smoke, dust, smells and storage tank emissions among other projects (Challenor 1999). Peek, noted that community members "agreed to mutual co-existence rather than polarised relocation", and that bottom up community pressure locally, nationally and internationally got Enref "to the table" (Challenor 1999: 11). At first communities had been adversarial and demanded that industry relocate, but a more consensual approach was chosen in the end. Here

the logic of managerial environmentalism is apparent – SDCEA chose discursive strategies strategically – i.e. whether to engage cooperatively with industry and government or coercively employing rights-based rhetoric. Also important to the success of the voluntary initiative was the degree of openness and transparency of Enref. As SDCEA’s technical advisor Dr Eugene Cairncross commented, Enref’s engineers were willing to share ideas and technical information, which helped to build trust between the firm and community stakeholders (Challenor 1999).

The South Durban model of community activism built new civil society capacity in 1999, as Peek founded Groundwork, a South African NGO dedicated to environmental justice struggles, based in Pietermaritzburg, the capital of KwaZulu-Natal. Desmond D’Sa then became Chairman of SDCEA. SDCEA and Groundwork often campaigned with a dual-pronged strategy – SDCEA at the local municipality level, and Groundwork at a national and provincial level to build community capacity and impact government legislation. The South Durban communities had found their voice and were becoming powerfully articulated within local, regional and national networks.

5.7.2 Cape Town’s northern suburbs

A key feature in the 1999 network graph (Figure 5.8) is the linkage between Durban and Cape Town. This was done at the national government level within the issue area of industrial pollution and enforcing the rights guaranteed in the constitution. The connection between refinery pollution in Durban and Cape Town was made in Valli Moosa’s public statements. Moosa, in an address to the Cape Town Press Club, noted that the government would get tough on industrial polluters such as Calref (Yeld 1999; Streek 1999). Thus Calref was making it on the national spotlight as were the Durban refineries. It appears as though the local residents reorganised and reinvigorated their campaign against Calref and Kynoch in 1999. In fact, the community activists in Durban and Cape Town began to link up during this time (NGO9 2006).

Communities close to Calref for the first time (given the evidence collected for this study) used a rights-based discourse with the aim to impact government and refinery behaviour. Andy Birkinshaw, Chairman of the Table View Residents’ Association, stressed the impacts of SO₂ on the health of the community (Halim 1999). Local residents made the headlines in 1999 by taking Calref and Kynoch, a chemical fertiliser plant, to South Africa’s Human

Rights Commission for depriving them of their right to clean air (Steenkamp 1999). Birkinshaw noted that Calref had failed to deliver its promise to reduce its SO₂ emissions from 28 tons a day to 8 tons a day by July 1999. Birkinshaw applauded Kynoch's imminent closure in November 1999 and noted his hope that Calref would follow suit (Steenkamp 1999). However, Calref said it had no plans to do so, given its strategic importance.

An editorial in a local Cape Town newspaper supported the residents' demand for their constitutional right to clean air, thus demonstrating the media's support for activism. The editorial stressed that the usual excuses such as financial constraints, a disputed assertion that SO₂ was not a health hazard, competitive impacts, and the "we were here first" argument would most likely not be on the refinery's side when in front of the Human Rights Commission (Saturday Argus 1999). The editorial stressed that "if they (*Calref*) are to stay, they must be forced to clean up their act" (Saturday Argus 1999: 20). In fact Calref began constructing a new tailgas treating unit in July 1999 to reduce SO₂ emissions, which aimed to start operation in June 2000. In 1999 community activism structured the organisational field by scaling up local issues to the national level.

On economic issues, given that low margins still prevailed, there was little talk of refinery expansion; however, as indicated by the grey contour disconnected from the others in Figure 5.8, Engen and Sasol signed a memorandum of understanding regarding their merger intentions confirming the rumours of previous years. Also spotlighted in the press were articles on how the fuel oil industry was going to fulfil its 25 percent BEE target (West 1999).

For the first time in this analysis, the issue of refinery pollution in Durban and Cape Town was linked by rhetoric from national government. It is also apparent in 1999 that both Calref and Enref were actively working with communities to repair and maintain their legitimacy, but the communities in both localities adopted an environmental justice discursive frame and were becoming more proactive and sophisticated in their engagement strategies. Although industry consolidation and supply-related issues gained attention, the discussion of industry expansion was muted due to unfavourable market conditions. There was voluntary regulative change in Durban with the establishment of Enref's GNA, this put normative pressure on other industrial facilities in the Basin, including Sapref, to adopt voluntary emissions improvement programmes. In Cape Town, there was normative and cognitive institutional

change within the host communities, as an environmental justice rhetoric was adopted and action from the highest levels of government was sought.

The spatialities of environmental governance, particularly in Durban, transcended host community boundaries as the Enref-SDCEA GNA was based upon models in the UK and US. In fact it was a US academic (David Wiley at Michigan State University) that encouraged Bobby Peek in the mid 1990s to explore conciliatory engagement strategies with industry in the Basin (Com9a 2006). In addition, the idea for the SEA process was ‘learned’ from environmental management strategies in the UK and Europe. In Durban the logic of managerial environmentalism clearly clashed with the logic of environmental justice as the SEA process stalled, but the GNA process was, at least in 1999, a successful managerial environmental outcome. In Cape Town there was little discussion of formal environmental governance processes, although a reinvigorated community effort adopted the rhetoric of environmental justice to spur changes in organisational field dynamics.

5.8 Analysing organisational field dynamics and firm legitimacy

How and why has each refinery’s environmental performance differed? As discussed in sections 2.2, 2.3 and 2.4 a model of MNC complexity and organisational field dynamics (see Figure 2.2) is introduced to unpack this complex interaction between structure and agency. At the *macro level*, organisational fields are spaces where actors discursively engage in producing and reproducing issue areas. These spaces of contestation and power dynamics can result in dominant discourses, which may channel the institutional logics that govern corporate environmental behaviour. The analysis highlights how the interaction between the macro (field processes) and micro (firm strategies) may influence environmental performance processes and outcomes.

5.8.1 Macro level: field structuration

At the *macro level* one of the key areas of interest is if the field became more structured from 1994 to 1999. Table 2.1 highlights ‘detectable units of analysis’ to identify if field structuration has occurred, which include:

- Field level actors:
 - Increasing interaction between field level actors

- Well-defined interorganisational relationships that result in patterns of coercion or cooperation, i.e. power relations
- Changing role and authority of field level actors who struggle to redefine environmental issue areas
- Institutional logics:
 - Shifts in meaning systems, beliefs and ideologies of what is feasible or imaginable
 - The identification of dominant logics representing consensus of powerful actors and secondary logics representing other subordinated or emergent interests
- Governance structures
 - The dominant governance arrangements that shape and constrain corporate environmental behaviour, which can be formal and informal, public and private, and regulative, normative and cultural/cognitive institutional dimensions

Figures 5.9 and 5.10 distil the macro and micro levels of analysis from 1994 to 1999. In Durban and Cape Town the changing organisational field dynamics, firm legitimacy and institutional dimensions are highlighted. As indicated by the network diagrams and Table 5.3 there is little increase in interaction between actors. Some years, such as 1994 and 1997, have more citations, but there does not appear to be a strong trend of increasing interaction between actors or a more densely structured organisational field. It follows that there are no clear patterns of domination or coalition, although in 1999 the profile of civil society activism was heightened. A mix of power relations, from coercive to cooperational, are evident.

Figure 5.9: Analysing structure and agency 1994 to 1996

Macro: field level processes

	1994	1995	1996
	<i>Calref promise</i>		<i>CPT env health study</i> <i>SDCEA founded</i>
Events		<i>Mandela's Enref visit</i>	<i>Durban health study</i>
Key Actors	<p>Durban: Enref, Sapref, SA Government</p> <p>Cape Town: Calref, MRC, Milnerton Committee, CPT communities, Kynoch, CPT muni and SA government</p>	<p>Durban: Enref, SDB communities, Mandela, Durban muni and Sapref</p> <p>Cape Town: Calref, Kynoch and CPT communities</p>	<p>Durban: Engen, U of Michigan, Dr Naidoo, Sapref, P. Franssen-Sapref and B. Peek</p> <p>Cape Town: CPT communities, Calref and Milnerton Air Quality Project</p>
Issue areas	<p>Durban: market factors and refinery expansion</p> <p>Cape Town: refinery expansion, environmental health, industrial pollution and industry commitments</p>	<p>Durban: Industrial pollution and pro-economic growth</p> <p>Cape Town: pro-economic growth and industrial pollution</p>	<p>Durban: environmental health and pro-economic growth</p> <p>Cape Town: environmental health and industrial pollution</p>
Institutional logics	<p>Durban: N/A</p> <p>Cape Town: Emergent logic of managerial environmentalism, emergent participatory logic</p>	<p>Durban: Logic of econ.growth and ind. dereg.; Emergent logics of protest activism, env justice, and managerial environmentalism</p> <p>Cape Town: Logics of econ. growth and ind.dereg., logic of managerial environmentalism</p>	<p>Durban: Logic of economic growth, logic of env. justice</p> <p>Cape Town: Logic of managerial environmentalism</p>
Governance structures/institutional dimensions	<p>Durban: little evidence of change</p> <p>Cape Town: beginning of normative change</p>	<p>Durban: beginning of normative change and regulative change; cognitive change within community</p> <p>Cape Town: evidence of normative change</p>	<p>Durban: normative dimensions continue to evolve</p> <p>Cape Town: normative dimensions contested</p>
Micro: firm legitimacy	<p>Durban: Enref under shareholder scrutiny, Sapref no action</p> <p>Cape Town: Calref engages with community and makes emissions reduction commitment, cultural change within Calref</p>	<p>Durban: Enref proactively engages community; Sapref no action</p> <p>Cape Town: Calref attempts to implement 1994 commitment and continues to engage with local stakeholders</p>	<p>Durban: Enref negotiates with communities; Sapref loses legitimacy over expansion plans</p> <p>Cape Town: Calref legitimacy in balance after inconclusive health study</p>

Figure 5.10: Analysing structure and agency 1997 to 1999

Macro: field level processes

	1997	1998	1999
			
Events	Asian crisis Calref broken promise	Sapref explosion SDB SEA	V. Moosa rhetoric Enref GNA Groundwork founded
Key Actors	Durban: Engen, Petronas and SA government Cape Town: Calref, CPT communities, NCAMTG, CPT muni, Caltex, Kynoch and APA	Durban: Sapref, British Petroleum, B. Peek, Durban muni and SDB industry Cape Town: Calref and Chemical Workers' Industrial union	Durban: B. Peek, SDB communities, Enref and V. Moosa-DEAT Cape Town: Table View residents, A. Birkinshaw, Calref and P. Buley-Calref
Issue areas	Durban: economic growth, industry investment Cape Town: economic growth, environmental health, industrial pollution and industry distrust	Durban: environmental justice, environment vs. development, economic downturn and techno-bureaucratic science Cape Town: economic downturn and industrial action	Durban: environmental justice, environment vs. development, economic downturn and constitutional rights Cape Town: environmental justice, constitutional rights and economic downturn
Institutional logics	Durban: Logic of managerial environmentalism Cape Town: In flux	Durban: Logic of environmental justice, logic of managerial environmentalism Cape Town: In flux	Durban: Logic of environmental justice, logic of managerial environmentalism Cape Town: Logic of environmental justice
Governance structures/institutional dimensions	Durban: some local government normative and regulative action through commissioning SEA Cape Town: normative contestation, cognitive change within community	Durban: normative contestation through debating SEA results Cape Town: little evidence of change	Durban: normative and voluntary regulative change with Enref GNA Cape Town: normative change as community members approach SA Human Rights Commission
Micro: firm legitimacy	Durban: Enref negotiates with communities; Sapref no action Cape Town: Calref loses legitimacy as reneges on emissions reduction commitment	Durban: Enref negotiates with communities; Sapref loses legitimacy because of incidents Cape Town: Calref attempts to negotiate with communities	Durban: Enref gains legitimacy through GNA; Sapref no action Cape Town: Calref continues to lose legitimacy as community activism grows

Table 5.3: Type of actors and frequency of citations 1994 - 1999

Type	Subcategory	Citations																	
		1994			1995			1996			1997			1998			1999		
		Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth
Academic	<i>Academic</i>	0	1	0	0	0	0	8	0	0	0	1	0	0		0	1	0	0
Civil Society	<i>CBO</i>	0	10	0	4	3	0	4	5	0	2	22	0	6	0	0	7	21	0
	<i>NGO</i>	0	7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	<i>INGO</i>	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	<i>Other civ soc</i>	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
	<i>Labour</i>	0	0	0	0	0	0	0	0	0	0	0	0	5	0	10	0	0	0
Government	<i>Local Gov</i>	0	3	0	2	0	0	1	2	0	0	5	0	4	4	0	1	1	0
	<i>Prov Gov</i>	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
	<i>Nat Gov</i>	0	9	8	4	1	0	0	2	0	2	3	4	0	0	3	2	3	1
	<i>Intl Gov</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Industry	<i>Enref/Engen</i>	11	0	0	4	0	0	3	0	0	2	0	0	4	0	0	10	0	0
	<i>Sapref/Shell/BP</i>	0	2	0	7	0	0	4	0	0	2	0	0	14	0	0	0	0	0
	<i>Calref/Caltex</i>	0	27	0	0	4	0	0	2	0	0	47	0	0	9	0	0	11	0
	<i>Other industry</i>	0	3	7	5	1	9	0	2	2	3	5	9		0	11	2	1	7
Media	<i>Media</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Subtotal		11	63	15	26	9	9	21	14	2	12	84	16	38	13	24	24	37	8
Total		89			44			37			112			75			69		

From 1994 until 1997 the logic of managerial environmentalism dominated the field in Cape Town. Community leaders were engaging proactively with Calref to 'get the science right'. A technocratic, science-driven approach was characteristic of these early days. Calref sought to proactively engage with local community groups and work, in good faith, towards a voluntary governance structure, a GNA. It appeared that consensus was building around the findings of the MAQP; however, community-company trust was negatively impacted when profit margins undermined Calref's intentions. The Asian Crisis set community-company relations and the GNA negotiations into a tailspin. The logic of economic growth and profit maximisation trumped the promised environmental upgrades.

From 1997 to 1999 the organisational field related to Calref's environmental performance was in flux. No dominant discourses or logics emerged. Normative and cultural/cognitive institutional change appeared to have occurred as community leaders got frustrated with Calref's inaction. Community leadership in the northern Cape Town suburbs was in a process of reorganisation and Birkinshaw emerged in 1999 to engage more confrontationally with Calref. 1999 was in fact the first year that an environmental rights discourse was employed in Calref's organisational field. National government occasionally threatened Calref after significant incidents but there was little consistent regulatory pressure exerted.

In Durban, after an event sparked community-company conflict, the win/win logic of managerial environmentalism underpinned community-company engagement in the mid-1990s. Mandela's visit to Enref in 1995 was clearly the starting point for South Durban's 'pollution struggle'. Given the structural logic of economic growth (both Sapref and Enref were expanding refining capacity) and the democratic norms and environmental rights set out in South Africa's constitution, national government spearheaded a cooperational process through which win/win community-company outcomes would be sought, thus influencing Enref's organisational field significantly in the 1990s.

Through cycles of coercion and cooperation, SDCEA and Enref achieved South Africa's first GNA in 1999. This voluntary regulatory governance structure was an outcome of the logic of managerial environmentalism that dominated the field in the 1990s. However, an increasingly dominant environmental justice logic populated the field as SDCEA was founded, Peek received the Goldman Prize and Groundwork was founded. This is representative of the

changing role and authority of SDCEA and Peek in the South Durban field. There appeared to be a shift in ideologies towards the end of the 1990s as SDCEA and Peek vociferously engaged against the SEA outcomes. In fact the pattern of interorganisational relationships expanded to include community-government pressure in addition to that of community-company pressure.

Regarding changing institutional dimensions, it is apparent how cultural/cognitive change occurred within South Durban and Northern Cape Town's community leaders. In South Durban a traditionally marginalised community found voice and power by exercising its newfound rights; whereas in Northern Cape Town, a middle-class white community began to question the logic of South African industrial development and residential planning. Community activists drew on the precedence set by international norms and standards (e.g. Responsible Care, WHO standards and Human Rights) to influence managerial environmental processes. Normative pressure began to take shape in both Calref and Enref's case because of a complex mix of community-based institutional entrepreneurs, internal company champions and cross-scale governance.

However, the outcomes are patchy. In Durban, Mandela's visit begins a lengthy process of government engagement. The failed SEA represents the naivety of local government representatives in underestimating the power of the logic of environmental justice. Moosa's strong rights-based rhetoric in 1999 adheres more closely to the discourse of community-based activists. Enref's successfully negotiated GNA in 1998 represents an early success for managerial environmentalism, i.e. conciliatory and consensus-seeking governance outcome. This is something the government was unable to achieve through the SEA process.

In Cape Town communities vociferously engaged with Calref in 1994, 1997 and 1999. Community leaders exhibited a degree of cognitive change, as they changed their way of thinking and engaging with the refineries during that time (NGO9 2006). International and national norms such as WHO standards and the SA Human Rights Commission were strategically incorporated into discursive frames to coercively influence Calref's environmental practices. The logic of environmental justice is more clearly articulated in 1999 than it was in 1994 and 1997. Moosa responded to community activists by targeting Calref's poor environmental performance in 1999. Although the refinery did not agree to any formal pollution reduction commitments, it appeared to be engaging in the issue area (Ind9 2006).

Thus, a degree of normative change was occurring in Cape Town. In sum, although the field remained fragmented from 1995 to 1999, with no authoritative institutions emerging, a degree of voluntary regulative change occurs in Durban and some normative change occurs in both Durban and Cape Town.

At this point it can be concluded that field structuration had not occurred to a significant degree, i.e. enough to institutionalise superior corporate environmental performance within the South African fuel oil industry. There appears to be momentum building that may result in a more structured field in later years.

5.8.2 Micro level: firm legitimisation strategies

At the *micro level* firms engage in the organisational field to both gain and maintain legitimacy and to influence field structuration. In the early 1990s Calref proactively engaged with community members and local government to develop evidence-based solutions to manage the environmental impacts. Calref's broken pollution reduction promise in 1997 significantly damaged its legitimacy. This event catalysed community activism, reinforced community-company distrust and limited the opportunity for a GNA to be established between Calref and its surrounding communities (NGO9 2006). However, in an attempt to maintain its legitimacy, Calref said it went on to adopt the commitments set out in the GNA into its environmental improvement programme anyway (Ind9 2006).

In Durban, Enref was the first major industrial actor to recognise the relevance of community stakeholders, particularly in relation to maintaining organisational legitimacy within its host community. In 1995 Enref attempted to set up a Responsible Care CAER committee. In this respect international industry norms and self-regulatory efforts influenced organisational behaviour at the local level. A form of cross-scale environmental governance enabled the issue of industrial pollution to enter the organisational field in 1995. Yet, the adoption of conciliatory strategies did not legitimate Enref's environmental performance. Activists from the adjacent communities of Austerville and Wentworth felt the CAER committee was a form of 'greenwash' and protested on the day Mandela arrived. Enref, driven by the leadership of internal champions, began a process of negotiation with its host communities to repair its legitimacy, which resulted in its landmark GNA in 1998/1999.

Refinery upsets and incidents continued to negatively impact internal and external legitimacy. For example Sapref's fire and explosion in 1998 spurred internal oversight and external government and community attention. Thus In the late 1990s Calref and to a lesser degree Sapref were using reactive strategies to repair host community legitimacy, whereas Enref modelled proactive behaviour. Enref's closer proximity to communities can help explain why Sapref did not take a more proactive external engagement strategy in the 1990s.

5.9 Chapter summary

A new democratic politics was unleashed in 1994. With the 1996 Constitution guaranteeing a citizen's right to a clean and healthy environment, the stage was set for a post-apartheid pollution struggle. A shift from the 'green' to so-called 'brown' and 'red' issues was marked by a new focus on the health impacts of industrial pollution, human rights, social justice and equity. As discussed in Chapter 1, the history of racist policies on rural and urban environments, the new ANC Government's prioritisation of economic growth, and a fragmented and weakly enforced environmental management legislative framework put the dual goals of environmental protection and socioeconomic development on a collision course.

After analysing organisational field dynamics and firm legitimacy strategies, it is apparent that Enref, Sapref and Calref's environmental performance differed because of a variety of external and internal factors between 1994 and 1999. Enref's closer proximity to communities, which made it an obvious target for community-based activists, its status as a publicly traded South African company, and the influence of 'sustainability champions' within the firm, all influenced its decision to engage proactively with its local stakeholders in the mid-1990s. Sapref was farther from communities, was owned by MNCs based in Europe and was primarily focused on increasing production during this time. It did comparatively little to improve its environmental performance. Calref, in Northern Cape Town, is a very different case. Calref was owned by an American MNC, was located next to white middleclass communities and had a history of engaging with its highly educated neighbours on pollution concerns dating back two decades (LGov9 2006). Similar to Enref, Calref was impelled to engage more substantively with its surrounding communities in the early 1990s.

In sum, the complex interaction between actors' discursive strategies, power relations, and the construction of institutional logics significantly influences the possible governance arrangements within an organisational field. Underpinned by the logics of environmental

justice and managerial environmentalism, normative and a degree of voluntary regulative institutional change took hold in Durban, although with Enref not Sapref. Negotiation succeeded with Enref's GNA, but Sapref continued to approach environmental issues reactively. In Cape Town, the logic of managerial environmentalism drove Calref's attempt to reduce emissions by 80 percent. However, after the Asian crisis hit, the logic of profit maximisation took hold, and attempts to reach voluntary regulative institutional change failed. As the century ended, civil society actors in both Durban and Cape Town had adopted environmental rights-based discursive strategies, and firm legitimacy in both localities was contested.

6 2000-2003: SPACES OF CONTESTATION

As long as children in south Durban suffer the highest levels of asthma in medical literature, chemical industries are capital intensive and provide few employment opportunities and a pall of pollution continues to cover the south Durban basin, local residents will oppose the development of further dirty industry. (Krige 2002: para 5)

For decades people living around the Caltex oil refinery in Milnerton have claimed that airborne toxins from the plant are injurious to their health. It would appear from the results of a study by the University of Cape Town Lung Institute that their concerns are legitimate...(Cape Times 2003: 8)

At the end of the 20th century, civil society had begun to wield discursive power in the South Durban Basin and Cape Town's northern suburbs. Community leaders in both Durban and Cape Town engaged with industry and government using rights-based rhetoric. By 2000 little shared understanding at the field level had occurred. Interaction between actors and the issue areas of industrial pollution and environmental health was increasing but fragmented. The government and industry-driven logic of managerial environmentalism became in conflict with the community-driven logic of environmental justice. In 1999 Enref, Sapref and Calref's host community legitimacy differed quite significantly: Enref had engaged in a voluntary GNA with its fenceline communities; Sapref had yet to openly engage with its neighbours; and Calref was seeking to repair its host community legitimacy after failing to achieve its stated plan of 80 percent emission reductions by 1997. Here a range of relational power from consensual (e.g. Enref's GNA) to conflictual (e.g. SDCEA's protest against the SEA results and Northern Cape Town community leaders' hostility to Calref's 'broken promise') existed as did forms of structural power (e.g. the Asian crisis). The norms of what constituted socially appropriate corporate environmental performance were being contested differently in relation to each refinery. This helps to explain why each of the refineries pursued unique legitimation strategies.

The nascent normative institutional dimensions constructed in the late 1990s would be tested in the early 2000s as community activists, particularly in Durban, moved away from

cooperation to confrontation with Enref and Sapref. Pressure was directed at both industry and government to sort out perceived environmental injustices. As the quotes framing this chapter illustrate, community-driven science and a discursive frame of environmental health helped to drive the structuration of the organisational field and significantly impact normative understandings. The spheres of government would be challenged to meet the demands of all 'interested and affected' stakeholders.

The following discussion explores the field level dynamics between 2000 and 2003 highlighting how actors constructed the issue areas related to Enref, Sapref and Calref. For each year the network diagrams are discussed first, followed by a detailed narrative of the field dynamics in the South Durban Basin and Cape Town's northern suburbs. Insights from primary and secondary data sources such as newspaper articles and interviews are incorporated.

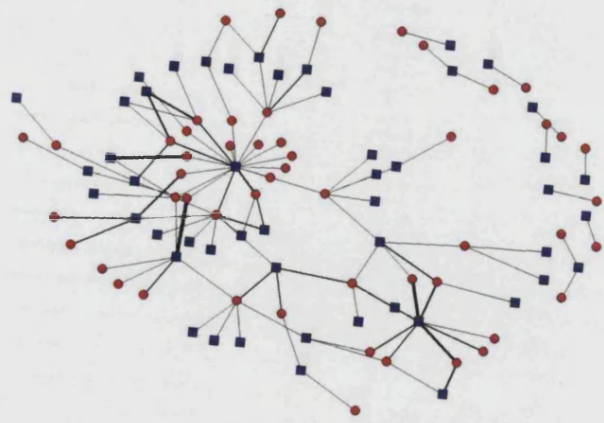
6.1 2000: Constructing knowledge and repairing legitimacy

The network diagram in Figure 6.1 illustrates how the organisational field had become much more structured around pollution and environmental health issues than it had been in the late 1990s. By visually comparing the complete network of Figure 6.1 to that of Figure 5.8 (the network diagram for 1999) it is apparent that many more actors and issues participated in the field. After reducing the network ties until all issues and actors had at least two ties, two more densely structured spaces or fields become apparent. One related to issues in South Durban and the other to issues in Cape Town. The central issue in South Durban is air pollution; other issues marked with red contours include refinery incidents and Sapref underreporting SO₂ emissions. The issue area sparked by a cancer study is marked in yellow and the issues related to a training centre, Enref's environmental upgrade and labour agreement is in olive.

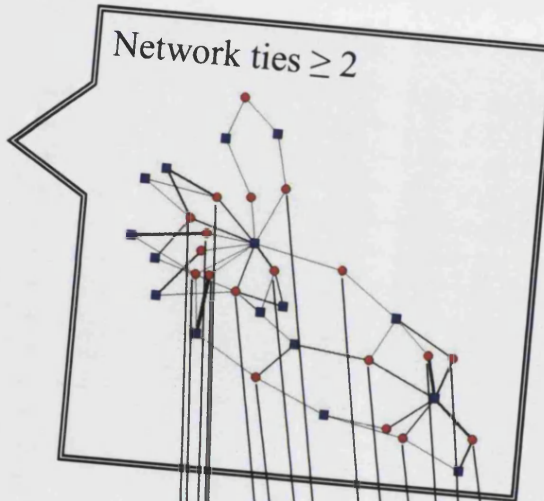
The large green contour indicates the Bucket Brigades, which is a community air sampling technique. The Bucket Brigade issue area links the South Durban and Cape Town related fields. In Cape Town the dominant issue is Calref's sulphur disposal problem. Other red contours include Calref's air pollution and a 1995 fire at a sulphur processing plant. The blue contour marks a government threat to Calref to clean up its act. The following discussion explores the field level dynamics in both Durban and Cape Town.

Figure 6.1: 2000 field dynamics

Complete network

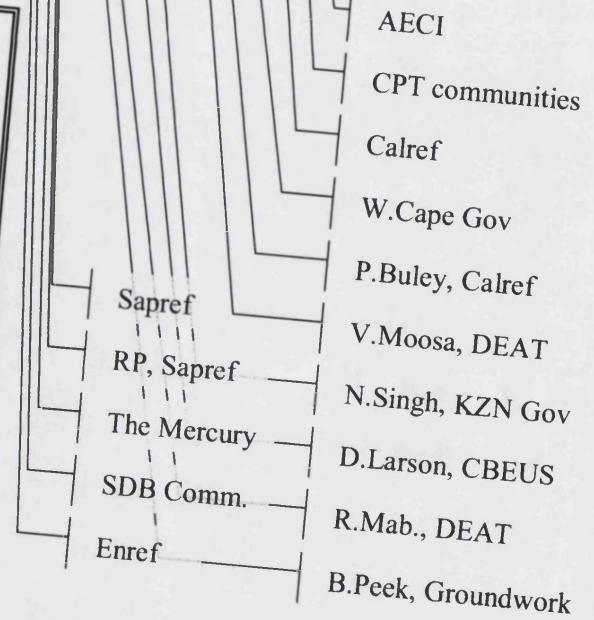
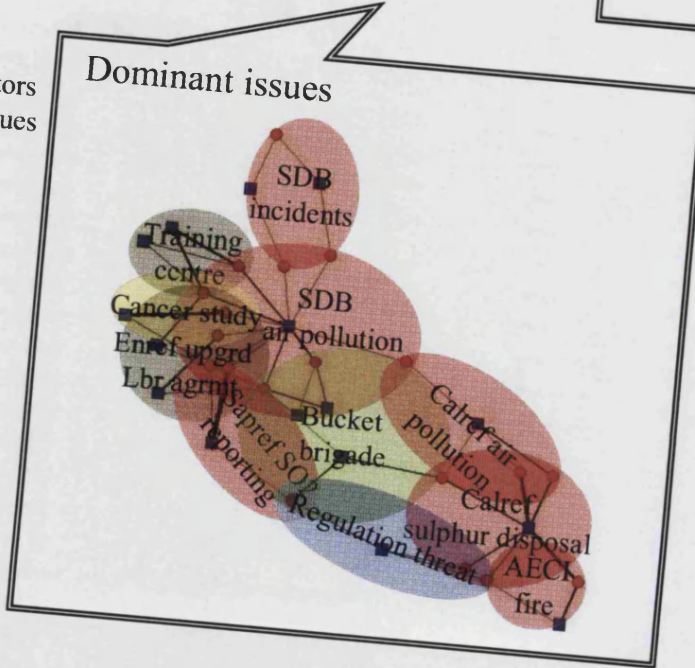


Network ties ≥ 2



Node key:
Circles = Actors
Squares = Issues

Dominant issues



6.1.1 The South Durban Basin

The issue area of air pollution in the South Durban Basin is central to the upper part of the network diagram. Catalysing increased air pollution concerns were a variety of different factors. In the late 1990s Enref took the lead engaging with communities. However, in 2000, Richard Parkes, Sapref's managing director, appeared to have a "road to Damascus" moment when he realised the need to talk to community stakeholders (Ind3 2006). This was perhaps a decade too late, as a setting of mistrust existed. In January 2000 Sapref admitted to underreporting SO₂ emissions by up to 12 tons per day, 29 instead of 41 tons, since 1995 (Dube 2000). Sapref also announced that it would be introducing new environmental measures to reduce daily emissions from 41 to 37 tons per day. This was its first announced emissions reduction plan. Although local government and some media congratulated Sapref for its honesty, the error undermined trust with community stakeholders and gained the attention of environmental justice activists. Sapref's environmental legitimacy had begun to be publicly challenged.

Shortly after Sapref's disclosure Rejoice Mabudafhasi, the national deputy minister for environment and tourism, met with members of the oil industry and South Durban community stakeholders on a fact finding mission (Bisetty 2000). She singled out Calref, Enref and Sapref, and vowed "zero tolerance" towards polluters (Loxton 2000). One area of concern was that a collaborative partnership did not exist between Sapref and the community to resolve the pollution problems (Bisetty 2000). In fact, the community groups failed to establish a GNA with Sapref. As an academic explained demonstrating cultural differences between the refineries, Sapref was the least willing to talk and provide the information necessary for negotiation (Acad6 2006).

The pressure from communities, spurred by ongoing incidents such as Sapref's underreporting of SO₂ emissions, encouraged government into action at least symbolically if not substantively. It is also interesting to see Sapref taking a much more proactive external communications strategy, directly responding to criticisms in the press. Parkes summarised the fuel oil industry's position:

Describing us as major polluters tends to polarise the situation, encouraging the community to see us as opponents rather than contributors to the economy. We feel this is unhelpful...oil refining is a relatively small player in environmental damage in South Africa. We have no idea what government plans for other heavy

industries and look forward to understanding their overall approach. (Steyn 2000: 13)

Coordinated by Groundwork, a variety of civil society organisations, including trade unions, came together to put pressure on the government. Bobby Peek, Groundwork director, said:

We have been fighting this battle since 1994 and to date the government has not responded in an appropriate way. All we have is self-regulation. Self-regulation is like asking a bulldog not to eat a slice of beef you put in front of it. (Kirk 2000b: para 6)

The push was on to move beyond voluntary approaches towards direct regulation. In Figure 6.1 Peek is densely networked and centrally located within the graph. He wields significant discursive power as he overlaps into the issue areas of South Durban Basin air pollution, Enref's environmental upgrade and labour agreement, Sapref's SO₂ underreporting and the Bucket Brigades.

Public perception was being formed by 'civic science', the "changing relationship between science, expert knowledge, and citizens in democratic societies" (Bäckstrand 2003: 24). In 2000 Groundwork and SDCEA used 'bucket' air sampling methods (the Bucket Brigades), taught from environmental groups in the US, to highlight the presence of cancer causing VOCs such as benzene. Denny Larson, director of Communities for a Better Environment in San Francisco, called the Basin's air quality a "toxic soup" noting that levels of levels of benzene were eight times the internationally accepted standard (Kirk 2000a).

Environmental health emerged as an influential issue in South Durban. Tony Carnie, a local journalist, ran a series of articles in *The Mercury*, a Durban newspaper, in 2000 hypothesising the link between cancer and industrial pollution in the Basin (Carnie 2000a). He found that the rate of leukaemia in young children in Merebank appeared to be 24 times higher than in other parts of the country (Carnie 2000a). This investigation sparked much local and governmental concern and strongly influenced understandings and beliefs in the Basin. In September 2000 Narend Singh, the KwaZulu-Natal environmental minister, passed an urgent motion that called on national environment minister, Valli Moosa, to "reactivate a study on the impact of pollution in the area" (The Mercury 2000: para 5).

Spurred by community and provincial government pressure, Moosa proposed a number of measures with the aim to create a healthy living environment for community members,

including: revising pollution standards; improving air pollution monitoring systems; conducting a health risk assessment and epidemiological study; and improving levels of enforcement and legal sanctions (Carnie 2000b). Moosa called upon industry in South Durban to bear the primary responsibility for funding the implementation of his proposals. In response to this media and community pressure Sapref and Enref agreed to fund a health assessment at the Settlers Primary School in the Basin, which, given its location between Enref and Sapref, received high levels of air pollution daily (Khan 2000). This was the start of what came to be known as the Multi-Point Plan (MPP).

Towards the end of the year, Enref gained positive attention because, in an effort to make good on its GNA, it signed a gas supply agreement with a division of Sasol to purchase methane-rich gas in order to replace its refinery fuel oil. This switch from fuel oil to gas would result in significant reductions in SO₂ emissions (Pather 2000).

6.1.2 Cape Town's northern suburbs

There are two clear linkages between the organisational fields in Durban and Cape Town: the rhetoric of environment minister Moosa and deputy environment minister Mabudafhasi, and the work of the Bucket Brigades spearheaded by Groundwork. This linking between issue areas was driven by community-based activism in both localities. For example, Groundwork's Bucket Brigade took tests adjacent to refineries in Durban, Cape Town and Sasolburg. The test results taken around Calref and Sasolburg, as in Durban, were significant: VOCs, such as benzene, were found in relatively high concentrations. The science was being constructed from the bottom up. Before the Bucket Brigades only SO₂ was discussed; now the mitigation of fugitive emissions such as cancer-causing VOCs entered the discourse.

However, industry was not entirely content with the 'facts' reported in the press. In a letter to the editor, Paul Buley, Calref's general manager, noted a number of discrepancies in the results, questioned their usefulness and recommended that "additional samples should be taken on a scientific basis under the auspices of the independent air-monitoring task group in the area" (Mail & Guardian 2000: 27). Notwithstanding Buley's claims, the impact of the Bucket Brigade air samples on the organisational field was significant. The national government took keen notice in community-driven science. Changing normative institutional dimensions appeared to influence changes in regulatory possibilities.

While regulatory threats and civic science linked the fields in Durban and Cape Town, Calref's field became dominated by a sulphur disposal issue. The AECI chemical plant, located just south of Cape Town, processed Calref's excess sulphur, a by-product of oil refining which is used in the fertiliser industry. The plant had given Calref notice in December 1999 of its intentions to close the end of 2000. It surfaced in the press in August that Calref had not planned for an alternative way to dispose of the sulphur (Steenkamp 2000b: 4). It was rumoured that the sulphur may be stock-piled at the refinery. This produced a strong outcry by community groups, the media and a significant provincial government response. Glen Adams, the Western Cape environmental minister, stepped in and, citing Section 28 of NEMA and the Constitutional right to a safe and clean environment, threatened to shut Calref down if it did not come up with an agreeable solution by the end of the year (Steenkamp 2000a). In the end, Calref did dispose of the sulphur at the hazardous waste site just north of the refinery. This gave Calref time to construct a sulphur processing unit onsite.

2000 was a pivotal year as community activists within Durban and Cape Town became linked up, and local knowledge related to environmental pollution and health was constructed. Cross-scale governance was evident in the introduction of the Bucket Brigades to South Africa by Groundwork via US activists. Power relations were evident as activists and journalists engaged in agenda setting and issue shaping activities, particularly in Durban, but also to a lesser extent in Cape Town. It was revealed that Sapref had in fact been underestimating emissions data 1990s, thus seeking to keep its relatively subpar environmental performance off of its stakeholders' agendas. National government exerted pressure on industry to fund a health study in Durban and participate in a multistakeholder governance process. In Cape Town, Calref was coerced by provincial government to sort out its sulphur disposal issue. A form of knowledge-based politics driven by citizen science developed in both Durban and Cape Town.

The logic of information-based regulation proved effective, particularly in Durban, in influencing changing institutional dimensions. A logic of managerial environmentalism lingered in Durban as national government intervened with a public-private partnership approach to environmental governance. Provincial regulatory demands in Cape Town were more coercive, but were only directed at a single transitory issue (sulphur disposal), as opposed to a larger air quality management plan. Sapref's legitimacy was externally challenged as it began to engage with its local stakeholders; Enref continued to implement its

GNA; and Calref, again, stumbles with local communities and regulators. Spurred by civic science, normative change continues in Durban and Cape Town and credible regulatory threats emerge.

6.2 2001: Incidents and environment versus development disputes

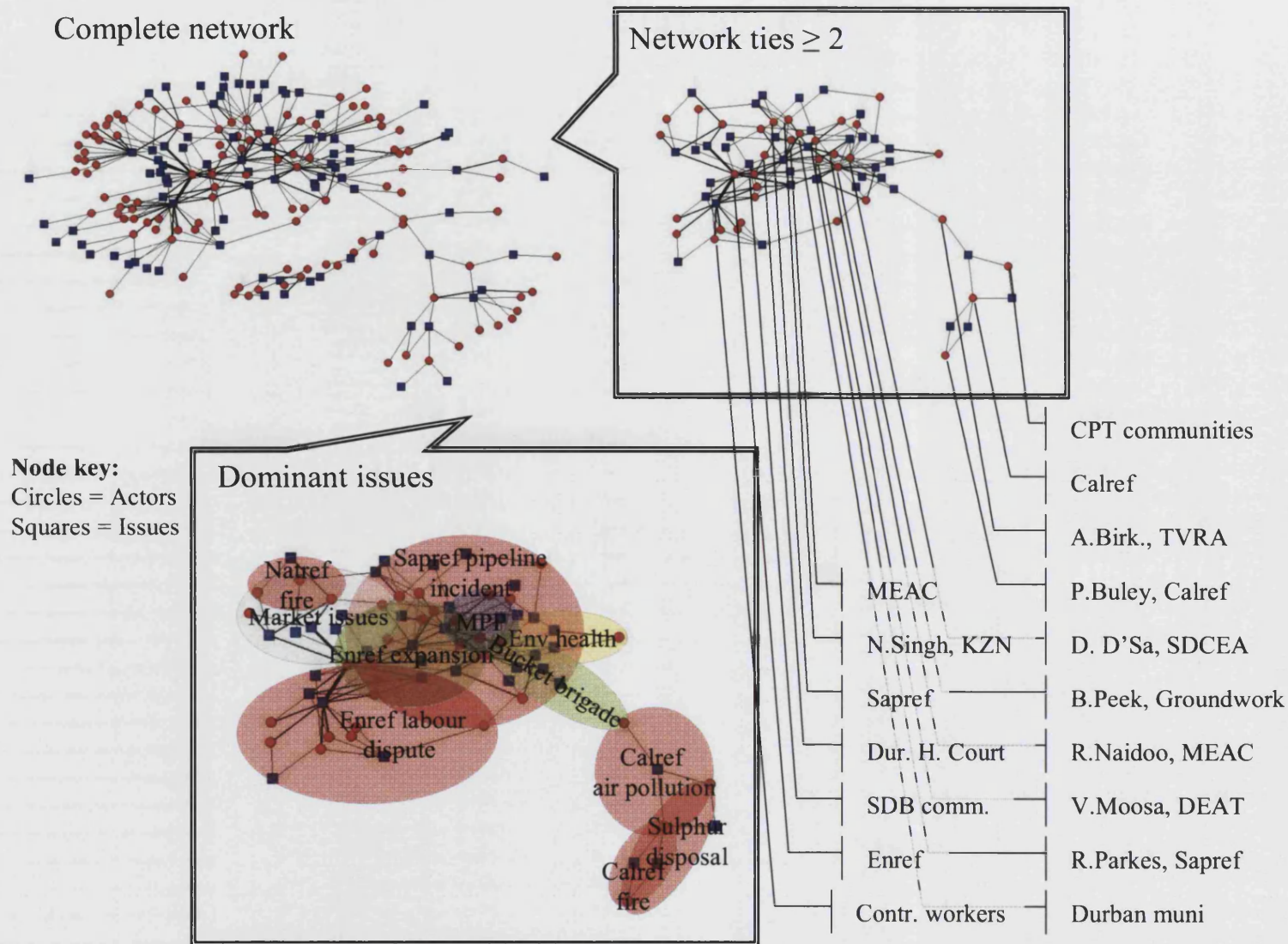
In Figure 6.2 Sapref and Enref's organisational field was densely structured around incident issue areas, such as Sapref's pipeline leak and Enref's labour dispute as indicated by the large red contours. Other related issues include activism against Enref's proposed expansion plans and the Bucket Brigades campaign both marked by green contours, environmental health concerns in yellow, market issues in grey and a fire at Natref in red. The Bucket Brigades again links the fields in Durban and Cape Town, however in 2001 there was noticeably less media attention given to Calref-related issues. In Cape Town issues related to air pollution, sulphur disposal and a fire at Calref all marked by red contours are briefly discussed.

6.2.1 The South Durban Basin

2001 began promisingly for Sapref, when it announced in February it would implement a sulphur recovery unit by October 2002 at a cost of R300million, thus reducing its SO₂ emissions by 46 percent (Jones 2001a).⁵⁵ Narend Singh, the KwaZulu-Natal environmental minister, while speaking at Sapref's launch event, noted that provincial government would increase its capacity for pollution control and monitoring by appointing ten new staff across the province (SAPA 2001b). He also said: "The national economy relies absolutely on strategic industries. We do not have the option of relocating them or closing them down" (Jones 2001a: 1). Sapref appears to have had a significant behaviour change, while the provincial minister reinforced the strategic importance of the industry and the potential conflict between environment and development goals.

⁵⁵ This environmental upgrade got screened out of the field when nodes with only one tie were eliminated.

Figure 6.2 : 2001 field dynamics



In April 2001 Merebank community representatives waged a vociferous campaign against the construction of a Sasol gas pipeline to Enref that would pass through their neighbourhood. They filed an interdict, preventing Singh from approving the pipeline application until the community had further opportunity to voice objections. As John Mackey, Enref's general manager, said: "This means Engen will meet its 2003 emission target of 25 tons per day, as stipulated in its 1998 agreement with the community, about 18 months ahead of schedule" (Carnie 2001c: para 13). Later that month a Durban High Court judge dismissed the interdict and the pipeline construction continued (SAPA 2001a). Enref changed the routing of the pipeline to increase its distance from the community to about 75 meters.

At the end of April 2001 more than 1000 contract workers went on strike at Enref at the start of the plant's planned shut down for essential maintenance. Most importantly the striking workers wanted Enref to employ them directly and not be taxed for their temporary labour on the basis of 12 months. In mid-May ten people were injured in a "rampage" by roughly 200 striking workers that brought the shutdown work to a halt, as Enref had to send 3000 workers home (Meyer 2001). In late May an agreement was reached between the temporary workers and Enref management (Jenvey 2001).

The labour dispute highlights the power of community sentiment and activism in the Basin. The temporary workers, many from Merebank, Austerville and Wentworth, obtain their skills from community training centres and felt a kinship to the jobs (Jenvey 2001). There was also overlap and merging with actors engaged with the environmental justice campaigns. Desmond D'Sa, Chairman of SDCEA and a former trade unionist and Enref employee, stepped in to help mediate the crisis (Ismail 2001c). Bobby Peek, after D'Sa became embroiled in the dispute, was asked to mediate after the tense stand-off mid-way through the shutdown (NGO5 2006). As Engen's spokesperson Barbara Manson pointed out: "We have dared to engage the community and, in so doing, exposed our underbelly, making ourselves extremely vulnerable" (Jones 2001b: 43).

The winter of 2001 (June to August) was particularly volatile for the fuel oil refinery industry. As the strike was coming to an end at Enref one worker was killed and another critically injured when they were exposed to hydrofluoric acid. Two died of explosions at Natref. Quickly the focus of press activity moved away from the Enref strike and industry incidents to market issues related to fuel shortages. A fire at Natref in early June prolonged its annual

shutdown and Enref's strike extended its shutdown. These factors caused fuel shortages throughout South Africa over the winter months.

Sapref's proactive work to repair its host community legitimacy had a serious set back, when, on 7 July 2001, a 4mm hole was discovered in one of its underground petrol pipes after Wentworth residents complained about the smell (Carnie 2001d). The pipeline leak and remediation efforts received much media attention in 2001. 750,000 litres of petrol had leaked and was sitting above the water table at a depth of 5 metres (Carnie 2001d), however this number was revised later in the year to about a million litres. Sapref's environmental manager, Lester Green, said that the clean up operation would cost about R2million and last three months (Ismail 2001a); six years later (in 2007) the clean up was ongoing.

The community held public meetings to raise awareness, and local newspapers published numerous articles highlighting community impacts with stories of the affected families. Community leaders called on Sapref to replace the pipeline, but Sapref ruled out replacement. As Margaret Rowe, Sapref spokesperson explained: "The decision to replace a pipeline must be based on the integrity of the line and not its age" (Nhlapo 2001f: 7); whereas Peek argued: "They cannot study the problem any more, they know what the problem is. If this is their attitude, then we have no choice but to support the community's call for the refinery to be closed" (Nhlapo 2001f: 7). Community-based activists in South Durban had begun to focus on Sapref in 2000, but the petrol leak galvanised action to engage with Shell at the highest level. As Desmond D'Sa, SDCEA chairman reiterated: "Poor environmental practices by Shell and BP refineries in Holland and Britain would not be tolerated. But the third world is different. Our lives are cheap" (Carnie 2001a: para 13).

Singh, the KwaZulu-Natal minister for agriculture and environmental affairs, ordered an investigation, and at the beginning of October 2001 the provincial government issued Sapref a directive to address problems that had led to eight pollution incidents in the past three years (Nhlapo 2001d). Sapref took the incident seriously. It financially supported the temporary relocation of about five families and extended its outlook saying that extraction will be complete in about 18 months (Ismail 2001b). Parkes spoke directly to affected community members in a public meeting and apologised: "This may sound hollow to you in light of what has happened, but I can't tell you just how much I regret having to stand here in front of

you... because we really do care about our impacts on the environment and community” (Carnie 2001b: para 7).

Parkes noted that the petrol leak and gas explosion in 1998 were the two most serious incidents the refinery had ever experienced, and said that although that they cannot guarantee no incidents in the future:

Our target is to benchmark ourselves against the best-run refineries international he world and not suffer any major incidents. Since the 1998 incident we have had three peer reviews, where teams from other refineries have come in and audited our operations. We have been progressively improving our systems and procedures based on their recommendations. (Nhlapo 2001e: 6)

In addition to remediation of the leak site, Sapref committed to meeting the governments directive deadline and was conducting integrity surveys on seven underground pipelines and was replacing about two kilometres of its marine fuel line, which leaked in August (Nhlapo 2001e).

The MPP that Moosa had announced in November 2000 to resolve pollution problems in the Basin got off to a contested start. Its R30million budget was intended to be co-funded by government and industry, but community and industry actors expressed concern that the forum was merely “consultative” without any real decision-making power (Nhlapo 2001c: 3). The supposedly participatory multi-stakeholder forum consisted of two members each from national government, provincial government, Durban Unicity, industry, communities and organised labour (Nhlapo 2001c).

Enref came under scrutiny by neighbouring communities after it announced its plans to expand production. In October 2001 Enref announced it would spend R120 million on environmental improvements and refinery upgrades in exchange for permission to increase production permanently by up to 43 percent, from 105,000 bpd, to 125,000 bpd and then to 150,000 bpd over the following three years (Nhlapo 2001b). Not surprisingly, given concern that increased production would lead to higher air pollution levels, community members halted Enref’s first public meeting to explain its proposals and demanded that the refinery’s information was verified by an independent consultant at Enref’s expense (Nhlapo 2001b). An intensive EIA study was undertaken by Enref as part of the production increase application process, and SDCEA was tasked with studying the complex documentation and representing the concerns of its constituents (Leader 2001).

Following on from its success in 2000, Groundwork and refinery host communities launched a three-year air quality monitoring project in November 2001, a continuation of the success of the Bucket Brigades in 2000. As Ardiel Soeker, Groundwork's air quality project coordinator, explained: "With the introduction of the bucket monitoring system communities will have test results that industry can no longer ignore" (Nhlapo 2001a: 7).

6.2.2 Cape Town's northern suburbs

The organisational field related to Calref was comparatively quiet in 2001. As discussed, the Bucket Brigade linked the communities fighting refinery pollution in Cape Town to those in Durban. Because of the publicity of the air samples taken in 2000, the UCT Lung Institute agreed with the community groups to undertake a health study of respiratory problems of children in the neighbourhood, pending funding (Knight 2001).

Calref's disposal of its sulphur still made headlines in 2001. At the beginning of the year Calref began to transport molten sulphur to a hazardous waste site north of the refinery for temporary storage. Community groups called for the complete shut down of Calref, but the refinery responded by stressing its strategic importance in the Western Cape economy (Yeld 2001). Towards the end of the year, the Western Cape government made good on its threats from 2000, and prosecuted Calref for erecting the sulphur processing plant at the refinery without having completed a proper EIA (IOL 2001).

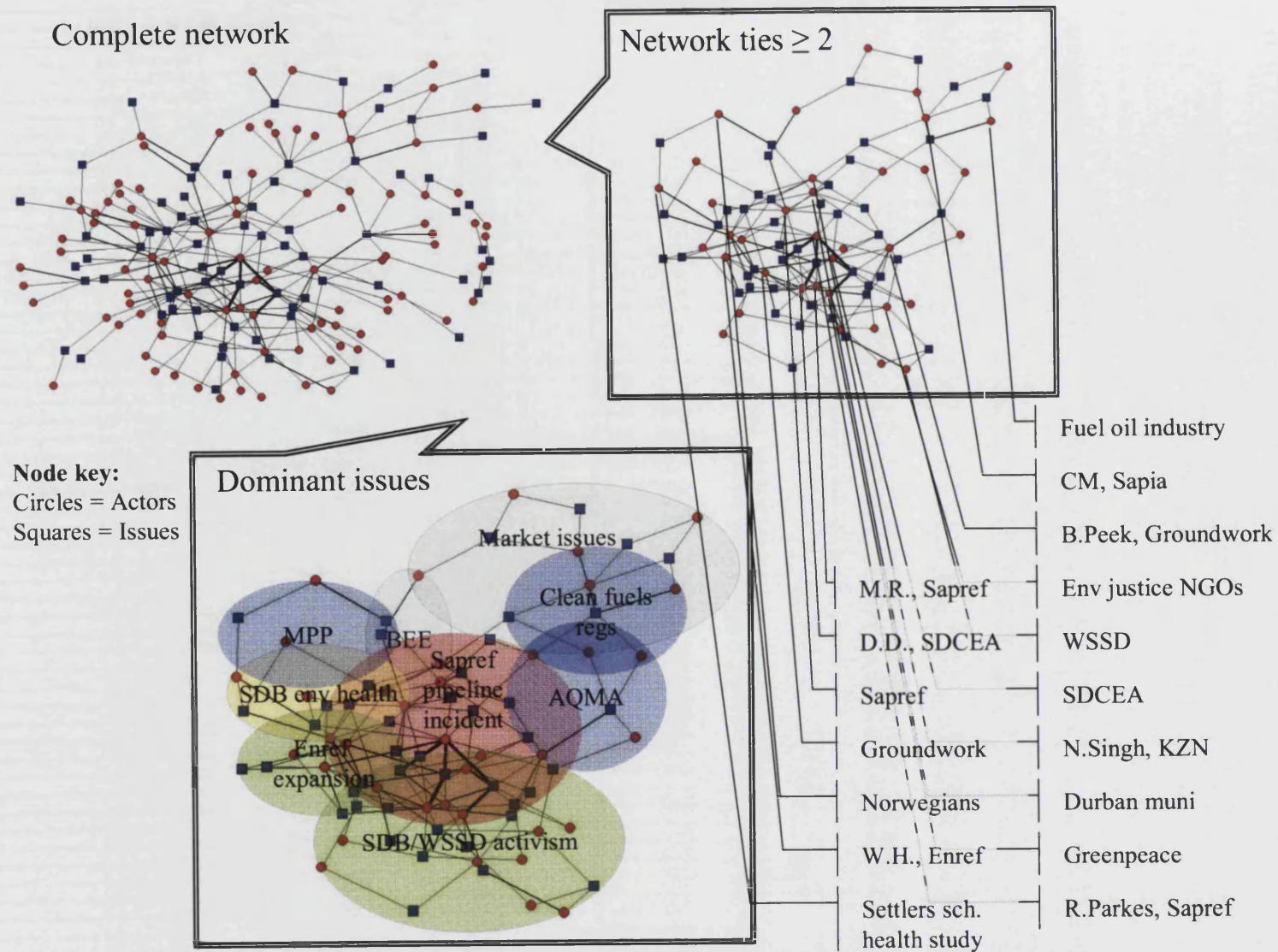
In sum, 2001 was a tumultuous year for both Sapref and Enref as incidents and disputes stirred civil society and government into action, while in Cape Town the organisational field related to Calref received considerably less media coverage. All three refineries lost legitimacy with their host communities and respective regulators. One of the key outcomes of Sapref's petrol leak with the instigation of an international campaign against Shell. As will be discussed, community activists in Durban became increasingly articulated with international activists after 2001. Also, Enref's plan for expansion, driven by the logic of economic growth, clashed with community expectations. SDCEA engaged in managerial environmentalism as it reviewed Enref's EIA proposal and participated in local planning processes. In Cape Town, the results of the air samples in 2000 inspired another health study, this time instigated by community leaders. In both contexts, the development of institutional dimensions is evident: in Durban a degree of cognitive, normative and regulative change is apparent given Sapref's

incident and the community and regulatory response. In Cape Town, normative pressure continued to build with the instigation of the UCT health study and Calref was fined which demonstrated regulatory pressure.

6.3 2002: Local to global activism

The incidents and accidents of 2001, particularly related to Sapref's petrol leak, catalysed civil society and government into action. Figure 6.3 illustrates that the Sapref pipeline incident, marked by the large red contour, again dominated the field in 2002. Marked by green contours, and closely connected to Sapref's incident, was a community campaign against Enref's proposed expansion plans and media attention and activism related to the World Summit on Sustainable Development (WSSD) hosted in Johannesburg that August and September. The science related to environmental health in the Basin continued to be debated, as indicated by the yellow contour, and there was a noticeable change in the rise of media attention given to government regulation as indicated by the blue contours. The MPP, AQMA and newly proposed clean fuels regulations entered public discourse. Finally, other market and BEE issues are marked by the grey contours. Unique about 2002 is that, after reducing the network ties until all issues and actors had at least two ties, there are no issues related to Calref represented in the field. Durban eclipsed Cape Town in the field dynamics as international activists descended upon South Africa for the WSSD and took up a multi-pronged international campaign against Shell's corporate accountability record.

Figure 6.3: 2002 field dynamics



6.3.1 The South Durban Basin

Demonstrating the role of the media in facilitating the campaigns of community activists, 2001 began with a *Daily News* article by Bobby Peek that called upon government to hold Shell and BP to account for Sapref's string of incidents and environmental pollution (Peek 2002: 6). This evoked a personal reaction from Sapref's managing director Richard Parkes, as he replied in a letter to the *Daily News* (Parkes 2002: 13). This level of public debate was extraordinary. It demonstrates the power of discursive practices, how a community activist, through sympathetic media channels, could both interact with and publicly condemn the subsidiary of one of the world's largest MNCs.⁵⁶ Peek's reference to apartheid-era injustices with regards to the relocation of affected families because of the pipeline leak served to undermine Sapref's legitimacy and provoked Parkes' public response.

Sapref's remediation effort was a highly volatile issue area. The refinery was continually under the spotlight in 2002, as Parkes announced in March that it would accelerate the petrol spill clean up through a vapour extraction process in addition to liquid extraction (Nhlapo 2002). It was also evident that its internal processes were being upgraded as Sapref announced it would develop a long-term management plan for "its ageing underground pipelines" (Nhlapo 2002: 5). SDCEA questioned the meaning of the indicators, how they were calculated and called on Sapref to replace, not repair, its pipelines (Nhlapo 2002). The contestation of Sapref's pipeline replacement plans dominated the field. After Sapref announced it had detected 264 "rust defects" on the company's transfer pipes, D'Sa, SDCEA's chairman, claimed that Sapref was simply "patching up" its pipelines and called for an independent investigation (Carnie 2002c). An interesting power play occurred when City Health became more confrontational rather than conciliatory. When City Health suggested litigation against Sapref, Sapref threatened to cut-off its ties with Durban Muni; Durban Muni subsequently toned down its rhetoric, which highlights industry's position of authority in the Basin (Carnie 2002c).

Environmental health issues continued to be contested in the Basin. A health study at a local primary school was initiated in 2000 after the MPP was launched. In 2002 the Settler's

⁵⁶ The role of the media in influencing field structuration is touched on below and discussed in more detail in section 8.3.2.

Primary School health study found poor air quality in Merebank. It demonstrated asthma rates four times the normal within pupils (Carnie 2002b). The study team said that acute cases of asthma appeared to be linked to air pollutants such as SO₂ emissions (Carnie 2002b). As part of the MPP, the study was funded by Enref, Sapref, Durban City Health, the University of Natal, Technikon Natal and Groundwork (Carnie 2002b: para 10). University of Michigan professors Tom Robbins and Stuart Batterman collaborated with fellow researchers from University of Natal medical school and Technikon Natal. Robbins cautioned that the results were interim findings, and that it was a relatively “inexpensive and fast study” (Carnie 2002b: para 15).

Although industry took allegations of health impacts seriously, it questioned the efficacy of the study’s results (Ind4 2006). Enref’s spokesperson Trevor Chorn raised points of concerns about the Settlers School health study. Chorn found it difficult to understand how Merebank children should show aggravated asthma symptoms when measured SO₂ levels were below WHO guidelines, and he “feared the study was a ‘fishing expedition’ that might overlook confounding health issues such as smoking and indoor air pollution” (Sunday Tribune 2002a: 7).

The media took a proactive role in structuring the organisational field around industrial pollution related issues in Durban. Throughout 2002 Tony Carnie, a local journalist, kept the pressure on industry and government. Between 2001 and 2003 Carnie authored at least 21 articles which related to the industrial pollution in the Basin.⁵⁷ As discussed in section 6.3.2 and 8.3.2, there are clear journalistic differences between Durban and Cape Town. The CBO/NGOs in Durban (SDCEA and Groundwork) had excellent press contacts, in fact Bobby Peek’s wife worked for one of the newspapers (NGO5 2006).

Enref’s attempts to secure community support for its expansion plans failed, and the refinery expressed disappointment about poor communication and trust between the company and community (Carnie 2002e). Indicative of Enref’s failed attempt to gain legitimacy with local communities was that negotiations for another GNA with community groups failed. Enref summarised: “In Engen’s view, the previous agreement was unbalanced, with Engen making

⁵⁷ 21 articles were identified in this study, there of course could be more.

numerous commitments, and very little in the way of commitments from communities” (Carnie 2002e: 7). Enref was unnerved by the tendency for community leaders to move from conciliatory to confrontational engagement tactics. As one refinery worker explained, community leaders would say one thing to the refinery and then go to the press with another (Ind4 2006).

The relationships and strategies of actors engaged in shared discourses can help explain how and why activism was catalysed in the Basin. Groundwork and SDCEA teamed up in multi-pronged environmental justice campaign. Groundwork continued to pursue its Bucket Brigade campaign in pollution ‘hotspot’ communities around South Africa, with support from NGOs in the US, and SDCEA planned to publish monthly reports on air pollution and toxic releases in local papers to inform the community on health threats (Mail and Guardian 2002). This knowledge challenged old (mis)understandings in the field and provided windows of opportunity for new institutional possibilities.

The WSSD renewed focus on the environmental justice movement, brown versus green issues and corporate accountability (Fatah 2002). International actors descended on South Africa and Durban. International networks were being solidified, particularly in sparking a global campaign against Shell’s social and environmental performance. For example at a rally in Durban guest speakers included Shell fence-line community activists from the US and Nigeria (Ismail 2002a). Greenpeace stormed the Sapref refinery and hung an anti-pollution banner which read “Clean Energy Now” (Ismail 2002b). The WSSD highlighted the issues to a global audience. The UK current affairs programme ‘Newsnight’ even produced a piece on the Basin (Shell 2002b: 12). The WSSD also provided the opportunity to network South African NGOs internationally, for example Groundwork became the Friends of the Earth (FOE) South Africa chapter (NGO5 2006).

Government attempted to respond to this public pressure. International networks were formed to assist local government in implementing the MPP. The Norwegian Institute for Air Research facilitated a workshop on air pollution with Durban Muni (Sunday Tribune 2002b). At the national level, clean fuel targets were set for 2006. South African refiners would be required to stop producing leaded petrol, and lower the sulphur content in diesel from 0.3% to 0.05% (Business Day 2002). DEAT was working to develop new rules to regulate air pollution. More stringent guidelines to mitigate SO₂ in pollution hotspots such as South

Durban, the Vaal Triangle and in Cape Town were published (Carnie 2002d). Noting the inadequacy of the 1965 APPA, the new SO₂ guidelines were based on WHO guidelines, yet Durban Muni pollution officials said that the guidelines could not be enforced in their present form (Carnie 2002d). Peek was encouraged by the new guidelines, but pointed out that they would be “meaningless” unless they were enforceable, and he highlighted the lack of capacity within DEAT’s air pollution office in Durban (Carnie 2002d: 7).

Incidents continued to plague Sapref. In October Sapref had to shutdown so that surplus gases could be urgently flared off after a power failure, causing a plume of dense black smoke. Singh also noted that a leaking Engen storage tank at Island View in Durban harbour may be the cause of gaseous fumes on the Bluff and elsewhere in the area (Carnie 2002a). Narend Singh, KwaZulu-Natal environmental minister, reflected: “I often wonder whether the haphazard planning of the past is now combining with obsolescence of plant and pipeline infrastructure to create new risks as the infrastructure starts crumbling” (Carnie 2002a: 9). It is not surprising that given Sapref’s continued incidents and lack of trust with the community representatives, Sapref’s announcement of the near completion of its R350million sulphur recovery unit project that would almost halve its SO₂ emissions, received little praise in the press.

Also visible on the periphery of the field in Figure 6.3 are the grey contours which include market and BEE issues. Reforming the downstream refining sector was under challenge: “South Africa’s efforts to liberalise its almost 500,000 barrel per day oil sector, promote lower fuel prices and cleaner products, and transfer more assets to citizens disadvantaged under apartheid has put the country’s refiners on edge” (Petroleum Intelligence Weekly 2002: para 1). Although these economic issues were certainly relevant, the organisational field in 2002 was primarily structured around industrial pollution related issues. 2002 marked perhaps the most polarised year between industry and civil society in the Basin covered in this analysis.

6.3.2 Cape Town’s northern suburbs

In contrast to the South Durban Basin, the organisational field in Cape Town was very quiet in 2002. After analysis of primary and secondary data there were no obvious changes in Calref’s host community legitimacy or institutional pressures. The community leaders in

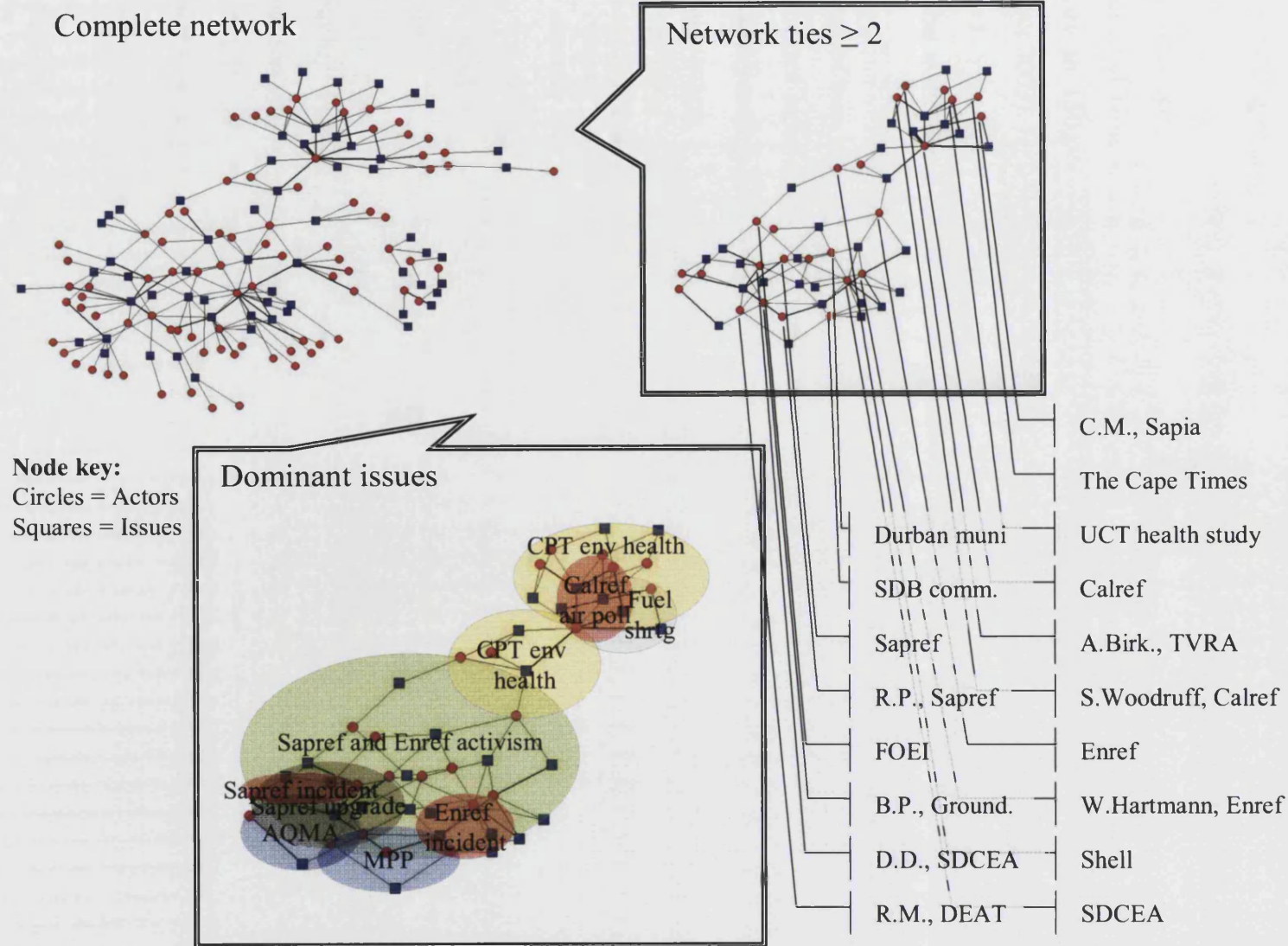
northern Cape Town were not organised like the Durban environmental justice organisations with fulltime staffs dedicated to engaging with the media and publicising industrial pollution.

Sapref and Enref's host community legitimacy were perhaps at all time lows in 2002. Many actors at multiple scales engaged in Sapref and Enref's field. A sort of 'cognitive bifurcation' occurred between communities and companies in the Basin. Trust between community leaders and Sapref and Enref appeared to bottom out. Peek and D'Sa exerted much coercive pressure, catalysed by the media, in reaction to Sapref's pipeline incident and Enref's expansion plans. The logics of environmental justice and corporate accountability rose in prominence as the WSSD attracted international activist and media attention to the Basin. Groundwork became a Friends of the Earth chapter and thus embedded within international activist networks campaigning jointly for corporate accountability. Community understandings of what constitutes appropriate environmental performance appeared to be changing as Enref and SDCEA failed to sign another GNA, and Bobby Peek and Sapref's general manager, Richard Parkes, publicly debated corporate responsibility. A degree of regulative change was under negotiation as the MPP took shape and new air quality guidelines began to be discussed.

6.4 2003: Struggling to repair host community legitimacy

In 2003 Sapref and Enref's organisational field in Durban was again connected with Calref's in Cape Town. Figure 6.4 demonstrates that Enref and Shell were the actors which linked the two discursive spaces, as both were the target of activism in Durban and environmental health claims in Cape Town. The lower half of the 2003 network diagram represents issues in the Basin. The large green contour encompasses a variety of different issue types related to the activism of civil society and government stakeholders. Community-based activism in the Basin was fuelled by incidents at both Sapref and Enref illustrated by the red contours. Also populating the field in Durban was the launch of Sapref's sulphur processing plant in olive, and the ongoing efforts to implement the MPP and negotiate the AQMA in blue. After a very quiet year in 2002, the field for Calref became active again after the UCT health study was published marked by yellow contours. Issues related to Calref's air pollution marked in red became active in the press, as did coverage of a fuel shortage in Western Cape in grey.

Figure 6.4: 2003 field dynamics



6.4.1 The South Durban Basin

The string of incidents continued in 2003 when a thunderstorm in January brought torrential rain and triggered a leak into the nearby canal causing diesel fumes to impact Merebank residents. SDCEA called Enref and local government to account (SDCEA 2003). Both Enref and Sapref denied being the cause of the incident, and Narend Singh, the environmental minister for KZN, was forced to set up a committee of enquiry into the alleged Enref pollution (Langry 2003).

Not surprisingly, the controversy over Enref's expansion plans continued. Durban's City Health chief Umi Sankar voiced major concerns about Enref's plans to expand production capacity to 150,000 bpd given the results of the Settler's Primary School health study (Weaver 2003). However, Enref argued that it could not reduce pollution further unless it was allowed to increase production (Weaver 2003). City Health forwarded a letter outlining its concerns to the KwaZulu-Natal EIA department along with SDCEA's written opposition.⁵⁸

The lack of trust between Enref and SDCEA was building. SDCEA's confrontational strategy had resorted to legal means. After many months of controversy and intense discussions the provincial government approved Enref's expansion plans in March 2003 (SAPA 2003). Enref general manager Wayne Hartmann said:

We now have a sustainable way of going forward. We have long argued that emissions are a function of technology and not of production. Now, at last, we can commit the R150 million that we have set aside for increasing our production capacity without increasing our emissions. (SAPA 2003: para 2)

It is very interesting to note how Hartmann felt that the refinery's increase in production would actually reduce its total emissions. As discussed in Chapter 7, this would prove difficult.

In another example of knowledge politics, SDCEA and a Danish NGO produced a comparison report of Statoil and Shell refineries in Denmark and Sapref and Enref in Durban (SDCEA-DN 2003). It highlighted the relatively poor performance of the Durban refineries and noted the lack of trust between government, industry and local communities in the Basin.

⁵⁸ Within South Africa's spheres of governance, the provincial government has decision-making authority when it comes to the approval of environmental impact assessments.

The publication captured media attention and put Sapref on the back foot stating in reply that it was comparing “apples and pears” and noting 42 inaccuracies in the report (Sapref 2003). Enref also voiced concern that the report was irresponsible to draw conclusions from technically incorrect assumptions about such complex facilities and noted the report’s “many errors and inaccuracies” (Carnie 2003a). The contestation of community-driven science was becoming commonplace.

Although the report may have had some inaccuracies, particularly about the refining process, its fundamental analysis – that there appeared to be a First World refining standard and a Third World refining standard – resonated with local stakeholders and influenced host community normative logics. Groundwork also kept the pressure on industry through the publication of yearly reports (Alberts 2003: 8; Hallowes and Butler 2003).

International activist networks, convened by Friends of the Earth International (FOEI), continued to keep the pressure on Shell. In 2003, Peek and D’Sa, with other FOE representatives from around the world, became shareholders of Shell so that they could travel to Europe, participate in Shell’s Annual General Meeting (AGM) and voice their concerns (Groundwork 2003). At the AGM FOE activists launched “The Other Shell Report”, which contained first hand testimonies of communities living on the fenceline of Shell industrial facilities (FOEI 2003). In addition, FOE Netherlands released a report in April 2003 highlighting health, safety and environmental issues at Sapref in a report titled “Leaking Pipelines – Shell in South Africa” (FOEI 2003). This strong interaction between local and international activist campaign strategies put pressure on the parent company within its home country and the subsidiary within its host community. A tactic highlighted as effective in Keck and Sikiink’s (1998) work on transnational advocacy networks.

National government also becomes more proactive in 2003. Deputy Environment Minister Rejoice Mabudafhasi on a visit to South Durban in March “read the riot act” to polluting industries: “We are tired of talking. The time has come to implement new pollution reduction plans and I am going to clamp down on all industries around the country, not just in South Durban” (Carnie 2003b: 2). In 2003 the AQMA was released for public comment. The government’s approach was to establish ambient air standards, monitor transgressors, tighten vehicle emissions standards, expand monitoring systems, regulate industrial coal burning and set up environmental courts (Feris 2003). Concern was raised by Peek and others that the

AQMA might encourage a more fragmented approach to implementing permits because it moved away from the current strategy of source-based emission control to one of ambient air quality control (Bennett 2003). Although minimum emission standards would be set nationally, each local authority would have the right to set its own emission-licensing system, which may require more stringent standards than the national requirements (Kahn 2003).

In an attempt to repair its host community legitimacy, Sapref sought to bring the refinery in line with impending environmental legislation and requirements. Sapref announced in May that Shell and BP together would contribute more than US\$100 million for environmental improvements over the following five years (Jenvey 2003). Errol Marshall, Shell Southern Africa and Sapref chairman also announced that Sapref had officially commissioned its R350 million sulphur recovery unit, which would further reduce SO₂ emissions by 46 percent and would not boost refinery capacity (Jenvey 2003). Sapref's conciliatory gestures were noticed by the press: "Sapref has now taken the initiative. But the bridge of trust between the residents and refineries will easily fall away if the refinery does not keep up its side of the bargain" (Tribune Herald 2003: 4). Sapref yet again undermined attempts to repair its legitimacy at the end of the year as a mixture of about 75,000 litres of diesel and water were released into a storm canal.

6.4.2 Cape Town's northern suburbs

Dominating the organisational field in Cape Town was the release of UCT's Lung Institute health study. The NCAMTG commissioned the study in 2000. After examining school children living near Calref it found that there was scientific proof of an unacceptable high level of asthma among the children although the study could not provide conclusive evidence that the refinery was the cause of the higher prevalence of asthma (Smith 2003a: 3).

Calref's new general manager, Steve Woodruff, stressed that Calref "will most certainly take the information that we can obtain from this study and incorporate it into our future plans to achieve operational excellence" (Smetherham 2003a: 6). Woodruff said that Calref was working with authorities on the new Air Quality Management Bill, would fully support revised South African national air quality standards and was guided by and adhered to emission standards indicated by the WHO (Smith 2003a, p. 3). Woodruff's conciliatory response is in contrast to the more divisive dialogue between Buley, community representatives and the government which was reported in the press in 2000 and 2001. Buley

was replaced as Calref's general manager in 2001 by Paul Allinson, and Woodruff took over in 2003. As discussed in Chapter 8, this rapid leadership succession served to undermine community trust. Also notable is Woodruff's reference to Chevron's Operational Excellence management system. Caltex had been acquired by Chevron in 2002, and by 2003 changes to Calref's internal processes, as discussed in Chapter 4, were evident.

Birkinshaw, TVRA chairman, noted that the UCT study created the opportunity for class action lawsuits and stressed: "All we want is for the refinery to clean up its act, and there is technology to do this. If the refineries in California can do it, then so can these guys" (Smetherham 2003b: 5). Birkinshaw threatened legal action, but never pursue it during the research period (1994 to 2006). Although he highlights discrepancies between the environmental performance of refineries in South Africa and California, the TVRA did not wage an international campaign against Chevron, Calref's parent company.

The issues facing the South African fuel oil industry within the economic, environmental and public spheres were well summarised in a piece which ran in the *Petroleum Intelligence Weekly*, towards the end of 2003 (PIW 2003). The article highlighted the increasing costs of more stringent fuel specifications and emission controls, and the uncertainty caused by liberalisation of the retail market. It stressed that the "industry faces its biggest trial in the public arena", highlighting the "fresh ammunition" community groups have been given in Durban and Cape Town by the results of recent health studies (PIW 2003: para 5).

In 2003, all three refineries were struggling to repair host community legitimacy. Although Enref's planning proposal was eventually approved, its host community legitimacy remained weak. The logic of economic growth and managerial environmentalism (win/win technocratic solutions) drove this governance outcome; however, the logic of environmental rights and corporate accountability still remained strong in the minds of host community activists and local media. Cross-scale, home-host country activism engulfed Sapref and Shell as Durban and other fence-line community activists filed complaints at Shell's AGM in London facilitated by FOEI. Community activists in Cape Town utilised the UCT health study to put normative pressure on Calref, and Calref responded with a more conciliatory tone. In sum, the institutional dimensions continued to evolve in both Durban and Cape Town: Sapref and Calref appeared to respond to normative pressure with environmental upgrades and

conciliatory rhetoric, and regulative change was under negotiation at the highest levels of government.

6.5 Analysing organisational field dynamics and firm legitimacy

Figures 6.5 and 6.6 distil the above narrative into categories of data that can be compared and contrasted at the macro and micro levels. As discussed in section 2.2.1, this study posits that organisational field dynamics, moderated by firm legitimation strategies and characteristics, will influence a facility's corporate environmental performance. The following discussion will identify how, in Durban and Cape Town between 2000 and 2003, field structuration was influenced by the interaction between institutional actors, institutional logics and governance structures. How and why firms have acted and reacted to these changing field dynamics will help explain differences in corporate greening.

6.5.1 Macro level: field structuration

At the *macro level*, using the 'detectable units of analysis' summarised in section 2.3, the degree of field structuration can be analysed. As indicated by the network diagrams (Figures 6.1 – 6.4) and Figures 6.5 and 6.6, there is significant increase in interaction between issues and actors from 2000 to 2003. When Table 6.1 is compared to Table 5.3, citations jumped from 69 in 1999 to 177 in 2000; with the majority in 2000 related to field dynamics in Durban. In 2001, there was a large increase in the interaction between actors and issues, with 363 overall citations; 298 were specific to the issue areas in Durban. In 2002 Durban again dominated the field with 234 of the 278 total citations. Only 4 in 2002 were related to issues discussed in Cape Town's newspapers. In 2003 the interaction between actors and issues was once more high with a total of 221 citations. Durban dominated with 134 citations, but issues related to Calref increased in the press with 71 citations specific to the field in Cape Town.

During this time period a well-defined pattern of interorganisational relationships emerged in Durban. The community-based organisation, SDCEA and the South African NGO, Groundwork, waged discursive war on the fuel oil industry. Through cross-scale linkages, they introduced the air sampling technique known as the Bucket Brigades to South Africa and established the logic of community-driven information-based regulation in the Basin. In addition, the investigative journalism by Carnie in 2000 also catalysed field dynamics. Industry was mostly on the defensive during this time. Often Enref general manager Wayne

Hartmann and Sapref managing director Richard Parkes directly responded in the press to the various environmental health and industrial pollution issues that arose. Densely networked clusters of issues and actors emerged. Desmond D'Sa, SDCEA chairman, and Bobby Peek, Groundwork director, were a sort of 'double act' in the press and affected field level change – increasingly, they held positions of power and authority within the organisational field.

Although Peek and D'Sa both employed the logic of environmental justice and corporate accountability to influence field level change, D'Sa more often recounted the injustices of the past and place-based or communitarian values very specific to 'the poor' of South Durban. D'Sa's approach was a simplistic dualism. His public statements most often recounted a victim versus villain dichotomy. D'Sa, as representative of 'the poor', was represented as the victim, and multinational companies, in particular Shell, the villain. For example, in 2003, when Dumisani Makhaye replaced Narend Singh as environment minister in KwaZulu-Natal, Makhaye vowed to clamp down on polluting industry and appoint two new pollution control officers (Naidu 2003). D'Sa's response was: "These multinationals have benefited financially on the backs of the poor communities in KwaZulu-Natal. The minister must now ensure that they are held accountable to the communities in which they are situated" (Naidu 2003: 15).

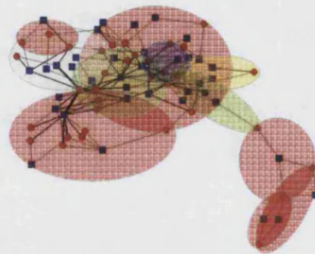
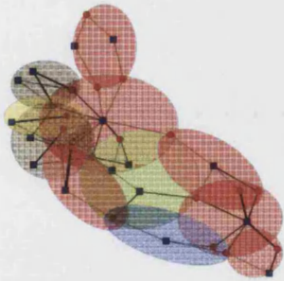
Peek, on the other hand, portrayed a far more complex story. Instead of using simplistic hero-villain narratives, Peek critiqued the larger structural and institutional infrastructure within which past and present injustices were embedded. He would engage at multiple levels, within community, provincial, national and international arenas, to seek environmental protection for all populations. For example, when Makhaye announced his plan to build regulatory capacity within KwaZulu-Natal, Peek commented: "Bringing in new staff is great, but unless they enforce regulations and make an example of someone, then it is meaningless" (Naidu 2003: para 14). Peek and D'Sa's discursive strategies were complementary and effective.

Figure 6.5: Analysing structure and agency 2000 to 2001

Macro: organisational field dynamics

2000

2001

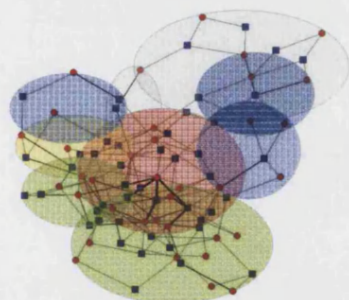


2000	2001
<p><i>SDB cancer study</i> <i>CPT sulphur dspsl</i></p> <p>Events ----- <i>Bucket Brigades</i> -----></p>	<p><i>Sapref pipeline incident</i></p> <p>Events ----- <i>Enref labour dispute</i> <i>CPT sulphur dspsl</i> -----></p>
<p>Key Actors -----></p> <p>Durban: Sapref, R.P. Sapref, Enref, B.P. Groundwork, Mercury. SDB comm., D.L. CBEUS, R.M. DEAT, V.M. DEAT</p> <p>Cape Town: Calref, P.B. Calref, AECl, CPT comm., W.C. gov., R.M. DEAT, V.M. DEAT</p>	<p>Durban: D.D. SDCEA, B.P. Groundwork, R.N. MEAC, V.M. DEAT, R.P. Sapref, Durban Muni, Sapref, SDB comm., Enref, contract workers</p> <p>Cape Town: Calref, A.B. TVRA, CPT comm., P.B. Calref</p>
<p>Issue areas -----></p> <p>Durban: air pollution, environmental health, civic science refinery incidents, refinery distrust and regulatory threats</p> <p>Cape Town: air pollution, refinery incidents and regulatory threats</p>	<p>Durban: refinery incidents, environment vs. development, environmental health, refinery distrust, civic science, regulatory threats and workers' rights</p> <p>Cape Town: air pollution and refinery incidents</p>
<p>Institutional logics -----></p> <p>Durban: Logic of information-based reg. and EJ; logic of managerial environmentalism</p> <p>Cape Town: Logic of info-based regulation and manag. env.</p>	<p>Durban: Logics of EJ, corp account, and info-based reg; logics of manag. env. and economic growth</p> <p>Cape Town: Logic of managerial environmentalism</p>
<p>Governance structures/institutional dimensions -----></p> <p>Durban: normative change influenced by health studies and civic science, national regulative threat</p> <p>Cape Town: normative change spurred by civic science, local regulative threat</p>	<p>Durban: Some cognitive and normative change influenced by incidents, local regulative change under negotiation</p> <p>Cape Town: some normative change – call for Calref to relocate, local regulative change - Calref fined</p>
<p>Micro: organisational legitimacy -----></p> <p>Durban: Sapref engages with community stakeholders, Enref makes environmental upgrade</p> <p>Cape Town: Calref loses legitimacy with communities and regulators</p>	<p>Durban: Sapref loses legitimacy – pipeline incident, Enref loses legitimacy – expansion plans and labour dispute</p> <p>Cape Town: Calref loses legitimacy with communities and regulators</p>

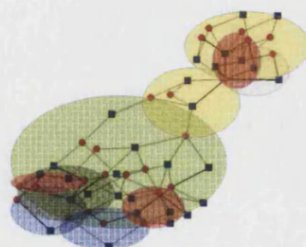
Figure 6.6: Analysing structure and agency 2002 to 2003

Macro: organisational field dynamics

2002



2003



*Enref expansion Sapref ppln. incid.
SDB health study WSSD*

*Shell activism UCT health study
Enref expansion*

Events ----->

Key Actors ----->

Durban: R.P. Sapref, SDCEA, Sapref,
M.R. Sapref, D.D. SDCEA, B.P.
Groundwork, Groundwork,
Greenpeace, Durban Muni,
Norwegians, N.S. KZN, W.H. Enref,
S.S. health study, C.M. Sapia

Durban: Sapref, R.P. Sapref, B.P.
Groundwork, D.D. SDCEA, R.M.
DEAT, SDCEA, W.H. Enref, Enref,
Shell, Durban Muni, FOEI, SDB com.

Cape Town: Calref, A.B. TVRA, S.W.
Calref, UCT health study, Cape Times,
C.M. Sapia

Cape Town: N/A

Issue areas ----->

Durban: refinery incid., env health,
env vs. dev, env justice, corp account,
contested science, distrust, govt
account., reg. press. and market liber.

Durban: env vs. dev, contested science,
env justice, internat. activism, govt
accountability and regulatory pressure

Cape Town: market issues, env health,
regul. pressure, and corp. and govt.
responsibility

Cape Town: N/A

Institutional logics ----->

Durban: Logics of EJ, corp. account,
info-based and comm-driven regulation;
logics of manag. env., participation,
partnership, and capacity building

Durban: Logic of EJ and corp.
account; logic of manag. env., logic
of economic growth and industrial
development

Cape Town: No obvious change

Cape Town: Logic of manag. env.

Governance structures/institutional dimensions ----->

Durban: cognitive bifurcation –
community vs. companies, normative
change within host and home fields
influenced by activism, health study and
incident, regulative change under
negotiation

Durban: Normative institutions
contested; regulative institutions in
flux – a credible regulatory threat
emerging

Cape Town: Normative change
spurred by health study, regulative
change under negotiation

Cape Town: No obvious change

Micro: organisational legitimacy ----->

Durban: Sapref 'under siege' but tries to
repair legitimacy through response to
incident – also parent company pressure
on Sapref, Enref unable to maintain
legitimacy with host communities e.g.
GNA renewal fails

Durban: Enref has low host comm.
legit. but gains some reg. legit.; Sapref
tries to repair legit., evidence of
cultural change; Shell loses legit.

Cape Town: Calref loses legit. but
uses renewed conciliatory tone,
possible Calref cultural change

Cape Town: no obvious change

Table 6.1: Type of actors and frequency of citations 2000 - 2003

Type	Subcategory	Citations											
		2000			2001			2002			2003		
		Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth
Academic	<i>Academic</i>	3	2	0	3	0	0	14	0	0	0	9	0
Civil Society	<i>CBO</i>	12	13	2	54	6	1	52	0	3	31	10	0
	<i>NGO</i>	9	1	5	27	0	2	29	0	2	11	0	0
	<i>INGO</i>	6	0	1	0	0	0	25	0	2	10	0	7
	<i>Other civ soc</i>	0	0	0	4	0	0	6	0	1	6	5	0
	<i>Labour</i>	2	0	0	34	1	0	1	0	0	7	0	0
Government	<i>Local Gov</i>	2	0	0	18	1	0	10	0	0	14	2	0
	<i>Prov Gov</i>	8	9	0	17	2	0	13	0	0	7	1	0
	<i>Nat Gov</i>	7	4	4	12	1	10	1	0	13	8	0	1
	<i>Intl Gov</i>	0	0	0	0	0	1	5	0	0	0	0	0
Industry	<i>Enref/Engen</i>	20	0	0	82	0	0	25	0	0	17	1	0
	<i>Sapref/Shell/BP</i>	20	0	0	38	0	0	45	0	0	17	1	0
	<i>Calref/Caltex</i>	0	17	0	0	10	0	0	4	0	0	29	0
	<i>Other industry</i>	5	12	3	5	8	22	7	0	19	5	8	7
Media	<i>Media</i>	10	0	0	4	0	0	1	0	0	1	5	1
Subtotal		104	58	15	298	29	36	234	4	40	134	71	16
Total		177			363			278			221		

Regulators utilised a mix of coercive and cooperational discursive strategies to influence polluters. For example Makhaye, reiterating his plan, said: "We are not going to tolerate those who do not comply, and that includes big business" (Naidu 2003: para 4). Moosa and Mabudafhasi, as discussed above, used similar rhetoric, highlighting the need to crack down on industrial polluters, at the national level. Yet regulators tended to juxtapose this confrontational style with the need for a cooperative approach to environmental governance, for example Makhaye added, after criticising big business, that: "The only way we can succeed in ensuring environmental sustainability is by engaging the broader public, watchdog organisations and business" (Naidu 2003: para 5).

In Durban, a variety of institutional logics emerged at multiple scales. For example, at the local level the logic of managerial environmentalism, participation and partnership began to gain collective action as the MPP got underway. However, the process of approving Enref's expansion EIA was contested. Here the logic of economic growth and industrial development, coupled with the logic of managerial environmentalism (i.e. seeking win-win environment and development outcomes), fell foul of community environmental justice activists. At the

national level a logic of managerial environmentalism was also evident as the new air quality guidelines and clean fuels regulations were discussed. These discursive frames are indicative of field structuration coming into focus in Durban; however, there was still significant tension related to the dominant community-driven logic of environmental justice and the industry- and government-driven logics of managerial environmentalism and economic growth.

In contrast, interorganisational relationships were not well-defined in Cape Town. There were not clear patterns of domination or coalition. Andy Birkinshaw, TVRA chairman, had emerged as the community leader in the late 1990s that would carry the pollution struggle debate into the 21st century. He did not have the benefit of the sort of dual pronged attack that Peek and D'Sa waged in Durban, nor was activism his full-time job (NGO9 2006).⁵⁹ Although networked with Groundwork and SDCEA, Birkinshaw used a mix of confrontational and conciliatory approaches to engage with Calref. He often defined the problem, suggested a solution and highlighted the inequity of the situation. Birkinshaw essentially provided both a critical and pragmatic analysis. The logic of managerial environmentalism continued to be present in Cape Town's field as health study politics and coercive threats by regulators arose in a reactive and fragmented fashion.

These institutional logics influenced the realm of possible governance outcomes. In Durban, norms of socially acceptable environmental performance were increasingly contested, particularly given Sapref's pipeline leak and Enref's expansion plans. This normative institutional change influenced the introduction of regulation at the local and national levels. The multistakeholder MPP process and consultations on national SO₂ guidelines were accelerated because of field structuration in Durban. Here cross-scale field dynamics is apparent. It can be inferred that cultural/cognitive change also occurred in Durban, particularly as community activists engaged in knowledge politics and strongly shaped the pollution-related issue areas. In Cape Town, some normative change was spurred by civic science and health study politics, but this did not translate into a coordinated regulatory response.

⁵⁹ Birkinshaw owned a small communications technology business in Table View.

The field had clearly become more structured around industrial pollution in Durban than in Cape Town. Why might this be? Clearly the interaction between actors, institutional logics and governance structures are important, but to identify mechanisms of institutional change within this chronological narrative the role of events and scalar politics need to be considered. South Durban was impacted to a greater degree than Northern Cape Town by major events. In 2000, Carnie's investigative journalism on cancer in the Basin caught the imagination of the press and public. Although Calref had a sulphur disposal issue in 2000 that generated significant media attention, the organisational field in South Durban was catalysed with Enref's labour dispute and Sapref's pipeline incident in 2001. Also, Enref's expansion plans in 2002 generated media attention and local opposition. Very significant in 2002 is the WSSD. This event acted as a lightning rod for local, national and international attention to the industrial pollution issues in the Basin. The pollution issues in northern Cape Town were barely discussed in the press that year.

Thus events, incidents and scalar politics were more influential in Durban than Cape Town. Groundwork and SDCEA became embedded within international environmental justice and corporate accountability networks and targeted Shell, whereas the TVRA waged a relatively local campaign in Cape Town, choosing not to engage directly with Chevron. What is similar between Durban and Cape Town is the role of civic science and health studies in structuring the field. These gain media attention and begin to change meaning systems and ideologies. In Durban however the Settler's Primary School health study was funded by the MPP, but in Cape Town the UCT health study was funded by the NCAMTG. This contrast demonstrates the lack of commitment from local government in sorting out the issues in Cape Town.

6.5.2 Micro level: firm legitimation strategies

At the macro level, it can be concluded that field structuration occurred significantly in relation to Sapref and Enref during this time period but not Calref. How then did the refineries engage at the *micro level* to both gain and maintain legitimacy and to influence field structuration? In 2000 Sapref engaged proactively for the first time with local stakeholders, and Enref made good on its GNA with the implementation of an environmental upgrade. In Durban the refineries began the new century actively seeking to repair legitimacy. Calref however continued to lose legitimacy as it became embroiled with local communities and regulators over its sulphur disposal plans. Because of field level events, all of the refineries

lost legitimacy in 2001: Sapref because of its pipeline incident, Enref because of its labour dispute and expansion plans, and Calref because of its sulphur disposal problem.

In 2002, Sapref was 'under siege' by local to global stakeholders after its pipeline leak. However, Sapref attempted to repair host community legitimacy by responding swiftly and apologising. Sapref's internal legitimacy came under challenge as the refinery began to undergo significant parent company scrutiny after this incident (Ind2 2006). The refinery had severe internal and external legitimacy pressures. Enref, given its expansion aspirations, lost the support and trust of community activists and was scrutinised by local regulators as it attempted to increase production. Its attempts to renew the GNA failed, demonstrating the degree to which its host community legitimacy had faltered. There was little mention of Calref in 2002. Calref was undergoing ownership and management change, so it appears it did little to engage proactively with local communities to repair legitimacy.

In 2003, Sapref tried to repair its legitimacy with the implementation of its sulphur recovery unit, but both Sapref and Shell were under considerable pressure from community and international activists. Enref had quite low host community legitimacy, but the logic of economic growth trumped that of environmental justice as the provincial government approved its EIA to expand production. The publication of the UCT health study impacted Calref's host community legitimacy, but the conciliatory tone that the new general manager, Steve Woodruff, used indicated perhaps a change in legitimisation strategy and corporate culture.

6.6 Chapter summary

Between 2000 and 2003 the structuration of the fields in Durban and Cape Town diverged. An explosion of issues and actors occurred in Durban, with comparatively fewer in Cape Town. For example, the average frequency of citations between issues and actors in Cape Town went from 55 per year from 1994 to 1996 to 41 per year from 2000 to 2003. In Durban the average frequency of citations was only 22 per year from 1994 to 1996 and an extraordinary 193 per year from 2000 to 2003. This simple indicator highlights the divergence in field structuration.

From 2000 to 2003, a significant change had occurred in the degree to which community activism influenced the governance of corporate environmentalism in Durban. Community

leaders had begun to more proactively wield discursive power by strategically employing the logics of environmental justice, corporate accountability and information-based regulation. Activism moved from being cooperative to coercive. Local NGOs built capabilities and capacities by networking with international NGOs. In Durban, the media provided the space for community-based opposition to industrial pollution, environmental health risks and industrial expansion plans to be publicly debated. Events such as the WSSD, refinery incidents and the publication of health studies catalysed the structuration of the field.

Sapref attempted to address its admittedly poor past behaviour and open up to local stakeholders and Enref attempted to renew its GNA, but both refineries were on the defensive having to repair host community legitimacy gaps. Sapref's pipeline leak and Enref's labour strike and attempt to expand production catalysed community distrust and outrage. Unlike the other refineries, Sapref's internal legitimacy began to be questioned as Shell, its parent company, took a strong interest in the refinery's environmental performance. In Cape Town, Calref continued to get occasional pressure from local stakeholders and its legitimacy was called into question, but the refinery did not receive such vociferous, unified and sustained opposition.

The normative and regulative institutional dimensions started to take shape more substantively in Durban as the MPP got off the ground and community groups actively contested and (re)defined the notion of 'acceptable' environmental behaviour. This helps to explain how and why Enref and Sapref's environmental performance began to improve more quickly than Calref's. In fact, both of the Durban refineries continued to make 'beyond compliance' environmental upgrades and environmental performance improvements, whereas Calref made comparably fewer. To unpack this continual process of institutional and organisational change, Chapter 7 explores how and why each of the three refinery's environmental performance changed from 2004 to 2006, and in particular how new regulatory pressures emerged.

7 2004 – 2006: DIVERGENT FIELDS

The petrochemical industry is changing at a staggering pace. We are committed to the production of more efficient and cleaner fuels and a safe environment. (Enref GM Wayne Hartmann in Russouw 2004: 4)

We haven't done a great job in the past. If people can see us, smell us or hear us, we're not doing enough. (Calref GM Steve Woodruff in Yeld 2005: 4)

In 2003 Enref and Sapref's organisational fields in Durban had begun to significantly diverge from Calref's in Cape Town. In Durban, normative institutions had been significantly impacted through entrepreneurial activism and proactive journalism, and innovative regulation was evolving quickly. Sapref's environmental performance had changed remarkably since 1999. The refinery was attempting to repair its legitimacy through making substantial environmental improvements, but was mired in conflict relating to its pipeline incident remediation and repair plans. Enref was also embroiled in conflict, it lost host community legitimacy after seeking to expand production in 2001 thus was under intense community and regulatory scrutiny as its expansion permit was approved in 2003. In Cape Town, community-driven science and health studies educated and influenced normative understandings of legitimate environmental performance but little had been done to put regulatory pressure on Calref.

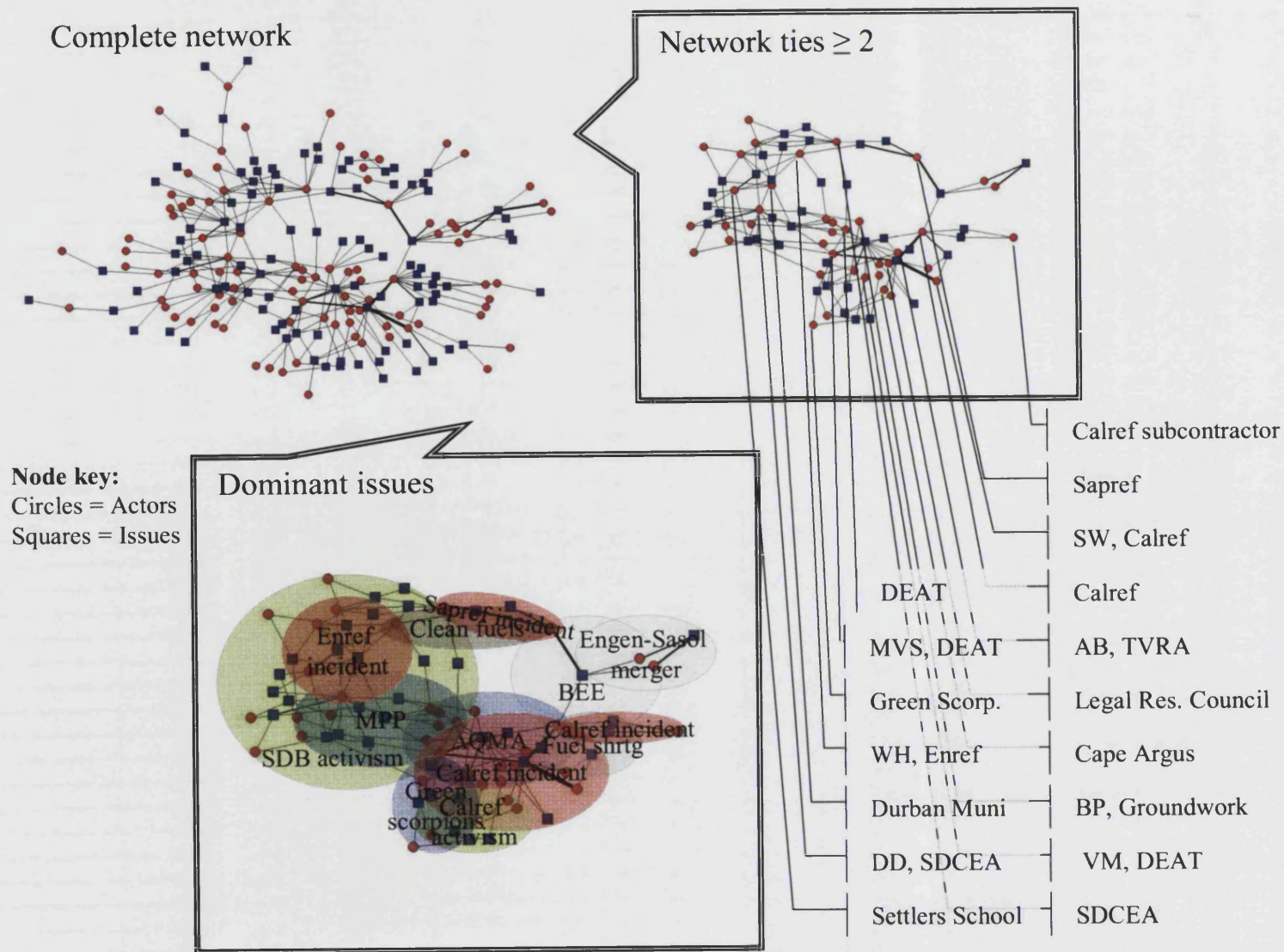
The following discussion explores the field level dynamics between 2004 and 2006, the final time period that this study covers. Similar to Chapters 5 and 6, for each year the network diagrams are discussed first, followed by a detailed narrative of the field dynamics in the South Durban Basin and Cape Town's northern suburbs. This thick description of how issues and actors change over time highlights the role of discursive strategies, institutional logics, governance structures, and firm legitimacy.

7.1 2004: Linking Durban and Cape Town through national level regulation

In Figure 7.1, after reducing the network ties until all issues and actors had at least two ties, two densely clustered issue areas become apparent, one related to the South Durban Basin and

the other related to Cape Town. In 2004 the fields in Durban and Cape Town were connected because of issues to do with regulation. The AQMA and the new Environmental Management Inspectorate (the Green Scorpions), both marked by blue contours, were national issues that linked the two localities. This illustrates a new issue area emerging from the data, that of national level regulation. The MPP, also marked by a blue contour, was actively discussed in Durban. Civil society activism, although not related to one specific issue, but directed broadly at Enref and Sapref's environmental performance populated much of the discussion in the Basin, as indicated by the large green contour. Enref and Sapref both were dogged by incidents marked in red, but Sapref attempted to gain legitimacy by highlighting its clean fuels project, as indicated by the olive contour. Economic issues also linked the fields between Durban and Cape Town. The proposed Engen-Sasol merger and BEE initiatives related to Calref, Enref and Sapref are marked in grey. The field in Cape Town was densely structured around Calref's 'oil rain' incident, marked by the red contour, but activism, in green, and fuel shortages, in grey, also populated the field.

Figure 7.1: 2004 field dynamics



7.1.1 The South Durban Basin

The green contour labelled 'SDB activism' contains issues related to air pollution and activism in the Basin. The term 'activism' is used broadly as it encompasses activities related to a variety of discursive strategies. For example, although the public face of SDCEA was as an environmental watchdog, it also had a dual mandate, which was to educate and inform residents in the Basin. SDCEA helped build capacity at the local level, particularly within South Durban schools, by producing educational material (NGO6 2006; NGO7 2006).

SDCEA also continued to contest the public understanding of 'good science' in the Basin and put pressure on regulators. Durban's health department noted how local operating permits would be informed by data from the air quality monitoring system (Enslin 2004a: 2). SDCEA's D'Sa expressed support for the system but wanted to see it lead to results, i.e. "action against polluters" (Enslin 2004a: 2).⁶⁰

SDCEA took an increasingly vociferous anti industrial development stance. It continued to vigorously oppose Enref's project to import gas and improve a catalytic cracking unit to increase production. The ideological battle was waged through the statutory EIA procedures which underpinned the planning process (Jones 2004: 7). One newspaper reporter publicly questioned SDCEA's social mandate:

...according to one of the city's top officials, it is difficult to know which version of the truth is being told. While it is easier to understand why companies may manipulate facts to protect profits, it is difficult do understand the precise mandate SDCEA has to represent the community, its decision not to defend those in "black" areas such as Lamontville and Umlazi and the reason it has even gone to the lengths of "staging" seemingly fictitious environmental accidents to draw attention to its "cause". Saving South Durban from itself seems to have degenerated into a game of smoke and mirrors. (Jones 2004: 7)

SDCEA's continued opposition to industrial development, even after corporate environmental performance of the large point polluters had begun to improve, began to be questioned by other community leaders (Com9a 2006; Com9b 2006).

⁶⁰ The new R8million Norwegian-designed network gathered data from 11 monitoring stations and five weather data stations scattered around the city (Carnie 2004a). One of the key issues was that the data was recorded in 24-hour format so did not reflect short bursts of concentrated pollutants that residents frequently complained about (NGO7 2006). Durban became the first city in South Africa to publish its air pollution in 'real-time' on the internet (Carnie 2004a).

Related to Enref, issues such as incidents, the clean fuels project and the Engen-Sasol merger dominated its field. A string of leaks and plant upsets at Enref in 2004 negatively affected local communities and the refinery's legitimacy. In March, a gas leak near the Settlers Primary School in Merebank prompted children and teachers to be evacuated (indicated by red contour in Figure 7.1). In May SDCEA's pollution hotline was inundated with calls after a heavy flaring incident at Enref (Natal Witness 2004), and in late June Enref had an upset in one of its units and had to shutdown a FCCU which caused a release of FCCU catalyst into the atmosphere, which appeared as a white dust and settled on property in the immediate vicinity (Liquid Africa 2004). The continued incidents undermined Enref's efforts to repair its legitimacy; it in fact catalysed ill sentiment in the Basin to an unprecedented level (Enslin 2004b: 3).

Another relevant issue facing Enref was compliance with South Africa's clean fuel legislation which stipulated removal of lead from petrol by 2006 and lowering sulphur levels in diesel, with further sulphur reductions in diesel in 2010 (Planting 2004). Hartmann, Enref's general manager, noted the refinery had successfully reduced emissions in line with the AQMA, but expressed concern about how the fuel oil industry would fund the clean fuel requirements (Planting 2004). It is interesting to note that Sapref or Calref did not complain to the press about the cost of these regulations.

Finally, it emerged in the press early in the year that Engen and Sasol were again in talks about a potential merger of their respective liquid fuels interests in South Africa (McNulty 2004). A telling indicator is that analysts believed that "significant capital may be needed to upgrade the Engen refinery" (McNulty 2004, p. 54). Towards the end of 2004, Sasol and Engen signed a definitive merger agreement, which was subject to approval by competition authorities.

Compared to Enref, Sapref was much less prominent in the field in 2004. This was an indicator that Sapref made progress in repairing its legitimacy. However, towards the top of the network diagram in Figure 7.1, the red contour illustrates incidents related to a large flare and an oil leak (Enslin 2004a). Although the South Durban air monitoring network did not find an unusual increase in emissions levels during or after the Sapref flaring incident, Durban Muni reiterated that flaring was an issue that needed to be resolved (Enslin 2004a). In an

effort to shape the issue area on flaring, SDCEA created an information brochure about flares and started a campaign on the issue (NGO6 2006).

SDCEA put pressure on Sapref after the review of Durban's underground pipelines was published in October. The report called for major repairs, perhaps costing R500million for Sapref and Enref (Carnie 2004d). It is important that the consultants recommended repair not replacement, as, not surprisingly, SDCEA insisted the pipelines be replaced, which it estimated would cost twice as much as selective repair (Carnie 2004d). SDCEA engaged in these technocratic debates to contest orthodox understandings.

Sapref's parent company Shell also came under scrutiny from multiple stakeholders. Shell was under pressure from fenceline community activists for its legacy of poor environmental performance and from institutional shareholders because of its miscalculated reserves crisis. The FOEI network voiced its complaints and published its "Behind the Shine" report to coincide with Shell's AGM (IOD 2004). At the AGM, SDCEA's Desmond D'Sa and Groundwork's Ardiel Soeker achieved a desired result as Shell's non-executive chairman, Lord Ronald Oxburgh, agreed to visit the plant in 2005 to investigate the grievances (Ryan 2004). This parent company activism is unique to Shell; Petronas and Chevron did not receive pressure from South African activists.

Also during 2004, Sapref began to be more strategic with its social investment and community engagement programme in the Basin (Ind13b 2006). Sapref got its Community Liaison Forum operating in earnest in 2004 (Ind13b 2006). However, SDCEA felt that it was a deliberative attempt to split the community and cause conflict (NGO6 2006). Sapref also generated positive press when it announced it would invest R700million into its cleaner fuels project (Jenvey 2004). Sapref was quick to stress that the project would not increase capacity, which is what embroiled Enref in controversy, that its emissions would not increase, and that it would not use additives in the octane-boosting process (The Star 2004: para 10-12). This 'chemical free' approach to its clean fuels differentiated itself from Enref and Calref. Sapref strategically used the clean fuels regulation to demonstrate its ability to deliver superior health, safety and environment outcomes.

As indicated by the blue contour, Durban's MPP was moving forward after its uncertain beginnings (see section 6.2.1). Siva Chetty, the MPP programme manager, highlighted industry's role in financing the MPP:

It is the first time in the country that industry has come to the table to advance environmental plans. There is no legislation forcing industries to contribute but we are working on the principle that the polluter pays. Some businesses are reluctant to contribute because it affects the bottom line, but we are using persuasion and a spirit of cooperation to get them to contribute. (Enslin 2004a: 2)

The MPP initial funding amounted to R29.5 million which covered the capital expenditure of monitoring stations, information technology, capacity building, two health studies and one year of operational costs (Enslin 2004a).⁶¹ The industry contributions were determined by the relevant weights of industry emissions. It was relatively easy to target big businesses, but the more difficult and longer term problems were vehicles and small and medium sized businesses (ibid).

The question remained whether or not the MPP would provide the catalyst to bring collective action to the Basin. One component of the MPP, which garnered keen speculation and expectation, was the epidemiological and health impact study, as Enref's sustainability manager Alan Munn speculated:

My belief is that these studies will show that pollution has a lesser effect on population's health than is the current perception. Finally we will be able to use good science to understand the problem and then take the right corrective action (Enslin 2004a: 2).

The clash between community and industry understandings of 'good science' has been evident since the 2002 Settlers School health study. The government needed to step in as mediator. In fact the Durban Muni secured a prize in the Mail and Guardian "Greening the Future Awards" for its proactive steps in bringing parties together to address the environmental issues in the Basin through the MPP (Nyathikazi 2004). One journalist concluded: "The MPP is making progress in addressing the high levels of pollution in Durban, but building trust between industry and the community is a slow process that requires commitment and honesty from both sides" (Enslin 2004a: 2). This interplay between normative, cultural/cognitive and regulative institutions is complex. Although stakeholders

⁶¹ Of the initial R29.5 million industry was expected to cover about a third of it; the city gave R8million, DEAT gave R6 million (although R4.5 million was a contribution from the Norwegian Development Agency). The national and provincial departments of health contributed R4.75m and the KZN provincial department of environment also planned to contribute.

had access to information and a degree of participation in this process, in 2004 there was still the inability to hold industrial polluters to account through legal means.

7.1.2 Cape Town's northern suburbs

Defining Calref's organisational field in 2004 was an incident, indicated by the large red contour towards the bottom of the network diagram in Figure 7.1. In July, when Calref was coming online after a planned maintenance, water accidentally mixed with hot crude oil. The subsequent increased pressure caused a safety valve to blow (Dreyer 2004a). A plume of steam sprayed oil over the property of residents in Table View, Bothasig and Richwood (Dreyer 2004a). This 'oil rain' incident catalysed the field with outcries from community members, the media and national regulators.

A *Cape Argus* editorial called for an explanation from Calref, and noted that polluting factories could face steep fines and even closure under the new Air Quality Management Bill (Cape Argus 2004: 11).⁶² Cape Town Muni called the incident more of a "health nuisance" rather than a "health hazard", and Woodruff, Calref's general manager, gave his full apology (Cape Argus 2004: 11):

My apologies to the public for the inconvenience. I take full responsibility and will make it right. If people call us, we will make sure they are compensated for their damages. (Dreyer 2004a: 1)

Calref attempted to repair its legitimacy with a strong response to the incident. Calref offered free car washing service for the hundreds of cars spotted with oil and sent letters of apology to all households in the vicinity (Dreyer 2004a: 1). Nazeema Abrahams, Calref's EHS manager, said: "We have accepted responsibility for the incident and we would like to see that people remember how well we handled the aftermath" (Thiel 2004: 1). A degree of cultural change does appear to have occurred within Calref under Woodruff.

The new environment minister Van Schalkwyk responded firmly, as indicated by the blue 'regulatory' contours closely connected to the Calref issue areas in Figure 7.1. He demanded Calref submit a report on the incident within 14 days before regulators discussed renewal of

⁶² The tone of its editorial was not as confrontational as previous editorials, it was more measured. The threat of looming regulation seemed to diffuse some media sentiment. Perhaps this is evidence of the beginnings of collective action within the field.

its operating permit (Dreyer 2004b: 5).⁶³ Cape Town's air monitoring network, the backbone of efforts to regulate air emissions, was also scrutinised (Zintl 2004). Out of the nine monitoring sites throughout Cape Town, only two had long-term data, neither of which were near the refinery, and only one of the stations could give readings for lead or benzene (Zintl 2004). Often readings were not available due to technical malfunctions, thus given lack of data it was difficult to get a clear picture of the extent of pollution or its effects in Cape Town (Zintl 2004).

Although Cape Town may have had South Africa's oldest and most sophisticated air monitoring network for the previous three decades (LGov8 2006), it had not led to significant air quality improvements. Durban had eclipsed Cape Town as the country's leading municipal monitor and regulator of air quality.

7.1.3 National level

As mentioned at the start of section 7.1, new issue areas related to national level regulation bridged the fields in Durban and Cape Town. At the beginning of 2004, the Parliament's environmental affairs and tourism committee was considering the proposed Air Quality Management Bill. The proposed legislation would replace the outdated APPA of 1965 (Groenewald 2004). The fundamental difference between the new bill and the old APPA was that it addressed "the adverse impacts of emissions into the environment and set stricter standards for ambient air" (Groenewald 2004: para 9). In addition, the new Air Quality Bill adopted the 'polluter-pays principle' and would require companies licensed under the bill to pay license fees to the government (Van Gass 2004).

Early in 2004, during the public comment period, civil society groups had successfully lobbied to have amendments added to the Bill which "would hold corporations accountable for what they released into the air" (Jenkins 2004: 4). Environmental NGOs and community groups, represented by the Legal Resources Centre (LRC), expressed their concerns. They felt that the bill allowed too much discretion for implementation by local regulators, and that it would not be implemented consistently (Business Day 2004a). Groundwork's director, Bobby Peek, felt that the central flaw in the bill was that it was based on regulating ambient air,

⁶³ Noticeably absent from the press is Andy Birkinshaw; he was away on holiday when the incident occurred (NGO9 2006).

rather than focusing on reducing pollutants at the source, e.g. through industry emission standards (Peek 2004). Andy Birkinshaw, TVRA's chairman, also welcomed the bill's new standards and penalties for non-compliance, but wanted to know more specifically how health concerns would be addressed (Steenkamp 2004: 17). The regulative institutional dimension was beginning to change for all refineries.

In addition to the AQMA two other regulatory issues took shape at the national level. It emerged as DEAT was considering "streamlining" EIA laws (Carnie 2004b). Industry and developers had been complaining for years about delays and onerous bureaucracy, particularly in the South Durban Basin as discussed above. Also gaining public attention, as indicated by the blue contour in the Figure 7.1, was the formation of the Environmental Management Inspectorate, aka the "Green Scorpions", in late 2003 (Carnie 2004c: 5). The enforcement of environmental protection in South Africa was weak, therefore the formation of the Green Scorpions helped address that gap (Business Day 2004b). In order to build capacity within the inspectorate, its new hires would seek training in Britain and the US (Adams 2004). Cross-scale capacity building occurred within government as well as within industry and civil society organisations.

In 2004, incidents still dominated the fields in Durban and Cape Town; however, a new 'discursive space' (i.e. field) opened up at the national level related to regulation and enforcement. Enref and Sapref's firm legitimacy appeared to be diverging, community activism sharpened against Enref and softened against Sapref. SDCEA increased discursive pressure on Enref and local government, and engaged in issue shaping as it sought to educate community members on flaring and air pollution impacts. Yet Sapref engaged in overt issue shaping as its CLF began in earnest. It can be inferred that Sapref exhibited a degree of cognitive change through the establishment of its CLF and its 'chemical free' approach to developing clean fuels. Sapref was beginning to repair its legitimacy, whereas Enref's was still quite low. Distinct institutional outcomes are evident in Durban as the MPP is implemented.⁶⁴

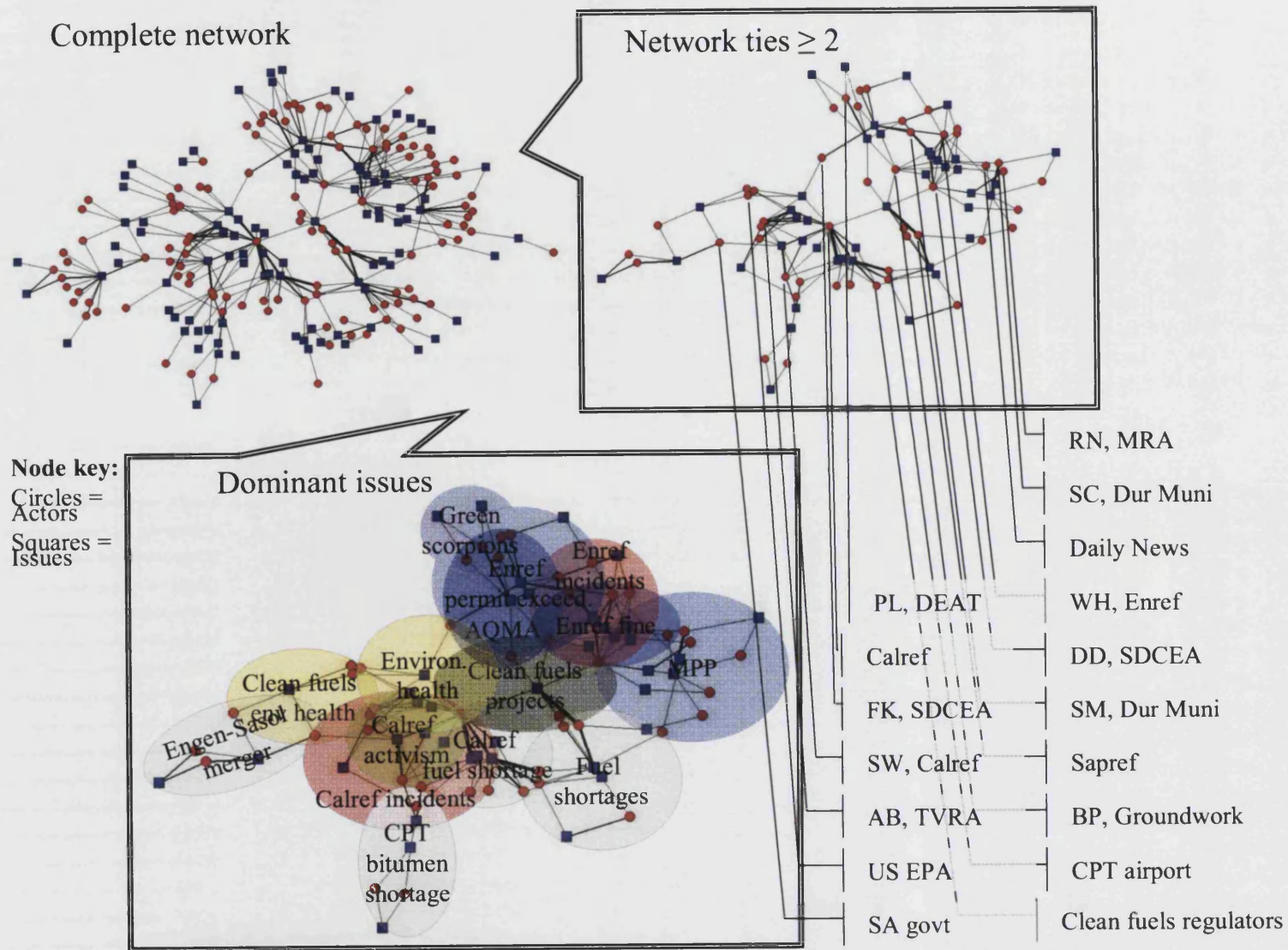
⁶⁴ Durban's MPP (Multi-Point Plan) can be termed a form of 'hybrid' regulation given it is a mix of formal and informal regulation. In other words, the MPP began as a multistakeholder initiative to build capacity and understanding in the Basin. An air quality monitoring system was put in place and a health study was undertaken. The refineries contributed funding to this process, and in turn adopted voluntary emissions reductions until their permits were renegotiated (in 2005 for Enref and 2006 for Sapref).

In Cape Town, there is comparatively little community-company engagement, but Calref loses legitimacy with its 'black rain' incident and receives a strong regulatory threat from national government. At the national level, government engages in different regulatory initiatives that range from coercive (e.g. clean fuels regs and Green Scorpions) to cooperational (e.g. implementation of AQMA). This strategic approach to designing and implementing regulation was enabled through cross-scale interaction (e.g. capacity building activities by UK and US government agencies).

7.2 2005: The bifurcation of organisational fields

The network diagram in Figure 7.2 highlights how the fields in Durban and Cape Town differed. The field in Durban was dominated by issues related to the implementation of regulation and the field in Cape Town was structured around Calref incidents, in red, and fuel shortages, in grey. Connecting the two fields were issues related to refinery clean fuels projects, in olive, and nation wide fuel shortages, in grey. However, a third national level regulatory field can be distinguished as the issues related to the Green Scorpions and implementation of the AQMA, in blue, overlapped with regulatory issues in Durban, such as Enref's permit exceedances, its subsequent fine and the implementation of the MPP. Here the interaction between South Africa's multiple spheres of government are evident as regulators from DEAT and Durban Muni populated the densely structured regulatory issue areas. Also in Durban, Enref drew further press attention because of ongoing incidents, marked in red, whereas Sapref maintained a relatively low profile. Sapref engaged in issue areas related to its clean fuels project, marked in olive, and the national fuel shortages, indicated by the grey contour. In yellow, health concerns were raised about the impact of the clean fuels projects, in particular how the refineries would replace lead in petrol – either through chemical additives or further refining. To the left side of the diagram the Engen-Sasol merger still gained media attention as marked in grey.

Figure 7.2: 2005 field dynamics



7.2.1 The South Durban Basin

SDCEA spearheaded the discursive debate on environment and development in the South Durban Basin as Durban Muni unveiled its spatial development plan (LGov6 2006). The plan addressed the possibility of moving Durban International Airport to the north of the city, increasing industry at the airport site in the Basin, and altering road and traffic in the Basin. Peek felt the decision to publish the planning document was a major victory for communities that had been demanding clarity about the future plans for their area (Carnie 2005a: 1); however, contestation over aspects of the spatial development plan did emerge in the Basin (Khan 2005: 3).

Similar to 2004, the MPP received kudos in the press. In the run-up to full implementation of the AQMA in September 2005, national and local government figures hailed the South Durban Basin as a replicable model for air pollution control for South Africa, (Jones 2005: 12). Leaders celebrated the 45 percent reduction in SO₂ emissions since approval of MPP in October 2000 (Jones 2005: 12). The first permits were issued to Enref and Mondi in 2005, and Sapref and the Tongaat-Hulett sugar refinery permits were underway (Jones 2005: 12).

In Durban staff capacity was being built through cross-national learning. Durban Muni sent a team of four engineers, scientists and a senior instrument technician for a six week advanced training programme in Norway (Nyawo 2005: 4). Durban's leadership in air quality management was recognised as the Muni's Health Department was nominated for an Impumelelo award for its lead role in implementing the MPP in the Basin (Maphumulo 2005).⁶⁵ Indeed, as discussed in section 7.1.2, Durban now had the most advanced air quality monitoring network in South Africa.

Durban's Health Department used innovative pollution permitting processes as well. ISO14001 requirements were incorporate into scheduled trade permits so industrial facilities had to strive towards continual environmental improvements. Durban's Health Department developed their permitting process with Norwegian guidance, but as they put it "South

⁶⁵ The Impumelelo Innovations Award Trust reward exceptional projects such as public - private partnerships and government initiatives that encourage pro-poor development. About R1million is distributed annually to various award winners. (See: http://www.impumelelo.org.za/about_fs.htm)

Africanised” the requirements (LGov3 2006; LGov4a 2006; LGov4b 2006; LGov4c 2006). These innovative permit requirements may have “coerced” Enref into working towards ISO14001 certification.

As indicated by the red contour in Figure 7.2, Enref was plagued by incidents in 2005. It began the year with two incidents, an oil spill and a fire. About 6000 litres of heavy fuel oil leaked into an adjacent canal, which impacted and upset local Merebank residents because of the smells (Carnie 2005c: 4). An explosion occurred when cleaning solvent caught fire. Although the fire was extinguished quickly, it highlighted the need for a more organised disaster plan for the Basin, as community communication was not handled well (Newman 2005). These incidents demonstrate Enref’s difficulty in introducing cultural change at the level of operational personnel, particularly because the oil spill was caused by human error. Yet the age and quality of plant infrastructure was an ongoing concern.

Dominating the field in Durban was Enref’s SO₂ permit exceedances (marked in blue given this is related to compliance with regulation). The refinery received a new pollution permit in 2005, and it prescribed that Enref could only have 35 SO₂ exceedances per annum. In one month the refinery exceeded permissible levels of SO₂ 64 times (Sookha and Naidoo 2005). D’Sa and community representatives put the pressure on Durban Muni to take action against Enref (Sookha and Naidoo 2005). Hartmann explained that the reasons for exceeding its permit limits in March and April 2005 were due to weather conditions and that he felt the company’s violation was blown out of proportion (Carnie 2005d: 1; Daily News 2005). Groundwork’s Sizwe Khanyile replied that “blaming the weather is an age-old excuse used by industry” (Carnie 2005d: 1). Siva Chetty, the MPP’s programme manager, said when asked about why not wait to prosecute Enref until after the AQMA came into force, that “engaging the oil refiner was more important than beating someone up” (Salgado 2005: 3). In the end, Enref was only fined R10,000 for violating Durban Muni’s by-laws (Citizen 2005). Regardless, this event was significant for the evolution of regulation in the Basin, local regulators could now enforce pollution permits.

Enref’s frustration with the polarisation of the community in the Basin became increasingly evident. Hartmann was quoted in August lamenting that “some nongovernment groups refused to engage with them on environmental issues and that there was ‘resistance for resistance’s sake’” (Yeld 2005: 4) and he sometimes “despaired” at the amount of effort that

went into trying to sort out disputes with the groups: “We’re a lovely pincushion, if you want, for people to take potshots at us – it (the refinery) is a ready target to take out your frustrations on” (Yeld 2005: 4). Indeed, D’Sa and SDCEA had taken a hardline approach against Enref, and refused to participate in its attempts at establishing a community liaison forum, similar to that of Sapref’s (NGO6 2006).

Sapref’s parent company Shell had become increasingly concerned and engaged with the issues in Durban. Shell non-executive chairman Lord Ronald Oxburgh visited Durban in March 2005 to “see for himself the problems caused by Sapref” after SDCEA and Groundwork attended the Shell AGM in June 2004 (Bishop 2005: 5). The purpose of the meeting was to find a way forward for the community and oil refineries. Oxburgh admitted that the Sapref infrastructure was aging and needed attention: “The community health issue concerns us. We will do our best to find a solution that will be of benefit to both parties” (Premdev 2005b: 4). It is evident from this visit and increasing Shell concern that internal parent company pressure affected Sapref’s environmental performance.

Sapref received positive press after hosting a media tour to demonstrate the success of its clean fuels project. Lora Rossler, Sapref’s sustainability manager, discussed the refinery’s community-engagement activities including its CLF, annual stakeholder reports, and social and environmental performance initiatives (Premdev 2005a: 3). D’Sa and SDCEA continued to be confrontation with Sapref but conciliatory with its parent company Shell, refusing to engage with Sapref in its CLF (NGO6 2006). D’Sa achieved a landmark goal the end of 2005, when he and other FOEI network fence-line groups met with Shell CEO Van de Veer face to face (FOEI 2005). This meeting between Shell’s CEO and the fence-line communities is symbolic of Shell’s internal struggle to maintain legitimacy with host communities. Shell’s SPMU Director was not pleased with the CEO’s direct response, given it may undermine or conflict with the SPMU’s approach; however, according to a Shell representative this SDCEA-Shell CEO linkage was not continued past 2005 (Ind16 2007).

7.2.2 Cape Town’s northern suburbs

Calref’s run of incidents continued in 2005. The year began with another high pressure safety valve release which sprayed diesel fuel into the immediate vicinity of the refinery. A smaller scale incident than the ‘oil rain’ of the previous July, but enough to gain the ire of the communities and media (Salie 2005). After a fire broke out in February, Andy Birkinshaw,

TVRA chairman, said he would set up a meeting with the refinery and local authorities to discuss safety and other concerns (Peters and Steenkamp 2005). Calref's general manager, Steve Woodruff, explained that the refinery was having an unusual amount of upsets because the refinery was shutting down various parts of the plant for maintenance, (Peters and Steenkamp 2005).

The fire was the fourth incident of the year, and the refinery's legitimacy with local and national authorities was very low. The spokesperson for the Department of Minerals and Energy, Hendrik Schmidt commented: "It appears from information gathered during our visit that the steps taken by Caltex to make the refinery safer are inadequate" (Ndenze 2005: 3). Because of the fire Calref stayed closed for two extra weeks, and the knock on effect was significant fuel shortages in the Western Cape (Maposa 2005). Residents, Calref management and government representatives met to address the spate of incidents (Peters 2005a). Given the AQMA had yet to promulgate, government officials said they would review Calref's operating permit under APPA and would work closely with communities to discuss what needed to be put into place before Calref's permits were renewed (Peters 2005a). Regulatory pressure was building.

Yet community activists continued to highlight Calref's underperformance. Birkinshaw noted that Calref could not even adhere to the Cape Town Muni's by-laws which demand that a total pollution count of 226 parts per million (ppm) was the max; noting that in the UK and Europe the standard is set at 50ppm (Cape Argus 2005: 5). Birkinshaw and Nicholas Lang, a Bothasig community activist, also said that the monitoring stations were not in the right places, which undermined the trustworthiness of the readings (Cape Argus 2005: 5). Birkinshaw highlighted, using an environmental justice frame, that the areas most affected by the Calref's air pollution included the very poor settlements such as the Du Noon informal settlement (Cape Argus 2005: 5).

It is relevant to note that not all community representatives agreed with Birkinshaw and the TVRA's demand that Calref either clean up or move away. In a letter to the editor of the *Cape Argus*, Michael Longden-Thurgood, a retired nuclear engineer, discussed the consequences to the economy and environment if Calref closed without first relocating (Longden-Thurgood 2005: 13). He noted the extra pollution that would be imposed on residents in Durban and Secunda because of increased throughput from other refineries and the increased fuel prices in

the Western Cape (Longden-Thurgood 2005: 13). A difference between the community groups in Durban and Cape Town was apparent. There did not appear to be such strong support for Birkinshaw's more confrontational approach (Com13 2006); whereas D'Sa and Peek's strong rhetoric appears to have been supported by the majority of the local community (Com9a 2006).

The local kitesurfers also engaged with Calref about fall-out from the refinery's pipeline which discharged effluent into the sea off Table View (Gosling 2005b). Calref eventually chose to upgrade its effluent treatment plant, which would bring Calref in line with Chevron's in-house and international standards (Gosling 2005b: 4). Here Calref engaged more strategically with its local stakeholders; the refinery was able to repair legitimacy through this proactive response.

At a parliamentary Environmental Affairs and Tourism Portfolio Committee meeting, Woodruff highlighted Calref's environmental performance improvements over the decades (Yeld 2005), but his 'expert' scientific bias was evident as he called the UCT health study 'unscientific' (Cape Times 2005: 7). However, Woodruff concluded: "...if the refinery was thought to be 'aggravating asthma people near the refinery', then it was up to him to change such impressions" (Cape Times 2005: 7). Here Woodruff acknowledged the importance of community perceptions and understandings, yet this conception of lay understandings of refinery environmental performance is clearly in conflict with his personal biases towards expert understandings of the issues.

After only two years, it was announced in August that Steve Woodruff would be replaced towards the end of 2005 (Yeld 2005). His tenure apparently cut short by the spate of incidents in 2004 and 2005 (NGO11 2006). Chevron brought in a new Calref manager, Gordon Smith, in November 2005. Towards the end of 2005 major fuel shortages were caused because of refinery shutdowns as the clean fuels deadline loomed on 1 January 2006 (Marud 2005). Because Calref blended a batch of jet fuel incorrectly, Cape Town International Airport ran out of fuel which caused chaos and fuel shortages in Gauteng (Quintal 2005).

7.2.3 National level

In Figure 7.2 the clean fuels projects, subsequent environmental health concerns of the clean fuel regulations and fuel shortages link the fields in Durban and Cape Town. South Africa's

approach to air quality regulation was criticised as being “uncoordinated” and “piecemeal” (Holmes 2005). As mentioned in the section above, towards the end of the year fuel shortages hit the country, particularly so in the Western Cape. The Energy Minister Lindiwe Hendricks blamed the fuel oil industry for not maintaining the necessary reserve levels and underestimating the time necessary to convert to cleaner fuels by 1 January 2006. Hendricks supported an investigation into why the fuel shortage was caused, what could be done to prevent a similar scenario in the future, and whether consumers would be compensated for hardship suffered during the shortage (Business Day 2005: para 10; Hunter 2005). There was a strong argument that South Africa’s efforts to introduce clean fuels standards was poorly conceived and implemented.

As indicated by the tightly clustered blue contours, issues related to the Green Scorpions and AQMA dominated Durban’s field. This intuitively makes sense given the process of constructing Enref’s pollution permit would form the model for implementation of the AQMA. In July Peter Lukey, head of Air Quality Management, was set to name the ‘filthy fifty’, a priority list of polluting facilities (Carnie 2005b). This exercise was more than a “naming and shaming” exercise, it was a pragmatic way to rank, review and rewrite the air pollution permits of the greatest air polluting industries (Carnie 2005b). Van Schalkwyk, the environment minister, noted that 40 prosecutors attended a course on the prosecution of environmental crimes (Njobeni 2005). DEAT organised the workshop with co-sponsorship from the US Environmental Protection Agency (EPA) and US justice department of environmental crime (Njobeni 2005).

In 2005 the focus at the national level was clearly on implementation and capacity building. Lukey intended to eventually regulate companies on a sector by sector basis but outlined that the new AQMA would be implemented in phases, starting in September 2005 (Carnie 2005b). In the interim, the APPA would still remain on the books. The new regulation could not be implemented quickly because new staff had to be recruited and trained (Carnie 2005b). Van Schalkwyk outlined that DEAT would train and make use of at least 30 air quality licensing officers in each province (Van Gass 2005). The new AQMA was signed into law on 11 September 2005. An article in the *Natal Witness* praised civil society’s role in drafting the legislation: “The act has been hailed as an indication of the growing momentum and influence of community support groups and non-governmental organisations in the country” (Melville 2005: 7).

Peek and Lukey highlighted that capacity at the municipal level to implement the air quality management legislation would be problematic, that it would take time to train the air pollution officers (Melville 2005: 7). Predicting the potential future contestation of ambient air quality standards, Lukey made an interesting observation. He noted that the level at which the standards would be eventually set would be a political decision, not just a scientific one; they might be higher or lower than that which science would stipulate (Melville 2005, p. 7). Thus both government and industry recognised this tension or interplay between civic and expert-driven science.

In 2005 it is interesting (as illustrated in Figure 7.2) the way that the fields in Durban and Cape Town diverged. At the national level and in Durban the regulative institutional dimensions strengthened as the AQMA, Green Scorpions, Clean Fuels legislation and MPP all were implemented and to a certain degree enforced. Enref's permit exceedances and subsequent fine exemplifies this trend. In Cape Town, although there was a degree of regulative and normative pressure driven by local regulators and community activists, there was little substantive institutional change. SDCEA continued to use rights-based logic to hold Sapref and Enref to account, whereas activists in Cape Town pursued a more managerial environmentalism. Where Calref and Enref continued to lose legitimacy, Sapref appeared to gain legitimacy through superior environmental processes and outcomes.

7.3 2006: The institutionalisation of regulation

In 2006 the fields in Durban and Cape Town were linked because of fuel shortages, marked in grey, and clean fuels projects, indicated in olive. Perhaps most distinguishing about Figure 7.3 is the tightly clustered issues related to regulation at the national level highlighted in blue. Similar to 2005, issues related to building regulatory capacity, the Green Scorpions and implementation of the AQMA were all pertinent. Durban's MPP, also in blue, overlapped with regulatory discourse at the national and local levels. Also in Durban, Enref's permit continued to be debated, in blue, and community activism focused on South Durban's spatial development plan, in green. Sapref and Enref though were hindered by incidents, marked in red, that were caused by local power failures and the knock-on effects of upgrading to cleaner fuels. Calref had a comparatively quiet year. Although gas shortages and power outages did impact the refinery, Calref received some positive press through the implementation of an

environmental upgrade. 2006 marks the end of this analysis, and as will be discussed, most of this discursive space was dominated by issues related to changing regulative dimensions.

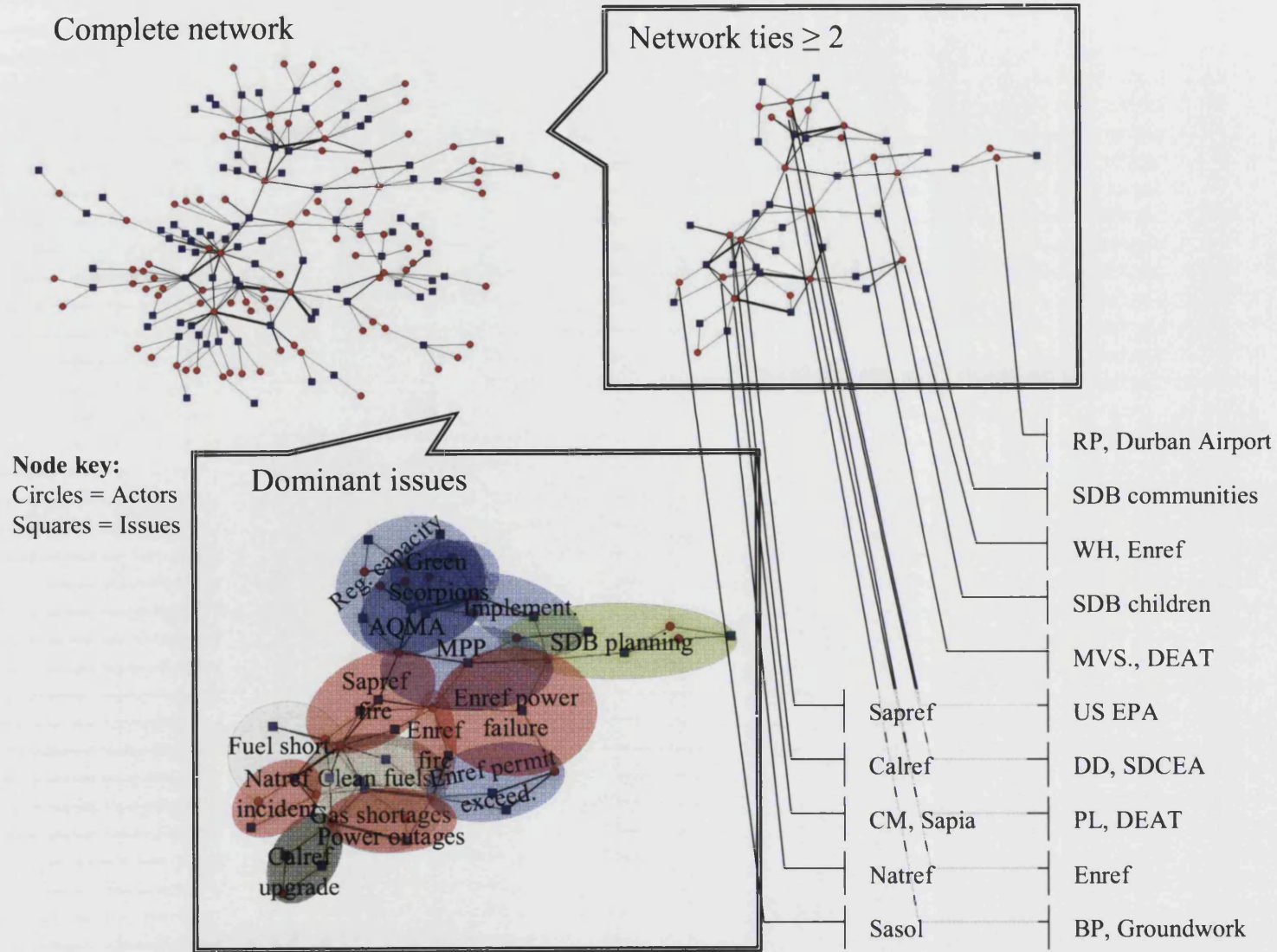
7.3.1 The South Durban Basin

As indicated by the large green contour, South Durban Basin spatial planning continued to gain attention in the media. The planning process was underway to move Durban International Airport to the north of the city, and residents from the affluent northern suburbs fought the fast-tracked airport project on the grounds of noise pollution (De Boer 2006).

Also gaining much press was the publication of the MPP health study in August (indicated by the blue contour). It confirmed that children living in the Basin had a “substantially” greater risk of developing asthma compared with children living in the north of the city (Carnie 2006a: 3). The R7million study was expected to have significant implications on further industrial expansion in the Basin. Although the study did not investigate cancer rates in the city it warned that there was a clearly elevated risk of getting cancer in Basin because of high levels of VOCs, and it recommended that Durban Muni set up a cancer registry (Carnie 2006a). The study was conducted by a joint team of researchers from South Africa and the US (Carnie 2006a). The University of Michigan – Durban research connection (which began in 1996 as per discussion in section 5.4) helped to facilitate learning within Durban’s occupational and environmental health research community (Acad6 2006).

Bobby Peek commended the city council for taking “such a bold step to undertake and support this research” and highlighted that South Durban Basin communities could use the study to “call on the government to act urgently and even seek legal measures against it, if they felt not enough was being done in terms of legislation and monitoring” (Tolsi 2006: 34). D’Sa called the study a ‘victory’ for South Durban residents and underscored that “the research findings support that the major sources of pollution are arising from the petrochemical and associated industries as well as other significant fossil fuel energy users” (Mthembu 2006: 3). The triumphant tone of Peek and D’Sa underscored the significance of these emergent normative and regulatory institutional dimensions. Firm legitimacy, at least in Durban, was now quite clearly morally governed and legally sanctioned. The question remained as to what strategic action Sapref and Enref would take in order to maintain or repair legitimacy.

Figure 7.3: 2006 field dynamics



Enref began the year with the news that South Africa's competition tribunal had turned down the proposed Engen-Sasol merger. The tribunal felt it would create a "cartel" in the inland fuel market (Swindells 2006: para 6). The proposed merger would have created Sub-Saharan Africa's biggest fuel retailer, and it was fiercely opposed by multinational firms such as BP, Shell, Chevron and Total (Swindells 2006: para 6). This ruling was a significant setback for Engen. Staff morale hit a low point and the firm's future remained uncertain (Ind10 2006). It can be inferred that this uncertainty hindered the ability of Enref to make long term plans for refinery environmental upgrades. As an Enref manager confirmed, in 2006 financial resources were constrained within the refinery (Ind4 2006).

As indicated by the red contours in Figure 7.3 Enref continued to be affected by incidents. A fire broke out at the refinery in April, which reduced its capacity by about 60 percent for two weeks. During Enref's follow up investigation D'Sa noted that Enref's new open-door policy had allowed him and two other community leaders to be taken into the refinery and watch the cleanup process and investigate the extent of the damage (Goldstone 2006: 2). Here Enref's changing internal and external processes are evident, the refinery continued to openly engage with the community's more radical activists.

Enref had difficulty meeting permit requirements for a second year, as indicated by the blue contour. Enref's scheduled trade permit stated that it would not break SO₂ laws more than 35 times during the year; it in fact broke its emission levels 111 times in 2005 (Carnie 2006b: 4). Hartmann reflected that in retrospect Enref should have never agreed to such "ambitious" permit conditions, because it was not in a position to lower its SO₂ levels adequately until 2010 (Carnie 2006b: 4). Enref was the first company in the country to be granted a new permit, and it was concerned "that other large companies in Durban were not required to comply with similar stringent requirements - including other refineries that continued to operate under less stringent conditions" (Carnie 2006b: 4).

Hartmann proposed that the maximum number of annual pollution exceedances be relaxed. A meeting had been called to with city officials, the refinery and community groups to assess the refinery's performance and options for meeting its new permit (Carnie 2006b). Rajah Naidoo, MRA and Merebank Councillor as of 2006, said it seemed that Enref wanted to "alter agreed timeframes unilaterally and delay the urgent need for pollution reduction", he

explained: “It is not acceptable for the refinery to simply say that it cannot meet the permit conditions” (Carnie 2006b: 4).⁶⁶ Here Enref sought to manipulate its external legitimating environment as opposed to conform to it.

In October, another municipal power failure forced Enref to shutdown, which resulted in a plume of black smoke, pale dust and additional flaring (Inggs 2006a). D’Sa went on the offensive, and a journalist commented that “the stand-off between Engen and D’Sa is legendary” (Jones 2006: 6). Hartmann, Enref’s general manager, responded: “I hear what he (D’Sa) is saying. It doesn’t do anything for his credibility. It isn’t helpful. It would be far more constructive if he engaged with us and understood what was going on” (Jones 2006: 6). D’Sa’s role as iconic community activist appeared to be taken less seriously by both industry and media stakeholders. His refusal to engage with Enref was a polarising position that had proven controversial with some of SDCEA’s staff over the years (Com10 2006).

Sapref made significant headway in repairing its host community legitimacy and quelling its critics when it announced early in 2006 that it would replace its entire 12km long network of underground pipelines at a cost of R340million rather than simply patching and repairing rusty sections (Carnie 2006c: 5). Apparently the R340million price tag for replacement was “not very different” from the cost of selective repairs (Carnie 2006c). Sapref had changed its legitimisation strategy to ‘conform’ to community expectations as opposed to trying to select or manipulate different aspects of community understandings. Enref on the other hand opted for selective repairs at a cost of less than R100million. A spokesperson said the company did not believe replacement was necessary and suggested that Enref’s pipelines were probably “in much better condition than those of Sapref” (Carnie 2006c: 5). This community “win” with Sapref would be contrasted with Enref’s perceived unwillingness to comply with community requests. Enref’s legitimacy was yet again undermined. The ability to access financial resources appears to be a key distinguishing feature between the two firms.

⁶⁶ Long time community activist Rajah Naidoo became a SDB Councillor in 2006. He ran as an ‘independent’ and beat his ANC counterpart. Tragically, Naidoo was murdered in 2007, allegedly because of a property deal gone bad (Makhaye 2007; Premdev 2007). This incident underscores the level of crime and violence prevalent in the Basin. Naidoo was a relatively affluent lawyer, who had moved out of Merebank and had set up his law practice on the Bluff. His role as Councillor was an interesting one that had the potential to shake civil society up in the Basin, as SDCEA and Naidoo did not always see eye to eye (Com10 2006).

As indicated by the grey contours fuel shortages plagued South Africa in 2006. In February Sapref was only running at 65 percent of capacity due to “minor repairs” being carried out on one of its units (Business Day 2006b). South Africa faced more fuel shortages because Natref had broken down as well, as indicated by the red contour (Business Day 2006b: para 1). The knock on effects from the shaky implementation of the clean fuels regulations and subsequent fuel shortages would be a significant contribution to South Africa’s trade account deficit (Business Day 2006a).

Towards the end of the year incidents at both Sapref and Enref (indicated by the red contours in Figure 7.3) highlighted the aging infrastructure at the plants. A worker was burned on a Sapref tanker that was loading a solvent and he was air lifted to hospital. In October, a fire broke out on a diesel desulphurisation unit (SAPA 2006). The fire was the second incident in the Basin in three weeks; earlier in October a power outage had led to a gas leak at Enref (Premdev 2006). Peek said he called the refinery shortly after the fire started, and was told nobody knew where it was (Premdev 2006: 2). It is apparent how closely the refineries were monitored by the local communities. SDCEA often found out about incidents before the refineries’ management knew about them because of the organisation’s pollution hotline (NGO5 2006; NGO6 2006; NGO7 2006). This form of community-driven governance has been termed ‘community environmental policing’ by O’Rourke and Macey (2003) in a study of NGOs that have successfully used the Bucket Brigades to influence the environmental performance of refineries in the US. As discussed in Chapter 6, the Durban activists were significantly influenced by these US-based NGOs.

7.3.2 Cape Town’s northern suburbs

South Africa’s growing economy put significant stress on its aging infrastructure. As indicated by the red and grey contours in Figure 7.3 Calref had to shutdown due to a power outage in January 2006. Fuel shortages in the Western Cape were exacerbated by this upset (Du Plessis 2006). South Africa and Calref were being impacted because Eskom, the state power utility, struggled to meet increasing electricity demand (Cape Argus 2006).

In April, Cape Town Muni launched its air quality management plan, which aimed to have the cleanest air in Africa (Van Gass 2006). In order to rid the city of its brown haze problem it targeted air pollution in the informal settlements and vehicle emissions, which contributed about 60 percent to the city’s brown haze phenomena (Van Gass 2006). Cape Town actually

started monitoring its air quality in 1958 and was at the forefront of combating air pollution in South Africa (Van Gass 2006). As previously discussed in section 7.1.2, although Cape Town and Durban had different geographical characteristics and thus different air quality problems, Cape Town's superior air quality monitoring expertise was overtaken by Durban in the mid 2000s.

Calref celebrated its 40th anniversary in November. It was a significant event, where numerous VIPs descended on the refinery, and the president of Chevron Global Refining, Jeet Bindra, spoke at the event (Watkins 2006). Chevron's attendance and visible role of Bindra is indicative of its parent company's increasing interest in repairing Calref's host community legitimacy.

It is also interesting to note that in 2006 Calref was served notice by DEAT of an intention to issue a directive after its string of pollution incidents from 2004 to 2006 (LGov9 2006; LGov10 2006; NGov1 2006). This regulative pressure was revealed in interviews but not in press articles. This highlights an interesting difference between the Durban and Cape Town press – in Durban, this type of regulatory threat most likely would have been picked up and reported by the press, whereas in Cape Town, even though community activists knew of this development, the press either were not informed or chose to not report on it.

7.3.3 National level

In February, in an effort to build capacity within the Green Scorpions, DEAT announced it would appoint 800 environmental management inspectors across the country by middle of the year (Inggs 2006b; Ensor 2006). Capacity was being built within the new environmental management inspectorate as the US EPA and UK Environment Agency conducted air quality management training in South Africa.

The first national ambient air quality standards were published for public comment in June (Ensor 2006). Peek reflected on the importance of the new standards:

Mandela's visit to Durban South marked a new chapter for the environmental justice movement in South Africa. This movement has grown rapidly in Durban South. The movement hopes that having gazetted these standards, the government will seek to give them meaning by developing complementary systems – good monitoring and emission standards. This will give these standards real meaning. Now for the next round in the battle for clean air. (Peek 2006: 14)

Peeks' comments foretold where the debate might move next: beyond ambient air quality standards to defining emissions standards for industry and updating industrial facilities' pollution permits.

EIA regulations also were coming under scrutiny. National government officials had voiced concern that "the planning system (including EIA) unnecessarily hampers the development of business" (Weaver and Sibusiso 2006: para 3). Again, this conflict between environment and development continued to be played out in various environmental regulatory arenas as South Africa exhibited quite strong economic growth in the mid-2000s (see section 1.4.2). Finally, cross-national capacity building continued to occur. The Danish government funded a R275million programme within DEAT to address urban environmental problems such as air pollution and waste management by 2010.

In 2006, of particular interest is how Enref's host community legitimacy continued to be contested, whereas Sapref made progress repairing its legitimacy by conforming with community demands (related to replacing its underground pipelines). Calref also more seriously addressed community concerns as its parent company Chevron took interest in the refinery's environmental performance. Although incidents still plagued the refineries, Durban's field became more significantly structured around implementation of regulation, whereas Calref's was less structured, but still influenced by national level regulation and initiatives at the municipal government level. At the national level, regulation (i.e. the AQMA) continued to be implemented and enforcement capacity expanded. Significant cross-scale interaction was underway as officials from the US, UK and Denmark descended on South Africa to help build implementation capacity within different spheres of government. Given implementation was devolved to local authorities and municipalities, the potential for uneven outcomes was building.

7.4 Analysing organisational field dynamics and firm legitimacy

As in Chapters 5 and 6, this analysis distils the data into categories at the macro and micro levels of analysis to facilitate comparison of how and why each refinery's environmental performance differed. This study posits that organisational field dynamics, moderated by firm legitimation strategies and characteristics, will influence a firm's corporate environmental performance. There is an iterative interaction between the macro and micro over time. The following discussion will identify how, in Durban and Cape Town between 2004 and 2006,

field structuration was influenced by the interaction and coproduction of institutional actors, institutional logics and governance structures. How and why each firm has acted and reacted to these field dynamics will help explain differences in corporate environmental performance.

7.4.1 Macro level: field structuration

At the *macro level*, using ‘detectable units of analysis’ as described in section 2.4.1, the degree of field structuration can be analysed. Durban’s organisational field exhibited more indicators of structuration than did Cape Town’s. The network diagrams (Figures 7.1 – 7.3) and Figure 7.4 indicate there is a consistently high interaction between issues and actors. Overall citations were 336 in 2004, 363 in 2005 (which equalled 2001, the other highest), and 298 in 2006. When comparing the citation subtotals between Tables 7.1 and 6.1 there are two contrasting features. First, the citations for Durban and Cape Town are different (Durban’s are higher than Cape Town’s) but consistently high from 2004 to 2006, whereas from 2000 to 2003 Durban’s remained relatively high, but Cape Town’s fluctuated. The second unique feature of Table 7.1 is that citations for the ‘other’ category increased remarkably. This makes sense because from the network diagrams it is clear that the ‘blue contours’ and ‘grey contours’ mostly pertain to issues at the national level. The national government’s efforts to regulate the refineries and national fuel shortages clearly populated the refineries’ organisational fields. As elaborated above in sections 7.1 to 7.3, unique to this chapter is the structuration of a distinct organisational field related to environmental performance at the national level. It follows that there was a change in role and authority of field level actors engaged in the issue areas related to the environmental governance of Enref, Sapref and Calref; national government actors had entered the field and occupied a space of authority between 2004 and 2006.

Figure 7.4: Analysing structure and agency 2004 - 2006

Macro: organisational field dynamics

2004	2005	2006
<p>Events</p> <p>SDB incidents Calref incident AQMA consult Green Scorpions</p>	<p>Clean fuels proj/fuel shortages Calref incidents MPP impl/enf</p>	<p>Sapref pipelines MPP health study</p>
<p>Key actors</p> <p>Durban: B.P. Groundwork, D.D. SDCEA, SDCEA, Settlers Primary School, Sapref, W.H. Enref, Durban Muni</p> <p>Cape Town: A.B. TVRA, LRC, Cape Argus, Calref, S.W. Calref</p> <p>National: DEAT, M.V.S. DEAT, V.M. DEAT, Green Scorpions</p>	<p>Durban: D.D. SDCEA, B.P. Groundwork, R.N. MRA, Daily News, Sapref, W.H. Enref, S.M. Durban Muni, S.C. Durban Muni</p> <p>Cape Town: A.B. TVRA, S.W. Calref, Calref, Cape Town airport</p> <p>National: P.L. DEAT, SA Govt</p>	<p>Durban: D.D. SDCEA, B.P. Groundwork, SDB communities, SDB children, Sapref, Enref, W.H. Enref,</p> <p>Cape Town: Calref, C.M. Sapia</p> <p>National: Natref, Sasol, M.V.S. DEAT, P.L. DEAT, USEPA</p>
<p>Issue areas</p> <p>Durban: refinery incidents, regulatory implementation, community activism and capacity building, and refinery upgrades and actions</p> <p>Cape Town: refinery incidents, community frustration, pressure on regulators and regulatory pressure</p> <p>National: reg. and enforc. pressure</p>	<p>Durban: regulatory impl. and enforcement, refinery incidents, clean fuels projects, env. vs. development, env. health, fuel shortages</p> <p>Cape Town: refinery incidents, community activism, regulatory pressure, env. health, fuel shortages</p> <p>National: regulatory impl. and enforc.</p>	<p>Durban: regulatory impl. and success, regulatory enforcement, refinery incidents, clean fuels projects, env. vs. development, fuel shortages</p> <p>Cape Town: refinery incidents, fuel shortages, clean fuels project, power outages, refinery upgrade</p> <p>National: reg. impl. and enforcement</p>
<p>Institutional logics</p> <p>Durban: logics of EJ and corporate accountability; logic of manag. env.</p> <p>Cape Town: logic manag. env.</p> <p>National: logics of manag. env., coop. and consult.; logic of coercion</p>	<p>Durban: logics of EJ and corporate accountability; logic of manag. env.</p> <p>Cape Town: logic of manag. env.</p> <p>National: logics of manag. env., cooperation and consultation</p>	<p>Durban: logics of EJ and corporate accountability; logic of manag. env.</p> <p>Cape Town: logic of manag. env.</p> <p>National: logic of managerial environmentalism, logic of coercion</p>
<p>Governance structures/institutional dimensions</p> <p>Durban: regulative change with implementation of MPP</p> <p>Cape Town: regulative threat</p> <p>National: regulative and enforcement change</p>	<p>Durban: regulative change with implementation of MPP and permits</p> <p>Cape Town: normative and regulative pressure</p> <p>National: regulative and enforcement change</p>	<p>Durban: regulative and normative change with implementation of MPP and permits</p> <p>Cape Town: regulative pressure with impl. of directive and publication of CPT AQMP</p> <p>National: regulative and enforcement. change</p>
<p>Micro: organisational legitimacy</p> <p>Durban: Enref continued low host community legitimacy, Sapref and Shell try to repair legitimacy; Sapref cultural change</p> <p>Cape Town: Calref loses legitimacy with comm., regulators and media</p>	<p>Durban: Enref lost legitimacy with permit exceedances, Sapref maintained legitimacy with Shell visit, cultural change at Shell</p> <p>Cape Town: Calref lost legit. as incidents contin., some cultural change</p>	<p>Durban: Enref legit. continued to be contested, Sapref repaired legit. with ppl replace., Sapref cultural change</p> <p>Cape Town: Calref attempted to repair legit. with Chevron visit and plant upgrade, Chevron cultural change</p>

Table 7.1: Type of actors and frequency of citations 2004 - 2006

Type	Subcategory	Citations								
		2004			2005			2006		
		Dur	Cpt	Oth	Dur	Cpt	Oth	Dur	Cpt	Oth
Academic	<i>Academic</i>	1	5	0	0	0	0	0	1	3
Civil Society	<i>CBO</i>	28	8	0	24	18	4	15	1	1
	<i>NGO</i>	5	0	16	10	0	8	15	0	0
	<i>INGO</i>	7	2	1	2	0	2	0	0	0
	<i>Other civ soc</i>	19	0	1	7	13	5	10	1	3
	<i>Labour</i>	0	0	0	0	0	0	0	0	0
Government	<i>Local Gov</i>	13	5	1	28	4	0	7	5	4
	<i>Prov Gov</i>	2	0	0	0	2	0	1	1	3
	<i>Nat Gov</i>	9	12	36	7	10	35	6	3	42
	<i>Intl Gov</i>	0	2	2	0	0	2	1	1	7
Industry	<i>Enref/Engen</i>	55	0	0	26	0	1	41	0	0
	<i>Sapref/Shell/BP</i>	41	0	0	35	0	0	38	0	0
	<i>Calref/Caltex</i>	0	48	0	0	59	2	0	38	0
	<i>Other industry</i>	3	4	5	6	16	31	5	12	32
Media	<i>Media</i>	3	2	0	4	0	2	0	0	1
Subtotal		186	88	62	149	122	92	139	63	96
Total		336			363			298		

Well-defined interorganisational relationships did result in discursive patterns within these distinct fields. In Durban, the Peek-D'Sa 'double act' continued. The dual-pronged strategy of D'Sa engaged primarily at the local level with rhetoric aimed at industrial polluters, and Peek engaged at the local, provincial and national levels is evident in the network diagrams. This coordinated effort was unique to Durban. As evident in Table 7.1, Durban had both CBOs and NGOs engaging in the field whereas Cape Town only had CBOs.⁶⁷ Durban also had a more active municipal government participating in the field than Cape Town, particularly in 2005, when Enref was fined for exceeding its new permit requirements. However, the national government citations were consistently higher in Cape Town than in Durban. This demonstrated the national government's increasing concern with Calref's environmental performance and the economic implications of the fuel shortages in the Western Cape, as well as Durban's unique devolved multistakeholder initiative to manage air pollution, the MPP.

⁶⁷ SDCEA in Durban and the TVRA in Cape Town were coded as CBOs whereas Groundwork is coded as an NGO.

'Other industry' had a large number of citations in Cape Town and at the national level in 2005 and 2006; this again is related to the fuel shortages in the Western Cape and Gauteng.

The construction of institutional logics is underpinned by the ideational dispositions of the dominant actors. Some key patterns, distinctions and themes emerged. In Durban, SDCEA and Groundwork continued to engage utilising the logic of environmental justice and corporate accountability in organisational fields at the host community, national and international levels. In contrast, in Cape Town the TVRA engaged at the host community and national levels occasionally utilising rights-based rhetoric but generally participated with the more cooperative logic of managerial environmentalism. As discussed in Chapters 5 and 6, broadly speaking, this logic of managerial environmentalism dominated the regulatory space at the host community and national levels both in Durban and Cape Town. However, it is important to clarify that the environmental justice activists in Durban did not oppose the promulgation of the AQMA and the implementation of the MPP; in fact, SDCEA and Groundwork participated in the formulation of these regulatory processes and monitored and enforced their progress.

It is also important to highlight that civil society was not homogeneous within the two host communities. In Durban, Peek and D'Sa framed issues differently but were closely aligned and regularly communicated. Rajah Naidoo of the MRA had fallen out with SDCEA in the early 2000s and had become a city councillor representing the Bluff in 2006. He supported SDCEA but did not actively participate within it. The balance of discursive and dispositional power perhaps tipped towards Naidoo in 2006 when he became councillor (Com11 2006; NGO6 2006). Other community members supported SDCEA and Naidoo's more conflictual engagement style, particularly related to protesting against unjust pollution levels, but chose to engage more constructively with the refineries through Enref and Sapref's community liaison forums and social investment programmes (Com8 2006; Com9a 2006; Com9b 2006). It appeared that community sentiment in 2006 was becoming less aligned with Peeks and D'Sa's environmental justice rhetoric.

In Cape Town, there were strong personalities in the community that did not always agree on a community-company engagement style. For example Andy Birkinshaw, TVRA chairman, often used rights-based rhetoric but participated relatively cooperatively with regulators (NGO9 2006; NGO11 2006), Nicholas Lang, a retiree come community activist, was deeply

sceptical of corporate promises (Com12 2006), and Michael Longden-Thurgood, a retired nuclear engineer, attempted to engage more constructively (Com13 2006). However, as demonstrated by the network diagrams, Birkinshaw emerged the public figure representing Cape Town's northern suburbs.

How did the interaction between actors, issue areas and institutional logics influence the emergence of governance structures? Changing regulatory institutions can be identified in three related fields: Durban, Cape Town and the national level. Implementation of air quality regulations was no longer a case of 'if' but 'when'. The national government promulgated the AQMA, formed the Green Scorpions, implemented clean fuels regulations and began to reassess the EIA regulations. Durban implemented the MPP and Cape Town formed an air quality management plan. The refineries had to implement the clean fuels requirements and Enref and Sapref received new permits under the MPP. All three refineries continued to engage with local stakeholders and make environmental improvements.

Although there is a general trend of increasing regulatory pressure at the national and local levels, the organisational fields diverged upon close examination of the discursive spaces in Durban and Cape Town. The normative understandings of 'appropriate' social and environmental performance had changed significantly in the Basin since 1994. From 2004 to 2006 the regulative dimension gained credibility as regulation at the local and national level become implemented and enforced. What was interesting about the MPP was that, although a regulative institution, it still provided the space for normative understandings to be debated (as evident by the findings from the health study in 2006). In Cape Town, the norms of socially appropriate corporate environmental behaviour had changed, but the institutionalisation process evolved differently. Regulatory threats lingered within the field, but did not gain authority like in the South Durban Basin. This demonstrated the power of discursive strategies. Activists in the Basin acted as entrepreneurs to create cross-scale spaces of contestation over what constituted legitimate corporate environmental performance; whereas those in Cape Town's northern suburbs engaged with Calref in a more measured and conciliatory fashion within the host community and country. Entrepreneurs in the Basin created the space for new regulatory structures, those in Cape Town did not have such success.

However, it is not altogether surprising that the discursive strategies utilised in the Basin would yield collective action prior to those in Cape Town's northern suburbs. The characteristics of the people and the places were very different. The rights-based and historically embedded frames utilised by the institutional entrepreneurs in Durban yielded more collective action. In addition, the municipal government's priorities may have differed given the perceived impacts of industry on pollution-related issues.⁶⁸ Also at the national level, although regulatory pressures emerged it would take time for these processes to be implemented. National regulators began to put pressure on Calref, but the organisational fields continued to differ significantly between Durban and Cape Town.

7.4.2 Micro level: organisational legitimacy

Refinery legitimisation strategies, as alluded to above, not surprisingly differed. Enref continued to have quite low field level legitimacy, which was influenced by continued plant upsets, permit exceedances, debate over the creation of refinery buffer zones, the failed Sasol-Engen merger, and vociferous verbal attacks by D'Sa and SDCEA. Its CLF was less organised and effective than Sapref's. Although SDCEA boycotted both community-company engaged forums, members within SDCEA did attend as individuals or as members of other community organisations (Com8 2006; Com9a 2006; Com9b 2006).

Sapref, on the other hand, began to repair its organisational legitimacy. A dual pronged approach was taken between subsidiary and parent companies. Sapref's CLF became a legitimate community-company engagement forum within the Basin. It was run by an independent facilitator and it resulted in community-driven social and environmental outcomes. Sapref EHS, sustainability and communication managers participated regularly in the forum, as did a variety of community-based organisations which sought to influence the refinery behaviour and possibly benefit from its social investment funds. From interviews, CLF meeting minutes and the subsequent report produced by Sapref it appeared that the multistakeholder initiative did build a degree of trust and mutual understanding (Com8 2006; Sapref 2008; Com9a 2006; Com9b 2006). Evidence of this trust building can be found in the

⁶⁸ It is important to recognise, that in the South Durban Basin industrial facilities (the oil refineries, paper producer and sugar refinery) were responsible for a comparatively large portion, i.e. 80%, of the SO₂ pollution load (SA DEAT 2007b); whereas in Cape Town, industry was estimated to contribute only 22% to the area's "Brown Haze" air pollution problem (Wicking-Baird et al. 1997). However, the primary component of Brown Haze is PM_{2.5} emissions; thus SO₂ and other emissions may still significantly impact Calref's host communities (as evident by the ongoing health study politics in the Northern Cape Town communities).

variety of projects that have been implemented to date, which include (Sapref 2008): a “greening” (i.e. environmental landscaping) programme at the refinery; an odours leaflet to help South Durban residents identify odours and their possible causes; a “sniffer” mobile air monitor to measure air quality within and around the refinery; painting the refinery stacks a more visually pleasing light grey (the colour was chosen by CLF members); and a youth soccer development programme in the Basin. It is important to recognise that these projects were chosen and designed by Forum participants. Critics, though, felt that the CLF was a greenwash approach, accommodating community concerns to legitimise business-as-usual. Peek and D’Sa even went so far as to call the CLF a “dangerous” deliberate intervention to destabilise community opposition and relations in the Basin (NGO5 2006; NGO6 2006).

Sapref sought legitimacy by developing shared understanding with community members, and by conforming to the community demands. A large area of disagreement between local communities and Sapref was over action to be taken as a result of the 2001 petrol leak. Sapref initially said it would conduct selective repairs of its pipelines, but in late 2005 it decided to replace the seven supply lines instead. NGOs claimed victory, but Sapref insisted that it was a business decision (Ind13b 2006; NGO6 2006). This perhaps symbolised a turning point for the refinery’s legitimisation strategy.

Sapref’s parent company Shell also actively took action to help repair the refinery’s host community legitimacy. As discussed Shell agreed to a direct line of communication from its fenceline communities to the highest level of decision making within Shell (FOEI 2005), though more recent correspondence with Shell representatives suggest that this linkage was not continued (Ind16 2007). Equally interesting is the lack of engagement of activists with Petronas, the parent company of Enref. As Desmond D’Sa remarked, “We are putting together a huge campaign against Engen, in South Africa not in Malaysia. The Malaysians just won’t listen to us. So we will campaign in South Africa” (NGO6 2006).

Calref lost legitimacy with community and government representatives. The refinery’s string of incidents, coupled with its key role in the Western Cape fuel shortages served to undermine its legitimacy. Steve Woodruff, Calref’s general manager, attempted to repair the refinery’s poor reputation with genuine intentions, but was undermined by continual plant upsets. In 2006 it appeared that Chevron had finally stepped in. A new general manager arrived, Gordon Smith, and Chevron executives attended refinery events and actively spurred the refinery

employees to achieve 'operational excellence' (Ind15 2006). As will be discussed in Chapter 8, the role of refinery managers was significant in terms of repairing host community legitimacy.

7.5 Chapter summary

From 2004 to 2006 the organisational fields became structured in different ways. In Durban the regulative institutional dimensions matured and began to significantly impact corporate environmental behaviour. In Cape Town regulative dimensions did not gain authority, and there was little substantive change in corporate environmental performance. As discussed above this divergence was related to the discursive strategies, characteristics and resources of actors participating within the field. The superior ability of institutional entrepreneurs to wield discursive power and assume roles of authority was clearly apparent in Durban, but not in Cape Town. Durban Muni's proactive response to the perceived environmental injustices of industrial pollution was in stark contrast to Cape Town's more reactive approach to governing its industrial polluters. A field at the national level also emerged, as national regulation promulgated and began to be implemented.

Evident from this analysis is that the implementation of the regulation was patchy, time- and resource intensive. An optimistic start was made in Durban. Whether or not innovative multistakeholder initiatives to govern industrial pollution could be established in other contexts remained an open question. Given Cape Town, the municipality with arguably the most resources and civil society capacity, could not successfully govern corporate environmental performance raises difficult questions for civil society leaders and government authorities.

8 COMPARING THE PROCESS OF INSTITUTIONAL AND ORGANISATIONAL CHANGE

The problem that new institutionalist research has run into is that most empirical efforts have focused on environmental changes that are not effectively linked to the activities of individuals and organizations...This ambiguity regarding the neoinstitutional theory of action is at the core of its weakness. The details of micro-level action are needed to explain how macro-level institutions change. (Hirsch and Lounsbury 1997: 411-412)

One of the goals of this research is to unpack the 'black box' of institutional theory by identifying mechanisms of institutional and organisational change. The aim here is to distil key findings through a comparative analysis of institutional and organisational change in relation to the three oil refineries. Chapter 8 combines insights from Chapter's 4 through 7 to address the study's overarching aim, to explain how and why corporate environmentalism has evolved in South Africa's post-apartheid fuel oil industry. As the above quote suggests, the structuration of the organisational field was not a quasi-automatic process; in fact, multiple actors internal and external to the firms at multiple scales participated in the process of field structuration.

In Durban, Enref and Sapref's organisational field related to the issue of industrial pollution started out in the mid-1990s as unstructured and fragmented. By the end of this study's time period, 2004 to 2006, it had remarkably changed – the field was governed by a local multi-stakeholder initiative known as the MPP, which had successfully reduced SO₂ emissions in the South Durban Basin by 45 percent between 2000 and 2005 (Jones 2005: 12). In Cape Town, like Durban, controversy and contestation characterised Calref's organisational field related to industrial pollution, but comparatively little substantive institutional change occurred from 1994 to 2006. New regulative governance structures to mitigate industrial pollution did not emerge in Cape Town as they did in Durban. The fields in Durban and Cape Town in fact bifurcated in the early 2000s.

By addressing how and why corporate environmentalism evolved over time the study establishes both theoretical insights into the processes and mechanisms of institutional and organisational change and policy relevant outcomes within and beyond South Africa. The

goal is not to uncover “universal laws of human behaviour”, nor is it “atheoretical descriptive narrative”; it is to establish middle-range theory, where *mechanisms* of institutional and organisational change can be identified for a specific set of situations and circumstances (Campbell 2004: 63-64). As Campbell (2004: 63) explains, mechanisms can be defined as the “processes that account for causal relationships among variables”; specifying causal mechanisms is moving beyond correlation to identify not only *that* a relationship exists but also *how* one explanatory factor affects another.

Chapter 1 established a multi-scale, multi-actor framework to typologise drivers of corporate environmentalism; Chapter 2 established a framework of MNC complexity and organisational field dynamics utilising institutional and organisational theory. Chapter 8 will now identify mechanisms of institutional and organisational change in order to develop theoretical insights stemming from this study’s results. This chapter begins by using diagrams to compare the findings from Chapters 4 through 7. The analytical framework (Figure 2.2) developed in Chapter 2 is then illustrated with key findings and propositions. Sections 8.2 to 8.5 identify how key events or institutional junctures, actors’ agency, firm level factors, and host community/country context are critical in the process of institutional and organisational change, and section 8.6 revisits the overarching themes of power and scale within the analysis. Key mechanisms or propositions are highlighted (see Figure 8.5) in order to distil this study’s research findings and to identify avenues for future exploration.

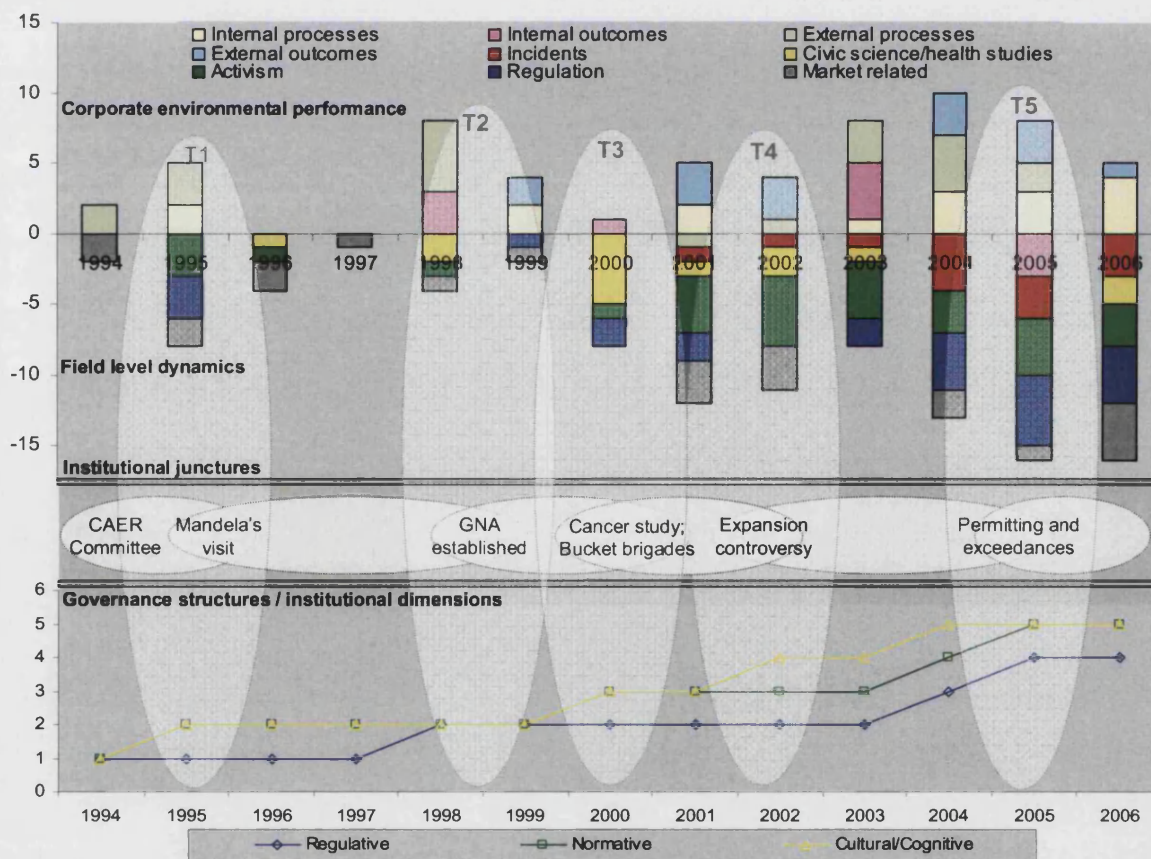
8.1 How and why has corporate environmentalism evolved?

In Chapter 2, section 2.2, it was posited that organisational field dynamics, moderated by parent company and subsidiary legitimation strategies and characteristics, would influence a refinery’s environmental performance. As discussed in Chapter 7, broadly speaking, given differences between parent-subsidiary relations and resources, this was the case. Sapref had stronger oversight from Shell than Enref and Calref had from Petronas and Chevron; Sapref subsequently repaired its host community legitimacy more significantly than Enref and Calref. In order to gain further analytical insight, the process of institutional and organisational change is compared between the three refineries.

Figures 8.1, 8.2 and 8.3 distil for each refinery the key corporate environmental performance indicators, as discussed in Chapter 4 (Figures 4.3, 4.4 and 4.5), in one diagram together with the field level dynamics, key events and changing governance structures/institutional

dimensions identified in Chapters 5 through 7. These figures facilitate comparison between internal and external drivers of corporate environmental performance within and between the firms. As discussed in section 4.4.2, on a scale of negative five to plus five, ratings were assigned per year for categories of environmental performance; these include internal processes (off-white), external processes (light green), internal outcomes (pink) and external outcomes (light blue). For example, in 1998 Enref received a plus five on external processes for establishing a GNA and a three on internal outcomes for setting targets for emissions reductions based upon the GNA. The indicators were derived iteratively from the analysis of the media and interview data. However, these analytical conclusions could be made more rigorous by having consensus among a research team as opposed to a single investigator (Eisenhardt 1989).

Figure 8.1: Enref's promising start and ongoing environmental performance struggle

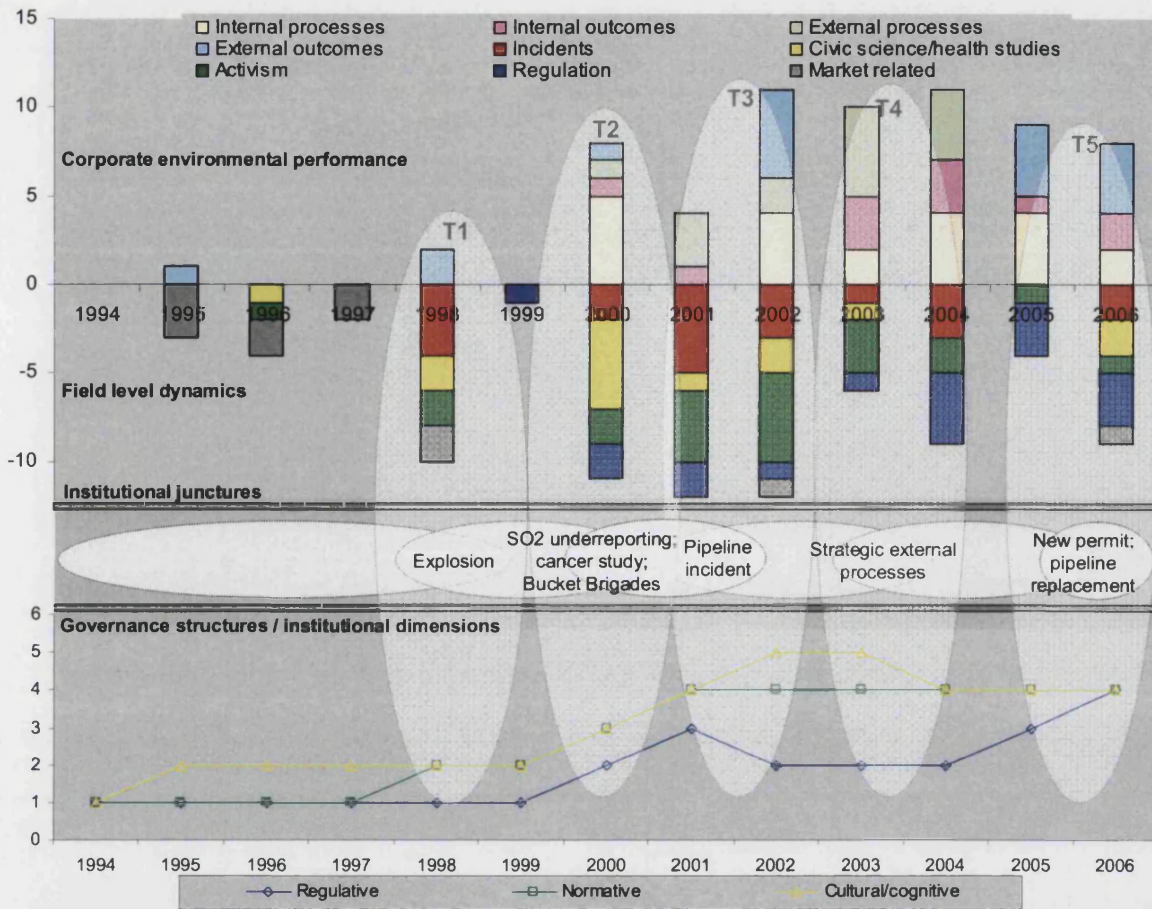


Similarly the field level issue areas, as illustrated in the network diagrams in Chapters 5 through 7, are represented in Figures 8.1 to 8.3 in five categories: incidents (red); civil science/health studies (yellow); activism (green); regulation (blue); and market related issues

(dark grey). These were assigned numeric ratings per year from zero to negative five. The negative rating is for the illustrative purpose of juxtaposing the positive environmental performance indicators above the x-axis to the field level dynamics below the x-axis. For example, in Figures 8.1 and 8.2 the category marked in yellow (civic science and health studies) was given a negative five rating in 2000 because in the South Durban Basin a local journalist's story about cancer in the Basin attracted much media attention, and Groundwork and SDCEA used the bucket air sampling technique to raise awareness of cancer causing air pollutants in the Basin. These events were given the maximum negative five rating because of how these studies affected framing processes and institutional dimensions. Environmental performance indicators deemed negative, such as Enref's fine in 2005 and Calref's directives in 2005 and 2006, are also represented below the x-axis as negative internal outcomes (in pink) (see Excel file titled env_perf_data.xls in the enclosed CD).

From the analytical narrative in Chapters 5 through 7 five *key events or institutional junctures*, i.e. moments in time when the organisational field was particularly fragmented or in a process of transition, were identified between 1994 and 2006. These institutional junctures occur at different times, for different reasons and yield different outcomes for each of the refineries.

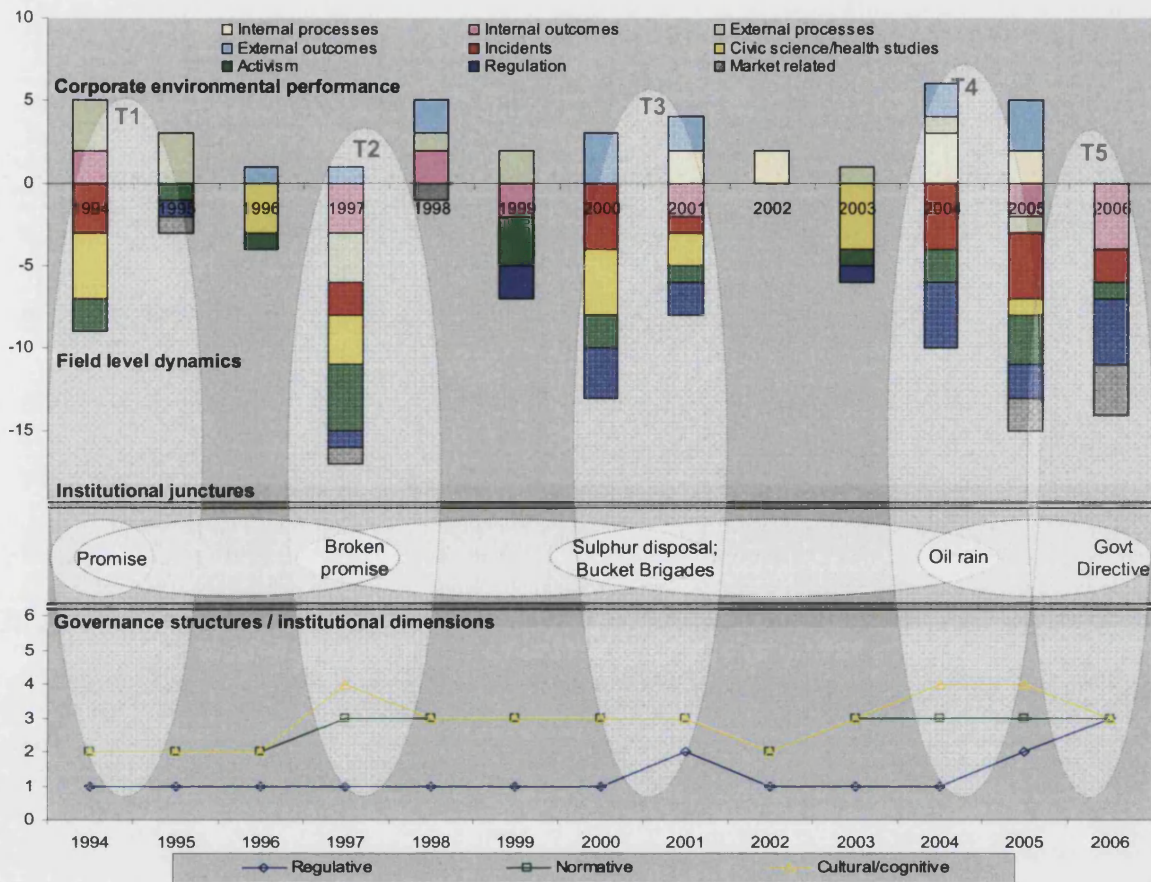
Figure 8.2: Sapref's legitimacy crises and evolution as a 'fast follower'



Also represented in Figures 8.1 to 8.3 are the changing governance structures or institutional dimensions. These line graphs illustrate how the regulative, normative and cultural/cognitive institutions change over time for each refinery.⁶⁹ A scale of zero to five is used to code the changing institutional dimensions on a yearly basis; zero indicates weakly developed institutions and five strongly developed institutions. For example in Figure 8.1, Enref had quite weak external governance of environmental performance in 1994. Thus, all the institutional dimensions were graded one, but by 2006 its host country/community institutions dimensions for corporate environmental performance had become well defined. Therefore, Enref received a five for the normative and cognitive, and a four for the regulative institutional dimensions. The actual assigned number is not of primary concern; what is relevant is the trend over time and the pattern that emerges between the different institutional dimensions and their relation to other field level dynamics and events.

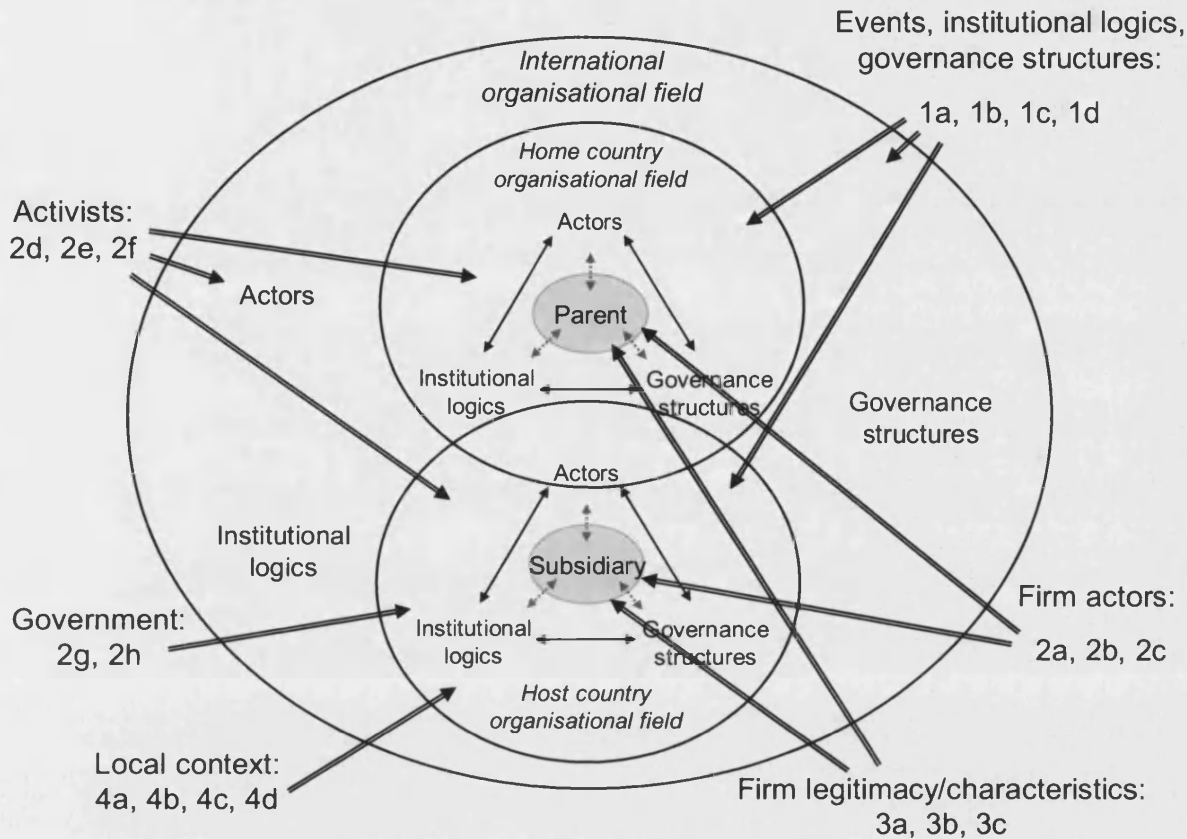
⁶⁹ See the worksheets for Enref, Sapref and Calref in the Excel file titled env_perf_data.xls to view justification for these estimates.

Figure 8.3: Calref's comparative lack of institutional and organisational change



How and why corporate environmentalism changed over time will now be explored by comparing and contrasting a variety of factors emerging from the analysis that influenced field structuration and corporate environmental performance outcomes, including: events, institutional logics, governance structures, actors' agency, firm factors and host community context. After each section propositions are identified, in order to distil key insights from this study and mechanisms of institutional and organisational change. Figure 8.4 illustrates how the various propositions are related to the framework of MNC complexity and organisational field dynamics discussed in Chapter 2 (Figure 2.2).

Figure 8.4: Propositions related to MNC complexity and organisational field dynamics



8.2 Events, institutional logics and governance structures

Within this study, *key events* or *critical institutional junctures* acted as lightning rods to trigger fragmentation and (re)structuration processes (see section 2.3). These moments in time created 'windows of opportunity' for multiple stakeholders, internal and external to the firms, to contest and construct new understandings of legitimate environmental performance (see e.g. Folke et al. 2005; Kingdon 1995). The events often disrupted existing understandings and enabled opportunities for actors to create or influence discursive spaces within the field. Key events corresponded with changes in governance structures and refinery environmental performance efforts in all three cases. The literature on institutional change and organisational behaviour has highlighted the importance of events in (re)structuring organisational fields (Hoffman 1999; Hoffman and Ocasio 2001). Here the analysis goes one step further and categorises types of events and identifies how field level actors use discursive strategies to construct institutional logics and governance structures at the site level. It is important to recognise how events influenced field level processes and firm legitimacy within host communities, which has important ramifications for the management of a firm's social license

to operate. The following discussion highlights linkages between field dynamics and institutional change through a brief recap of the analytical narrative elaborated in Chapters 5 through 7.

8.2.1 A contested process of institutional and organisational change

1994 to 1999: The pollution struggle emerges

At the beginning of the research period Calref, Enref and Sapref were impacted by significant events that created critical junctures in the structuration of the organisational field related to their environmental performance. As indicated in Figures 8.1 and 8.2, in 1994 both Enref and Sapref's institutional dimensions were not well defined. However, as indicated in Calref's T1 in Figure 8.3, its general manager's pollution reduction promise was spurred by a MRC report into the effects of Calref's pollution on local residents and community outcry in opposition to Calref's production increases and perceived health impacts. This event opened up the space for institutional construction and, as per the dominant logic of technocratic managerial environmentalism, the normative institutional dimension gained strength.

Calref proactively engaged with community stakeholders the earliest out of the three refineries, as indicated by the increase in environmental performance external processes and internal outcomes in Figure 8.3's bar graph for 1994. Enref followed in 1995, but Sapref did not substantively engage with community stakeholders until six years later. The second major event which structured Calref's field was its broken pollution reduction promise in 1997 (T2 in Figure 8.3). The manager had to renege on his promise to reduce emissions by 80 percent after profit margins began to fall as the Asian Crisis loomed. This 'broken promise' event coupled with an increase in SO₂ emissions that year significantly damaged Calref's legitimacy. The event acted as a turning point for Calref: it catalysed community activism, reinforced community-company distrust, and limited the opportunity for a GNA to be established between Calref and its surrounding communities. Also influencing Calref's institutional environment was the publication of Cape Town's "brown haze" study and the refinery exceeding SO₂ WHO guidelines. A process of fragmentation occurred, and, as indicated in Figure 8.3, both normative and cognitive institutional dimensions were influenced by these events.

In Durban, as indicated by T1 in Figure 8.1, President Mandela's visit to Enref in 1995 impelled the refinery into engaging with external community stakeholders and started a

process of internal learning. As indicated by Enref's line graph in Figure 8.1, the refinery's normative and cognitive institutional dimensions became more structured. Enref's attempts to establish a Responsible Care CAER committee in 1994 and 1995 influenced the emergence of managerial environmentalism and environmental justice logics in the Basin. Enref willingly opened itself up to stakeholder scrutiny in order to legitimise itself within the new South Africa prior to Mandela's visit. This event sparked a process of cultural/cognitive transition where the accepted beliefs in the Basin began to change in relation to the environmental legitimacy of the fuel oil refineries. Enref's success in establishing a GNA with community groups in 1998/1999 (T2 in Figure 8.1) demonstrated its commitment to improving its internal and external environmental performance. This voluntary regulative initiative influenced Enref's future environmental performance improvements.

Sapref on the other hand was impacted by internal parent company scrutiny after an explosion occurred in 1998 (T1 in Figure 8.2). This event created the space for both internal and external oversight regarding its management processes, thus the narrowing of its normative institutional dimension is indicated in Figure 8.2. Also influencing normative understandings more generally in the Basin in 1998 was the publication of the preliminary CSIR report on air pollution in the Basin.

In the mid to late 1990s a degree of organisational isomorphism occurred in Durban. Both Enref and Sapref were affected by changing host community norms and beliefs in the mid-1990s. The environmental justice discursive frame utilised by Durban activists in the mid to late 1990s was competing for discursive power with the win/win logic of managerial environmentalism and the powerful logic of economic growth and industrial expansion (although the Asian Crisis dampened to some extent the latter two logics). Normative and cognitive institutions were influenced by the interaction of these competing logics. Cape Town's community groups used a different discursive strategy. They used a technocratic approach to engage with industry and government officials to seek efficient and effective environmental outcomes; they engaged primarily utilising the discourse of managerial environmentalism as opposed to rights-based rhetoric (although that began to change in 1999).

2000 to 2003: Spaces of contestation

In 2000 the institutionalisation of environmental performance related to all three fuel oil refineries was influenced by the advent of civic science. An example was Groundwork and SDCEA's Bucket Brigade campaign. Groundwork took air samples in both Durban and Cape Town. This community-based air monitoring initiative significantly raised the profile of cancer causing volatile organic compounds (VOCs), such as benzene, in public discourse. This 'event' is marked on Enref's timeline as T3, Sapref's as T2 and Calref's as T3. It is interesting to note that this is the only event that impacted the discursive spaces (i.e. fields) in Durban and Cape Town at the same time for all three refineries. It is evidence of the discursive power of the logics of environmental justice coupled with that of information-based regulation.

In 2000, affecting both Enref and Sapref, a local journalist's investigative story on abnormally high incidences of cancer in the Basin sparked much public concern (also Enref's T3 and Sapref's T2). This concentration of interest in the Basin caught the attention of national government. An action plan (which later evolved into the MPP) was initiated by the Environment Minister to address these local level air pollution and environmental issues. In Durban, the media took not only an active role in reporting but also in constructing the issue areas (see e.g. Barnett 2003; Barnett and Scott 2007). This is a clear example of how community and media-driven institutional logics resulted in a quasi-regulatory response.⁷⁰ In addition, in 2002 the Settlers School health study was published which fuelled community health concerns, the WSSD took place in Johannesburg which brought international attention to the plight of South Durban's residents and, in 2003, SDCEA published its influential comparison study of refineries in Durban versus Denmark.

A combination of proactive media, civil society activism and academic-driven health studies constructed public perception in the Basin and heavily influenced the normative and cultural/cognitive host community institutional dimensions for Enref and Sapref. It had become accepted belief that these refineries were 'killing' local people, and it was socially appropriate to demand these industrial facilities clean up their acts and insist government implement and enforce the right to a clean and healthy environment. Enref received backlash

⁷⁰ 'Quasi' because the resulting regulation (the MPP) was a multistakeholder initiative founded on the principles of partnership, transparency, information and accountability.

from its host community when in 2002 its efforts to receive planning approval to increase production were bitterly opposed by SDCEA and attempts to renew its GNA failed (Enref's T4). Here dissonance between community and industry normative and cognitive understandings is evident, largely driven by the logic of economic growth and industrial development.

Sapref was notably impacted by high profile events in the early 2000s. In 2000 Sapref's managing director apologised for significantly underreporting its SO₂ emission since 1995 (also T2 in Figure 8.2). This was a watershed moment for the refinery. It was the first time it had openly engaged with its community stakeholders and held itself to a level of public accountability not required by law. A second event occurred in 2001 when one of the refinery's underground pipelines leaked about a million litres of petrol in a residential area (Carnie 2001d). This incident negatively impacted Sapref's organisational legitimacy spurring much activism and regulatory scrutiny (T3 in Figure 8.2). Provincial government issued Sapref a directive in 2001 after a string of incidents. Given this series of events, Sapref's normative, cultural/cognitive and regulative dimensions were all increasingly affected. However, after 2001 there was little mention of regulatory efforts until 2005 as indicated in Figure 8.2. Although the line graph in Figure 8.2 is simplistic, it does demonstrate the trend that Sapref's external legitimating environment became significantly more structured in the early 2000s.

In 2000-2001, Calref's field was also structured because of incidents and civic science (T3 Figure 8.3). Groundwork's Bucket Brigades, like in Durban, raised the profile of carcinogenic air pollutants, and Calref failed to plan for a proper sulphur disposal solution after the chemical plant which processed its excess sulphur was due to close in 1999. As indicated in Figure 8.3, regulation briefly strengthened: In 2001 the Western Cape government prosecuted Calref for constructing a sulphur disposal processing unit without a proper EIA. Calref's poor planning is indicative of relatively lax internal management processes. Interestingly, in 2002 there was very little indication of civil society or regulatory pressure on Calref (as indicated in Figure 8.3), but in 2003 Calref's host community normative and cultural/cognitive institutional dimensions were structured by the publication of a UCT health study commissioned by the NCAMTG which found higher levels of asthma among children located next to the refinery. This form of health study politics is again an example of a contested logic

of managerial environmentalism, i.e. a technocratic science-driven governance process. Quite different than the underlying institutional logics at play in the South Durban Basin.

2004 to 2006: Divergent fields

Towards the end of the research period Enref's host community and regulatory legitimacy was increasingly challenged (indicated by T5 in Figure 8.1). The MPP was being implemented and the AQMA was in the process of being promulgated. Enref's string of incidents between 2004 and 2006 hardened community activism as articulated through the logic of environmental justice. Indicative of the emerging managerial environmentalism logic in Durban, Enref became the first refinery to receive its revised pollution permit under new air quality regulations in 2005. The refinery had difficulties meeting its SO₂ permit requirements and was fined R10,000 for violating Durban Municipality's by-laws. Community activists hoped this nominal fine would set precedence for future legal action under the new 2005 AQMA. As demonstrated in Figure 8.1, host community cultural/cognitive and normative understandings became more structured from 2003 onwards. However, as indicated in the line graph in Figure 8.1, the terms of Enref's permit (i.e. regulatory institution) appeared to be slightly discordant with community beliefs and normative understandings as Enref negotiated with government to get more lenient terms in 2006.

In contrast, Sapref made efforts to repair its host community legitimacy between 2004 and 2006. It became more strategic with its stakeholder engagement processes (T4 in Figure 8.2), chose to replace instead of repair its underground pipelines, and received a new pollution permit (T5 in Figure 8.2). Although Sapref did have a few incidents during this time period, the focus on Sapref in the media diminished, particularly in comparison with Enref. The refinery's general manager was rarely cited in the press, and Sapref's Community Liaison Forum succeeded in building a degree of trust and understanding with certain members of the community (SDCEA was noticeably absent). As indicated in Figure 8.2, regulatory institutions strengthened as Sapref's new permit was issued in 2005. It appears that Sapref's regulatory dimensions had essentially conformed to host community beliefs and norms. There did not appear to be significant discord within its host community and regulative legitimating environment.

Calref on the other hand had a high profile incident in 2004 when water accidentally mixed with hot crude oil and a plume of steam sprayed oil over the property of local residents

(Dreyer 2004a) (T4 in Figure 8.3). This ‘oil rain’ incident catalysed the field with outcries from community members, the media and national regulators. Given Calref’s continued incidents in 2005 its host communities maintained a critical stance on the refinery. However, as indicated by the decreasing cultural/cognitive institutional dimensions in Figure 8.3, host communities appeared to engage less actively with Calref in 2006 as regulatory pressure increased.⁷¹ In 2006 Calref was served notice by DEAT of an intention to issue a directive after a string of pollution incidents (LGov9 2006; LGov10 2006; NGov1 2006). Similar to Sapref, but yet with considerably less host community legitimacy, the regulative, normative and cognitive institutional dimensions related to Calref’s host community organisational field appeared to be at similar levels in 2006 (all rated a three in Figure 8.3). This was most likely a transitional year for the refinery as it was receiving considerable regulatory pressure and, finally, parent company pressure from Chevron to improve its environmental performance. The following propositions can be inferred from this discussion:

Proposition 1a: Key events/institutional junctures will affect existing understandings and create opportunities for actors to influence field fragmentation and/or (re)structuration.

Proposition 1b: Activists employing the logics of environmental justice and corporate accountability will affect field structuration more significantly than actors employing the logics of managerial environmentalism.

Proposition 1c: The strength, persistence and quality of normative and cultural-cognitive institutional change within a firm’s organisational field will precede and significantly affect the possibility of regulative change.

8.2.2 Categorising the event history

The institutional junctures that emerge from the analysis can be categorised on a two by two grid as illustrated in Figure 8.4. The event history is analysed according to the degree to which they represented *conflict* versus *consensus* in relation to the firm’s environmental performance and *chance* versus *choice* in relation to the origins of the event. Conflict versus consensus not only makes intuitive but also theoretical sense as this research is interested in the dialectic between institutionalisation processes (i.e. structure) and micro level power and politics (i.e. agency). Chance versus choice is also consistent with this study’s analytical approach, as it refers to the role of agency within field level processes. What was not expected from this mapping exercise was the way types of events clustered within the grid. After colour

⁷¹ These findings were demonstrated in the network diagrams, which came from newspaper data and from the interview data.

coding the institutional junctures according to the key actor/incident driving the discursive process – e.g. red for incidents, blue for government, green for civil society and purple for industry – clusters emerged.

Refinery incidents, in red, were chance events that led to conflict. Civil society driven events, in green, were predominantly conflictual. They may have emerged in response to corporate environmental behaviour, but these discursive strategies were ‘chosen’ by civil society actors to varying degrees. For example, Calref’s broken promise in 1997 (C2 in Figure 8.4) resulted in a strong community and media response, but this community campaign was a direct response to a corporate activity. This can be compared to the E3 and S2, which coincided with the Durban-based journalist’s cancer study and Groundwork’s Bucket Brigade campaign. These interventions demonstrated strategic interventions by civil society actors and were indirect responses to Sapref and Enref’s environmental behaviour. In addition, given the prevalence of protest activism and rights-based discourse employed in Durban, community-driven events (E4, S2 and E3) in Durban are categorised as more conflictual than those in Cape Town (C3 and C2).

Government responses to refinery pollution tend to be in the centre of the grid, striking the middle ground between conflict and consensus and demonstrating choice versus reacting to events. The institutional junctures influenced by industry’s choice were initiatives and activities that aimed to achieve consensus (underpinned by the logic of managerial environmentalism and partnership) with its various stakeholders. For example, Enref’s GNA in 1998/1999 is an excellent example of a consensus-seeking event that was strongly influenced by the refinery’s choice, i.e. legitimisation strategy. Sapref also made important strides particularly towards the end of this research period, from 2004 onwards to repair its host community legitimacy through choosing to engage in activities that would seek consensus or host community legitimacy. A trend can be seen where Sapref’s early ‘events’ were characterised by chance and conflict, whereas towards the end of the research period its ‘events’ were much more consensual and driven by industry strategy.

Figure 8.4: Categorising the event history

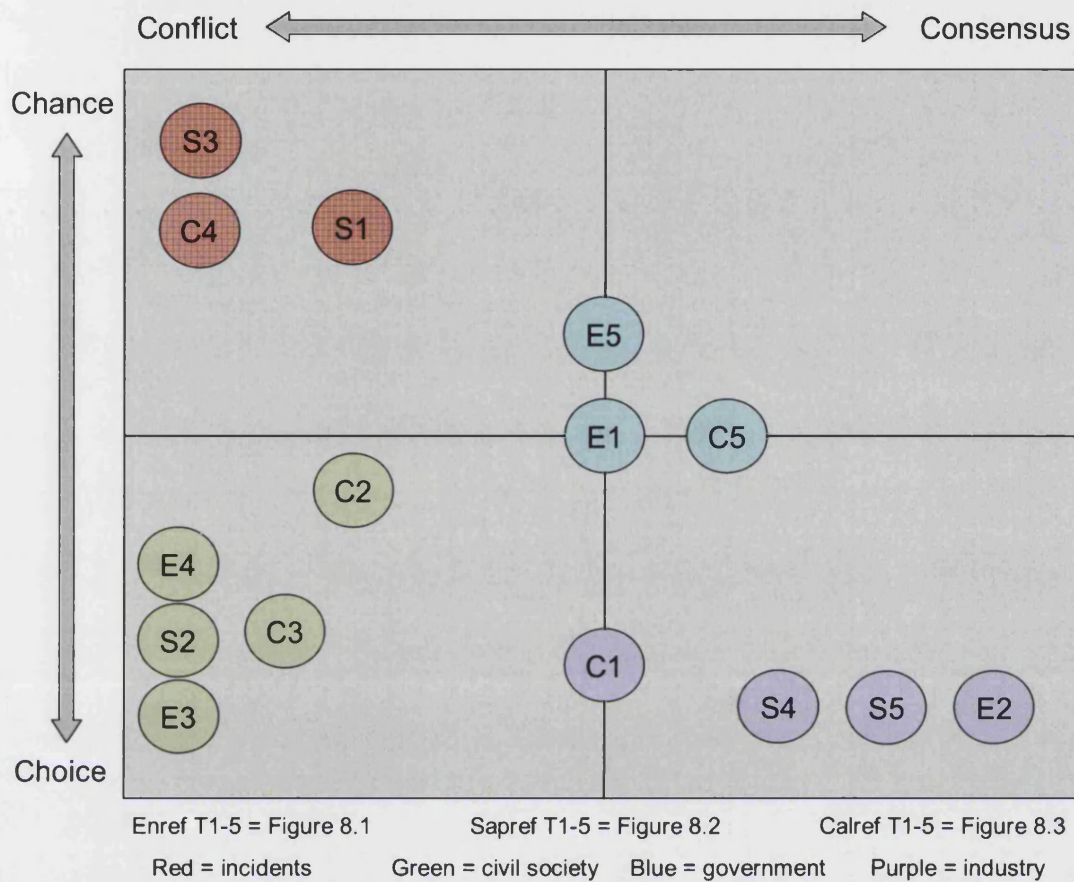


Figure 8.4 demonstrates how conflictual and potentially polarised the host community environments have been for the refineries. The critical institutional junctures have been significantly impacted by civil society activism. Also apparent from the diagram is that *consensus does not occur by chance*. Consensus requires a deliberative and strategic approach by the refineries. Calref and Enref attempted early in the research period to build consensus and host community legitimacy but poor corporate and community relations hindered these ambitions. Section 8.3 considers what might influence these divergent outcomes.

A key question is the degree to which consensus should be the desired outcome. In other words, *is conflict necessary* for superior environmental performance gains to be made and outcomes that are more just for host communities? This question is considered in the final chapter. The following proposition can be distilled from this analysis:

Proposition 1d: An industrial facility in the process of repairing host community legitimacy will affect field structuration through constructing events/institutional junctures that are characterised by consensus.

8.3 Agency in field dynamics

The importance of agency in field dynamics is apparent from the analysis in Chapters 5 through 7 and from Figure 8.4. Key actors influenced the discursive framing of issues, which, in some cases, instigated events/institutional junctures. The examination of relational forms of power is central to this analysis. As illustrated in the network diagrams in Figures 5.9, 6.5 and 7.4, key actors were densely networked and centrally located. These were often civil society actors who held positions of authority within the field given their influence over framing processes. They achieved discursive power through both coercive and cooperational strategies. However, media, government and industry all engaged in field debate. As discussed in section 2.4.1, the firm itself can demonstrate agency through its legitimation strategies. This section considers the influence of firm, civil society and government actors in shaping field dynamics.

8.3.1 General Managers and internal champions

Internal actors within the firm can strongly influence corporate strategy (Andersson and Bateman 2000; Schaefer 2004; Sharma 2000). For example, Enref's choice in the mid-1990s to proactively engage with community stakeholders was largely influenced by internal champions. Calref's choice in 1994 to reduce emissions by 80 percent (which it subsequently failed to achieve) and Sapref's choice in 2000 to open up and engage with community stakeholders largely came down to the leadership of the refineries' general managers. The role of the refinery general manager emerged as a crucial factor in influencing community-company relations (Ind3 2006). Indeed Richard Parkes, Sapref's general manager from 1999 to 2004, had his 'road to Damascus' moment in 2000 and started a culture shift within Sapref; however, his goodwill was unleashed into an environment of complete distrust (Ind2 2006; Ind3 2006).

Rajah Naidoo, MRA Chairman and local councillor highlighted how the incentive structures for refinery managers could impact site level performance:

I think that all managers without exception are simply using this as a stepping stone to something higher, is clear. They will come here trying to establish a relationship with the community. This being an activist community. How they *control* their activist community will determine their future success... (Com11 2006)

The use of the term ‘control’ by Naidoo is highly relevant. Barnaby Briggs, Shell’s SPMU’s director, stressed how Wayne Pearce, Sapref’s new General Manager from 2004, would better understand than previous general managers the historical context in the Basin given Pearce’s experience managing community conflict at the Shell Norco refinery in Louisiana, US (Ind2 2006). Naidoo’s observations appear to be correct – Pearce was general manager of Sapref for three years but he moved on in 2007. Although the rapid turnover in refinery general managers may be disruptive, when the ‘right’ person takes the helm, it appears to yield results, as Desmond D’Sa explained his willingness to work with Pearce:

I am a bulldog fighter. I could have a go at Sapref every day, but I realised I had to pull back a bit and give these guys an opportunity. So I have had talks with Wayne Pearce and I haven’t been attacking them in public. If I do attack them it is in a meeting. You don’t take something outside a meeting that you agreed upon. I think we’ve moved forward but it is just the trust factor. A year ago Shell promised us some information then Wayne Pearce came in and said I am not going to give it to you. I said look that is not right...I think we need to work around the trust issue but we giving them the space. The last five months I said no press releases around Shell, just phone and write to them directly. I hope that this collaboration continues. (NGO6 2006)

Sapref and Shell have exerted a form of cooperational and agenda setting power through the strategic placement of general managers. Enref on the other hand had internal pressure in the mid-1990s from employees such as Alan Munn, Enref’s sustainability manager, to drive changes in refinery management culture, when community activism began to emerge in Wentworth in 1994 (Ind4 2006; Acad7 2006; Ind5 2006; Ind7 2006). As Tony Carnie recalled:

At that stage (*in 1994*), the (*Enref*) refinery manager was based in Cape Town. He struck people as having a very arrogant stance and he was really there trying to explain away a lot of issues, and he wants to cut meeting short, has plane to catch. You know and stuff...very get this over with. Didn’t go down very well. (Acad7 2006)

Another industry insider highlighted how John Mackey, Enref General Manager from 1999 to 2002, and Alan Munn impacted the refinery’s community relations: “I mean with John Mackey and Alan, Engen has found a much better understanding of community dynamics. Locally have community interaction, not just about environment stuff, also about social development” (Ind7 2006).

Calref also had influential general managers. In 1994, Mike Rademeyer, Caltex Chairman and Calref Managing Director, made the promise to reduce emissions by 80 percent over five years. However, as discussed, this ‘promise’ was never fulfilled and created distrust in the

adjacent communities. A local retired nuclear engineer living in Table View had a measured perspective on the succession of Calref general managers:

Part of the reason (*why the GNA fell through with Calref*) was the fundamental issue of could refinery managers be trusted. This used to come out at the meetings quite a lot. The community lost confidence in the refinery managers. The successor to Rademeyer was Paul Buley, and he was certainly responsible for a lot of the improvements that were implemented, particularly the tail gas plant for removing sulphur before it burnt through into the stack. He was quite successful. His successor was only there for a short time, a man named Paul Allinson, a Brit. Paul Buley was South African. Then they had an American one (*Steve Woodruff*) ...for about three years. Doesn't matter who he is from the community's point of view, you don't trust them. But I can assure you that he was a rather remarkable individual, very human, highly approachable. His grasp of the legislation was remarkable; I was very impressed with him. He did some additional measures to reduce the sulphur emissions. (Com13 2006)

Confirming the prevalence of community distrust, Andy Birkinshaw was concerned that the rapid succession of refinery managers led to accountability gaps:

You (*the general manager*) will go in and run the refinery and still do 96,000 bpd of oil. You will all do same, but when you leave you leave all your relationships. So a new refinery manager says, oh no so and so said that, not me, what are you talking about...You know that's how you can get past government. That's how you can get past community. That's how you can continue the process and not have anyone accountable – keep him for a couple years and change him, I think that is the philosophy behind it. (NGO11 2006)

In each of the three refineries general managers or internal champions at different points in time demonstrated leadership skills that opened up new possibilities for community-company engagement. However, Sapref was the only one that appeared to be successfully repairing its legitimacy towards the end of the research period. The existing literature on internal environmental or sustainability champions emphasises the influence of individuals such as corporate executives and environmental managers within a firm (Andersson and Bateman 2000; Schaefer 2004; Sharma 2000), yet this study, in addition to individuals within the firm, recognises the importance of parent-subsidiary oversight and strategic management, i.e. how general manager turnover at the facility level may influence environmental performance processes and outcomes.

The policy recommendations from these findings are mixed – extending refinery managers' tenure could have negative community impacts if the manager does not have the skills or interest in improving host community legitimacy and environmental performance, and there is the risk that a general manager may overpromise and under deliver as in Calref's case. These

are risks that need to be considered along with the potential distrust that is perpetuated through the revolving door of refinery managers, particularly with regards to Sapref and Calref. The following propositions emerge from this analysis:

Proposition 2a: The strategic deployment of general managers with experience and understanding of community-company relations will positively affect a firm's social license to operate within a given host community.

Proposition 2b: Rapid turnover of general managers will undermine community-company trust.

Proposition 2c: Internal champions will significantly affect corporate environmental legitimization strategies during times of field (re)structuration.

8.3.2 Civil society and the media

Civil society actors on the other hand acted as *institutional entrepreneurs* to influence field institutional logics and governance structures (DiMaggio 1988; Lawrence and Phillips 2004) (see also section 2.3.1). Scholars have highlighted the power of institutional entrepreneurship in fragmented fields (Maguire et al. 2004) as well as in structured fields (Greenwood and Suddaby 2006). As Maguire and colleagues (2004) highlight, there has been comparatively little research on how the skills and strategies used by institutional entrepreneurs may vary in relation to field level context (i.e. if a field is fragmented, structured or in a period of transition). This study contributes to this literature on the role of agency in field level dynamics by examining how the discursive strategies utilised by activists in two different host community contexts influences the process of institutional and organisational change.

Civil society actors in South Africa wielded significant discursive power that sought to contest refinery expansion, underperformance and outdated regulation. As indicated in Figure 8.4 civil society employed discursive strategies to disrupt and reconfigure formal and informal rules. Bobby Peek and Desmond D'Sa emerged as community leaders in South Durban sparked by Mandela's visit in 1995. They formed SDCEA in 1996 and worked successfully with Enref to establish its GNA in 1998/99. As Peek gained international recognition and formed the NGO Groundwork, Peek and D'Sa formed a sort of double act engaging at both national and community levels to campaign for environmental justice. D'Sa and Peek were densely networked within the network graphs particularly from 2000 onwards. This coincides with their effort to instigate civic science and community monitoring schemes

in both South Durban and Cape Town. International NGOs were also influential in building civil society capacity in South Africa. Groundwork linked the California-based NGO Communities for a Better Environment, and introduced the Bucket Brigades to South Africa.

In 2002, the WSSD attracted a flood of international activists to Durban. Greenpeace dropped banners from Sapref and Groundwork became a FOEI chapter. The WSSD significantly raised the international profile of the pollution struggle in Durban. However, interestingly, very little activism occurred in relation to Calref during that time. This perhaps can be explained by the different host community contexts (as discussed below in section 8.5); the activists' framing processes would have more cultural fit and resonance in South Durban because of its historical legacy of injustice. Every time Enref or Sapref had an upset or incident or threatened to expand production (in Enref's case), SDCEA acted as the communities' pollution police. Through this pollution struggle, D'Sa and Peek gained iconic status at the local level.

In Cape Town, Andy Birkinshaw, Chairman of the TVRA, emerged as the community leader that would continuously put pressure on Calref, particularly after its 1997 broken promise to reduce SO₂ emissions by 80 percent. In 1999, Birkinshaw linked with the Durban activists, and through those networks learned new techniques to use the media strategically. Because of Groundwork's linkage with FOEI, D'Sa and Peek became shareholders in Shell and travelled multiple times to the company's AGM in Europe to protest and voice grievances. Activists continued to put pressure on Shell International, and, as discussed in section 7.2.1, succeeded in meeting with Shell's CEO in 2005. Although this direct line of communication was not continued, the level of sophistication of this multi-scale activism is noteworthy. Equally interesting is the lack of engagement of activists with Petronas, the parent company of Engen. Cape Town's activists did not actively engage with Chevron either (NGO9 2006). Although they did send letters to Chevron corporate but were told that it was a domestic issue that would be dealt with at the subsidiary level. This is a significant difference between the engagement strategies of Cape Town and Durban's community-based activists, as Cape Town's activists did not pursue parent company protest strategies.

As discussed in section 6.3.1, the local media in Durban took an active role in shaping field structuration. Tony Carnie, a local journalist, investigated and publicised the hypothesised link between relatively high rates of cancer in the Basin and the petrochemical industries (T3

in Figure 8.1 and T2 in Figure 8.2). In Cape Town, the media was significant but appeared to be less proactive in shaping the discursive spaces. How can this difference be explained?

Barnett's (2003) research into the transformation of South Africa's post-apartheid media provides insight. He explores how opportunities for "media-oriented political action" has been opened up and "realised in practice by movements in civil society" (ibid: 4). He demonstrates that since democracy, there was a "de-politicisation of ownership" in the newspaper sector, and that commercialisation pressure led to changes in editorial policy and newsroom demographics.

Media bias was mitigated against in this study by including articles from every source collected in the network analysis. In other words, everything from trade press, international newspapers and the major newspapers in South Africa were included in the network analysis sample. Further analysis could compare and contrast how the different news sources reported the issues, but this is beyond the scope of this study. However, Barnett's insight into how the newspaper sector was restructured, in particular its role in field structuration in Durban, is relevant:

My argument is that, in the context of a general political realignment in the post-apartheid period, the organisational and economic restructuring of print and broadcast media has meant that the value of certain sorts of community-based social movements to news organisations has been significantly enhanced. The Independent group dominates Durban's commercial newspaper market. This includes the city's main quality daily, *The Mercury*, the more populist afternoon title the *Daily News*, and the *Sunday Tribune*. Since 1994, when the Argus newspaper group was unbundled by Anglo-American to the Irish-owned Independent group, there has been a determined effort to re-position the group's papers, to maintain and extend readerships in the face of increasing competition for revenue from other media. The internal restructuring of the group, with an increasingly assertive marketing-led strategy, has engendered a shift in the objectives of news making towards focussing on "people-oriented" Stories reflecting the changes in the "new" South Africa. At the same time, affirmative action has altered the make-up of newsrooms, and there has been the introduction of programmes to promote "developmental journalism" as part of professional development schemes. It is here that newsroom demographics are important, in so far as journalists from historically disadvantaged communities bring with them not only different news values, but more substantively, they are also likely to be connected to alternative social networks, with relationships to sources in previously marginalised communities as well as with actors who have moved into positions of social power in government and business. (Barnett 2003: 9-10)

Barnett (2003: 8) found a similar result to this study, that there was an "almost exponential increase in news stories about environmental issues" in the 1990s. He attributes this increase of environmental news coverage not only to the "structural and organisational shifts" within

the newspaper sector, but also to community-based activists in South Durban, coordinated by SDCEA, who mobilised media attention to put pressure on both industry and government (Barnett 2003: 9). As Barnett highlights (2003: 16), the pollution struggle has yielded substantial 'wins' in South Durban:

Government and corporate initiatives to tighten up emission control, to set up consultative forums, or to fund further research, are now routinely contextualised as being responses to the sustained mobilisation of local communities...Prior to 1999-2000, the standard response of the main industries, and particularly of the two oil refineries in South Durban, was one of secrecy and denial. In the last two or three years, these companies have overhauled their press and public relations operations, becoming significantly more proactive in disclosing leaks when they occur and more assertive in the press in promoting their initiatives in the wider community.

What could help explain the differences in institutional outcomes between South Durban and Cape Town's northern suburbs then is the success of attracting media attention. The engagement strategies of Cape Town's activists were less consistently protest-oriented than were those in Durban. This may have been due to both the dispositions of the activists and Cape Town's media sources. Protest from middleclass white communities were perhaps not deemed as 'newsworthy' as protest strategies from historically disadvantaged communities. The activists in Durban were legitimised by international recognition (Peek's Goldman Environmental prize in 1998) and the leadership of SDCEA (Barnett 2003: 12).

Although communities in the northern suburbs did unite under the Anti-Pollution Alliance, the NCAMTG and the TVRA, the Anti-Pollution Alliance and the NCAMTG in the mid-1990s aimed to establish consensus with Calref on voluntary emissions reduction programmes. The TVRA, under the leadership of Andy Birkinshaw, in the late 1990s emerged to lead protest activities. In comparison to Durban, there did not appear to be as much momentum from the TVRA to get consistent access to the media, as demonstrated by the lack of media coverage of air pollution issues in Cape Town's newspapers during certain years of this research period (e.g. 2001 and 2002). As Barnett (2003: 20) concludes:

...if media restructuring can be interpreted as opening up new opportunities, it should not be forgotten that the capacity to make the most of these is likely to be sharply differentiated spatially, socially, and in terms of what issue is at stake... The democratic potential of media, old and new, depends on the ability of actors embedded in civil society to practice well-worn political virtues, by adopting appropriate repertoires of protest, effectively mobilising resources, and establishing legitimacy amongst constituencies.

This study's findings support Barnett's observation that "media-oriented political action" is context-specific. Future research could take this finding further, but comparing and contrasting how the media is leveraged by community activists in areas deemed 'pollution hotspots' under the new AQMA. Given the influence community-based activists had on field structuration, a variety of propositions can be distilled:

Proposition 2d: Community activists with access to a sympathetic press will be more successful in influencing field dynamics, and from the analysis it follows that historically disadvantaged South Africans will have better access to the media than white South Africans.

Proposition 2e: Community activists that direct campaigns at parent companies in addition to subsidiaries will have more success in affecting environmental performance.

Proposition 2f: Community activists/institutional entrepreneurs that are well-articulated with international activist/capacity building networks will affect host country/community field structuration more significantly than those which are not.

8.3.3 Spheres of government

Although civil society was influential in shaping field processes, actors within the spheres of government were also significant, as indicated by the blue-shaded events in Figure 8.4. Within Durban's local government, Selva Mudaly, Director of Environmental Health, and Siva Chetty, Programme Manager for MPP, cleverly negotiated the middle ground between consensus and conflict to implement hybrid governance arrangements (i.e. the MPP and pollution permits). As Siva Chetty explained:

Shell and Engen improved performance because of pressure, including international pressure. Shell announced a renewable energy component – can prove it – through pressures. That is our role to bring change: government to take the opportunity with the right constitution, and democracy is the ultimate provider of that. (LGov3 2006)

In Cape Town, the local government air quality and health officials appeared to be highly qualified but less innovative. An interesting juxtaposition emerged from the analysis – Cape Town had the most sophisticated air quality monitoring system in South Africa until Durban eclipsed it in the mid 2000s. Worrying for Cape Town that many of the 'old guard' air quality management specialists appeared to be close to retirement (LGov8 2006; Ind7 2006; LGov9 2006; LGov10 2006).

Also quite different between Durban and Cape Town was that the air quality specialists and health enforcement officials were predominantly ‘historically disadvantaged South Africans’ in Durban whereas in Cape Town they were not. This may explain why Hans Linde, Cape Town’s former air quality manager and a white South African, was moved to the provincial government as air quality manager – possibly to make way for HDSA employees at local government (Ind7 2006). Institutional memory and capacity was a severe problem within all spheres of South Africa’s government. As Cape Town’s senior air pollution managers retire or move on, hiring skilled replacements and building technical capacity within the workforce was a large issue (LGov10 2006; LGov9 2006). In addition, for those talented young employees there are many incentives to move through posts quickly and thus the issue of staff turnover is one that regulators needed to address (LGov3 2006).

Spurred by refinery incidents and Groundwork and SDCEA’s campaigning, national government began to take a serious look at industrial pollution in the Basin. Regulators at the national level were influential in putting pressure on industry from the late 1990s and early 2000s. Deputy Environment Minister Rejoice Mabudafhasi used tough rhetoric to name and shame industrial polluters and Environment Minister Valli Moosa launched the MPP in 2000. The new Environment Minister Marthinus Van Schalkyk began to more clearly bridge the fields between Durban and Cape Town with his rhetoric in 2004. As the national level discursive spaces related to regulation and enforcement took shape between 2004 and 2006, national actors such as Peter Lukey, Head of Air Quality Management, became more prominent in the network diagrams. Lukey was a former environmental justice activist with Earthlife South Africa before joining government (Ind4 2006). Also in Cape Town, as in 2006 Calref was served a pre-directive related to its string of incidents dating back over the previous few years. Here local, provincial and national regulators came together with NGOs, community and refinery representatives to discuss, in conciliatory fashion, how the regulatory and permitting process would proceed in relation to Calref’s subpar performance (NGov1 2006). In Cape Town, national government officials such as Melissa Fourie from the Enforcement Directorate (i.e. Green Scorpions) began to weigh in on implementation of NEMA in relation to industrial polluters, although ultimately the regulation of industrial polluters was to be devolved to local government (NGov1 2006).

Questions remained as to how responsibilities for implementation and enforcement of environmental laws were going to be devolved from the national to the provincial and local

spheres of government. This transition, particularly in Durban, was marked by conflict between the local Durban Health Department officials charged with enforcing pollution control in South Durban and national DEAT officials (NGO5 2006); in Cape Town, the process was still in its infancy in 2006 (NGov1 2006). Although outside the scope of this study, the politics within and between the different spheres of government related to the implementation of new environmental laws such as the air quality regulations would make a fascinating study and an appropriate follow up to this piece of work. From the discussion, two propositions may be generalised to other newly democratic developing country contexts:

Proposition 2g: In a new constitutional democracy and emerging economy context, government will take a facilitative role in governing corporate environmental performance, carefully negotiating the terrain between cooperative and coercive governance.

Proposition 2h: In a developing and transitional country context, the devolution of environmental governance to the local level will be hindered by lack of institutional memory and capacity to implement and enforce regulations.

8.4 Firm legitimacy and characteristics

Also relevant in the identification of mechanisms of institutional and organisational change are how firm characteristics such as resources and culture may influence each firm's legitimation strategies and subsequent environmental performance outcomes. Although the refineries were of similar complexity and refined similar crudes in a coastal region, there were significant differences between the legitimation strategies and characteristics of the firms. The resource-based view of the firm literature identifies resources as tangible, intangible and personnel-based firm assets. Organisational culture can be broken down into the study of changing structures/processes, norms and beliefs within firms.

One of the limitations of this study was the dearth of primary data gathered related to these internal factors. Although a variety of corporate managers and industry experts were interviewed, corporate culture was not able to be evaluated through action research, a large number of interviews or participant observation. Non-public data could also not be gathered on these different types of resources. However, it can be inferred how access to resources and corporate culture may differ between the three refineries. Through in depth analysis of the study's primary and secondary data it has been observed how the firms responded to external pressures and how internal parent company pressure differed between the three refineries. The

environmental performance data presented in Chapter 4 also provides insight into firm resources and culture.

Some themes emerged from the data. First, as discussed above in section 8.3.1, internal champions and leadership drove environmental performance improvements. Second, a key differentiator was the role of the parent company and corporate culture.

8.4.1 Parent company influence and access to resources

Sapref's environmental performance improved significantly after Shell became more actively involved. Enref and Calref did not have such proactive parent company pressure (or internal legitimacy risks). It can be inferred that internal parent company oversight and resources (i.e. tangible, intangible and personnel based) were influential. Bobby Peek highlights the relationship between parent company, corporate culture and host community legitimacy risks:

Sapref are changing their pipelines for the whatever reason they say, but they change, but there has been good changes in Sapref, they have reduced their pollution. Shit man it use to smell, let's be frank...Um, they (*Sapref*) will allow us to come in, they will play the politics and we will play the politics now, but we have access to what we need... There is still a debate about information but we've managed to create that change in Sapref, and Shell and BP, it is because they have their HQ in London. Engen HQ and Petronas are in the middle of Malaysia, come on, who the hell knows what is on them you know, corporate culture in some parts of the world definitely there are benefits of having it in other places.

So I think at that level within a globalised world there are those strengths of the fact that these offices are in the North, and we can call them and embarrass them at the very least, yes so that is the strength. So that's why Engen I believe now, although they were the forerunner in making changes, they were a South African company, now they are a Malaysian company they're not going to move as much now. Now Sapref is moving faster. (NGO5 2006)

Here the role of the parent company and ability of activists to engage with MNC home country stakeholders is important. This type of reputational capital is more relevant for a MNC headquartered in Europe than one in Malaysia. Chevron also appeared to take a hands off approach towards Calref up until the very end of the research period. An industry insider, who wanted to remain anonymous, felt like Chevron "let them go", that as an American company they would take advantage of the lax regulation while they could. This in fact corresponds to Andy Birkinshaw's recollection of what Calref's general manager Paul Buley said to him in the late 1990s: "Paul Buley said to me, Andy we will not change until legislation changes because we have a permit that allows us to operate in the way that we

operate, until that permit changes we won't change. That was around 1998 or 1997" (NGO9 2006).

Another industry insider, who wanted to remain anonymous, gave insight into Petronas' approach to environmental management: "I don't think the environment is that serious for them...it's a sidestroke, it is not key to how they operate." Wayne Hartmann, Enref General Manager, confirmed this suspicion about Petronas' oversight:

JV: Is there much input from Petronas on your environmental strategy?

WH: Very little. There are discussions that happen between practitioners locally and Petronas. But the strategy section developed internally. Frankly it is not even in corporate vocabulary developing that strategy. More often than not, not 100% to 0% but highly skewed to us developing that strategy. You need to understand that an element of corporate culture is there too. It is pretty much an empowered one and a decentralised one.

Here Hartmann raises an interesting point – the ability of subsidiaries to influence their parent company. This would make an interesting topic for future research, particularly whether South-South or South-North investment has influenced corporate environmental behaviour within South-based MNCs. From the discussion it follows that:

Proposition 3a: Subsidiaries of oil companies headquartered in Europe will receive more international, home country and parent company pressure than subsidiaries of oil companies headquartered in the US and/or developing countries (e.g. Malaysia).

8.4.2 Corporate culture

What also emerged, particularly in Durban, was a strong difference between corporate cultures. For example Selva Mudaly, Durban Muni's Director of Environmental Health highlighted the differences between Sapref and Enref:

I can pick up the phone at any time and call Wayne Hartmann and say we have a problem can we meet, it is serious, and immediately he can give you an appointment. With Wayne Pearce and even when this guy Richard Parkes was there he was so involved with international things he was never available, but he (*Richard Parkes*) was accessible. Wayne Pearce, we have never had dialogue with him... so although he is quite friendly, and a good guy to deal with I suppose, he gets tied up with so much other issues. He seems to have given too much of power to Lora (*Lora Rossler was Sapref's Sustainability Manager*) and she doesn't see the bigger picture. You have got to look at this at a very macro level. Not only for Sapref within that fence. (LGov4c 2006)

Other examples were given about how Sapref brought lawyers to negotiations of their pollution permit, which offended Durban Muni's Health Department (LGov4c 2006). In addition, as Mudaly stressed there were strong differences in management styles between the refineries:

With Allan Munn you get decisions...with Wayne Hartmann he can give you decisions on the floor...he doesn't have to consult with anybody's board...Whereas with Sapref seems to be different style of management, where people have no authority to make decisions. They have to go back to a panel of people, which is not a good system of managing... (LGov4c 2006)

As Hartmann highlighted:

For example our approach to deal with environment performance issues. We don't take an approach which says talk to my lawyer. Part of the culture of organisation. Again different approaches by different companies... Um, with us, you'll have discussion with individuals. Pretty much corporate culture will then come out. Engaging in an open and honest type of approach. Unfortunately there are times when that can be abused. (Ind5 2006)

On the one hand, being the subsidiary of Shell allowed for community activists to name and shame the parent company in its home country, but on the other hand, Sapref's corporate culture was secretive and closed.⁷² Engen clearly identified itself as an "African" firm and, as Alan Munn explained, attempted to change internal culture by sending executives on sustainability courses in the UK (Ind4 2006). As Hartmann reiterated: "Your culture largely comes from your leadership team in my view" (Ind5 2006). As highlighted in section 5.2.1, Enref was unique in comparison to Sapref and Calref, particularly in the early to mid 1990s as Engen was privately listed on the Johannesburg Stock Exchange thus opening it up to public scrutiny. A culture of openness distinguishes Enref from Calref and Sapref perhaps given that for part of its existence it has been a true South African (i.e. domestic) firm.

An interesting paradox emerged from this analysis. Sapref had consistently better environmental performance and host community legitimacy by the end of the research period, as identified in my analysis in Chapter 4 and reiterated by both Desmond D'Sa and Bobby Peek in interviews. However, Enref had a more open, communicative and partnership-driven

⁷² Indeed, it was very difficult to get access to Sapref. It took me two years to get an interview with managers at the refinery. Wayne Pearce, Sapref's general manager, was supposed to attend, in the end he did not. Out of the three refineries it was the only one I could not record and the only one where I did not meet the general manager. Even with Barnaby Briggs from Shell trying to get me access, Sapref was very hesitant to meet. However, this could be interpreted as a more strategic approach to stakeholder engagement than the other refineries, as I was not one of their critical stakeholders.

approach to stakeholder engagement. Even though Enref had superior intentions, they were constrained by the refinery's close proximity to communities (as discussed in the next section), apparent lack of resources and parent company influence. Calref also appeared to stumble through repairing host community legitimacy because of lack of resources (both material and personnel-based) and parent company oversight. This study has found that parent company influence and access to resources trump corporate culture at the facility level. The following propositions would make interesting topics for future research:

Proposition 3b: Parent company influence and access to resources will more significantly affect host community legitimacy and environmental performance outcomes than corporate culture at the facility level.

Proposition 3c: Industrial facilities with a culture that identifies more closely with that of its host country/community will be more cooperative corporate neighbours than firms with corporate cultures that do not identify as closely with their host country/community contexts.

8.5 Host community context

From the analytical narrative in Chapters 5, 6 and 7, the evidence of divergent fields and environmental performance outcomes, host community context has emerged as an explanatory factor. As discussed in section 5.1, Cape Town's northern suburbs and the South Durban Basin were very different in terms of history, people, place and economy. The study of how context may influence organisational change processes is not new (Pettigrew 1990, 1997); however, the influence of site-level context on institutional and organisational processes and outcomes is underemphasised within new institutionalism. The role of history, people, place and economy may significantly influence site level corporate environmental performance. Some key differences emerged between the South Durban Basin and Cape Town's northern suburbs.

8.5.1 The legacy of spatial planning

Enref and Sapref operated in communities that were relocated under apartheid to live on the refineries' fencelines. As an environmental consultant in Durban recalled:

When Engen opened in 1953, its closest residents were 3km away. As Durban grew, residents got closer and closer – then the apartheid act (Group Areas Act) put people next to refinery. Local authority at the time was against it, but national legislation was superior to local bylaws. A combination of politics and expediency combined to create horrendous social conditions... (Ind6 2006)

The way spatial planning evolved in the South Durban Basin was a significant factor in influencing community engagement strategies towards Enref and Sapref a community member explained:

Sapref is difficult to get access to, if you going to stage a protest or strike it is very difficult. Whereas Engen is very vulnerable because they are in the community. So they get more. (Com9b 2006)

The location of the refineries, Enref in the midst of communities and Sapref slightly more isolated, influenced the evolution of company culture and engagement strategies. As Trevor Chorn, Engen's Environmental Affairs Manager, recalled:

JV: In those early days (*mid 1990s*) it seemed like Engen opened up before Sapref did.

TC: Well before.

JV: Why do you think that was?

TC: Because we were closer.

JV: Next to the community, their first target?

TC: The desire was in us, first, maybe because we had a closer relationship with the community. Sapref dragged their feet for a good number of years before they came to the party, and then almost reluctantly but I think they are now with the same sort of vigour as we are. (Ind10 2006)

In contrast, white middle-class communities moved by choice to live around Calref. As Nazeema Abraham, Calref's HSE manager, explained:

...it's a more middle class community around the area here (*than the South Durban Basin*)...although people will use the terminology of environmental justice, but it's not the poor living around, in fact it's the affluent community. I was asked why I did not live close to the refinery and I said I could not. At the time, 10 years ago, people of colour could not live around the refinery. This was a place that was in fact reserved for the white people of South Africa...

The degree to which firms are confronted with host community legitimacy risks and are open and cooperational is related to the proximity of local residents. It follows that:

Proposition 4a: Industrial facilities in closest proximity to local residents will have the most difficulty maintaining host community legitimacy (i.e. social license).

Proposition 4b: Industrial facilities located closest to local residents will be more open and cooperative with host communities than those located further away.

8.5.2 History, ideology and place

It is also interesting to compare the history of activism and ideology in the two contexts.

During apartheid, Merebank was a hotbed for resistance and ANC support:

The history of environment in south Durban has been very much intertwined with the ANC liberation struggle. The ANC was very close with the Merebank Residents Association (MRA). And the MRA was commonly known as a front for the ANC underground...and Merebank residents have been mobilising for the last 30 or 40 years, so quite some time. (NGO5 2006)

Engagement around environmental issues in the Basin pre-dates democracy:

Within the confines of the apartheid state you have the predominantly working class Afrikaans speaking whites on the Bluff raising environmental concerns about the refineries, separate from the Merebank people. And in the middle you have the coloured community of Wentworth who have a much poorer I believe economic outlook on life both from the Merebank and Bluff white side. And they are more caught up in the day to day struggle...(NGO5 2006)

The rise of Wentworth activism marked the beginning of the post-apartheid pollution struggle in the Basin, as Bobby Peek explained:

So we rely on Wentworth refinery for work, but in the 1990s and democracy, people in Wentworth where Desmond and I live start recognising this thing the environment. And we start putting forward a much more radical approach to environment. So then what is now emerging from the Bluff and from the Merebank people, they are caught up in a series of negotiations to participate in changing this industry. The Wentworth folk start emerging in this debate in 1994 and it was precipitated or catalysed by Engen coming to the community and saying we want to develop with you a community and awareness emergency response system. (NGO5 2006)

This history is relevant given the type of discursive strategies Wentworth activists D'Sa and Peek adopted throughout the research period.

In Cape Town post-apartheid activists also drew on historical legacies to engage with industry and government. For example, Andy Birkinshaw highlighted the role of poor planning and regulation in allowing the conflict between communities and industry to occur:

Yes you (*Calref*) were here first, but only a third of your size... who allowed you to expand when residential community was growing, government! Who allowed you to pollute, government! (*We*) got under government's collar. Other communities didn't think that way, didn't have same background and education...(NGO9 2006)

The white middleclass communities that moved to the areas adjacent to Calref engaged with refinery management through stakeholders meetings dating back into the 1980s (LGov9 2006). Gordon Smith, Calref's general manager in 2006, highlighted some interesting historical issues related to refinery maintenance:

The refinery is 40 years old this year. We are well aware of the political situation here. During the apartheid years there of course was an oil embargo on, which led to the development of Sasol. The refinery process would take crudes, anything it could get from anywhere. Horrible crudes and things other people wouldn't refine. The operation of the refinery was terribly disrupted by this. What refineries like is constant feed, what they don't like is change. The refinery was difficult to control on this unbalanced diet if you like, which led to environmental expulsions. In the 1960s, 70s and 80s I suppose this was acceptable, and then where the refinery was just a greenfield site. (Ind15 2006)

What is similar between the three refineries is that they all refined sub-par crudes, which had knock on effects for refinery environmental performance. Nevertheless, the historical context of the human geography in Cape Town and Durban was very different.

The rise of Wentworth activism and the post-apartheid pollution struggle in Durban brought a more radicalised edge to community-company relations in the Basin. The power of rights-based discourse, highlighting the injustices of the past, was apparent throughout the analysis. In unpacking mechanisms of institutional and organisational change this is a relevant point. There is a clear difference between 'place' in the South Durban Basin and Cape Town's northern suburbs. Identities were constituted differently within these contexts. The in depth analytical narrative in Chapter's 5 to 7 has highlighted how place-based identities influenced discursive strategies and the emergence of institutional logics. From the analysis, historically disadvantaged South Africans have had more success influencing the institutionalisation of corporate environmental performance in South Durban than the historically privileged white South Africans have in Northern Cape Town. It would be interesting to test this finding, as summarised in proposition 4c, in other contexts within South Africa:

Proposition 4c: Historically disadvantaged South Africans will have more success in influencing the institutionalisation of corporate environmental performance than historically privileged white South Africans.

8.5.3 Economy

It emerged from the analysis the importance of the structural context of the economy in influencing field structuration. Refining is a strategic industry in South Africa, it plays a critical role as a key source of tax revenue, foreign exchange, jobs and human resource development (Whyte 1995). South Africa's economic growth strategy and the liberalisation and expansion of the fuel oil industry influenced the evolution of the field. For example,

refinery capacity expansion (i.e. de-mothballing) in the early 1990s influenced Calref's T1 and arguably the stream of events afterwards. The drive for production expansion also precipitated Enref's T4, and much of the controversy that surrounded Enref in the 2000s. As Barnaby Briggs highlighted, Sapref was also interested in expanding production at some point in the future:

From Wayne's point of view (*Sapref's GM in 2006*)...he says to Siva (*Siva Chetty, Programme Manager for MPP*) I want to have a refinery that is twice as big that it is now, and I want it to have less environmental impact and I want it to be the best for Shell or BP to invest your money. Now those are incredible statements, very simple, but if we got that then South Africa benefits more. Get all the taxation for less impact. (Ind16 2007)

This structural power of the logic of economic growth and industrial expansion constrained the realm of possible governance outcomes. A recommendation from this study is that refineries more strategically consider how structural market and economic shifts (e.g. drives for economic growth and refinery expansion) could detrimentally affect their environmental performance and host community and country legitimacy.

Interestingly, the Asian Crisis in 1998 may have 'bought time' for community activists, particularly in Durban, and enabled community capacity to be built before much of the drive for industry expansion occurred. Refinery expansion was brought to a standstill as economic growth faltered. This episode parallels the 2008/2009 economic crisis. The 'silver lining' of these disruptive events is that they may provide the opportunity for stakeholders at multiple scales to become more organised in order to develop understanding to better mitigate and prevent industrial pollution. Given these findings, proposition 4d outlines two avenues for future research.

Proposition 4d: The logic of economic growth and industrial expansion in an emerging economy will constrain the realm of possible environmental governance outcomes; however, economic crisis and uncertainty provides a window of opportunity for institutional actors to disrupt and/or restructure field level processes and subsequent corporate environmental performance outcomes.

8.6 Power and scale within the process of institutional and organisational change

As highlighted in Chapter 1, much of the existing work on the greening of industry focuses on one scale of governance without adequately accounting for the socio-spatial complexities, either external or internal to the firm, which influence the take up and implementation of

corporate environmentalism at the site level. In addition, institutional and organisational theory has been critiqued for underspecifying the role of agency and power in field dynamics. Throughout the analytical narrative this study has highlighted how different modes of power and scale have influenced field structuration. This section distils these various discussions in order to summarise how power and scale were exercised and constituted within this study.

8.6.1 Modes of power

As discussed in section 2.3.1, a typology was adapted from Arts and Van Tatenhove (2004) to identify modes of power of specific interest to institutional and organisational theory – the dual-direction of influence between the field and the firm. Relational, dispositional and structural forms of power were identified. Relational power exists on a continuum from coercive to cooperational and can be identified by the interaction and knowledge-based politics between field level actors (e.g. Lukes' first and second dimensions of power and Litfin and Hajer's discursive conceptions of power). Dispositional power indicates the position of actors in field dynamics mediated by rules and resources, and structural power highlights how the social and economic contexts in which actors are embedded co-determine the capacities for organisations to act (Arts and Van Tatenhove 2004: 351).

In 1994 South Africa was a country in transition, the power balance of business-state collusion under apartheid was under threat. Relational, dispositional and structural forms of power had favoured business under apartheid. The opportunity remained strong for structural forms of power and the control of business interests to dominate environmental governance under a post-apartheid pro-capitalist and pro-growth government agenda. Yet civil society had the opportunity to mobilise against perceived injustices within the new South Africa, as the state began to rebuild its environmental regulatory frameworks.

Within this new democracy field dynamics were largely driven by *relational forms of power*. Much of the refinery field contestation at the host community level can be explained through an interpretation of Lukes' first and second dimensions of power (or as Arts and Van Tatenhove (2004: 353) explain, 'transitive' and 'intransitive' forms of power). The contestation around particular issues such as Calref's broken promise, Sapref's pipeline leak, Enref's expansion plans and the role out of regulation such as Durban's MPP and the AQMA can at one level be characterised as examples of one-dimensional power. At the surface, at least from what can be gleaned from newspaper articles, it would appear that conflict of

interests were being overtly debated. Yet a more nuanced interpretation of the data, particularly with insight from interviews, sheds a different light.

Refineries were found to engage in agenda setting activities, to prevent or encourage certain decisions to be taken. This is similar to Lukes' second dimension of power. For example, after Enref was fined 10,000 rand for SO₂ exceedances in 2005 it sought to negotiate directly with local government more lenient terms for its licence agreement. Yet it is a fine line between manipulation and shared decision-making. Enref was the first petrochemical industry to go through the permitting process under the AQMA. Enref's sustainability manager commented on how the refinery was working with local authorities to "get the balance right":

We were the first petrochemical industry to go through that process. We made a few mistakes. Most notably on how we handled the flare issue and SO₂ transition issues. But those are now being talked about; we will get those rewritten in a more practical way. They don't want to shut us down, but we must do better. It's just getting the balance right. (Ind4 2006)

Also indicative of using power covertly to manipulate outcomes, Durban Muni's health department officials described Sapref's behaviour in negotiating its pollution permit as "shadow boxing" (LGov4b 2006). Sapref would try to obstruct certain courses of action by withholding information, bringing corporate lawyers to meetings, etc. The refinery appeared to take advantage of regulatory uncertainty. For example, in a 2006 debate about the potential of Sapref having SO₂ permit violations, the refinery raised concern about the location of air monitoring stations. A local government official commented that questioning the efficacy of the air quality monitoring system "has been a (*i.e. Sapref's*) trump card, an excuse to get out of bad performance" (PGov4 2006).

Calref, on the other hand, was less engaged in 'shadow boxing' with Cape Town Muni, as it lacked internal and external processes, as a Cape Town air pollution manager commented:

In the past I've had very good cooperation from Chevron (*i.e. Calref*). They do have a good management team. Sometimes they get the idea that they will try to hide things. They had a leak the other day but then they said they had no one to report to which I found extremely strange. They said they don't know when to report something. I told them if you're in doubt, report it to the authorities and let them know about it. Little things like that that also gives them a bad name. (LGov9 2006)

Community activists also influenced and set the agenda related to industrial pollution. They pursued both overt and covert strategies. Issue shaping was something SDCEA and Groundwork pursued through a combination of discursive and knowledge-based strategies, e.g. through naming and shaming in the media and the production of civic science and educational material. The TVRA in Cape Town also pursued behind the scenes approaches. For example, in 2005 they took a bucket air sample that found VOC emissions 64 times higher than normal. Birkinshaw used this data to coerce Calref and the government to implement real-time VOC monitoring in the area: “I didn’t take those results to media; I played with local, provincial and national government and the refinery” (NGO9 2006). However, as discussed in section 8.3.2, the Durban activists, who consistently employed logics of environmental justice and corporate accountability, affected field structuration more significantly than Cape Town activists who engaged utilising the logics of managerial environmentalism.

Yet local government also sought to govern refineries’ environmental performance through overt and covert methods. For example, after Calref’s string of incidents in the early 2000s the local government requested they submit NEMA incident reports. There was uncertainty around exactly what constituted a NEMA incident and how the local authorities would use the information, as one industry insider explained:

They (the government) got Calref to put in a whole stack of NEMA incidents. Whereas they weren’t asking anybody else to do these things. So then they had all this data on the refinery, and then they came back with the pre-directive. Which is what the refinery said in the beginning, you know, that “if you only get us to fill these reports in, then you are going to have a pile of them somewhere, and it’s going to come back and bite us”... “Oh no, no...” (said the government) (Ind11 2006)

Here local, provincial and national government regulators shaped the agenda by gathering enough information to prosecute Calref at a later date. This was a covert strategy. A cooperational guise resulted in a coercive outcome. In Durban, as discussed in section 7.3.1, the health department manipulated the permit requirements for the refineries. They made ISO certification, a voluntary environmental management system (EMS), mandatory as part of the new schedule trade permits in the Basin: “We have ingeniously married the EMS, ISO certification system, together with our auditing. So the outcomes of the EMS must read into our permitting system when it comes to environmental performance” (LGOv4b 2006). “Even the ISO people are asking to see our schedule trade permit... that’s how far we have gone with it...it’s a bit of a success” (LGOv4c 2006). Local regulators cleverly ‘South Africanised’

international norms and standards to the local level to govern the refineries' environmental performance.

In addition, *material or dispositional power*, as discussed in section 8.4.1 and 8.4.2, significantly influenced the structuration of Sapref's organisational field. From 2003, Sapref began to repair its host community legitimacy because of parent company pressure and access to resources. When compared to Enref's continuing legitimisation crises towards the end of the research period, Sapref's access to superior resources and capabilities demonstrate a powerful host community advantage. Confirming this finding, Calref's consistently low host community legitimacy was perpetuated because of lack of resources (both material and personnel-based) and parent company oversight. In Durban activists were able to employ discursive and knowledge-based strategies (relational power) to influence governance outcomes, whereas Cape Town's activists were less successful. How can this difference be explained? From a dispositional perspective, the activists in Durban were reasonably well-resourced full-time campaigners, whereas Cape Town's community leaders volunteered their time. Given the historical legacies, access to a sympathetic press, and the environmental protection priorities of the ANC government, the historically disadvantaged South African campaigners in Durban had superior access to decision-making processes than their historically privileged counterparts in Cape Town. How these community-based actors were positioned in field dynamics differed because of historical legacies, existing and emerging rules (i.e. institutions), and resources.

Market- and economy-related themes were also prominent in the analysis, as highlighted in section 8.5.3, which indicate underlying *structural forms of power*. As discussed in section 1.5.3, in 2006 President Mbeki identified environmental regulation as obstructing economic and social development, hence EIA regulations were streamlined. As the director of pollution and waste management within the KwaZulu-Natal Department of Agriculture and Environmental Affairs highlighted:

The government generally speaking sees the environment as a stumbling block to development, and in fact we have been charged to do what we call developmental environmental management, that means we don't stop growth. So we have looked inward, we are not against development; we just want development that is responsible. (PGov4 2006)

Indeed Durban Muni's director of environmental health confirmed this view:

South Africa is in a situation where economic development is a priority it is number one on the agenda. So you can't destroy economic development. Now where do you find the balance, and nobody is bold enough to find that step... not the minister of DEAT, not the deputy minister who is supposed to be resigning...(LGov4c 2006)

As indicated in section 8.5.3, refinery expansion resulted from South Africa's economic growth path, and as Durban's environmental health officials pointed out: "Whenever you have increased production rates you have an increase in bad performance, complaints etc" (LGov4b 2006). The analysis has demonstrated that in both Durban and Cape Town, increased industry expansion, environmental pollution and refinery incidents have been met with vociferous community-driven activism. Here, structural producer-driven power was not deterministic (e.g. Carter 2007: 185-186), as discursive power wielded by civil society has yielded results, more so in Durban than Cape Town.

In fact, community-driven discursive debate, which on the one hand can be analysed as a form of relational power, can also be considered a dominant discourse in the early 2000s in Durban, thus exhibiting characteristics of a structural mode of power. The logic of environmental justice and corporate accountability significantly influenced local and national politics during this time, and stymied the logic of managerial environmentalism. It can be argued that community activists coerced government and industry stakeholders into a type of consensus on issues related to implementation of the AQMA, MPP and schedule trade permits in the Basin. Knowledge-based power driven by civil society actors catalysed field structuration in the early 2000s, and in this sense co-determined the capacity for organisations to act. Cape Town activists, as indicated by the fragmented field, did not establish such dominant influence over Calref's organisational field.

Why this bifurcation between activists in Durban and Cape Town? The behaviour of individuals and organisations is influenced by external (e.g. historical and place-based) and internal (e.g. beliefs and culture) contexts. It follows, similar to the discussion in section 8.5.2, that industry, government and civil society actors in Cape Town engaged with less success given their different norms and beliefs informed by white middle-class experiences, as opposed to the African, Coloured and Indian activists in South Durban, who experienced and continued to articulate the apartheid injustices of the past. As discussed in 8.3.2 the media also appeared more sympathetic to the 'stories' of South Durban's communities.

Although dispositional and structural modes of power are still highlighted in the above analysis, relational and knowledge-based power, particularly in Durban, dominated field structuration and catalysed processes of institutional and organisational change.

8.6.2 The politics of scale and networks

This study has also found that a politics of scale and networks impacted Sapref's organisational field considerably, whereas Calref and Enref's fields pertained to mostly host community and country dynamics. This is particularly relevant given the divergent environmental performance outcomes between the three refineries. It follows that the firm with the most home country and international reputation risks will pursue superior environmental performance strategies at the site level. Clearly though the process of field and firm dynamics was more complex than this. When considered over time, it is very interesting to note that Sapref, given Shell's international notoriety in the 1990s with the Brent Spar and Nigeria debacles, turned a blind eye to community grievances until the early 2000s. It was actually the transformation in attitude of the general manager at the refinery and an increased interest in its parent company that began the process of change.

How did South Africa's policies of economic and regulatory liberalism impact the socio-spatial processes of environmental protection? Indeed there was a devolution of regulatory control to the local authorities as stipulated in the constitution, but the capacity to implement and enforce environmental regulation appeared to gain momentum throughout the research period as opposed to be hollowed out. As argued in section 1.5, in the late 1990s the field of environmental and air pollution management lacked formal authority, given that the air pollution laws were based upon 1965 legislation and that government regulators had limited capacity to enforce existing permits. Air pollution regulation in 1994 was equivalent to that in the US in the early 1970s (Lents and Nikkila 2000: 4). South Africa had a tremendous opportunity to accelerate its development and environmental protection pathways, which, to varying degrees, was achieved. As evident in Chapter 7, a new 'field' at the national level took shape, and new air quality regulation and enforcement capacity within all spheres of government rapidly progressed. However, a word of caution, the devolution and implementation of these new regulations in various localities may yield fragmented outcomes. It is likely that municipalities like Durban and Cape Town have superior resources and expertise to other localities.

As discussed in section 1.3.1, it was expected that direct or command and control regulation would have little influence over each refineries' corporate environmental performance, that self- and voluntary regulation would have more significant impact. Mandatory regulation of a modern standard did not get implemented in Durban until the new permitting process took place in 2005 and 2006, and in Cape Town, Calref's new air pollution permit had yet to be formulated. The performance improvements that the refineries did make during this time were in fact a form of self- or voluntary regulation. Yet the refineries knew in the early 2000s that new air pollution regulations were in the pipeline. Some of the environmental performance improvements, and potential reticence by Calref to improve emissions beyond a certain point, may have been due to the impending threat of regulation. From a scalar perspective, South Africa's environmental protection regulatory and enforcement capacities were influenced by cross-scale interaction. As highlighted throughout the analytical narrative, various governments (e.g. the UK, US, Norway and Denmark) took a keen interest in capacity building initiatives within South Africa's spheres of government and civil society.

Also from a scalar perspective, section 1.3.2 posited that Sapref and Calref would have more international, home country and parent company pressure than Enref. Interestingly, Sapref was more significantly impacted by international norms and standards as it was the first refinery to implement ISO14001 and to begin publishing stakeholder reports. Calref was in fact the laggard in the study, perhaps (as highlighted in section 8.3.2) because Cape Town community activists did not wage international campaigns at Chevron. Enref was in fact the first mover in Durban seeking to engage with community groups and reduce emissions before Sapref, but its resource constraints and sensitive location in the heart of the community has exacerbated its environmental legitimacy.

Related to community-driven governance, section 1.3.3 posited that Cape Town's white middle-class host communities would engage more cooperatively with Calref and achieve more significant corporate environmental performance gains than South Durban's Indian, Coloured and African communities. Calref's fenceline communities did engage more cooperatively but they achieved fewer corporate environmental performance gains from Calref than South Durban's communities did with Enref and Sapref. South Durban's community activists engaged with a mix of coercive and cooperational approaches utilising the rhetoric of environmental justice and corporate accountability. They shaped field level discourse through a combination of protest activities and community-driven science and

knowledge politics, catalysed by a sympathetic press. Enref and Sapref, given the norms of corporate citizenship within the new South Africa, did not resist engaging with its fenceline communities, although Enref demonstrated a more open and communicative culture than Sapref.

What is particularly interesting is how community-based organisations and individuals utilised scalar and network-based strategies to achieve local goals. Early on in the analysis activists in Wentworth resisted Enref's attempt to implement a Responsible Care initiative. Here international norms and standards were called into question as a merely symbolic gesture to legitimise business as usual. This resistance to top-down diffusion of global norms and standards significantly influenced the 'South Africanisation' of local governance outcomes. In 1998 when Bobby Peek received the prestigious Goldman Environmental Prize in California the international spotlight, i.e. a highly networked international community, descended on South Durban. However, it was in the early 2000s that Durban activists strategically employed a politics of scale and networks to restructure field dynamics. Through community-based monitoring and enforcement networks, the Bucket Brigades were introduced into South Africa and a local campaign against Shell was begun. Groundwork became a Friends of the Earth Chapter and local activists became shareholders of Shell and travelled to London to protest at its AGM. The WSSD in 2002 brought international media to Durban, but comparatively little activity to Cape Town's northern suburbs. Where Durban's activists strategically engaged with corporate neighbours using a wide array of discursive strategies from the local to global, Cape Town's activists played the game at the host community and country scales. As highlighted in section 8.5.2, place-based identities have influenced scalar strategies and the emergence of institutional logics and governance structures. The above discussion highlights how the politics of scale and networks have influenced the diffusion and potential unevenness of corporate environmental outcomes.

8.7 Chapter summary

Corporate environmentalism has evolved in the post-apartheid South African fuel oil industry in complex and context-specific ways. Although organisational field dynamics structured the realm of possible governance outcomes, each refinery's environmental performance was influenced by parent company and subsidiary legitimation strategies and characteristics. By

comparing and contrasting Figures 8.1, 8.2 and 8.3 it is apparent that corporate environmental performance was to a certain degree institutionalised in Durban; however, in Cape Town, the field remained fragmented with less defined trends of field structuration and corporate environmental performance improvements. Enref and Sapref's graphs are quite similar – they both demonstrate that environmental performance generally improved throughout the research period – whereas Calref's illustrates a more fragmented start-and-stop type process. As highlighted throughout the analysis Sapref appeared to have gained superior host community legitimacy and environmental performance results from 2004 to 2006. The key differences in comparison to Enref and Calref's field dynamics and environmental performance outcomes were not only Shell's parent company oversight and Sapref's access to resources, but also the fact that activists in Durban campaigned against Shell, whereas campaigns were not directed at Petronas or Chevron.

How can divergence between these processes of institutional and organisational change be explained? Chapter 8 has identified a variety of mechanisms/propositions of institutional and organisational change related to events, institutional logics, governance structures, actors' agency, firm factors and host community context. Section 8.6 has highlighted how these diverging processes are characterised by differing modes of power (i.e. the rise of relational and knowledge-based power over dispositional and structural power) and a politics of scale and networks. The 'black box' of institutional and organisational change has been explored and illuminated for these refineries during a specific time period. A universal theory of corporate environmentalism was not the goal; instead middle range theory of corporate greening within a developing country/emerging market context was established which should help guide future studies. Chapter 9 revisits the overarching aim and objectives of the study in light of the research findings.

9 CONCLUSIONS

As identified in the Chapter 1, little analytical research has taken place on the evolution of corporate environmentalism in developing country contexts. Previous work fails to recognise the complexity and interaction between international, regional, home and host country governance mechanisms. Often analysis is limited to one type of governance structure or at the level of industry sectors, therefore limiting the ability to explain changes in subsidiary or site level environmental behaviour. Much of the literature on corporate greening describes and prescribes corporate activity; there is a gap in our understanding of how and why the social and environmental performance of MNCs in developing countries is contested and constructed.

This study seeks to rectify these shortcomings by exploring how and why corporate environmentalism has evolved in post-apartheid South Africa's oil refining sector. To address this primary research question, two secondary questions are posed, which include how the environmental performance of Sapref, Enref and Calref has evolved since democratisation in South Africa (addressed in Chapter 4), and how and why each refinery's environmental performance has differed (addressed in Chapters 5 through 8). The thesis makes the explanatory claim that differences in refinery environmental performance are a function of complex interactions between the macro (organisational fields) and micro (firm legitimacy and characteristics) analytical units of analysis.

The study's overarching aim is to contribute to our theoretical, empirical and policy understanding of corporate greening in a developing country context. To achieve the overarching aim and research questions, six research objectives are outlined in Chapter 1, which include:

1. To develop a novel analytical framework utilising institutional and organisational theory, informed by debates on the spatialities of corporate environmentalism;
2. To introduce agency and power into the analysis of institutional and organisational theory in order to identify mechanisms of institutional and organisational change;

3. To expose the complex dynamics and drivers of corporate environmentalism at the site level;
4. To develop a unique research design which utilises methodological triangulation in a process-oriented/longitudinal study;
5. To identify the policy-practical lessons learned from the analysis of corporate greening in post-Apartheid South Africa; and
6. To explore the generalisability of the research findings within and beyond South Africa and to recommend avenues for further study.

The thesis has achieved its aim by, *inter alia*:

- moving beyond overly simplistic top-down (globalisation and national regulation) and bottom-up (community-driven) accounts of corporate greening to expose the complex dynamics of institutional and organisational change;
- employing a novel research design and use of social network analysis to explore changing actor spaces of corporate environmentalism; and
- highlighting how corporate environmentalism and environmental policy is being implemented in a fragmented fashion in South Africa.

This chapter concludes by reflecting upon the study's objectives and highlighting its theoretical, empirical and policy implications, as well as limitations and opportunities for further research.

9.1 Theoretical and empirical implications

This study has broken new ground in the frontier of institutional and organisational field analysis given its novel research design and subject matter. It is a theoretically informed problem-oriented study that has identified mechanisms of institutional and organisational change through rigorous qualitative methods. Objectives 1, 2 and 3 have indeed been achieved, as the study analyses how and why the environmental performance of industrial installations in an emerging economy evolved over time and uses a unique mix of analytical constructs, methodologies, and longitudinal analysis, which to the best of the author's understanding has not been incorporated into one study before.

As discussed in section 2.1, to unlock the 'black boxes' of institutional and organisational theory a rigorous analytical and methodological approach is needed, which pays close

attention to both structure and agency in institutional processes. An original framework of MNC complexity and organisational field dynamics (see Figure 2.2 and Figure 8.4) was established, which enabled the analysis to highlight the importance of field level dynamics (macro) and firm strategies and characteristics (micro) in shaping and constraining corporate environmental performance at the host community level (objective 1). As Hoffman points out: “By connecting institutional and organizational level analysis, new and more complex models of change can explain the genesis and alteration of legitimate corporate practice” (2001b: 150).

This macro-micro analytical framework enabled the introduction of agency and power into the analysis of organisational and institutional change (objective 2). As discussed in section 2.3.1, to better account for the processes of institutionalisation and institutional change, organisational and institutional theorists have recently called for a (re)focus on agency and power (Clegg et al. 2006). This study addressed this concern through the adoption of a framework developed to analyse power within policy practices by Arts and Van Tatenhove (2004) (see section 2.3.1). As discussed in section 8.6.1, although dispositional and structural modes of power are apparent and relevant within the analysis, relational and knowledge-based power, particularly in Durban, dominated field structuration and catalysed processes of institutional and organisational change. This finding is significant as it demonstrates the important role of civil society at and between multiple scales of analysis (local to global) in institutionalising corporate greening in distinct relational and discursive spaces in South Africa (i.e. Durban vs. Cape Town).

Indeed, this study has identified how discursively constituted socio-spatial processes occur in practice through its novel historical tracing of the actor spaces of corporate environmentalism, and thus sheds light on the ‘black boxes’ of institutional analysis – the origins of institutions and the mechanisms of institutional and organisational change (see section 2.1). This study also breaks new ground in the study of corporate greening in developing countries (objective 3) as it moves beyond overly simplistic top-down (globalisation and national regulation) and bottom-up (community-driven) accounts of corporate environmentalism by exposing the complex dynamics of institutional and organisational change between host, home and international organisational fields (see Figure 8.4).

Empirical contributions (objective 4) are also achieved. The study develops a unique research design and combination of units of analysis and multiple methodologies in a process-oriented/longitudinal study. Particularly novel are the use of social network diagrams to visualise changing actors spaces of corporate environmentalism over time. To the best of the author's knowledge, it is the first time that such an analysis has been undertaken. The social network diagrams, distilled from newspaper article analysis, illustrate how actors and issues interact and how relational patterns evolve over time. The accompanying 'thick' qualitative narrative (distilled from primary and secondary data, see Chapter 3) provides insight into the contestation and structuration of the organisational fields, i.e. the macro-micro dynamics. A longitudinal comparative analysis (from 1994 to 2006) is employed to consider how the organisational field of industrial air pollution is structured as related to three fuel oil refineries in two localities: Durban and Cape Town. This chronological approach facilitates the analysis of processes and mechanisms of institutional and organisational change. A future output of this study may be to team up with an expert in the use of network analysis software to explore different ways to visualise the data.⁷³

9.2 Policy implications

Objective 5 is to identify the policy relevant lessons from this study. There were a variety of policy-practical research findings including the influence of subsidiary characteristics on environmental performance, the role of key events and host community conflict, the role of institutional entrepreneurs and general managers, and the influence of host community context and the logic of environmental justice on corporate greening outcomes.

As discussed in section 3.5, one of the key categories of research relevance is surprise value. For example, it was surprising to find that Sapref had the superior host community legitimacy and environmental performance by the end of the research period. From a refinery cultural perspective this was counter-intuitive, as Enref had a more open and cooperative host community approach, but parent company pressure and resources tipped this balance. This provides both policy makers and civil society leaders (i.e. institutional entrepreneurs) with insight into the dispositional and relational factors that may influence superior corporate environmental performance. These mechanisms of organisational change may prove relevant

⁷³ There are ways to view longitudinal network analysis in three-dimensional diagrams and movies.

when seeking to attract foreign direct investment. For example, would a host government and community prefer to have a subsidiary of an international oil company or a national oil company invest in building refining capacity? Access to resources and parent company oversight are relevant factors.

As discussed in section 8.2, events or institutional junctures provided ‘windows of opportunity’ for multiple stakeholders to contest and construct new understandings of legitimate environmental performance. It was surprising to find that, after categorising the event history, conflict was associated with all of the community-driven initiatives and consensus with the industry-driven ones. A key question emerges from this analysis which has policy-practical relevance: *is conflict necessary* for superior environmental performance gains to be made and outcomes that are more just for host communities? For example, would Sapref have made the strategic changes it did without community activism and contestation, would Enref have implemented ISO14001 in 2006 if it were not for community pressure on both local regulators and the firm, and would Calref’s parent company Chevron have taken notice of Calref’s sub par environmental performance if DEAT had not served the refinery a notice of an intention to issue a directive because of pollution incidents in 2006? We can conclude that host community conflict is a necessary but not always sufficient prerequisite to instigate refinery environmental performance improvements. Many other factors involved have led to differentiated outcomes between the three refineries. The important role that community conflict and contestation has played within the structuration of organisational fields in South Africa calls into question the win-win managerial environmentalism literature. Indeed, the author is already the primary investigator on a three-year project to explore in depth to what extent communities can engage with the extractive industries to institutionalise accountability mechanisms and maximise host community sustainable development benefits.⁷⁴

Also of policy relevance is the critical role of institutional entrepreneurs, particularly community activists, the media, and internal corporate sustainability champions and general managers, in influencing field structuration processes and environmental performance improvements. As highlighted throughout the analysis, the Durban activists engaged

⁷⁴ For more information about this project see www.lse.ac.uk/communitycapacities

successfully with international activists to put pressure on industry (i.e. Shell) in its home and host country. In addition, international actors helped to build capacity within the local, provincial and national spheres of government. This cross-scale interaction played an important role in influencing normative, cognitive and eventually regulative governance structures. Examples of top-down, bottom-up and network-based scalar politics are evident from the analysis. Yet questions remained as to how responsibilities for implementation and enforcement of environmental laws were going to be devolved from the national to the provincial and local spheres of government. As highlighted in sections 8.3.3 and 9.1.2, the politics within and between the different spheres of government related to the implementation of new environmental laws such as the air quality regulations would make a fascinating study.

In addition, this study found that the role of the media was significant in enabling community activists to name and shame industrial polluters. This process of framing facilitated the changing role and authority of field actors. This type of “media-oriented political action” (Barnett 2003), particularly in Durban, provided community activists access to the discursive power to influence institutional outcomes. As discussed in section 8.3.2, future research could take this finding further, by comparing and contrasting how the media is leveraged by community activists in areas deemed ‘pollution hotspots’ under the new AQMA and how different news sources reported the issues.

The research also found that the role of refinery general managers is crucial for maintaining host community legitimacy. One of the issues raised was the constant turnover of these figureheads every two to three years. This revolving door of refinery managers has opportunities and risks – the opportunity exists for firms to repair legitimacy when the ‘right’ manager takes the reigns but potential community-company distrust may be perpetuated. Companies should strategically consider how host community expectations and trust could be maintained through consistent policies and practices as these transitions occur. Also, the impact of structural market and economic patterns could undermine community-company trust as the drive for economic growth and refinery expansion dominates the field. Expansion yields environmental pollution and recession often means redundancies. This boom and bust cycle can perpetuate poor community-company relations. Firms, community leaders and local authorities should engage proactively to mitigate the consequences of misunderstanding.

The theoretical framework anticipated that external host community context would be an important differentiator within this study, and the research results confirmed this. This place-based and scalar process of institutional and organisational change is a significant finding in relation to policy ramifications. Host community context has implications for the study of environmental justice. Intuitively, one would expect that industrial facilities operating in close proximity to low-income and non-white communities would have lower environmental performance than facilities operating near middle to high-income white communities. The evidence demonstrated it was exactly the opposite: Sapref and Enref outperformed Calref. Perhaps then in post-apartheid South Africa industrial facilities operating in close proximity to minority communities (i.e. white) will have lower environmental performance than facilities operating non-minorities (Historically Disadvantaged South Africans). This is a controversial hypothesis that would need more investigation to claim with confidence (see Proposition 4c in Chapter 8). A more likely explanation is that the way Sapref and Enref's organisational fields were structured in the South Durban Basin is a unique finding. Investigation into the contestation of corporate environmentalism beyond Durban and Cape Town is needed.

9.3 Limitations and future research

In addition to the theoretical, empirical and policy implications, it is important to recognise the limitations of this study and suggest avenues for future research. Indeed, objective 6 highlights the need to explore the generalisability of the research findings within and beyond South Africa and to recommend avenues for further study.

From a theoretical perspective, this study sought to establish middle-range theory, where mechanisms of institutional and organisational change were identified for a specific set of situations and circumstances (Campbell 2004: 63-64). The distinction between macro (structure) and micro (agency) levels of analysis has provided a hurdle to overcome in the study of corporate environmental behaviour at the site level; however, the framework of MNC complexity and organisational field dynamics (Figure 2.2) and the propositions identified in Chapter 8, should help guide future studies. Future research can build on this study to refine models of institutional and organisational change. A logical next step is to develop and test hypotheses related to the research results found in this study using large-N studies and quantitative methods. A quantitative study could work in conjunction with more in depth qualitative case studies in various countries as discussed below. However, from a more

‘critical’ analytical perspective, Jordan (2008: 30) highlights how the study of environmental governance has a pluralist bias (e.g. Lukes’ first and second dimensions of power), and that this risks overlooking potential sources of structural power. This study recognised the influence of structural forms of power, particularly the logic of economic growth and industry expansion. Yet further research could explore in more depth how other theoretical approaches (e.g. Foucault’s concept of ‘governmentality’) may reveal insight into “governance for what and for whom” (Jordan 2008: 30).

One of the empirical challenges of this study was the voluminous amount of data that was collected through the multiple methodologies. It was a challenge to distil the data into meaningful comparisons. The development of Figures 5.9, 5.10, 6.5, 6.6 and 7.4 iteratively evolved during the research process. These diagrams helped distil the core themes and research findings, which informed the construction of Figures 8.1, 8.2 and 8.3. A project of this complexity would benefit from working with a team of researchers. As Eisenhardt (1989) highlights, more rigorous qualitative research results are possible by having consensus among a research team as opposed to a single investigator. In addition, all of the data that was used in this study was either in the public realm or from interviews. If proprietary internal data to the firms was accessible, then a more detailed analysis of internal aspects, such as resources and culture, could have been conducted. In addition, access to Sapref was very challenging and it was not possible to get access to parent companies other than Shell. It took two years to get an interview at Sapref, and Shell’s offices in London greatly facilitated follow up. Nonetheless, parent company pressure and internal refinery characteristics could be inferred from interview and secondary data sources.

One of this study’s strengths is that it engages with the understudied area of corporate greening in a developing country context. The study of the contestation of corporate environmentalism in post-apartheid South Africa sheds light on processes of institutional and organisational change. However, the study only focuses on the fuel oil industry. It remains to be seen if the results are generalisable to the synthetic fuel oil industry (e.g. Sasol) and other industrial sectors, such as pulp and paper or the mining sectors in South Africa. There is scope here for further research. Another area for future work is to explore the ability of subsidiaries to influence its parent company. As highlighted by Engen’s progressive effort to mainstream sustainability education within its leadership team, how could Engen influence Petronas’ organisational behaviour? This would make an interesting topic for future research,

particularly whether South-South or South-North investment has influenced corporate environmental behaviour within South-based and state-owned MNCs.

Finally, given South Africa's unique historical and economic context, the question remains whether or not these results are generalisable to other developing or middle-income country contexts. Future research should build on this study by developing a large number of in-depth qualitative case studies in various countries to compare and contrast how industrial facilities, both MNC, state-owned and domestic companies, engage with field level pressures. By focusing on middle-income countries such as Brazil, Chile, Malaysia, Indonesia, China and India for example, comparison would be facilitated. In addition, concentrating on the subsidiaries of one company, such as all of Shell or Chevron's oil refineries in multiple country contexts, would be a highly relevant approach.

9.4 Concluding remarks

The results highlight how and why corporate environmentalism in the post-apartheid fuel oil sector has changed over time. A process of institutional and organisational change unfolded as corporate environmental behaviour was substantially influenced by discursive power wielded by civil society and the media. Key events structured periods of organisational field fragmentation and (re)structuration. In Durban, where Enref and Sapref are located, changing normative and cognitive institutions drove the evolution of regulation as an internationally networked civil society demanded accountability from the private and public sectors. In Cape Town, where Calref is located, the organisational field remained fragmented, thus framing processes did not achieve collective action, and institutional and organisational change evolved more slowly. As social and environmental risks amplify from the local to global, MNCs struggled to maintain legitimacy in both host and home countries. The company with the most significant home country and parent company pressure, Sapref, made the most gains in repairing its legitimacy.

These results have policy relevance within and beyond South Africa. As South Africa's environmental regulatory structures evolve and mature a risk remains that they will be implemented in a fragmented fashion. Durban's success in reducing air pollution was in part due to a unique combination of context, agency (on the part of civil society, industry and government) and events. It remains to be seen if the 2005 AQMA will have similar success in rolling out air quality management initiatives in South Africa's other pollution hotspots. This

study's finding in relation to the mitigation of industrial pollution in Cape Town's northern suburbs does not yield optimism.

Beyond South Africa, the processual approach adopted here is applicable to the study of changing environmental performance of industrial facilities in developed and developing countries. Although South Africa's processes of change are unique given its recent transition to democracy, research in emerging economies is urgently needed. It would greatly facilitate the development of theory if a large number of context specific, host community level case studies were developed that identified mechanisms of institutional and organisational change related to industrial facilities. This is important because, as demonstrated in this study, the development of environmental governance structures and processes is not 'quasi-automatic' as gross domestic product grows – it is in fact the result of scalar and place-based politics.

APPENDICES

Appendix A: Social network analysis key word searches

The table below details the key word searches that were used to find newspaper and news portal articles related to the three oil refineries Sapref, Enref and Calref. A total of 809 articles were coded for inclusion in the social network analysis as discussed in Chapter 3. A variety of local, national and international news sources were utilised. The spreadsheets with the original newspaper articles, and the data coded per year are included on the enclosed CD.

Table A.1: Key word searches

Refinery	Key words	News web-based search engine	Comments
Sapref	Sapref	Sabinet, LexisNexis, IOL, Business Day, Mail & Guardian	Searches updated 24 October 2007
Enref	“Engen refinery”, Enref, Genref, “Engen and Durban”	Sabinet, LexisNexis, IOL, Business Day, Mail & Guardian	Searches updated 24 October 2007
Calref	Calref, Caltex refinery, “Chevron refinery”	Sabinet, LexisNexis, IOL, Business Day, Mail & Guardian	Searches updated 24 October 2007
	Chevron	Sabinet	Searches updated 24 October 2007 Did not use Chevron in other search engines because yielded far too many results
General searches	“Oil refinery and air”, “Air pollution”	Sabinet, LexisNexis, IOL, Business Day, Mail & Guardian	Searches updated 24 October 2007

News sources:	Sabinet: a South African online information portal, SA Media database searches: www.Sabinet.co.za Mail & Guardian: a national weekly newspaper: http://www.mg.co.za/ Business Day: South Africa's main financial newspaper: http://www.bday.co.za/ Independent Online (IOL): a variety of South African local and national papers: http://www.iol.co.za/ LexisNexis' all English language news search engine: http://www.lexisnexis.com/uk/nexis/home/
Number of articles:	809 articles were coded that were published within the time period of 1994 – 2006

Appendix B: Interview topic guides

Civil society: Academics, Community, Media, and NGOs:

1. Basic background and general information
 - a. Overview of my study and my background
 - b. Interviewee role and background
 - c. History of organisation (if applicable)
 - i. What has been organisation's engagement strategy? How has it evolved?
 - ii. Where do you get your funding?
 - d. Key moment's in evolution of campaign (if applicable)?
 - i. Where is the campaign headed now?
2. Environmental governance
 - a. At the national level
 - i. Government: e.g. the Air Quality Management Act (AQMA) and environment inspectorate (Green Scorpions),
 - ii. Civil society: e.g. networks of environmental justice activists within South Africa?
 - iii. Are there legal teeth within the regulatory framework to litigate?
 - b. At the local level
 - i. How does the provincial government and municipality govern air quality? How has South Durban's Multi-Point Plan (MPP) evolved; what are the issues and successes? How has Cape Town's air quality management plan evolved?
 - ii. Is access to information on refinery performance and air quality sufficient? Key barriers?
 - iii. How has activism evolved? Who are most relevant people/organisations engaged in the debate?
 - iv. Has trust been built with local community and refineries (in the South Durban Basin (SDB) and Cape Town)?
 - v. Is there community solidarity on the issues?
 - c. At the international level
 - i. Do you network with international organisations; if so, who and how?
 - ii. Do you engage with the parent companies? Please explain.

iii. What other international factors and actors influence corporate environmental behaviour?

d. What are key successes and limitations of government?

i. How has integration of three spheres of government evolved?

ii. Capacity of local, provincial, and national govt?

3. Industry

a. What are the differences between Sapref and Engen in Durban, and Chevron in Cape Town, in terms of corporate culture, environment performance, and engagement with stakeholders?

b. Has the refineries' environmental performance changed or improved?

c. What were major drivers of changes in corporate environmental performance? E.g. was it because of proactive corporate strategy, civil society pressure, or government regulation?

d. What has been role of parent companies?

e. What are ongoing issues for the refineries? Please explain.

4. Wrapping up

a. What is your organisation's end goal? What would you like to see happen with regards to the environmental regulation and performance of the refineries?

b. Who are the most influential people engaged in this debate?

i. Who should I talk to next?

Government

1. Basic background and general information

a. Overview of my study and my background

b. Interviewee role and background

c. History/remit of their department and sphere of government

d. How is department organised?

e. How many staff/enforcement people?

2. Environmental governance

a. Government: how has the process of air quality management evolved? Where is it at and where is it headed?

i. How is refining industry regulated (specifically in relation to air emissions)? What is role of municipal, provincial and national spheres of government?

- ii. Role of provincial government in relation to Durban/Cape Town municipality?
- iii. What stage is AQMA implementation in?
- iv. How is SDB MPP or Cape Town air quality management plan progressing? Has it been a success?
- v. Other initiatives or needed capacity?
- vi. Are there legal teeth now? Enforcement capability?

b. Civil society

- i. What is engagement strategy of community groups and NGOs? How representative is SDCEA and Table View Residents Association of the community?
- ii. To what degree is civil society and media pressure responsible for driving change?
- iii. Has information become more transparent and accessible to civil society? When?
- iv. Has trust been built in SDB or Cape Town?

c. International

- i. How much do international factors influence local level outcomes?
- ii. Have international actors engaged in capacity building or funding or government or civil society? Please explain.

3. Industry

- a. How is industry responding? What is role of industry in regulatory process?
- b. Has environmental performance of industry changed/improved? Why do you think it has (or has not)?
- c. Is access to information an issue for government or communities? How is knowledge shared?
- d. Engen vs. Sapref and Chevron, how do they respond to regulatory pressure? Different approaches to environmental and social responsibility?

4. Wrapping up

- a. Where is this debate headed, e.g. is the 'Durban model' transferable?
- b. Lessons for government? Lessons for civil society? Lessons for industry?
- c. Any individuals or organisations that have been influential in this debate that we haven't mentioned?
- d. Who should I speak to next?

Industry

1. Basic background and general information
 - a. Overview of my study and my background
 - b. Interviewee role and background
 - c. Corporate history, ownership, type of refinery (in comparison to others)
 - d. General business climate in South Africa and in general
 - e. Relationship between parent company and subsidiary, how much autonomy, how much influence on corporate environmental performance?
2. Corporate environmental performance
 - a. What are the major corporate social and environmental issues facing the refinery?
 - b. How has the refinery's social and environmental performance evolved?
 - i. Does the refinery have an environmental strategy? How has it evolved? What were key turning points?
 - c. When have significant management practices and processes been put in place?
 - i. Do you have an environmental management system; is it ISO14001 certified?
 - ii. Do you have a stakeholder management plan? How has this evolved? Who are main stakeholders?
 - d. Communication strategy
 - i. What procedures for internal and external communications?
 - ii. How deal with complaints and incidents?
 - e. Structure and culture
 - i. Who is responsible for social and environmental performance (how many staff)? Who do they report to?
 - ii. What is attitude towards these programmes within company (from workers to senior managers)?
 - iii. Do you have training or education programme and/or rewards or incentive schemes to work towards these goals?
 - f. When have upgrades/environmental improvements been made to the refinery?
 - g. Do you have emissions and/or incidents data? Can you share this?
 - i. Do you have a CSR or sustainability report? When did you start reporting? Do you report according to any guidelines? Is it third party verified and/or audited?

- ii. Is the information available on your website?
 - h. What are key differences between Engen, Sapref and Chevron?
- 3. Environmental governance: How has the governance of air pollution evolved?
 - a. Who are the influential people and organisations involved in this debate?
 - b. How has the debate changed over time?
 - c. How have engagement strategies of various actors changed over time?
 - International, national, and local?
 - d. Government
 - i. How are you regulated in terms of your environmental performance with specific reference to air emissions? When/how has this changed?
 - ii. What is the role of spheres of government in regulating the refineries?
 - National, provincial, and municipal government?
 - iii. With regards to management of air pollution, what have been the dominant governance mechanisms? (e.g. the GNA, RMEF, MPP, AQMA, etc)
 - iv. Do you have a new permit as per the AQMA?
 - e. Local context
 - i. What type of community lives around the refinery? How has this evolved?
 - ii. What was the influence of apartheid planning?
 - iii. Do the communities trust the refinery's management? What are barriers to achieving trust?
 - f. International
 - i. What international factors drive refinery environmental performance?
 - ii. What international actors are engaged in the debate? What is their role?
 - iii. Have international norms and standards (such as ISO14001, OECD Guidelines, etc) influenced your environmental performance? Which ones?
 - How evolved?
- 4. Economic factors
 - a. Do market, resource constraints impede improvements in social and environmental performance?
 - b. Has failed Sasol merger impacted environmental improvement progress in last two years? (specific to Engen)
- 5. Wrapping up
 - a. Where is the debate headed? What are the areas of greatest concern for industry?

- b. Any lessons learned from your engagement in the process of environmental improvement in post-apartheid South Africa?
- c. Any individuals or organisations that have been influential in this debate that we haven't mentioned?
- d. Who should I speak to next?

Appendix C: Interviewee list

Interview reference	Year	Date	Name	Title	Organization	Case study	Category
acad1	2004	7-Sep-04	Chris Buckley	Professor, Pollution Research Group	University of KwaZulu Natal	Durban	Academic
acad2	2004	7-Sep-04	Dr Rajen Naidoo	Deputy Director: Centre for Occupational & Environmental Health	Nelson Mandela School of Medicine	Durban	Academic
acad3	2004	7-Sep-04	Glenn Robbins	Research Fellow, Centre for Civil Society	University of Kwazulu-Natal	Durban	Academic
acad4	2004	7-Sep-04	Richard Ballard	Professor, Centre for Civil Society	University of Kwazulu-Natal	Durban	Academic
acad5	2004	10-Sep-04	Di Scott	Professor, School of Life & Environmental Sciences	University of KwaZulu Natal	Durban	Academic
acad6	2006	10-Apr-06	Dr Rajen Naidoo	Deputy Director: Centre for Occupational & Environmental Health Department	Nelson Mandela School of Medicine	Durban	Academic
acad7	2006	9-Sep-06	Eugene Cairncross	Professor, Department of Physical Science	Peninsula Technicon, Cape Town	Both	Academic
com1	2004	8-Sep-04	Deepchund Ramchurren	Community member	South Durban, House of Worship, SDCEA member	Durban	Community
com2	2004	8-Sep-04	Roy Nair	Pastor	South Durban, House of Worship, SDCEA member	Durban	Community
com3	2004	8-Sep-04	Carl Knauff	Community member	Bluff Ridge Conservancy, SDCEA member	Durban	Community
com4	2004	8-Sep-04	Dr Seetharam	Community member	Merebank Environmental Action Committee (MEAC)	Durban	Community
com5	2004	9-Sep-04	Patricia Dove	Director	Wentworth Organisation of	Durban	Community

					Women (WOW)		
com6	2004	10-Sep-04	Michelle Simon	Environmental consultant	Self-employed, former SDCEA employee	Durban	Community
com7	2006	4-Apr-06	Mark Colvin	Director	Centre for Aids Development Research and Evaluation, former SDCEA member	Durban	Community
com8	2006	10-Apr-06	Ivan Moses	Deputy Chair	Merebank Residents Association (MRA), SDCEA member	Durban	Community
com9a	2006	11-Apr-06	Patricia Dove	Director	Wentworth Organisation of Women (WOW)	Durban	Community
com10	2006	12-Apr-06	Michelle Simon	Environmental consultant	Self-employed, former SDCEA employee	Durban	Community
com11	2006	13-Apr-06	Rajah Naidoo	Chairman and Councillor	MRA and local councillor	Durban	Community
com12	2006	6-Sep-06	Nicholas Lang	Community Activist	Community of Milnerton	Cape Town	Community
com13	2006	6-Sep-06	Michael Longden-Thurgood	Community member	Table View community	Cape Town	Community
com9b	2006	11-Apr-06	Jane Smith	Manager	Wentworth Organisation of Women (WOW), former trade unionist	Durban	Community and Labour
pgov1	2004	6-Sep-04	Peter Kuyler	Assistant Director of Environmental Impact Management	KwaZulu-Natal Department of Agriculture and Environmental Affairs	Durban	Government
pgov2	2004	6-Sep-04	Timothy Fasheun	Director : Pollution and Waste Management	KwaZulu-Natal Department of Agriculture and Environmental Affairs	Durban	Government
lgov1a	2004	8-Sep-04	Siva Chetty	Programme Manager for Multi-Point Plan	eThekwini Municipality (Durban)	Durban	Government
lgov1b	2004	8-Sep-04	Mervyn Chetty	Environmental Health Manager	eThekwini Municipality (Durban)	Durban	Government
lgov2a	2004	9-Sep-04	Bruce Dale	Environmental Health Manager	eThekwini Municipality (Durban)	Durban	Government
lgov2b	2004	9-Sep-04	Selva Mudaly	Director Environmental	eThekwini Municipality	Durban	Government

				Health	(Durban)		
lgov3	2006	30-Mar-06	Siva Chetty	Programme Manager for Multi-Point Plan	eThekwini Municipality (Durban)	Durban	Government
lgov4a	2006	4-Apr-06	Bruce Dale	Environmental Health Manager	eThekwini Municipality (Durban)	Durban	Government
lgov4b	2006	4-Apr-06	Rajesh Hooblal	Assistant Director, Environmental Health	eThekwini Municipality (Durban)	Durban	Government
lgov4c	2006	4-Apr-06	Selva Mudaly	Director Environmental Health	eThekwini Municipality (Durban)	Durban	Government
pgov3	2006	7-Apr-06	Sbu Llela	Manager, Environmental Impact Management	KwaZulu-Natal Department of Agriculture and Environmental Affairs	Durban	Government
pgov4	2006	7-Apr-06	Timothy Fasheun	Director : Pollution and Waste Management	KwaZulu-Natal Department of Agriculture and Environmental Affairs	Durban	Government
lgov5	2006	12-Apr-06	Jessica Rich	Policy Coordination and Implementation Environmental Management Department	eThekwini Municipality (Durban)	Durban	Government
lgov6	2006	13-Apr-06	Lee Deathe	Spatial plan manager	eThekwini Municipality (Durban)	Durban	Government
lgov7a	2006	4-Sep-06	Ivan Toms	Director: City Health	City of Cape Town	Cape Town	Government
lgov7b	2006	4-Sep-06	Ivan Bromfield	Manager: Specialised Health Services	City of Cape Town	Cape Town	Government
lgov8	2006	4-Sep-06	Hans Linde	Air quality manager	Department of Environmental Affairs and Development Planning, Western Cape	Cape Town	Government
lgov9	2006	6-Sep-06	Ossie Oswald	Area Manager	City of Cape Town	Cape Town	Government
lgov10	2006	7-Sep-06	Grant Ravenscroft	Manager: Air Quality Laboratory	City of Cape Town	Cape Town	Government
ngov1	2006	8-Sep-06	Melissa Fourie	Directorate: Enforcement	Department of Environmental Affairs & Tourism, Republic of South Africa	Both	Government

pgov5	2006	8-Sep-06	Joog Roelotge	Deputy Director, Operational Policy	Department of Environmental Affairs and Development Planning, Western Cape	Cape Town	Government
ind1a	2004	7-Sep-04	Alan Munn	Sustainability Manager	Enref	Durban	Industry
ind1b	2004	7-Sep-04	Wayne Hartmann	General Manager	Enref	Durban	Industry
ind1c	2004	7-Sep-04	Willen Oosthuizen	Production Manager	Enref	Durban	Industry
ind2	2006	15-Feb-06	Barnaby Briggs	Director	Shell Social Performance Management Unit	Durban	Industry
ind3	2006	23-Mar-06	Robin Aram	Consultant	Aram Associates, former Shell vice president of external affairs	Durban	Industry
ind4	2006	3-Apr-06	Alan Munn	Sustainability Manager	Enref	Durban	Industry
ind5	2006	10-Apr-06	Wayne Hartmann	General Manager	Enref	Durban	Industry
ind6	2006	12-Apr-06	Arend Hoogervorst	Director	Environmental consultant	Durban	Industry
ind7	2006	18-Apr-06	Gerrit Kornelius	Director	Airshed Planning Professionals, former Sasol employee	Both	Industry
ind8	2006	21-Jul-06	Barnaby Briggs	Director	Shell Social Performance Management Unit	Durban	Industry
ind9	2006	1-Sep-06	Nazeema Abraham	Manager Health, Environment and Safety	Calref	Cape Town	Industry
ind10	2006	5-Sep-06	Trevor Chorn	Environmental Affairs Manager	Engen	Durban	Industry
ind11	2006	6-Sep-06	Nazeema Abraham	Manager Health, Environment and Safety	Calref	Cape Town	Industry
ind12	2006	11-Sep-06	Anton Moldan	Environmental manager	South Africa Petroleum Industry Association (Sapia)	Both	Industry
ind13a	2006	12-Sep-06	Dixon Lowe	Environmental manager	Sapref	Durban	Industry
ind13b	2006	12-Sep-	Laura Rossler	Sustainability Manager	Sapref	Durban	Industry

		06					
ind13c	2006	12-Sep-06	Margaret Rowe	Communications Manager	Sapref	Durban	Industry
ind14	2006	14-Sep-06	Anonymous	Industry expert	Industry expert	Cape Town	Industry
ind15	2006	15-Sep-06	Gordon Smith	General Manager	Calref	Cape Town	Industry
ind16	2007	26-Feb-07	Barnaby Briggs	Director	Shell Social Performance Management Unit	Durban	Industry
media1	2006	13-Apr-06	Tony Carnie	Reporter	Independent News & Media	Durban	Media
ngo1	2004	2-Sep-04	Ardiel Soeker	Air quality project manager	Groundwork - Cape Town	Both	NGO
ngo2	2004	6-Sep-04	Desmond D'Sa	Chairman	South Durban Community Environmental Alliance (SDCEA)	Durban	NGO
ngo3	2004	8-Sep-04	Bobby Peek	Director	Groundwork	Both	NGO
ngo4	2006	27-Mar-06	Roger Hammond	Director	Living Earth	Durban	NGO
ngo5	2006	7-Apr-06	Bobby Peek	Director	Groundwork	Both	NGO
ngo6	2006	10-Apr-06	Desmond D'Sa	Chairman	SDCEA	Durban	NGO
ngo7	2006	10-Apr-06	Farida Kahn	Manager	SDCEA	Durban	NGO
ngo8	2006	11-Apr-06	Di Dold	Durban Director	Wildlife and Environment Society of South Africa	Durban	NGO
ngo9	2006	4-Sep-06	Andrew Birkinshaw	Chairman	Table View Residents Association	Cape Town	NGO
ngo10	2006	8-Sep-06	Ardiel Soeker	Housing NGO	Formerly Groundwork	Both	NGO
ngo11	2006	11-Sep-06	Andrew Birkinshaw	Chairman	Table View Residents Association	Cape Town	NGO
ngo12	2006	14-Sep-06	Desmond D'Sa	Chairman	SDCEA	Durban	NGO

Appendix D: Coding frames

1. High level NVivo coding frame for Cape Town, Durban and General (i.e. national level and other) categories

The screenshot shows the NVivo 'Tree Nodes' window with a high-level coding frame. The nodes are organized into three main categories: Cape Town, Durban, and General. Each category contains sub-nodes for 'actors', 'External factors', 'Internal factors', and 'Relationships'. The table below represents the data shown in the screenshot.

Category	Sub-category	Sources	References	Created	Modified
Cape Town	actors	0	0	09/12/2008 17:16	09/12/2008 17:16
	External factors	0	0	08/12/2008 08:57	08/12/2008 08:57
	Internal factors	0	0	08/12/2008 08:57	08/12/2008 08:57
	Relationships	0	0	08/12/2008 08:57	08/12/2008 08:57
	General	0	0	08/12/2008 08:57	08/12/2008 08:57
Durban	actors	0	0	09/12/2008 08:34	09/12/2008 08:34
	External factors	0	0	08/12/2008 18:05	08/12/2008 18:05
	Internal factors	0	0	08/12/2008 18:05	08/12/2008 18:05
	Relationships	0	0	08/12/2008 18:05	08/12/2008 18:05
	General	0	0	08/12/2008 08:57	08/12/2008 08:57
General	actors	0	0	08/12/2008 17:16	08/12/2008 17:16
	External factors	2	2	09/12/2008 08:22	12/12/2008 10:32
	Internal factors	1	1	08/12/2008 07:35	11/12/2008 17:57
	Relationships	0	0	08/12/2008 08:34	10/12/2008 08:33
	General	0	0	08/12/2008 08:57	08/12/2008 08:57

2. More detailed coding frame for Cape Town and Durban

The screenshot shows the NVivo 'Tree Nodes' window with a more detailed coding frame. The nodes are organized into two main categories: Cape Town and Durban. Each category contains sub-nodes for 'actors', 'External factors', 'Internal factors', and 'General'. The table below represents the data shown in the screenshot.

Category	Sub-category	Sources	References	Created	Modified
Cape Town	actors	0	0	09/12/2008 17:16	09/12/2008 17:16
	Cape Town	0	0	09/12/2008 16:39	09/12/2008 16:39
	CBDs	0	0	09/12/2008 16:40	09/12/2008 16:40
	government	0	0	09/12/2008 16:44	09/12/2008 16:44
	industry	0	0	09/12/2008 16:47	09/12/2008 16:47
	INGD	0	0	09/12/2008 16:55	09/12/2008 16:55
	Media	0	0	09/12/2008 16:52	09/12/2008 16:52
	External factors	0	0	08/12/2008 08:57	08/12/2008 08:57
	content	0	0	08/12/2008 17:22	08/12/2008 17:22
	Events	0	0	08/12/2008 18:15	08/12/2008 18:15
	Institutions	0	0	09/12/2008 09:39	09/12/2008 09:39
	cognitive	0	0	09/12/2008 09:39	09/12/2008 09:39
	normative	0	0	09/12/2008 09:39	09/12/2008 09:39
	regulative	0	0	09/12/2008 09:39	09/12/2008 09:39
	Internal factors	0	0	08/12/2008 08:57	08/12/2008 08:57
Durban	actors	0	0	09/12/2008 08:34	09/12/2008 08:34
	Durban	0	0	09/12/2008 16:39	09/12/2008 16:39
	academic	0	0	11/12/2008 09:48	11/12/2008 09:48
	CBDs	0	0	11/12/2008 09:45	11/12/2008 09:45
	government	1	1	11/12/2008 09:45	15/02/2007 11:54
	industry	1	1	11/12/2008 09:43	11/12/2008 12:02
	INGD	0	0	09/12/2008 16:54	09/12/2008 16:54
	media	3	3	11/12/2008 09:45	15/02/2007 11:15
	other: people to contact in sub	1	1	03/01/2007 13:17	03/01/2007 13:17
	trade unions	2	3	11/12/2008 07:54	11/12/2008 11:47
	External factors	0	0	08/12/2008 18:05	08/12/2008 18:05
	Internal factors	0	0	08/12/2008 18:05	08/12/2008 18:05
	General	0	0	08/12/2008 08:57	08/12/2008 08:57
	actors	0	0	09/12/2008 17:16	09/12/2008 17:16
	External factors	2	2	09/12/2008 08:22	12/12/2008 10:32

3. More detailed coding frame for Durban

PhD Project - NVivo

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Nodes

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- Tree Nodes
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Sources

Nodes

Sets

Queries

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Classifications

Folders

Tree Nodes

Name	Sources	References	Created	Modified
Durban	0	0	09/12/2008 16:39	09/12/2008 16:39
External factors	0	0	08/12/2008 18:05	08/12/2008 18:05
context	0	0	08/12/2008 17:24	08/12/2008 17:24
History	2	2	27/09/2007 08:14	09/12/2008 18:14
market context	2	2	10/12/2006 22:08	11/12/2006 12:13
South Durban Basin	5	7	11/12/2006 07:25	10/12/2006 06:30
Events	0	0	08/12/2008 18:16	08/12/2008 18:27
Institutions	0	0	09/12/2008 09:40	09/12/2008 09:40
cognitive	0	0	09/12/2008 09:40	09/12/2008 09:40
normative	0	0	09/12/2008 09:40	09/12/2008 09:40
regulative	0	0	09/12/2008 09:40	09/12/2008 09:40
Internal factors	0	0	08/12/2008 18:05	08/12/2008 18:05
Engen	1	1	12/02/2007 11:46	13/09/2007 12:03
CEP	0	0	13/09/2007 11:47	13/09/2007 11:47
context	0	0	13/09/2007 11:48	13/09/2007 11:48
culture	0	0	13/09/2007 11:49	13/09/2007 11:49
market	0	0	08/12/2008 18:54	08/12/2008 18:54
parent/subsidiary relations	0	0	27/09/2007 14:39	27/09/2007 14:39
resources	1	1	11/12/2006 07:24	28/07/2009 15:37
strategy	0	0	09/12/2008 10:53	09/12/2008 10:53
structures	4	4	10/12/2006 19:18	23/01/2007 15:16
entef vs sapref	0	0	06/12/2008 15:55	06/12/2008 15:55
incidents	6	11	09/12/2006 09:09	15/02/2007 11:36
Industry issues	4	4	04/01/2007 11:58	10/12/2006 00:00
Sapref	0	0	12/02/2007 11:46	13/09/2007 12:03
CEP	0	0	08/12/2008 21:37	08/12/2008 21:37
Culture	0	0	12/02/2007 11:48	12/02/2007 11:48
incidents	0	0	08/12/2008 22:34	08/12/2008 22:34
market	0	0	08/12/2008 22:30	08/12/2008 22:30
parent/subsidiary relations	0	0	12/02/2007 12:07	12/02/2007 12:07
Processes	1	1	12/02/2007 11:48	15/02/2007 12:16
Resources	0	0	12/02/2007 12:07	12/02/2007 12:07
Strategy	0	0	12/02/2007 13:41	12/02/2007 13:41
Structures	2	2	12/02/2007 11:48	15/02/2007 11:42
General	0	0	08/12/2008 08:57	08/12/2008 08:57
actors	0	0	09/12/2008 17:16	09/12/2008 17:16
Other	0	0	09/12/2008 16:43	09/12/2008 16:43
Academics	0	0	09/12/2008 16:42	09/12/2008 16:42
Government	0	0	09/12/2008 17:00	09/12/2008 17:00
Industry	0	0	09/12/2008 17:00	09/12/2008 17:00
institutional entrepreneurs	1	2	10/12/2006 21:18	10/12/2006 21:18

Appendix E: Tables on organisational field dynamics and firm legitimacy

Table A.2: 1994: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<i>Events:</i> N/A <i>Scale:</i> N/A <i>Power:</i> N/A	<i>Actors:</i> Enref, Sapref, SA government <i>Issues:</i> market factors and refinery expansion	N/A	Little evidence of change	Enref under shareholder scrutiny, Sapref no action
Cape Town	<i>Events:</i> Calref promise <i>Scale:</i> host community: MAQP politics <i>Power:</i> Issue shaping: industry seeking to shape issues and agendas through MRC study; <i>Coercive:</i> media and local residents are critical of MRC study's findings	<i>Actors:</i> Calref, MRC, Milnerton Committee, CPT communities, Kynoch, CPT muni and SA government <i>Issues:</i> Refinery expansion, environmental health, industrial pollution and industry commitments	<i>Emergent logic of managerial environmentalism:</i> 'let's get the science right'; <i>Emergent participatory logic:</i> stakeholders seeking cooperative solution	Beginning of normative change	Calref engages with community and makes emissions reduction commitment; cultural change within Calref

Table A.3: 1995: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	Key events, scalar politics and power	Key actors and issues	Institutional logics	Governance structures/ institutional dimensions	Legitimacy and characteristics
Durban	<p>Events: Mandela's Enref visit</p> <p>Scale: <i>Cross-scale:</i> international norms (Responsible Care initiative) meeting resistance at local level</p> <p>Power: <i>Agenda setting:</i> Enref tries to set agenda through consultative process; <i>Coercive:</i> community resists consultation; <i>Cooperational:</i> national government seeks consensus between communities and company</p>	<p>Actors: Enref, SDB communities, Mandela, Durban muni and Sapref</p> <p>Issues: Environmental pollution, industrial pollution and pro-business/ economic growth</p>	<p><i>Logic of economic growth and industry deregulation:</i> industry expansion in process; <i>Emergent logic of protest activism and environmental justice:</i> Communities oppose Enref consultation; <i>Emergent logic of managerial environmentalism:</i> Enref and government seek cooperative governance processes</p>	<p>Beginning of normative change and very beginning of regulative change; cognitive change within community</p>	<p>Enref proactively engages community; Sapref no action</p>
Cape Town	<p>Events: N/A</p> <p>Scale: <i>National-local:</i> national government puts pressure on Calref; <i>Host community:</i> MAQP process continues</p> <p>Power: <i>Coercive:</i> national govt pressure building; <i>Cooperational:</i> community leaders engage with Calref to implement MAQP</p>	<p>Actors: Calref, Kynoch and CPT comm.-unities</p> <p>Issues: Pro-economic growth and industrial pollution</p>	<p><i>Logic of economic growth and industry deregulation:</i> industry expansion continues; <i>Logic of managerial environmentalism:</i> MAQP process evolves</p>	<p>Continued normative pressure</p>	<p>Calref attempts to implement 1994 commitment and continues to engage with local stakeholders</p>

Table A.4: 1996: organisational field dynamics

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Durban health study; SDCEA founded</p> <p>Scale: <i>Cross-scale:</i> international academics help produce local level health studies</p> <p>Power: <i>Structural:</i> logic of economic growth and industry expansion; <i>Coercive:</i> community reacts negatively to Sapref's expansion plans</p>	<p>Actors: Engen, U of Michigan, Dr Naidoo, Sapref, P. Franssen-Sapref and B. Peek</p> <p>Issues: Environmental health and pro-economic growth</p>	<p><i>Logic of economic growth:</i> driving industry expansion plans; <i>Logic of environmental justice:</i> is emergent as community activists organise</p>	<p>Normative dimensions (mainly related to Enref's environmental performance) continue to evolve</p>	<p>Enref negotiates with communities; Sapref loses legitimacy over expansion plans</p>
Cape Town	<p>Events: Cape Town health study</p> <p>Scale: <i>Host community:</i> MAQP politics</p> <p>Power: <i>Cooperational:</i> multistakeholder engagement as part of MAQP process</p>	<p>Actors: CPT communities, Calref and MAQP</p> <p>Issues: Environmental health and industrial pollution</p>	<p><i>Logic of managerial environmentalism:</i> MAQP process</p>	<p>Normative dimensions contested</p>	<p>Calref legitimacy in balance after inconclusive health study</p>

Table A.5: 1997: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Asian crisis Scale: <i>Cross-scale:</i> SEA is an example of policy transfer from EU/UK Power: <i>Agenda setting:</i> local government setting agenda and shaping issues through SEA process; <i>Cooperational:</i> SDCEA negotiates with Enref</p>	<p>Actors: Engen, Petronas and SA government Issues: Economic growth, industry investment</p>	<p><i>Logic of managerial environmentalism:</i> emergent SEA process, SDCEA negotiating with Enref</p>	<p>Some local government normative and regulative action through commissioning SEA</p>	<p>Enref negotiates with communities; Sapref no action</p>
Cape Town	<p>Events: Asian crisis, Calref's broken promise Scale: <i>Cross-scale:</i> Refinery 'promise' affected by Asian crisis, WHO guidelines impact refinery legitimacy Power: <i>Coercive:</i> community-company conflict; <i>Structural:</i> impact of economic crisis</p>	<p>Actors: Calref, CPT communities, NCAMTG, CPT muni, Caltex, Kynoch and Anti-Pollution Alliance Issues: Economic growth, environmental health, industrial pollution and industry distrust</p>	<p>In flux</p>	<p>Normative contestation; cognitive change within community</p>	<p>Calref loses legitimacy as reneges on emissions reduction commitment</p>

Table A.6: 1998: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Sapref explosion, SDB SEA, Asian crisis Scale: Cross-scale: Peek receives international environmental prize Power: Coercive: SDCEA questioning SEA processes/ outcomes</p>	<p>Actors: Sapref, British Petroleum, B. Peek, Durban muni and SDB industry Issues: Environmental justice, environment vs. development, contested science and economic downturn</p>	<p><i>Logic of environmental justice:</i> Peek receives Goldman Prize; <i>Logic of managerial environmentalism</i> : SEA process ongoing</p>	<p>Normative contestation through debating SEA results</p>	<p>Enref negotiates with communities; Sapref loses legitimacy because of incidents</p>
Cape Town	<p>Events: Asian crisis Scale: National-local: industrial action Power: Structural: power of economic crisis</p>	<p>Actors: Calref and Chemical Workers' Industrial Union Issues: Economic downturn and industrial action</p>	<p>In flux</p>	<p>Little evidence of change</p>	<p>Calref attempts to negotiate with communities</p>

Table A.7: 1999: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Enref GNA, V. Moosa rhetoric; Groundwork founded</p> <p>Scale: <i>Cross-scale:</i> GNA model is 'learned' from experience in US and UK; <i>National-local:</i> Moosa targets point polluters; <i>Host community politics:</i> e.g. SEA;</p> <p>Power: <i>Coercive:</i> SDCEA protesting SEA outcomes, national government threatening action; <i>Cooperational:</i> consensual power manifest through GNA process</p>	<p>Actors: B. Peek, SDB communities, Enref and V. Moosa-DEAT</p> <p>Issues: Environmental justice, environment vs. development, economic downturn and constitutional rights</p>	<p><i>Logic of environmental justice:</i> SDCEA protests SEA outcomes, Groundwork is founded;</p> <p><i>Logic of managerial environmentalism</i> : e.g. GNA and SEA</p>	<p>Normative and voluntary regulative change with Enref GNA</p>	<p>Enref gains legitimacy through GNA; Sapref no action</p>
Cape Town	<p>Events: V. Moosa rhetoric</p> <p>Scale: <i>National-local:</i> Birkinshaw engaged Human Rights Commission; Moosa targets point polluters</p> <p>Power: <i>Coercive:</i> community activists and media exerting coercive pressure, national government threatening action</p>	<p>Actors: Table View residents, A. Birkinshaw, Calref and P. Buley-Calref</p> <p>Issues: Environmental justice, constitutional rights and economic downturn</p>	<p><i>Logic of environmental justice:</i> Birkinshaw adopts constitutional rights discourse</p>	<p>Normative and cognitive change as community members approach SA Human Rights Commission</p>	<p>Calref continues to lose legitimacy as community activism grows</p>

Table A.8: 2000: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: SDB cancer study; Bucket Brigades Scale: Cross-scale: Bucket Brigades inspired by US activists; <i>Host community politics</i> Power: Issue shaping: Sapref did not disclose full emissions in 1990s; <i>Agenda setting and issue shaping:</i> Bucket Brigades, investigative journalism and 'cancer alley'; <i>Cooperative and coercive process:</i> National govt sought new governance processes and directed industry to fund health study</p>	<p>Actors: Sapref, R.P. Sapref, Enref, B.P. Groundwork, Mercury, SDB comm., D.L. CBEUS, R.M. DEAT, V.M. DEAT Issues: Air pollution, environmental health, civic science refinery incidents, refinery distrust and regulatory threats</p>	<p><i>Logic of information-based regulation and environmental justice:</i> Bucket Brigades; <i>Logic of managerial environmentalism:</i> polluter pays principle and public-private partnership</p>	<p>Normative change influenced by investigative journalism and civic science; National regulative threat and proposed new environmental governance initiative</p>	<p>Sapref engages with community stakeholders; Enref makes env upgrade</p>
Cape Town	<p>Events: CPT sulphur disposal; Bucket Brigades Scale: Cross-scale: Bucket Brigades instigated by Groundwork and US activists, linkages between Cape Town and Durban; <i>Host community politics</i> Power: Coercive: community activists going to press with air sampling results, provincial government threatening action against Calref</p>	<p>Actors: Calref, P.B. Calref, AECl, CPT comm., W.C. gov., R.M. DEAT, V.M. DEAT Issues: Air pollution, refinery incidents and regulatory threats</p>	<p><i>Logic of information-based regulation:</i> Bucket Brigades; <i>Logic of managerial environmentalism:</i> provincial government threatens action</p>	<p>Normative change spurred by civic science, local regulative threat</p>	<p>Calref loses legitimacy with communities and regulators</p>

Table A.9: 2001: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Enref labour disputes; Sapref pipeline incident Scale: <i>Cross-scale:</i> Bucket Brigades (with help from US activists) continues for three years, to be spread to other SA host communities, international campaign against Shell instigated because of petrol leak at Sapref; <i>Host community politics</i> Power: Coercive: MRA exerts pressure on Enref, SDCEA and local/provincial government exert coercive pressure on Sapref; <i>Structural:</i> logic of profit maximisation / economic growth instigates Enref's expansion plans</p>	<p>Actors: D.D. SDCEA, B.P. Groundwork, R.N. MEAC, V.M. DEAT, R.P. Sapref, Durban Muni, Sapref, SDB comm., Enref, contract workers Issues: Refinery incidents, environment vs. development, environmental health, refinery distrust, civic science, regulatory threats and workers' rights</p>	<p><i>Logic of environmental justice, corporate accountability and information-based regulation:</i> Bucket Brigades; <i>Logic of managerial environmentalism:</i> Enref's planning permission and EIA controversy; <i>Logic of participation and partnership:</i> MPP is contested by industry and civil society; <i>Logic of economic growth:</i> Enref's expansion plans</p>	<p>Some cognitive and normative change influenced by incidents, local regulative change under negotiation</p>	<p>Sapref loses legitimacy – pipeline incident, Enref loses legitimacy – expansion plans and labour dispute</p>

<p>Cape Town</p>	<p>Events: CPT sulphur disposal Scale: <i>Host country and community:</i> Bucket Brigade linkages with Durban, provincial government fine Calref; <i>Host community politics</i> Power: <i>Agenda setting:</i> community leaders seeking to shape agenda and issues through commissioning UCT health study; <i>Coercive:</i> provincial government fines Calref</p>	<p>Actors: Calref, A.B. TVRA, CPT comm., P.B. Calref Issues: Air pollution and refinery incidents</p>	<p><i>Logic of managerial environmentalism:</i> UCT health study, Calref fine</p>	<p>Some normative change – start of health study, local regulative change - Calref fined</p>	<p>Calref loses legitimacy with communities and regulators</p>
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Table A.10: 2002: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Enref expansion SDB health study Sapref pipeline incident WSSD Scale: <i>Cross-scale:</i> International campaign against Shell starts in earnest, US academics help with health study, reference to WHO guidelines, WSSD catalyses attention on Durban, international linkages to build regulatory capacity; <i>Host community politics</i> Power: <i>Coercive:</i> Peek and D'Sa exert pressure on Sapref via the media, SDCEA exerts pressure on Enref; Carnie (a journalist) exerts pressure on industry, Sapref exerts pressure on Durban muni, Enref loses power and legitimacy as expansion is contested and GNA is not renewed; <i>Cooperative:</i> Durban muni remains cooperative, consensual power of Settlers health study (dispersed funding base) but leads to controversial findings</p>	<p>Actors: D R.P. Sapref, SDCEA, Sapref, M.R. Sapref, D.D. SDCEA, B.P. Groundwork, Groundwork, Greenpeace, Durban Muni, Norwegians, N.S. KZN, W.H. Enref, S.S. health study, C.M. Sapia Issues: Refinery incidents, environmental health, environment vs. development, environmental justice, corporate accountability, contested science, distrust, government accountability, regulatory pressure and market liberalisation</p>	<p><i>Logic of environmental justice and corporate accountability; Logic of information-based and community-driven regulation:</i> Bucket Brigades; <i>Logic of managerial environmentalism:</i> clean fuels regs and discussion of new air quality guidelines; <i>Logic of participation, partnership and capacity building:</i> in relation to implementing MPP</p>	<p>Cognitive bifurcation – community vs. companies; normative change within host and home fields influenced by activism, health study and incident; regulative change under negotiation</p>	<p>Sapref 'under siege' but tries to repair legitimacy through response to incident – also parent company pressure on Sapref; Enref unable to maintain legitimacy with host communities e.g. GNA renewal fails</p>
Cape Town	<p>Events: WSSD Scale: N/A Power: N/A</p>	<p>Actors: N/A Issues: N/A</p>	<p>No obvious change</p>	<p>No obvious change</p>	<p>No obvious change</p>

Table A.11: 2003: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Shell activism Enref expansion Scale: <i>Cross-scale:</i> home and host country campaign against Shell (Durban activists travel to Shell's AGM); <i>national-local levels:</i> AQM Bill under negotiation; <i>host community politics</i> Power: <i>Coercive:</i> SDCEA and LRC exert legal pressure on Enref, Enref counters with legal defence and wins planning permission, a credible regulatory threat from national government; <i>Structural:</i> economic growth logic underpins Enref's planning approval; <i>Issue shaping and agenda setting:</i> SDCEA and Groundwork reports; <i>Resource-based:</i> Sapref makes significant environmental upgrade, demonstrates significant resources to do so</p>	<p>Actors: Sapref, R.P. Sapref, B.P. Groundwork, D.D. SDCEA, R.M. DEAT, SDCEA, W.H. Enref, Enref, Shell, Durban Muni, FOEI, SDB community Issues: Environment vs. development, knowledge politics, environmental justice, international activism, government accountability and regulatory pressure</p>	<p><i>Logic of environmental justice and corporate accountability:</i> SDCEA battles over Enref's planning permission; <i>Logic of managerial environmentalism:</i> Enref's expansion EIA gets approved, AQM Bill is debated; <i>Logic of economic growth and industrial development:</i> Enref's expansion plan is approved</p>	<p>Normative institutions contested; regulative institutions in flux – a credible regulatory threat emerging</p>	<p>Enref has low host community legitimacy but gains some regulatory legitimacy; Sapref tries to repair legitimacy, evidence of cultural change; Shell loses legitimacy in relation to SDB</p>

<p>Cape Town</p>	<p>Events: UCT health study Scale: Host community politics Power: Issue shaping and agenda setting: Community-driven as UCT health study is published; <i>Coercive:</i> threat of community legal action, but does not materialise into action</p>	<p>Actors: Calref, A.B. TVRA, S.W. Calref, UCT health study, Cape Times, C.M. Sapia Issues: Market issues, environmental health, regulatory pressure, and corporate and govt. responsibility</p>	<p><i>Logic of managerial environmentalism:</i> technocratic governance through health study politics although AB does threaten legal action, AQM Bill debated</p>	<p>Normative change spurred by health study, regulative change under negotiation</p>	<p>Calref loses legitimacy but uses renewed conciliatory tone; possibly Calref cultural change with SW remarks</p>
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Table A.12: 2004: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: SDB incidents</p> <p>Scale: Cross-scale: home and host country campaign against Shell (Durban activists travel to Shell's AGM); <i>Host community-country interaction:</i> AQM Bill under consultation; <i>Host community politics</i></p> <p>Power: <i>Coercive:</i> SDCEA exerts pressure on local government to improve air monitoring data and hold polluters to account, SDCEA contests Sapref's pipeline report, Durban activists put pressure on Shell at AGM; <i>Issue shaping/Agenda setting:</i> SDCEA educates and shapes agendas in Basin through educational tools (e.g. distributing flaring leaflet); SDCEA loses legitimacy with some community leaders, Sapref exerts power to shape agendas as CLF begins in earnest; <i>Resource-based:</i> Enref appears to be more resource constrained when implementing clean fuels regs;</p> <p><i>Cooperative:</i> MPP implemented cooperatively but questions remain as to outcomes</p>	<p>Actors: B.P. Groundwork, D.D. SDCEA, SDCEA, Settlers Primary School, Sapref, W.H. Enref, Durban Muni</p> <p>Issues: Refinery incidents, regulatory implementation, community activism and capacity building, and refinery upgrades and actions</p>	<p><i>Logic of environmental justice and corporate accountability:</i> SDCEA exerts pressure on local govt, Sapref and Enref; <i>Logic of managerial environmentalism:</i> SDCEA contests Sapref's pipeline report, MPP continues to be implemented</p>	<p>Regulative change with implementation of MPP</p>	<p>Enref continued low host community legitimacy, Sapref and Shell try to repair legitimacy, some cultural change with Sapref's clean fuels project and CLF</p>

<p>Cape Town</p>	<p>Events: Calref incidents Scale: Host community politics Power: Coercive: Strong national govt response after Calref black rain incident</p>	<p>Actors: A.B. TVRA, LRC, Cape Argus, Calref, S.W. Calref Issues: Refinery incidents, community frustration, pressure on regulators and regulatory pressure</p>	<p><i>Logic of managerial environmentalism:</i> air quality monitoring system needs improvement</p>	<p>Regulative threat</p>	<p>Calref loses legitimacy with communities, regulators and media</p>
<p>National</p>	<p>Events: AQMA consultation; Green Scorpions Scale: Cross-scale: international capacity building to help implement and enforce regulations (particularly from US and UK); <i>National-local levels:</i> AQM Bill under consultation Power: Coercive: implementation of clean fuels regs; Cooperative: AQM Bill consultations continue; <i>Agenda setting:</i> EIA regulations streamlined</p>	<p>Actors: DEAT, M.V.S. DEAT, V.M. DEAT, Green Scorpions Issues: Regulatory and enforcement pressure</p>	<p><i>Logic of managerial environmentalism:</i> on spectrum from coercive to cooperative; <i>Logic of cooperation and consultation:</i> AQM Bill; <i>Logic of coercion:</i> Green Scorpions</p>	<p>Regulative and enforcement change</p>	<p>N/A</p>

Table A.13: 2005: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	Key events, scalar politics and power	Key actors and issues	Institutional logics	Governance structures/ institutional dimensions	Legitimacy and characteristics
Durban	<p>Events: MPP implementation/enforcement; Enref fine</p> <p>Scale: Cross-scale: international capacity building in Durban muni, local and international campaign against Shell; <i>Host community politics</i></p> <p>Power: <i>Coercive:</i> Enref fined because of emissions exceedances, MPP adopts innovative permitting approach, requires firms to become ISO14001 certified, SDCEA puts coercive pressure on Enref and Sapref, but mostly through symbolic comments by D'Sa in local media; Shell puts pressure on Sapref, SDCEA and FOEI network put pressure on Shell through meeting with CEO.</p>	<p>Actors: D.D. SDCEA, B.P. Groundwork, R.N. MRA, Daily News, Sapref, W.H. Enref, S.M. Durban Muni, S.C. Durban Muni</p> <p>Issues: Regulatory implementation and success, regulatory enforcement, refinery incidents, clean fuels projects, environment vs. development, environmental health, fuel shortages</p>	<p><i>Logic of environmental justice and corporate accountability:</i> SDCEA exert pressure on Enref and Sapref; <i>Logic of managerial environmentalism:</i> Durban permitting process is 'South Africanised', Enref exceeds new permit requirements and is fined</p>	Regulative change with implementation of MPP and permits	Enref lost legitimacy with permit exceedances, Sapref maintained legitimacy and had a relatively low profile in field; cultural change at Shell with CEO engagement

<p>Cape Town</p>	<p>Events: Calref incidents; Fuel shortages Scale: <i>Host community</i> politics Power: <i>Coercive:</i> local and national government to review Calref's permits; Issue shaping: Birkinshaw highlights discrepancies between Calref's environmental performance and EU environmental standards; Lack of consensus in Cape Town communities on engagement strategy</p>	<p>Actors: A.B. TVRA, S.W. Calref, Cape Town airport Issues: Refinery incidents, community activism, regulatory pressure, environmental health, fuel shortages</p>	<p><i>Logic of managerial environmentalism:</i> AB to discuss incidents with Calref and disputes placement of air monitors, regulators to review Calref's permits</p>	<p>Normative and limited regulative pressure</p>	<p>Calref lost legitimacy as incidents continued; some cultural change as Calref GM recognises community concerns, but still contests UCT study</p>
<p>National</p>	<p>Events: AQMA implementation; clean fuels projects; fuel shortages Scale: <i>Cross-scale:</i> international capacity building to implement and enforce regulations (particularly from US and UK); <i>national-local levels:</i> AQMA to be implemented by local regulators Power: <i>Coercive:</i> Clean fuels regs implemented coercively, enforcement activity ramped up; <i>Cooperative and coercive:</i> AQMA utilises mixed approach</p>	<p>Actors: P.L. DEAT, SA Govt Issues: Regulatory implementation and enforcement</p>	<p><i>Logic of managerial environmentalism:</i> on spectrum from coercive to cooperative and devolution of implementation to local level; <i>Logic of cooperation and consultation</i></p>	<p>Regulative and enforcement change</p>	<p>N/A</p>

Table A.14: 2006: organisational field dynamics and firm legitimacy

Context	Organisational field dynamics				Firm level
	<i>Key events, scalar politics and power</i>	<i>Key actors and issues</i>	<i>Institutional logics</i>	<i>Governance structures/ institutional dimensions</i>	<i>Legitimacy and characteristics</i>
Durban	<p>Events: Sapref pipelines; MPP health study Scale: <i>Cross-scale:</i> health study published, consortium of local and international academics; <i>host community politics</i> Power: <i>Agenda setting:</i> MPP health study legitimises health concerns and recommends cancer registry, D'Sa and Peek confer legitimacy to MPP health study findings; <i>Cooperational and issue shaping:</i> Enref implements new open door policy, Enref negotiates for more lenient permit terms, Sapref replaces pipelines; <i>Resource-based:</i> Enref financially constrained to make environmental upgrades, Sapref not financially constrained and replaces pipelines; <i>Coercive:</i> activists exert pressure on Enref during permitting crisis and after incidents</p>	<p>Actors: D.D. SDCEA, B.P. Ground-work, SDB communities, SDB children, Sapref, Enref, W.H. Enref Issues: Regulatory implementation and success, regulatory enforcement, refinery incidents, clean fuels projects, environment vs. development, fuel shortages</p>	<p><i>Logic of environmental justice and corporate accountability:</i> SDCEA exert pressure on Enref and legitimise MPP health study findings; <i>Logic of managerial environmentalism:</i> Enref seeking more lenient permitting terms, Sapref replaces pipelines</p>	<p>Regulative and normative change with implementation of MPP and permits</p>	<p>Enref legitimacy continued to be contested; Sapref repaired legitimacy with pipeline replacement; possible cognitive change at Sapref</p>

<p>Cape Town</p>	<p>Events: CPT AQMP Scale: Cross-scale: parent company pressure; <i>Host community</i> politics Power: <i>Agenda setting:</i> Cape Town air quality management plan launched; <i>Coercive pressure:</i> parent company pressure, Calref served directive</p>	<p>Actors: Calref, C.M. Sapia Issues: Refinery incidents, fuel shortages, clean fuels project, power outages, refinery upgrade</p>	<p><i>Logic of managerial environmentalism:</i> Calref served directive and increasing parent company oversight</p>	<p>Regulative pressure with publication of CPT AQMP and impl. of directive</p>	<p>Calref attempted to repair legitimacy with Chevron visit and water treatment plant upgrade; Chevron strategy change</p>
<p>National</p>	<p>Events: AQMA standards Scale: Cross-scale: international capacity building to implement and enforce regulations (particularly from US, UK and Denmark), international standards/guidelines influence SA ambient air quality standards; <i>National-local levels:</i> implementation of AQMA will be uneven Power: <i>Coercive:</i> capacity of environmental inspectorate being built; <i>Cooperational:</i> Peek confers legitimacy to draft SA ambient air quality standards; <i>Agenda setting:</i> planning system and EIA regs under review</p>	<p>Actors: Natref, Sasol, M.V.S. DEAT, P.L. DEAT, USEPA Issues: Regulatory implementation and enforcement</p>	<p><i>Logic of managerial environmentalism:</i> win/win environment-development solutions sought by environment minister; <i>Logic of coercion:</i> capacity of environmental inspectorate being expanded</p>	<p>Regulative and enforcement change</p>	<p>N/A</p>

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