Explaining Regime Content: The Use of Trade Restrictive Measures in Multilateral Environmental Agreements

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Abstract

One of the central preoccupations of international relations scholars is to explain and elaborate the conditions under which international co-operation will occur. In particular, the 'international regimes' literature investigates how states attempt to manage collective action problems such as threats to the global environment. While there has been much progress in our understanding of the conditions required for the formation and maintenance of regimes, the question of *regime content* – also known as regime properties or institutional design – has been neglected. A second aspect of international co-operation yet to be fully treated is issue linkage. How does one regime – and its provisions – interact with another?

The thesis addresses these issues by investigating a specific question: *under what conditions will trade restrictive measures be incorporated into a multilateral environmental agreement (MEA)?* In addition to the regime analysis literature, I draw upon the 'trade and environment' literature on the interaction between trade policy and environmental policy to strengthen the analytical framework. The debate regarding potential conflicts between the rules of the World Trade Organization and the trade measures employed in various MEAs is particularly useful. A review of the contributions and gaps of the relevant literatures provides the basis for selecting four factors – power, costs and benefits, knowledge, and institutional forum – that are used to answer the research question.

The use of trade restrictions is examined in the two pre-UNCED MEAs that are most clearly at the intersection of trade and environment: the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer and the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes. The thesis then extends the analysis to consider the future of trade restrictive measures in MEAs by applying the conclusions drawn from the two in-depth case studies to two post-UNCED MEAs: the 1998 Rotterdam Convention for Certain Hazardous Chemicals and Pesticides in International Trade and the planned Cartagena Protocol on Biosafety. It is found that while power, costs and benefits, and institutional forum contribute in different degrees to understanding the factors influencing regime content, traditional knowledge-based regime analysis approaches fail to do so. Thus, a broader approach to examining the role of knowledge – analysing the influence of the Dominant Social Paradigm – is employed and demonstrated to have strong explanatory power.

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Acronyms and Abbreviations

AIA	advance informed agreement
BAN	Basel Action Network
BIR	Bureau for International Recycling
BSWG	Open-ended Ad Hoc Working Group on Biosafety (under the CBD)
CBD	Convention on Biological Diversity
CFC	chlorofluorocarbon
CITES	Convention on the International Trade in Endangered Species
CMA	Chemical Manufacturers Association
COP	Conference of the Parties
CSD	Commission on Sustainable Development
CTE	Committee on Trade and Environment (of the WTO)
DSP	dominant social paradigm
EC	European Community
EIF	entry into force
EPA	Environmental Protection Agency (US)
EU	European Union
FAO	Food and Agriculture Organization
FCCC	Framework Convention on Climate Change
G-77	Group of 77 Developing Countries (now numbering around 150)
GATT	General Agreement on Tariffs and Trade
GMO	genetically modified organism
HCFC	hydrochlorofluorocarbon
IAEA	International Atomic Energy Agency
ICME	International Council on Metals and the Environment
ICTSD	International Centre for Trade and Sustainable Development
INC	Intergovernmental Negotiating Committee
ITWAN	International Toxic Waste Action Network
LMO	living modified organism
MEA	multilateral environmental agreement
MFN	most favoured nation treatment (Article 1 of the GATT)
MOP	Meeting of the Parties
MTS	multilateral trading system
NGO	non-governmental organisation
OAU	Organization for African Unity
ODP	ozone depleting potential
ODS	ozone depleting substance
OECD	Organization for Economic Cooperation and Development
PIC	prior informed consent
TEAP	Technology and Economics Assessment Panel (of the Montreal Protocol)
TREM	trade related environmental measure

TWG	Technical Working Group (of the Basel Convention)
ULAB	used lead-acid battery
UN	United Nations
UNCED	United Nations Conference on Environment and Development (Rio de Janeiro, 1992)
UNCHE	United Nations Conference on the Human Environment (Stockholm, 1972)
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
WCED	World Commission on Environment and Development (the Brundtland Commission)
WMO	World Meteorological Organization
WTO	World Trade Organization

Chapter One

The Trade and Environment Nexus in International Environmental Politics

At the close of the 1990s, an issue that gained prominence in the 20th century – human impact on the global environment – is clearly placed to have a high profile in the world of the 21st century. Since the 1972 United Nations Conference on the Human Environment (UNCHE) in Stockholm, global environmental issues have become increasingly salient on the agenda of international politics.[1] The height of this concern manifested itself at the high-level 1992 UN Conference on Environment and Development (UNCED), or 'Earth Summit', in Rio de Janeiro. Since 1992, there has been considerable debate about the relationship between global environmental protection and expanding international trade.

Many global environmental problems require international co-operation because they may be transboundary in nature – such as pollution of a river passing through several countries and hazardous waste exports – or part of the 'global commons' – such as atmospheric change due to ozone-layer depletion or global warming. Since the 1970s, there has been a significant increase in the negotiation of legally binding international agreements to combat international environmental problems.[2] These types of multilateral environmental agreements (MEAs) place obligations on states to regulate, reduce and sometimes eliminate the sources of environmental hazards and are at the centre of international efforts to address global environmental problems.[3] Such MEAs

[1] Other notable events that also increased international awareness of environmental issues were the 1962 publication of Rachel Carson's *Silent Spring*, warning of the dangers of pesticide use in agriculture, the 1968 UNESCO Biosphere Conference in Paris, which examined the environment from a scientific perspective, and the 1972 publication of the Club of Rome's report *The Limits to Growth*, which made distressing – if somewhat inaccurate – predictions regarding the limits of non-renewable natural resources. None of these, however, took account of the wider political, economic and social aspects of global environmental issues to the same extent as the UNCHE.

[2] More than half of the 170 multilateral environmental agreements listed by UNEP have been adopted in the last 25 years. UNEP, *Register of International Treaties and Other Agreements in the Field of the Environment* (Nairobi: UNEP, 1993).

[3] Arguably, some MEAs – though signed by states – also place direct or indirect obligations on firms and individuals. Young refers to this as the distinction between *imperium* (the sovereign rights of states) and *dominum* (the rights of property holders). See O. Young, "Rights, Rules, and Resources in World Affairs",

include the Kyoto Protocol to the Framework Convention on Climate Change, the Convention on Biological Diversity, the Montreal Protocol on Ozone Depleting Substances and the Basel Convention on transboundary hazardous wastes movements.

The increase in number and scope of MEAs has meant that the obligations created by these agreements have come into contact – and sometimes conflict – with other components of the international system. Perhaps the clearest and most controversial of these relationships is between international environmental protection and the international economic system, and more specifically the multilateral trading system (MTS) as represented by the rules and norms of the General Agreement on Tariffs and Trade (GATT) and their oversight by the World Trade Organization (WTO). The volume of world trade in goods amounted to more than $5.2 trillion in 1998 and accounts for an increasing share of global economic output, having increased at an average rate of 6 percent per year in the 1990s.[4] The WTO, established in 1995, now has 134 member countries, responsible for well over 90 percent of world trade. Moreover, environmental concerns will likely play a central role during a new round of global trade negotiations – the proposed 'Millennium Round' – with key actors such as the European Union (EU) and G-8 calling for renewed discussion on the relationship between WTO rules and MEAs.[5]

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pp. 1-24 in O. Young (ed), *Global Governance: Drawing Insights from the Environmental Experience* (Cambridge, MA: MIT Press, 1997), pp. 6-7. The importance of non-state actors, such as environmental NGOs, scientists, multinational companies, individuals and international organisations is now well-recognised in international environmental affairs. See, for example, T. Princen and M. Finger, *Environmental NGOs in World Politics: Linking the local and the global* (London: Routledge Press, 1994); P. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (New York: Columbia University Press, 1990); M. Keck and K. Sikkink, *Activists Beyond Borders: Advocacy Networks in International Politics* (Ithaca: Cornell University Press, 1998); H. Breitmeier, "International Organizations and the Creation of Environmental Regimes", pp. 87-114 in O. Young (ed), *Global Governance: Drawing Insights from the Environmental Experience* (Cambridge, MA: The MIT Press, 1997); and, more generally, V. Haufler, "Crossing the Boundary Between Public and Private: International Regimes and Non-State Actors", pp. 94-111 in V. Rittberger (ed), *Regime Theory and International Relations* (Oxford: Clarendon Press, 1995).

[4] WTO, "World Trade Growth Slower in 1998 After Unusually Strong Growth in 1997", *WTO Press Release*, no. 128 (16 April 1999), pp. 5-6. All references to dollars ($) are US dollars, unless otherwise indicated.

[5] See WTO, "EC Approach to Trade and Environment in the New WTO Round", WT/GC/W/194 (1 June 1999); ICTSD, "G-8 Endorse Trade-Environment Link", *BRIDGES: Between Trade and Sustainable Development*, vol. 3, no. 5 (June 1999), p. 3.

Against a backdrop of increasing international environmental regulation, a continuing drive for economic growth, trade liberalisation, and the expansion of multilateral trade agreements, it is not surprising that one of the most significant issues to emerge in international environmental politics in the 1990s is the debate regarding the relationship between international trade and the environment.[6] As Hurrell and Kingsbury suggest, there is clearly a "complex but close relationship between the generation of environmental problems and the workings of the now effectively globalized world economy".[7] Ever since the now infamous 'tuna-dolphin' dispute of 1991, when an import ban instituted by the United States to protect dolphins from being killed by Mexican tuna fishing was deemed to contravene the GATT, economists, environmentalists, lawyers, politicians and academics have convened numerous discussions and conferences seeking to clarify the relationship between what are sometimes perceived as conflicting policy objectives. While the international community is in theory committed *both* to trade liberalisation, through the GATT and WTO, *and* to environmentally sustainable development, through the agreements endorsed at UNCED, there remain many areas in which the relationship is neither clear nor harmonious.[8] A key such area relates to the use of trade restrictive measures in MEAs.

1.1 Purpose of the Thesis and the Research Question

The increasing use of MEAs as a tool of international governance and the seemingly conflictual relationship between the rules of the MTS and these environmental

[6] Interestingly, however, the prominence of the issue and the veracity of the debate *did* surprise many observers and policy-makers. D. Esty, *Greening the GATT: Trade, Environment and the Future* (Washington, DC: Institute for International Economics, 1994), pp. 35-36.

[7] A. Hurrell and B. Kingsbury, "The International Politics of the Environment: An Introduction", pp. 1-47 in A. Hurrell and B. Kingsbury (eds), *The International Politics of the Environment* (Oxford: Clarendon Press, 1992), p. 3.

[8] See also, J. Krueger, "Trade and Environment: From Rio to UNGASS (via Singapore)", *Environmental Politics*, vol. 7, no. 1 (Spring 1998), pp. 207-13; D. Brack (ed), *Trade and Environment: Conflict or Compatibility?* (London: Earthscan/RIIA, 1998); D. Esty, *Greening the GATT*; and S. Charnovitz, "GATT and the Environment: Examining the Issues", *International Environmental Affairs*, vol. 4, no. 3 (Summer 1992), pp. 203-33.

agreements provides the background for the research in this thesis. One of the central preoccupations of international relations scholars is to explain and elaborate the conditions under which co-operation will occur amongst the nations of the world. In particular, investigations into the conditions under which actors (usually states) attempt to manage collective action dilemmas (such as international environmental problems) have taken place within the international regimes literature. Indeed, Norman Vig has argued that "the development of international environmental cooperation has become one of the most fruitful and dynamic fields of international relations scholarship in the past decade".[9]

To date, most efforts have focused on questions concerning the formation and maintenance of international environmental regimes and, more recently, on questions regarding regime effectiveness.[10] There has been little investigation, however, of 'regime content' – also known as regime properties or institutional design. What are the factors that influence regime content? Are they the same or different from the factors determining regime formation? A second issue concerning the study of international co-operation that has yet to be fully treated in the regime literature is the question of issue linkage. How does one regime (or its provisions) interact with another? As Virginia Haufler has observed, "every regime is embedded in and entwined with others...these

[9] N. Vig, "Introduction: Governing the International Environment", pp. 1-26 in N. Vig and R. Axelrod (eds), *The Global Environment: Insitutions, Law, and Policy* (Washington, DC: CG Press, 1999), p. 5. For a review of international relations research on the subject, see M. Zürn, "The Rise of International Environmental Politics", *World Politics*, vol. 50 (July 1998), pp. 617-49. Regimes are defined in more detail in section 2.1.

[10] On regime formation, see S. Haggard and B. Simmons, "Theories of international regimes," *International Organization*, vol. 41, no. 3 (Summer 1987), pp. 491-517; Rittberger (ed), *Regime Theory and International Relations*; O. Young and G. Oshereko (eds), *Polar Politics: Creating International Regimes* (Ithaca: Cornell University Press, 1993); I. Rowlands, *The Politics of Global Atmospheric Change* (Manchester: Manchester University Press, 1995); P. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (New York: Columbia University Press, 1990); and M. Levy, O. Young and M. Zürn, "The Study of International Regimes", *European Journal of International Relations*, vol. 1 (1995), pp. 267-330. On regime implementation and effectiveness, see D. Victor, K. Raustiala, and E. Skolnikoff (eds), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice* (Cambridge, MA: MIT Press, 1998); P. Haas, R. Keohane and M. Levy (eds), *Institutions for the Earth: Sources of Effective International Environmental Protection* (Cambridge, MA: The MIT Press, 1993); and O. Greene, "Environmental Regimes: Effectiveness and Implementation Review", pp. 196-214 in J. Vogler and M. Imber (eds), *The Environment and International Relations* (London: Routledge, 1996).

changes and linkages have not been thoroughly analysed to date, and would provide a rich area for research".[11]

The research question addressed here relates to both of these concerns. This thesis examines the issue of regime content and the relationship between the international trade and environment regimes by asking the question: *under what conditions will trade restrictive measures be incorporated into a multilateral environmental agreement*? Drawing on existing literature regarding regime analysis and ideas from the trade and environment debate, four factors are examined as influential factors in determining regime content: power, calculations of interests (or costs and benefits), knowledge and institutional forum.[12]

The use of trade restrictions in MEAs is examined in the two pre-UNCED MEAs that are most clearly at the intersection of trade and environment: the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer and the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Part of the purpose of the thesis is also to give an account of the trade restrictive provisions found in these two agreements. The analysis then extends to trade restrictive measures in other MEAs. This is done by applying the conclusions drawn from the two in-depth case studies to two post-UNCED MEAs: the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the planned Cartagena Protocol on Biosafety.

The research method for the thesis is qualitative. It draws upon two bodies of literature. The first, international regime analysis, is used because it is a productive and well-developed method for analysing collective action and co-operation between states in international society. However, its primary concern to date has been to account for regime formation and the research program has only begun to examine other related issues, such as regime effectiveness. And while the arguments advanced in this thesis also draw upon work that is not directly related to regime theory – such as writings on

[11] Haufler, "Crossing the Boundary Between Public and Private: International Regimes and Non-State Actors", p. 111.

[12] These factors and the analytical framework used to answer the research question are detailed in section 2.3.

international institutions and international co-operation more broadly – the discussion takes as its point of departure the scholarly debate about international regimes.

The second body of literature – on the relationship between trade and environment – is surveyed to illustrate the many important themes (such as connections between economic growth and the environmental quality) that are relevant to the research, as well as to highlight the relationship between, and controversies over, the use of trade restrictive measures in MEAs and the provisions of the WTO.

Written documentation from the various negotiating sessions that created and elaborated the MEAs and their trade restrictive provisions is used to trace the influence of the four factors that are examined. This documentation includes the text of the agreement itself, official conference reports and meeting documents issued by the host institution for the negotiations (UNEP) as well as position papers prepared by governments, international organisations such as the WTO, and NGOs such as Greenpeace International or the International Chamber of Commerce. Secondary sources, such as accounts of specific negotiations by participants or other academics and newspaper articles, are also used to confirm the account presented in this study. I attended several negotiating sessions of three of the four MEAs examined in this thesis.[13] Examination of the written documentation is supplemented by 43 interviews with individuals who have been involved in the various negotiations and issues.[14]

1.2 Background: Environmental Issues on the International Political Agenda

The UNCHE, attended by representatives of 113 countries, 19 intergovernmental agencies and 400 other intergovernmental and non-governmental organisations, marked the beginning of organised international efforts to protect the environment while also

[13] The seventh Meeting of the Parties to the Montreal Protocol, Vienna, Austria (December 1995); the fourth Conference of the Parties of the Basel Convention, Kuching, Malaysia (February 1998); and negotiating sessions three, four and five of the Rotterdam Convention on Prior Informed Consent, Geneva (May 1997), Rome (October 1997), and Brussels (March 1998).

[14] The interviews were semi-structured and open-ended. Interviews listed in the footnotes as "Interview 1" or "Interviews 12, 17 and 32" can be matched with the numbered list of interviews in Appendix I.

promoting economic development.[15] The unprecedented number of governments attending the 1972 Stockholm conference signalled that the environment had become a legitimate concern for the international community. McCormick notes that it was "the first occasion on which the political, social and economic problems of the global environment were discussed at an intergovernmental forum with a view to actually taking corrective action".[16]

Despite the fact that no binding agreements were signed at Stockholm – the conference adopted a Declaration, a list of 26 principles and an Action Plan of 109 recommendations – the most tangible result of the UNCHE was the call for the creation of the United Nations Environment Programme (UNEP). With UNEP came for the first time the possibility of monitoring global environmental trends, co-ordinating international meetings and conferences, and creating new international environmental conventions. UNEP also became the first UN body based in a developing country (Kenya).

One of UNEP's key achievements, particularly relevant to this thesis, has been placing the link between environment and development on the international political agenda. As Peter Thacher has observed, UNEP stimulated awareness "of the role played by development funding and the need to incorporate environmental considerations in development planning".[17] Around the time of the UNCHE, however, the view of the relationship between environment and development – held in particular by developing countries – was that there seemed to be a trade-off between environmental protection

[15] Vig, "Introduction: Governing the International Environment", in Vig and Axelrod (eds), *The Global Environment*, p. 1.

[16] The governmental representation at the UNCHE would have been even higher had the Eastern European countries (bar Romania) not boycotted the meeting over the voting status of East Germany at the UN. See J. McCormick, *Reclaiming Paradise: The Global Environmental Movement* (Bloomington: Indiana University Press, 1989), pp. 88-105. This volume is also a good overview of the rise of environmental issues in the 1970s and 1980s.

[17] P. Thacher, "The Role of the United Nations", pp. 183-211 in Hurrell and Kingsbury (eds), *The International Politics of the Environment*, p. 190.

and economic growth.[18] The compromise of the UNCHE conference can be summed up in Principle 21 of the Stockholm Declaration:

> States have...the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

This wording allowed developing countries to focus on the 'sovereign right' aspect, and industrialised countries on the 'responsibility to not cause damage to the environment', as guiding principles. Indeed, the arguments put forth by developing countries in the 1970s that they would not sacrifice their economic development for 'green' policies – unless they were compensated by the North – led to new efforts to portray environment and development as compatible rather than conflictual. Because as Tony Brenton put it, "Principle 21...tended to fuel debate rather than resolve it".[19]

By the mid-1980s, the concept of *sustainable development* had been introduced and subsequently popularised, particularly by the World Commission on Environment and Development (WCED, also known as the Brundtland Commission), which had been set up in 1983 following an initiative at UNEP's 10th anniversary meeting the year before. The Commission's report, *Our Common Future*, was presented to the UN General Assembly in the autumn of 1987 and clearly stated that economic development and environmental protection were not separate issues to be traded off one against the other, but mutually dependent objectives that should be pursued simultaneously. Indeed, it sought to redefine 'development' so as not to equate it solely with 'economic growth'; development had to become 'sustainable' and meet the "needs of the present without compromising the ability of future generations to meet their own needs".[20]

Not surprisingly, the concept's vagueness made it widely acceptable to industrialised and developing countries alike. As Michael Redclift has pointed out,

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[18] This perspective was developed in the report of a UNCHE preparatory conference, the 1972 *Founex Report*. Developing countries were concerned that their economic development would be hindered by the efforts of industrialised countries to protect the environment, a concern the South continues to hold. See T. Brenton, *The Greening of Machiavelli: The Evolution of International Environmental Politics* (London: Earthscan/RIIA, 1994), pp. 37-41.

[19] Brenton, *The Greening of Machiavelli*, p. 46.

[20] WCED, *Our Common Future* (Oxford: Oxford University Press, 1987), p. 43.

sustainable development, "like motherhood and God", is difficult not to approve of.[21] More specifically, however, the concept of sustainable development

> bridged the intellectual and political gap which had been apparent at least since Stockholm between those (particularly in the developing world) arguing for economic growth, and those (particularly in the developed world) arguing for environmental protection. It encouraged growth, but incorporated environmental concern in order to ensure that growth should not ultimately undo itself.[22]

A review of the debates regarding the notion of sustainable development can be found elsewhere and is outside the scope of this thesis.[23] For present purposes, it suffices to state that sustainable development, as presented by the WCED, did not challenge the notion of economic growth *per se* – indeed it argued for a "new era" of economic growth for poor countries and that the international economy must speed up world growth – but rather tried to place it within the concept of sustainability and environmental constraints.[24] Moreover, *Our Common Future* generally endorsed the multilateral trading system, suggesting only that the mandates of the GATT and UNCTAD should include sustainable development.[25]

By the late 1980s, global environmental concerns were about to reach their peak on the international political agenda. Public opinion in the North was strongly attuned to environmental issues and focussed on the efforts to combat ozone layer depletion and global warming. In 1989, the UN General Assembly agreed to a United Nations Conference on Environment and Development (UNCED) to be held in Rio de Janeiro in

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[21] M. Redclift, "Sustainable Development: Needs, Values, Rights", *Environmental Values*, vol. 2, no. 1 (Spring 1993), p. 3.

[22] Brenton, *The Greening of Machiavelli*, p. 129.

[23] See for example, P. Hammond, "Is There Anything New in the Concept of Sustainable Development?", pp. 185-94 in L. Campiglio et al (eds), *The Environment After Rio: International Law and Economics* (London: Graham & Trotman, 1994); W. Lafferty and O. Langhelle, *Sustainable Development* (London: Macmillan Press, 1998); and T. de la Court, *Beyond Brundtland: Green Development in the 1990s* (London: Zed Books, 1990). The relationship between economic growth, trade and environmental degradation is revisited in section 2.2.1.

[24] WCED, *Our Common Future*, pp. 8 and 89.

[25] WCED, *Our Common Future*, pp. 78-85. The GATT, created in 1947, made no mention of the word 'environment'. The preamble to the 1994 agreement establishing the WTO, by contrast, includes sustainable development as one of the Organization's objectives (see below and section 2.2.2).

June 1992. Strikingly, the context of UNCED's creation and mandate was framed by many of the same debates that took place prior to, and during, the UNCHE. Industrialised countries were keen to address environmental issues like climate change, biodiversity loss and deforestation. Developing countries, on the other hand, strongly emphasised their need for development, and it is not a coincidence that the title of the 1992 conference – unlike in 1972 – emphasised that it was about environment *and* development.

While only two heads of state had attended the 1972 Stockholm conference, UNCED was the first global gathering of officials at the highest level on environment and development issues. It was attended by representatives of 178 countries (including 117 heads of state), numerous intergovernmental organisations and between 1400 and 1500 accredited NGOs.[26] Like the UNCHE, UNCED resulted in several non-binding outputs: the Rio Declaration on Environment and Development, Agenda 21 (the 40 chapter "blueprint for action for global sustainable development into the 21st century"), and the Statement of Forest Principles. However, UNCED also witnessed the signing of two binding MEAs: the Framework Convention on Climate Change (FCCC) and the Convention on Biological Diversity (CBD), with the Global Environment Facility (GEF) designated to help pay the costs of addressing certain global environmental problems.[27] A Commission on Sustainable Development (CSD) was also created to monitor and catalyse the implementation of the UNCED outputs, especially Agenda 21.[28]

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[26] Total participation at UNCED was around 35,000. Brenton, *The Greening of Machiavelli*, p. 223. See also P. Chasek, "The Story of the UNCED Process", pp. 45-61 in B. Spector, G. Sjöstedt and I. Zartman (eds), *Negotiating International Regimes: Lessons Learned form the United Nations Conference on Environment and Development* (London: Graham & Trotman, 1994).

[27] On the UNCED outputs, see M. Grubb et al, *The Earth Summit Agreements: A Guide and Assessment* (London: Earthscan, 1993). On the GEF, see D. Fairman, "The Global Environment Facility: Haunted by the Shadow of the Future", pp. 55-87 in R. Keohane and M. Levy (eds), *Institutions for Environmental Aid* (Cambridge, MA: MIT Press, 1996).

[28] See L. Wagner, "Negotiations in the UN Commission on Sustainable Development: Coalitions, Processes, Outcomes", *International Negotiation*, vol. 4, no. 2 (Summer 1999), pp. 107-31.

Regarding the relationship between environment and development, the Rio Declaration contains a slightly revised version of Principle 21 of the Stockholm Declaration. Principle 2 of the Rio Declaration reads:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

In addition to this is a statement regarding the relationship between sustainable development and the multilateral trading system. Principle 12:

> States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

Some critics have argued that after attempts in the 1980s by bodies like the WCED to balance environmental and development concerns, these outputs of the UNCED process undermined the balance by tilting the dominant interpretations of sustainable development to favour more traditional interpretations of economic growth, free trade and the expansion of markets.[29] Marc Pallemaerts argues, for example, that the addition of the words 'developmental policies' to Principle 2 of the Rio Declaration was a "skilful step backwards" from Principle 21 of the Stockholm Declaration in that it subordinated environmental policy obligations to a country's economic development policy.[30]

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[29] See, for example, M. Pallemaerts, "International Environmental Law From Stockholm to Rio: Back to the Future?", pp. 1-19 in P. Sands (ed), *Greening International Law* (London: Earthscan, 1993); and M. Finger and P. Chatterjee, *The Earth Brokers: Power, Politics and Development* (London: Routledge, 1994), pp. 53-56.

[30] Pallemaerts, "International Environmental Law From Stockholm to Rio: Back to the Future?", pp. 5-6. See also C. Mensah, "The Role of Developing Countries", pp. 33-52 in Campiglio et al (eds), *The Environment After Rio* (London: Graham & Trotman, 1994).

Turning to Principle 12 of the Rio Declaration, it is clearly premised on the notion that environmental protection requires an open international economic system and that trade should not be restricted if it contravenes GATT regulations – the language of "arbitrary or unjustifiable discrimination" or "disguised restriction" on international trade comes from the headnote of Article XX of the GATT.[31] Chapter 2 of Agenda 21 also calls for "promoting sustainable development through trade liberalization".[32]

In addition to these particular interpretations of the relationship between environment and development in the Rio Declaration and Agenda 21, sustainable *development* – a qualitative notion – appears to have been usurped by the terms sustainable *growth* or even *sustained growth* – quantitative measurements – in many of the international outputs of the 1990s.[33] The 1989 UN General Assembly resolution establishing the UNCED, for example, affirmed the "importance of a supportive international economic environment that would result in *sustained economic growth* and development in all countries".[34] And the Maastricht Treaty that established the EU in 1992 refers to the promotion of "sustainable and non-inflationary growth respecting the environment".[35]

The international political context of the 1990s, however, is vastly different from the conditions that prevailed during most of the 20th century. Greater economic growth – measured by the increased GDP of many, but not all, countries – and the ever increasing levels of international trade – measured by the overall levels of exports and imports – since the end of the Second World War have apparently solidified the global liberal economic order in international relations. Moreover, with the collapse of most of

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[31] See section 2.2.2 for more on Article XX and other GATT rules.

[32] United Nations, *Agenda 21: The United Nations Programme of Action from Rio* (New York: Department of Public Information, 1992), paragraph 2.3(a).

[33] Pallemaerts, "International Environmental Law From Stockholm to Rio: Back to the Future?", pp. 14-15. Ayres suggests that "the current interpretation of sustainable development from mainstream institutions like the World Bank is virtually indistinguishable from the notion of continuing economic growth as measured in the usual way". R. Ayres, *Turning Point: An End to the Growth Paradigm* (New York: St. Martin's Press, 1998), p. 135. Economic growth is discussed in more depth in section 2.2.1.

[34] UNGA Resolution 44/228 (emphasis added).

[35] Pallemaerts, "International Environmental Law From Stockholm to Rio: Back to the Future?", p. 15.

the world's command economies in the late 1980s and early 1990s, there appears to be no alternative to an international economic system predicated on open markets and free trade. Global and transboundary environmental problems are thus addressed within this wider political and economic framework.

1.3 Trade and Environment

Awareness-raising activities – such as international conferences devoted to environmental themes – do not on their own tackle or improve the quality of the environment. Scientific reports do not automatically lead to less stratospheric ozone depletion. Statements of good intentions in the UN General Assembly cannot prevent the extinction of endangered species. Sovereign states may not stop economically beneficial – but environmentally polluting – activities for the 'global good'. The creation of MEAs is now the centrepiece of international efforts to control global environmental problems. However, particular countries may sometimes take domestic action in order to protect their own environment or the environment outside their borders. Indeed, it was domestic actions of this type – particularly import bans – that placed the trade and environment issue on the agenda of international politics.

Examples of conflict between trade and environmental policies are now well documented. In addition to the tuna-dolphin dispute, there have been cases such as the 1988 intra-EC dispute over the Danish government's regulations requiring carbonated drinks to be sold in containers with a deposit and return system, the 1992 Belgian (Wallonia) waste import ban, the 1994 US-EU disagreement over imports of European cars that failed to comply with US corporate average fuel economy fuel efficiency standards, and the 'reformulated gasoline case' brought against the US by Venezuela and Brazil in 1996. More recently, the WTO in 1998 ruled against the unilateral US trade measure – again, an import ban – designed to protect sea turtles from being killed during shrimp harvesting in Asia.[36]

[36] For detail on all these cases, see J. Lee, "Trade-related Environmental Impacts: How Much is a Dolphin Worth?", pp. 27-48 in Brack (ed), *Trade and Environment*. The 'shrimp-turtle' case is revisited in section 2.2.2.

There have been attempts to reconcile trade and environment conflicts. Ever since UNCED, many discussions have centred on the notion that trade policies and environmental policies should be 'mutually supportive'. What this means in practice, however, has proven difficult to determine.[37] After all, GATT regulations are clearly based on the premise that states must be prevented from creating barriers to the free flow of goods in the world market. One way in which the international community has attempted to deal with transboundary and global environmental problems, while avoiding disruptive unilateral trade measures of the types described above, is through the creation of MEAs. There are now nearly 200 MEAs, more than 20 of which in some way incorporate trade measures to attain a larger environmental objective.[38] And in the absence of an overarching system of international environmental law, such individual agreements will continue to be negotiated and some will certainly have implications for international trade.

The interaction between such MEAs and the multilateral trading system has been one of the most highly debated topics in the 1990s. In response to the growth of the trade and environment debate in general, as well as the environmentalist criticisms made of the GATT/WTO in particular, a Committee on Trade and Environment (CTE) was created at the completion of the Uruguay Round of the GATT in 1994. The CTE discussed the use of trade restrictive measures in MEAs, in addition to other trade and environment issues, and presented its first report to the 1996 WTO Ministerial Conference in Singapore.[39] There was widespread disappointment, however, with the perceived lack of results from the CTE's first two years of work: no substantive recommendations were made in the report other than to continue discussions. Indeed, after two further years of discussions, a high-level meeting of trade and environment officials was held in Geneva in March 1999 to "break the log-jam'" in the CTE, but

[37] Chapter 2 of Agenda 21 called on the international community to "ensure that environmental and trade policies are mutually supportive". See section 2.2.3 below.

[38] Esty, *Greening the GATT*, lists MEAs with trade restrictive provisions in Appendix D.

[39] WTO, *Report (1996) of the Committee on Trade and Environment*, WT/CTE/1, 12 November 1996.

there was no resolution.[40] The issue therefore remains high on the agenda for the Millennium round of trade negotiations in the WTO and for discussion in other fora, such as UNEP and UNCTAD.[41]

1.4 Structure of the Thesis

The purpose of this chapter has been to introduce the question addressed in this study, as well as to outline the issues of international environmental politics and the trade and environment debate that form the background for the research. The thesis is structured into five further chapters.

Chapter 2 reviews the two bodies of literature that are drawn upon to form an analytical framework for examining the research question. First, the literature on international regimes. A review of three "driving forces" within regime analysis – related to power, interests, and knowledge – provides a starting point for choosing the factors with which to analyse regime content.[42] Second, the literature on trade and environment issues, and on the use of trade restrictive measures in MEAs in particular, provides an additional basis for examining the particular cases chosen and addressing the subject of regime linkage. These reviews of the literature allow the construction of an analytical framework for answering the research question. Four factors are proposed to account for regime content.

Chapters 3 and 4 apply the analytical framework to two in-depth case studies. The end of each chapter reviews the evidence for each of the factors proposed to account for regime content. Chapter 3 examines the trade restrictive provisions of the Montreal Protocol on ozone layer depletion, deemed to be one of the most successful MEAs. The Protocol uses trade restrictions as part of a package of measures designed to reduce the production and use of ozone-depleting substances. Imports and exports of

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[40] ICTSD, "Integrating the Global Trade and Environment Agendas", *BRIDGES Weekly Trade News Digest*, vol. 2, no. 11 (30 March 1998), p. 1.

[41] See ICTSD, *BRIDGES Weekly Trade News Digest*, vol. 2, no. 45 (November 23, 1998). The CTE is discussed in more detail in section 2.2.2.

[42] O. Young and G. Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 223-61 in Young and Osherenko (eds), *Polar Politics*, p. 247.

these substances, and products containing them, were prohibited between parties and non-parties to the Protocol to encourage countries to adhere to the agreement and to prevent industrial migration (or 'leakage') to non-parties to escape the control measures.

Chapter 4 examines the trade measures of the Basel Convention on transboundary hazardous waste movements. Unlike the Montreal Protocol, the Basel Convention's provisions are structured around trade regulation and restriction of hazardous waste movements, rather than as part of a package of measures aimed at reducing the generation of the problem. Exports of hazardous waste can only take place with the prior notification and consent of the importing country, and there is now a ban on hazardous waste exports from industrialised to developing countries.

Chapter 5 reviews the findings from the case studies and considers what elements of the framework could be improved or expanded. In particular, current knowledge-based approaches within regime analysis are too narrowly drawn to account for the influence of ideas and values on regime content. Thus, an expanded knowledge-based approach emphasising the role of governing ideas, or dominant social paradigm, is necessary. Using this approach, the two cases are revisited and the analysis is extended to two post-UNCED MEAs at the trade and environment interface: the Rotterdam Convention on trade in chemicals and pesticides and the proposed Cartagena Protocol to the Convention on Biological Diversity.

In conclusion, Chapter 6 summarises the factors that influence regime content as evidenced by the use of trade restrictive provisions in the MEAs examined. It revisits the issue of regime linkage and suggests why the trade regime should not take precedence over environmental concerns in international society. The chapter further outlines the relevance of the findings for international relations in general, and for regime theory and international environmental politics in particular by drawing out some implications for the design of future MEAs that might employ trade restrictions. Lastly, the chapter proposes some avenues for further research.

Chapter Two

Regime Content and Trade Restrictions: An Analytical Framework

This thesis focuses on international co-operation, and in particular on international environmental regimes and the conditions under which trade restrictive measures are used to help attain the objectives of these regimes. Trade restrictive measures are an example of *regime content*, as will be outlined below. Moreover, the use of such restrictions in multilateral environmental agreements (MEAs) points to an important linkage between the international environmental and trade regimes.

This chapter outlines the analytical framework used to determine under what conditions trade restrictive measures will be incorporated into an MEA. The first two sections examine the literature that is central to the analytical framework, regime analysis literature and the trade and environment literature. Regime theory provides a well-developed theoretical framework regarding international co-operation and the development of international agreements from which to pursue questions about regime content. The trade and environment literature is employed because it has initiated the debate about the relationship between the provisions of one regime – the multilateral trading system – and others, such as environmental regimes designed to end depletion of the ozone layer or control the hazardous waste trade. This thesis integrates the ideas and concepts from two different literatures to advance understanding regarding the use of trade restrictive measures in MEAs specifically, and factors influencing regime content more generally.

The third and final section of the chapter expands on the concept of regime content, outlines in detail the framework for analysis and presents the factors used to answer the research question. The four factors relate to power, interests, knowledge and institutional forum. Finally, the chapter discusses the selection of the cases studies analysed within the framework.

2.1 The Search for Relevant Theory: International Regimes and the Global Environment

The conditions that facilitate or hinder international co-operation have been a major focus for international relations scholars. Traditionally, some observers have argued that because states are concerned primarily with issues of security and power, co-operation is unlikely to occur frequently, if at all. And even when co-operation is achieved, it is unlikely to be sustained. Both realists, who focus on the distribution of power in the study of international politics, and neorealists, who focus on the anarchic nature of the international system as the key characteristic, are pessimistic about the chances for co-operation in such a "self-help" system.[1] States focus on maximising their power, or "gains", with respect to the relative power of other states thus making co-operation "harder to achieve, more difficult to maintain and more dependent on state power".[2] In this view, international environmental co-operation is even more unlikely given that it is conceived of as an issue of 'low politics', that is, not concerned with state security or power.

However, dissatisfaction with these dominant paradigms of international politics was encouraged by the rise of global interdependencies, the growing evidence of co-operative interstate behaviour and the increase in the number and prominence of international institutions. Neoliberal institutionalism challenged the realist conception of international society and its assumption that states are unlikely to co-operate even in the face of mutual interests.[3] Neoliberals focus on explaining international co-operation in

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[1] Realism and neorealism is represented in J. Grieco, "Anarchy and the Limits of Cooperation: a realist critique of the newest liberal institutionalism", *International Organization*, no. 42 (Summer 1988), pp. 485-507; and K. Waltz, *Theory of International Politics* (London: Addison Wesley, 1979). See also R. Powell, "Anarchy in International Relations Theory: the Neorealist-Neoliberal Debate", *International Organization*, vol. 48, no. 2 (Spring 1994), pp. 313-44.

[2] Grieco, "Anarchy and the Limits of Cooperation: a realist critique of the newest liberal institutionalism", p. 487.

[3] S. Haggard and B. Simmons, "Theories of international regimes", *International Organization*, vol. 41, no. 3 (Summer 1987), pp. 491-517. However, as Hurrell points out, much of European thinking on international society has not been as 'dichotomous' between the notions of anarchy and society (and hence Bull's *Anarchical Society*) as post-war American scholarship, and more attuned to the possibility of co-operation between states. See A. Hurrell, "International Society and the Study of Regimes: A Reflective Approach", pp. 49-72 in V. Rittberger (ed), *Regime Theory and International Relations* (Oxford: Clarendon Press, 1995), p. 50. Or as Buzan puts it, "regime theory and international society are part of the same tradition, but due to the peculiarities of academic discourse, they have become largely detached from

international politics, and although they accept that anarchy is an important factor in international relations, it is asserted that significant areas of common interest exists between states and that institutions can help ensure – or even bring about – mutually beneficial outcomes to co-operation.[4]

One manifestation of the attempts to explain international co-operation from an institutionalist perspective is regime theory. According to Robert Keohane, the concept of international regimes in fact "originated as a way to understand international cooperation".[5] Or as another group of scholars put it, "regime theory is to explain the possibility, conditions, and consequences of international governance beyond anarchy and short of supranational government".[6] Co-operation occurs when "actors adjust their behavior to the actual or anticipated preferences of others, through a process of policy coordination" such that "benefits to participants" ensue.[7] Moreover, institutions can provide the necessary incentives to produce such co-operation.

The need to understand such co-operation is framed by the fact that there is no supra-national government or 'Leviathan' to impose such behaviour upon sovereign states in a system without a higher authority. This is the 'anarchy' of international

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one another". B. Buzan, "From International System to International Society: Structural Realism and Regime Theory Meet the English School", *International Organization*, vol. 47, no. 3 (Summer 1993), pp. 327-52 (p. 328). Arguably, institutionalists have intellectual roots that go back as far as Grotius, through the functionalist approaches (e.g. Mitrany) of the 1960s and 'complex interdependence' thesis of Nye and Keohane in the 1970s. Indeed, in the seminal volume edited by Krasner on regimes, he refers to a debate between 'realists' and 'Grotians' (liberal institutionalists), in which Grotians see institutions and regimes as "pervasive and significant phenomena in the international system". See S. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables", pp.1-21 in S. Krasner (ed), *International Regimes* (Ithaca: Cornell University Press, 1983), pp. viii and 10.

[4] Neo-liberal institutionalism is represented in the contributions to R. Keohane (ed), *International Institutions and State Power: Essays in International Relations Theory* (Boulder: Westview Press, 1989), particularly Keohane's article on "Neoliberal Institutionalism: A Perspective on World Politics", pp. 1-20. See also O. Young, *International Cooperation: Building Regimes for Natural Resources and the Environment* (Ithaca: Cornell University Press, 1989) and for a review of the debate, D. Baldwin (ed), *Neorealism and Neoliberalism: The Contemporary Debate* (New York: Columbia University Press, 1993).

[5] R. Keohane, "The Analysis of International Regimes", pp. 23-45 in Rittberger (ed), *Regime Theory and International Relations*, p. 23.

[6] P. Mayer, V. Rittberger and M. Zürn, "Regime Theory: State of the Art and Perspectives", pp. 402-12 in Rittberger (ed), *Regime Theory and International Relations*, p. 392.

[7] Keohane, "The Analysis of International Regimes" in Rittberger (ed), *Regime Theory and International Relations*, p. 23.

politics that neorealists argue limits the likelihood of co-operation. But such co-operation can and does take place. And while co-operation can also take place in the absence of international regimes, regimes are examples of co-operative behaviour and, according to some observers, facilitate such co-operation.[8]

2.1.1 International Regimes

Regime definition has not been an easy task for analysts, nor has it been universally accepted as a useful enterprise.[9] The most common definition of regimes is that of Stephen Krasner: regimes are "implicit or explicit principles, norms, rules and decision-making procedures around which actor expectations converge in a given issue area".[10] This definition seeks a middle ground between definitions of regimes which focus either on the concepts of "order" (regular, patterned behaviour) and "explicit commitments" (rules).[11] For example, while some argue that the existence of patterned behaviour alone should lead one to suspect that a regime is at work (e.g. a predictable pattern of multilateral financial interactions), others define a regime as agreements among states which aim to regulate national actions within an issue area (e.g. formal treaties).[12] Clearly, neither of these is sufficient on its own as a definition of a regime. Patterned behaviour is not necessarily an indication of co-operative activity caused by an

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[8] Haggard and Simmons, "Theories of International Regimes", p. 495. See also Mayer, Rittberger and Zürn, "Regime Theory: State of the Art and Perspectives" in Rittberger (ed), *Regime Theory and International Relations*, pp. 402-12.

[9] The classic critique of the regime concept is S. Strange, "Cave! hic dragones: A Critique of Regime Analysis", pp. 337-54 in Krasner (ed), *International Regimes*. Strange argued that regimes were epiphenomenal and that the concept itself obscured the power relationships that were the real determinants of interstate behaviour. She also criticised it for being an American fad, but see accounts of subsequently developed British and German approaches to regime analysis in R. Tooze, "Regimes and international cooperation", in A. Groom and P. Taylor (eds), *Frameworks for International Co-operation* (London: Pinter Publishers, 1990) and V. Rittberger, "Research on International Regimes in Germany", pp. 3-22 in Rittberger (ed), *Regime Theory and International Relations*.

[10] S. Krasner, "Structural Causes and Regime Consequences: regimes as intervening variables", in Krasner (ed), *International Regimes*, p. 1.

[11] Haggard and Simmons, "Theories of International Regimes", p. 493; Keohane, "The Analysis of International Regimes" in Rittberger (ed), *Regime Theory and International Relations*, p. 27.

[12] For discussion, see Haggard and Simmons, "Theories of International Regimes", pp. 493-96.

institution or regime and treaties alone may do little to encourage co-operation or change state behaviour.

There does, however, seem to be some consensus among scholars that regimes are best understood to encompass both elements: explicit rules and norms *as well as* behavioural effects, and that there is a link between the two. Because regime theorists are concerned with governance in an international system that has no higher authority than the individual state, they examine the legitimacy of international rules and institutions – as well as underlying norms – that encourage co-operation among actors.[13] That is, they study the establishment of regimes.

It is useful at this stage to briefly draw attention to two approaches within institutionalism and regime analysis that are most often termed "rationalist" and "reflectivist".[14] Some approaches to regime theory – that focus on the distributions of interest and power – are rooted in rational actor models such as those found in economics and political economy. These approaches highlight the continuing importance of the role of the state and the significance of negotiating processes in the institutions and regimes that bring about and facilitate international co-operation. Other approaches related to knowledge and socio-political context have incorporated views from sociological and anthropological theory and illuminate how values, norms and ideas are important factors in international relations. While it is beyond the scope of this thesis to attempt a full review of the background to this debate, it is important to note that defining key concepts within regime theory is an ongoing endeavour.[15] Thus, this

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[13] Mayer, Rittberger and Zürn, "Regime Theory: State of the Art and Perspectives", pp. 391-430. I would also suggest that the variety of vocabulary employed in the discipline gives the impression of greater confusion regarding regimes than actually exists, especially for the uninitiated. For example, the words regime, governance, and institution are often used interchangeably – Young and von Moltke refer to the establishment of "international regimes or governance systems" – although these terms could potentially refer to different, if related, concepts. O. Young and K. von Moltke, "The Consequences of International Regimes: Report from a Barcelona Workshop", *International Environmental Affairs*, vol. 6, no. 4 (Fall 1994), pp. 348-70. However, the important point regarding what is called regime theory is that explanations are required for political regulation that exists beyond the nation state and beyond what realist perspectives can account for.

[14] R. Keohane, "International Institutions: Two Approaches", *International Studies Quarterly*, vol. 32, no. 4 (December 1988).

[15] For more detail on the debate between rationalist and reflectivist theories, see A. Hasenclever, P. Mayer and V. Rittberger, *Theories of International Regimes* (Cambridge: Cambridge University Press, 1997), pp. 23-26; 154-61; 211-24.

thesis makes the assumption that an analysis informed by a single theoretical approach is less desirable than one that incorporates several approaches to achieve a satisfactory explanation for complex behaviour.[16]

Regime definition, however, is not the purpose of this thesis and the differences in the literature about some points does not in general detract from the usefulness of this mode of inquiry. And as Keohane has pointed out, "it is counterproductive to dwell excessively on definitional issues when important theoretical and empirical questions are unresolved".[17] For the sake of continuity and clarity, however, it is useful to state which definition of international regimes is used here. This thesis considers regimes to be "social institutions that consist of agreed upon principles, norms, rules, decision-making procedures, and programs that govern the interactions of actors in specific issue areas".[18]

While international regimes may vary substantially in terms of membership, functional scope, geographical domain, degree of formalisation and stage of development, successful regimes serve to "enmesh their members in social practices that evolve over time and guide the behavior of a variety of actors in significant ways".[19] Moreover, international regimes "almost always have at their core a written agreement or convention that establishes specific rules, commitments, and decision-making procedures to aid in the process of governance".[20]

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[16] See sections 2.3.2 and 2.3.3 for further detail on the analytical approach taken here.

[17] Keohane, "The Analysis of International Regimes" in Rittberger (ed), *Regime Theory and International Relations*, p. 26.

[18] M. Levy, O. Young and M. Zürn, "The Study of International Regimes", *European Journal of International Relations*, vol. 1, no. 3 (September 1995), pp. 267-330 (p. 274). Conceived of in this manner, international regimes are distinct from – although often related to – international organisations, which are material entities possessing physical locations and other such attributes. See also O. Young, *International Cooperation: Building Regimes for Natural Resources and the Environment*, p. 32.

[19] O. Young, "Rights, Rules, and Resources in World Affairs", pp. 1-24 in O. Young (ed), *Global Governance: Drawing Insights from the Environmental Experience* (Cambridge, MA: MIT Press, 1997), p. 6.

[20] D. Victor, K. Raustiala and E. Skolnikoff, "Introduction and Overview", pp. 1-46 in D. Victor, K. Raustiala and E. Skolnikoff (eds), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice* (Cambridge, MA: MIT Press, 1998), p. 8.

2.1.2 Components of Regime Theory: Power, Interests, and Knowledge

In order to differentiate the various strands of thought in regime analysis, it is useful to identify several explanatory arguments. The three categories, or "driving forces" as they have been referred to, are power, interests, and knowledge.[21] While these categories are not necessarily mutually exclusive – and as will be suggested later, they probably should not be – most analysts currently use this distinction.[22]

Power

Power remains an important feature in international relations. Traditional interpretations of power relate to military and economic superiority.[23] In international environmental relations, however, it is often suggested that not all forms of power are fungible. That is, power in one area – such as military might – may not be transferable to another area – such as environmental negotiations.[24] While this may be true, various actors do exercise power in pursuit of their environmental objectives.

Power-based theories of international regimes focus on the distribution of power in the international system as the key determinant of regime formation. This way of thinking is most closely related to the realist tradition in international relations. Realists are sceptical about the chances for co-operation in an anarchic self-help system because "the structure of international politics limits the cooperation of states", and furthermore,

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[21] Levy, Young and Zürn, "The Study of International Regimes", p. 283; O. Young and G. Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 223-61 in O. Young and G. Osherenko (eds), *Polar Politics: Creating International Environmental Regimes* (Ithaca: Cornell University Press, 1993), p. 247.

[22] See Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, pp. 3-5; G. Osherenko and O. Young, "The Formation of International Regimes: Hypotheses and Cases", pp. 1-21 in Young and Osherenko (eds), *Polar Politics*; I. Rowlands, *The Politics of Global Atmospheric Change* (Manchester: Manchester University Press, 1995), chapter 1; and P. Haas, "Epistemic Communities and the Dynamics of International Environmental Cooperation", pp. 168-201 in Rittberger (ed), *Regime Theory and International Relations*.

[23] As Holsti puts it, "the index of power is...technological, economic and military-weaponry leadership"; K. Hosti, *The Dividing Discipline: Hegemony and Diversity in International Theory* (Boston: Unwin Hyman, 1985), p. 56.

[24] For discussion of the "diminished fungibility" of power, see J. Nye, *Bound to Lead: The Changing Nature of American Power* (New York: Basic Books, 1990), p. 189.

"structural constraints cannot be wished away".[25] In general, strict realist or neorealist positions would not acknowledge that institutions or regimes could improve – or indeed have any effect on – interstate relations.[26]

Nevertheless, Hasenclever, Mayer and Rittberger point out that power-based theories of regime formation "are self-conciously realist yet take international cooperation and regimes ... seriously as significant phenomena to be accounted for by international relations theory."[27] For example, scholars looking at international political economy have suggested that the existence of a militarily, economically and technologically dominant power – a hegemon – would lead to "more cooperative" interstate relations.[28] This became known as hegemonic stability theory, which linked the status of regimes to the status of the hegemon. When a dominant power exists, regimes are created and maintained, whereas when a hegemon declines, so do regimes. This theory developed two explanations regarding 'benign' hegemons – the dominant power is willing to pay the costs of certain institutional arrangements because of the benefits that it will receive – and 'malevolent' hegemons – who coerce others to accept institutional arrangements that benefit the hegemon.[29] Power-based theories of regime creation argue that an examination of power capabilities in the international system is necessary for an understanding of co-operation in world politics.

The theory has been challenged in several ways. Theoretically, critics argue that regimes can be maintained and even strengthened without the presence of a hegemon.[30]

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[25] Waltz, *Theory of International Politics*, pp. 105 and 109.

[26] See, for example, J. Mearsheimer, "The False Promise of International Institutions", *International Security*, vol. 15 (1990), pp. 5-56.

[27] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, pp. 83-84.

[28] R. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984), p. 34. See also, R. Keohane and J. Nye, *Power and Interdependence* (Boston: Little, Brown and Co, 1977).

[29] On the differentiation between benign and malevolent hegemonic stability theory, see D. Snidal, "The Limits of Hegemonic Stability Theory", *International Organization*, vol. 39, no. 4 (Autumn 1985), pp. 579-614. For examples of work employing the benign version, see C. Kindleberger, *World in Depression* (Berkeley: University of California Press, 1973). For the malevolent version, see R. Gilpin, *War and Change in International Politics* (New York: Cambridge University Press, 1981).

[30] See Snidal, "The Limits of Hegemonic Stability Theory". In "Theories of International Regimes", Haggard and Simmons provide a good overview of the critiques levelled at the theory.

Robert Keohane further suggests that the empirical evidence supporting hegemonic stability theory is also weak, a claim supported by Oran Young.[31] A research project on five different regimes found no evidence of a single state making use of superior material resources to obtain or impose its preferred outcome.[32] As a result, the theory does not retain much influence in its purest form. Young has even argued that hegemonic stability theory is "dead".[33] Nevertheless, it would be a mistake to completely dismiss the importance of power in the process of regime formation and maintenance. For instance, a powerful actor may posses an informal 'veto power' over the existence of a regime – the likely failure of the Kyoto Protocol if the US does not ratify it, for example.[34] An actor may also have power that is more 'issue specific' rather than hegemonic.[35] Environmental issue-specific power could for instance be

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[31] Keohane, *After Hegemony*, chapter 9; R. Keohane, "The Demand for International Regimes", pp. 141-171 in Krasner (ed), *International Regimes*, p. 142; and with reference to international environmental regimes, O. Young, "Global Environmental Change and International Governance", *Millennium*, vol. 19, no. 3 (Winter 1992), p. 341.

[32] O. Young and G. Osherenko, "Testing Theories of Regime Formation: Findings from a Large Collaborative Research Project", pp. 223- 51 in Rittberger (ed), *Regime Theory and International Relations*, p. 228.

[33] Young has variously claimed that hegemonic stability theory was "dead" and "laid to rest". See Young, *International Cooperation: Building Regimes for Natural Resources and the Environment*, p. 204, and Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", in Young and Osherenko (eds), *Polar Politics*, p. 253.

[34] On veto power in international environmental politics, see G. Porter and J. Brown, *Global Environmental Politics* (Boulder: Westview Press, 1991), pp. 38-44. Rowlands has referred to this as "negative hegemony" and Litfin as "the power of the weak"; Rowlands, *The Politics of Global Atmospheric Change*, p. 161; K. Litfin, *Ozone Discourses: Science and Politics in Global Environmental Cooperation* (New York: Columbia University Press, 1994), p. 203.

[35] On issue specific power, see Haas, "Epistemic Communities and the Dynamics of International Environmental Cooperation", in Rittberger (ed), *Regime Theory and International Relations*, p. 177. Young also cautions against throwing out power as an explanatory variable completely; Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications," in Young and Osherenko (eds), *Polar Politics*, p. 253. For an example of an attempt to 'revive' hegemonic theory, see D. Lake, "Leadership, Hegemony, and the International Economy: Naked Emperor or Tattered Monarch with Potential?", *International Studies Quarterly*, vol. 37 (1993), pp. 459-489. Lake argues that the weakness of the theory is that it has not been properly developed, a task which should still be undertaken. Another power-based theory of international relations, which is generally ignored in the co-operation literature, is 'dependency theory'. While it has also been challenged for its usefulness in explaining regime formation (see Rowlands, *The Politics of Global Atmospheric Change*, pp. 17-19), a variation of dependency arguments (that the inequitable structure of the international system is ignored, even under discussions of environment and development) may yet require closer examination. For an

exercised by a state that controls enough trade so that unilateral trade restrictions for environmental purposes would have serious economic consequences for trading partners. Power can also be "soft", in the sense of being able to set agendas and determine the framework for debate.[36]

Interests

A second approach to explaining international co-operation focuses on the importance of state interests. Supporters of this approach argue that international regimes help states realise common interests, thus directly challenging realist scepticism towards institutions. Based on rational choice models and closely related to the neoliberal beliefs outlined above, interest-based theories of regimes have been extraordinarily influential in the past decade and have come to represent the mainstream approach to analysing international institutions.[37]

The fundamental premise of interest-based theories is thus that regimes will arise when self-interested parties seek to co-ordinate their behaviour to achieve joint gains.[38] States co-ordinate their behaviour to "avoid collectively sub-optimal outcomes, and states can be shown to have an interest in maintaining existing regimes even when the factors that brought them into being are no longer operative."[39] Sometimes known as the "utilitarian" or "co-operation under anarchy" approach, insights from game theory are often used to expand this argument.[40] Analysts assert that rational actors may not always reach optimal outcomes (such as in the Prisoner's Dilemma game situation) but that regimes facilitate achieving joint gains (by lengthening the shadow of the future,

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initial attempt at such an analysis using the case of climate change, see M. Paterson, *Global Warming and Global Politics* (London: Routledge, 1996), chapter 8.

[36] On "soft power", see Nye, *Bound to Lead*, pp. 31-33.

[37] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 4.

[38] Osherenko and Young, "The Formation of International Regimes: Hypotheses and Cases", in Young and Osherenko (eds), *Polar Politics*, p. 11.

[39] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 4.

[40] For greater detail on interest-based approaches, see Chapter 3 of Hasenclever, Mayer and Rittberger, *Theories of International Regimes*.

encouraging reciprocity, and improving information and communication).[41] Thus, regimes influence state behaviour, which in turn influence outcomes.

Despite these insights, however, this approach is limited because it has difficulty explaining the form of any co-operation that takes place, as well as how a regime might change or what scope it might have.[42] What are the mechanisms by which international institutions influence state behaviour and thus outcomes? Taken purely on its own merits, an interest-based approach formalised in game theory suffers from the same problems as hegemonic stability theory. That is, while they are both parsimonious theories, they fail to account for important features of international co-operation and are therefore limited by their simplicity.

A second and less game-theoretic approach to interests asserts that while institutions do not supersede or overshadow states, the way in which they influence state interests is related to three factors -- the "three Cs".[43] First, institutions increase governmental *concern* for the issue at hand; second, they enhance the *contractual* environment for states to co-operate; and third, they increase national political and administrative *capacity*.[44] This approach also has its weaknesses, however. Haggard and Simmons argue that it is better at "specifying when regimes will be demanded rather than suggesting how or when they will be supplied".[45] And while this approach better clarifies how institutions affect state interests and behaviour, it does not take into account how knowledge affects state behaviour. Hasenclever, Mayer and Rittberger correctly point out that interest-based approaches in general cannot account for "the effects of learning and ideas on how actors define and understand their interests".[46]

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[41] See K. Oye (ed), *Cooperation Under Anarchy* (Princeton: Princeton University Press, 1986); R. Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984); Keohane, *After Hegemony*, p. 69.

[42] Haggard and Simmons, "Theories of International Regimes", p. 504.

[43] Haggard and Simmons refer to these as "functional theories" of regimes; Haggard and Simmons, "Theories of International Regimes", p. 506.

[44] M. Levy, R. Keohane and P. Haas, "Improving the Effectiveness of International Environmental Institutions", pp. 397-426 in P. Haas, R. Keohane and M. Levy (eds), *Institutions for the Earth: Sources of Effective International Environmental Protection* (Cambridge, MA: MIT Press, 1993), p. 424.

[45] Haggard and Simmons, "Theories of International Regimes", p. 506.

[46] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 32.

While interest-based approaches may have flaws, the concept of interests cannot be ignored when considering explanations of regime formation. In fact, there have been more recent attempts to reformulate what is included in an interest-based account of international co-operation. Oran Young and Gail Osherenko, citing dissatisfaction with traditional methods of factoring interests into regime formation explanations, conducted a project that considered ten interest-based hypotheses that envision regime formation as a process of interactive decision-making.[47] The hypotheses were successfully tested empirically and interactive decision-making – or institutional bargaining – has subsequently been referred to as a more realistic model of regime formation.[48] However, the authors encourage further empirical study to test the hypotheses. Hasenclever, Mayer and Rittberger suggest that future tests need to include non-regime cases, to gain more "explanatory leverage" from the hypotheses.[49] Nevertheless, Young and Osherenko argued that the role of interests must form part of a multivariate approach to the study of regimes.[50]

Knowledge

Regime formation has also been attributed to knowledge-based, or cognitive, factors. As Osherenko and Young explain, "knowledge and values not only affect power and operate as determinants of interests, they also play a more direct role in regime formation".[51] Knowledge-based theories challenge the realist and neoliberal assumption that the state is a rational actor, and criticise a lack of attention to normative factors and

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[47] These hypotheses include: integrative bargaining and the veil of uncertainty, equity, salient solutions, exogenous shocks or crises, policy priority, the common good, science and technology, relevant parties, compliance mechanisms, and leadership; Osherenko and Young, "The Formation of International Regimes: Hypotheses and Cases," pp. 11-19. See also, Mayer, Rittberger and Zurn, "Regime Theory: State of the Art and Perspectives," in Rittberger (ed), *Regime Theory and International Relations*, p. 413.

[48] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 72.

[49] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 79.

[50] Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 232-42 and 246-51. I will return to this point in section 2.3.1.

[51] Osherenko and Young, "The Formation of International Regimes: Hypotheses and Cases," p. 19. An oft-cited study on the importance of ideas in international relations is E. Haas, *When Knowledge is Power: Three Models of Change in International Organizations* (Berkeley: University of California Press, 1990).

the importance of ideas. In contrast, knowledge-based studies focus on the importance of values, norms and ideas in international relations and take a reflective approach to international institutions, as mentioned in section 2.1.1. Thus, as opposed to the rationalistic orientation of the power and interest approaches, knowledge-based theories have a sociological orientation.

Cognitive approaches emphasise the importance of inter-subjectively shared meanings in regime analysis. As Peter Haas puts it:

> Before states can agree on whether and how to deal collectively with a specific problem, they must reach some consensus about the nature and the scope of the problem and also about the manner in which the problem relates to other concerns in the same and additional issue-areas.[52]

Thus, a minimum of collective understanding concerning the issues at stake is proposed as a necessary condition for the creation of a substantive body of rules, otherwise co-operation would not be possible.[53]

A first cognitive approach emphasises scientific convergence. Supporters argue that an agreement or consensus within a scientific community on causal relationships and appropriate responses to an environmental problem is a prerequisite for regime formation.[54] States can subsequently develop joint policies on the basis of this consensual knowledge.[55] Richard Cooper's investigation of the emergence of an international public health regime is an example of a study that suggests these findings.[56]

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[52] P. Haas, "Introduction: Epistemic Communities and International Policy Coordination", pp. 1-35 in P. Haas (ed), "Knowledge, Power and International Policy Coordination", *International Organization*, vol. 46, no. 1 (1992).

[53] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 141.

[54] Young and Osherenko, *Polar Politics*, p. 265.

[55] G. Sjöstedt, "Issue Clarification and the Role of Consensual Knowledge in the UNCED Process", pp. 63-86 in B. Spector, G. Sjöstedt and I. Zartman (eds), *Negotiating International Regimes: Lessons learned from the United Nations Conference on Environment and Development* (London: Graham & Trotman/Martinus Nijhoff and International Institute of Applied Systems Analysis, 1994), p. 66.

[56] R. Cooper, "International Cooperation in Public Health as a Prologue to Macroeconomic Cooperation", pp. 178-254 in R. Cooper et al, *Can Nations Agree? Issues in International Economic Cooperation* (Washington: Brookings Institution, 1989).

Critics argue, however, that consensual knowledge "is not a guarantee for the emergence of international cooperation".[57] More importantly, consensus may not always be achieved and, as Peter Haas notes, even when consensus is achieved "it is unclear how effective consensual knowledge is...at explaining and predicting state behavior".[58]

A second cognitive approach argues that epistemic communities – knowledge-based groups of scientists and policy-makers who share a common view about causal mechanisms and appropriate responses and who share certain political values – are important in the process of regime formation. Peter Haas, for example, has argued that the presence of an epistemic community was necessary for the environmental co-operation to control pollution in the Mediterranean.[59] Proponents of this approach argue that epistemic communities actively promote their own preferred arrangements and are also able to prevent opposing views and values from becoming influential and dominant at the relevant states' domestic level.[60]

While an attractive idea, the epistemic community approach encounters the same problem as the scientific convergence approach with stipulating consensus as a precondition. Indeed, Peter Haas himself points out that "(s)cientists split on causal knowledge cannot be members of an epistemic community".[61] There are also very specific requirements for what constitutes an epistemic community – requirements that are seldom met in reality. The professionals of an epistemic community must have: a shared set of normative and principled beliefs; shared causal beliefs; shared notions of validity; and a common policy enterprise – a conviction of trying to enhance human welfare.[62] Additionally, epistemic communities need "the right conditions to be

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[57] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 153. See also Young and Osherenko, "Testing Theories of Regime Formation: Findings from a Large Collaborative Research Project" in Rittberger (ed), *Regime Theory and International Relations*, p. 237.

[58] Haas, "Introduction: Epistemic communities and International Policy Coordination", p. 30.

[59] P. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (New York: Columbia University Press, 1990).

[60] Young and Osherenko, *Polar Politics*, p. 266.

[61] Haas, *Saving the Mediterranean*, p. 55.

[62] See Haas, "Introduction: Epistemic communities and international policy coordination", p. 3.

effective; such conditions include a near-consensus amongst the relevant knowledge holders, and an issue that does not touch the core interests of states."[63] Karen Litfin criticises the epistemic community approach for assuming that knowledge is separate from political power and argues that it underestimates the extent to which scientific information can reinforce political conflicts.[64] Knowledge, once produced, becomes "something of a collective good available to all who employ it skillfully".[65] Litfin prefers discussing knowledge-based power by emphasising the role of discourse and analysing the importance of language, knowledge and power in negotiations.

Knowledge-based approaches have been welcomed for their focus on non-state actors, such as epistemic communities and non-governmental organisations.[66] Both power-based and interest-based approaches are heavily state-centric. Additionally, their consideration of domestic politics (often ignored by the other approaches) is a useful addition to traditional theories; and because of an emphasis on actor learning, "cognitive theories have a dynamic that other theoretical approaches lack".[67] However, Brenda Seaver argues that cognitive approaches "under-emphasise the fact that knowledge is inherently value-laden, interest-driven, and influenced by power considerations."[68] As a newer approach to regime analysis, it still needs "to develop testable theories" according to Robert Keohane, not to mention that separating out the independent influence of knowledge can be quite difficult in practice.[69]

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[63] C. Brown, *Understanding International Relations* (New York: St. Martin's Press, 1997), p. 234.

[64] Litfin, *Ozone Discourses*, pp. 186 and 12.

[65] Liftin, *Ozone Discourses*, p. 49.

[66] Rowlands, *The Politics of Global Atmospheric Change*, p. 27.

[67] Haggard and Simmons, "Theories of International Regimes", p. 510; and Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 242-45.

[68] B. Seaver, "Stratospheric Ozone Protection: IR theory and the Montreal Protocol on Substances that Deplete the Ozone Layer", *Environmental Politics*, vol. 6, no. 3 (Autumn 1997), pp. 31-67. (p. 49)

[69] Keohane, "International Institutions: Two Approaches", p. 393; Haggard and Simmons, "Theories of International Regimes", p. 512. Some confusion seems to remain among various scholars seeking to test this hypothesis. For example, in the introductory chapter to *Polar Politics*, Osherenko and Young assert that scientific consensus (as distinct from epistemic communities) was important in achieving international co-operation in the case of the Montreal Protocol, while P. Haas in his contribution to the same volume, states that "the ozone case does not confirm [the] hypothesis that consensual knowledge is necessary for regime creation" and that "a focus on epistemic communities does better". While epistemic communities

As this review of the three approaches to international regime analysis suggests, all have strengths and weaknesses. One of the main critiques of regime theory in general remains that it tends to marginalise domestic political processes and explanations,[70] although progress in the areas of knowledge-based theories and even attempts to 'bring the state back in' to explanations of regime formation are arguably working to redress this weakness.[71] Indeed, regime theory development is currently turning from regime formation and maintenance towards regime effectiveness.[72] Meanwhile, analysis is lacking in areas such as regime content, as will be outlined in section 2.3. However, before returning to the issue of international environmental regimes and an outline of the analytical framework for the thesis, this chapter reviews of the second body of literature integral to the research.

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could obviously play a role in generating scientific consensus, what accounts for the differing interpretations? In his study of regime formation resulting in the Montreal Protocol, Rowlands argues that the "correlation between scientific consensus and international co-operation is moderate to high"; he does not explicitly adopt an epistemic 'lens', however. Does this mean that the interpretations of Osherenko and Young, Haas, and Rowlands are disparate, or merely indistinct? See Osherenko and Young, "The Formation of International Regimes: Hypotheses and Cases", p. 19; P. Haas, "Stratospheric Ozone: Regime Formation in Stages", pp. 152-85 in Young and Osherenko (eds), *Polar Politics*, p. 176; and Rowlands, *The Politics of Global Atmospheric Change*, pp. 88-95. It should also be noted, however, that neither Haas nor Rowlands base their explanations solely on the importance of knowledge.

[70] Haggard and Simmons, "Theories of International Regimes", p. 513; H. Milner, "International Theories of Cooperation Among Nations", *World Politics*, vol. 44 (April 1992), pp. 466-96.

[71] Rowlands, *The Politics of Global Atmospheric Change*, p. 27. See also M. Zürn, "Bringing the Second Image (Back) In: About the Domestic Sources of Regime Formation", pp. 282-311 in Rittberger (ed), *Regime Theory and International Relations*.

[72] The question of "do regimes matter?" was posed by Krasner in 1983 (see S. Krasner "Structural Causes and Regime Consequences" in Krasner (ed) *International Regimes*, p. 6) although in 1987 Haggard and Simmons concluded that "little research has addressed whether, and in what ways, regimes matter" (Haggard and Simmons, "Theories of International Regimes, p. 492). For response, see Young and von Moltke, "The Consequences of International Environmental Regimes: Report from a Barcelona Workshop", p. 348; Victor, Raustiala, and Skolnikoff, (eds), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice*; and E. Weiss and H. Jacobson, *Engaging Countries: Strengthening Compliance with International Environmental Accords* (Cambridge, MA: MIT Press, 1998).

2.2 The Search for Relevant Theory: International Trade and the Global Environment

The research question posed in this thesis benefits from the discussion that is taking place among political scientists, economists, trade analysts, environmentalists, and diplomats regarding trade and environment issues. Indeed the trade and environment debate has been referred to as "one of the most significant legal and political issues of the international environmental agenda".[73] While the wider debate covers many topics such as market access, international competitiveness, subsidies and investment, this section will restrict discussion to three areas particularly relevant for the subject of this thesis. First, the relationship between economic growth, trade and the environment; second, the interaction between the multilateral trading system (MTS) and environmental policy; and third, the use of trade restrictive measures in MEAs and their compatibility with WTO rules.

2.2.1 Economic Growth, Trade and the Environment

A key area of contention within the debate concerns basic assumptions about the impact of economic activity on the environment. Important issues, such as the relationships between economic growth and the environment and between trade and environmental degradation, are raised.[74] In response to these questions, the literature reveals two basic divisions: a liberal economic perspective and an environmental perspective.

Supporters of the liberal economic perspective generally hold that economic growth and trade are not intrinsically harmful to the environment. Rather, environmental degradation often results from market and government failure best corrected by market instruments – such as correct pricing that subsumes the full costs of

[73] H. Ward, "Trade and Environment in the Round - and After," *Journal of Environmental Law*, vol. 6, no. 2 (1994), pp. 263-295.

[74] For general discussions, see K. Anderson and R. Blackhurst, "Trade, the Environment and Public Policy", in K. Anderson and R. Blackhurst (eds), *The Greening of World Trade Issues* (London: Harvester Wheatsheaf, 1992); M. Williams, "International Trade and the Environment: Issues, Perspectives and Challenges", *Environmental Politics*, vol. 2, no. 4 (Winter 1993), pp. 80-97; and D. Pearce, *Blueprint 4: Capturing Global Environmental Value* (London: Earthscan, 1995), chapter 6.

production so pollution is no longer an 'externality'.[75] Moreover, economic growth creates both the demand, as well as the resources, for environmental protection. As regards trade *per se*, the theory of comparative advantage suggests that if countries specialise in the production of goods and services in which they are relatively most efficient, then trade will enable countries to maximise output from a given input of resources – a move in the direction of environmental sustainability. In general, neo-classical economists assert that a free-market economy is responsible for an optimal and efficient allocation of resources and thus restrictions on trade are unlikely to be the most appropriate way to address environmental problems.[76]

In contrast, many environmentalists argue that the current model of economic growth is harmful to the environment because it is based on the unsustainable consumption of natural resources, environmentally harmful production practices and the generation of waste.[77] And market instruments have not taken into account the cost of environmental degradation and resource depletion, as they are considered to be externalities in neo-classical economics. Moreover, if such environmental externalities are not incorporated into economic prices and decision-making, then trade acts as a

[75] An example of environmental degradation caused by government 'failure' is the use of subsidies, which may encourage intensified land use and the overuse of pesticides in the case of agriculture or overfishing in the case of fisheries subsidies.

[76] See, for example, M. Radetski, "Economic Growth and the Environment", *World Bank Working Paper No. 122* (1992); P. Sorsa, "The Environment: A New Challenge to the GATT?", *World Bank Policy Research Working Paper No. 980* (1992); P. Lloyd, "The Problem of Optimal Environmental Policy Choice" in Anderson and Blackhurst (eds), *The Greening of World Trade Issues*, p. 49; and J. Bhagwati, "The Case for Free-Trade", *Scientific American* (November 1993), pp. 18-23.

[77] One aspect of the relationship between economic growth and environmental degradation is well illustrated by the debate over the so-called environmental Kuznets curve. The Kuznets Curve is an inverted U showing that as per capita income rises, so do per capita emissions of certain pollutants. It is asserted by some economists, however, that after a per capita level of income of $5,000 is reached, then these per capita emissions decrease (in other words, higher incomes eventually lead to lower levels of pollution). However, this argument was initially put forward on the basis of examining only one pollutant emission, sulphur dioxide, and the premise was subsequently shown to be invalid for other pollutants, such as carbon dioxide (that is, many emissions continue to increase as economic growth – measured as increasing per capita income levels over $5,000 – also increases). Moreover, it has been shown that there is no relationship between income per capita and problems such as deforestation or animal or plant extinction. The existence of an environmental Kuznets curve was first proposed by G. Grossman and A. Krueger, "Environmental Impacts of a North American Free Trade Agreement", *National Bureau of Economic Research Working Paper No. 3914* (1991). For discussion, see Pearce, *Blueprint 4: Capturing Global Environmental Value*, pp. 109-11.

magnifier of unsustainable patterns of economic activity. Intervention in the market – including restrictions on trade – may therefore be necessary.[78]

In addition to these key differences between the two perspectives, there is controversy regarding whether or not the global environmental resource base constitutes a binding constraint on economic expansion and trade. Many environmentalists argue that the earth is reaching its capacity for managing pollution and replenishing depleted resources, while many economists argue that a combination of technological innovation, human adaptability and the earth's natural ability to cleanse itself will allow continued economic growth in the future as it has in the past.[79]

There is also a North-South dimension to these discussions. Developing countries have long been concerned that environmental problems could serve as a guise for industrialised countries to engage in protectionist economic practices, such as restricting market access for goods deemed to have been produced in an environmentally harmful manner. Developing countries argue that their pressing priority is to provide their populations with basic necessities such as adequate education and health care – not environmental protection – and that economic growth is required to provide the resources to do so. While it is now widely recognised that unsustainable economic growth and consumption, as well as population expansion and poverty, are the combinations that constitute the greatest threats to the global environment, practical solutions are fraught with difficulties.[80] The concept of sustainable development has

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[78] See, for example, T. Lang and C. Hines, *The New Protectionism: Protecting the Future Against Free Trade* (London: Earthscan, 1993); H. Daly, "The Perils of Free Trade", *Scientific American* (November 1993), pp. 24-29; D. Morris, "Free Trade: The Great Destroyer", *The Ecologist*, vol. 20, no.5 (September 1990), pp. 190-95. Morris, among others, also argues that free trade entails other negative consequences such as loss of national sovereignty, lowering of national standards, and loss of community.

[79] While the Club of Rome's *Limits to Growth* report of 1972 is widely seen as having been overblown in its view of imminent global environmental catastrophe due to the collapse of available natural resources, the basic premise that economic growth cannot be unlimited remains valid in many circles. See for example, R. Goodland et al, *Environmentally Sustainable Development: Building on Brundtland* (Paris: UNESCO, 1992); and W. Rees, "Pressing Global Limits: Trade as the Appropriation of Carrying Capacity", pp. 29-56 in T. Schrecker and J. Dalgleish (eds), *Growth, Trade and Environmental Values* (London, ON: Westminister Institute for Ethics and Human Values, 1994). Ayres argues that "sustainable economic growth...is probably an oxymoron". R. Ayres, *Turning Point: An End to the Growth Paradigm* (New York: St. Martin's Press, 1998), p. 101. See Radetski, "Economic Growth and the Environment", p. 122 for a pro-growth argument.

[80] A general discussion of these issues is beyond the scope of this thesis, but for discussion see J. MacNeill, P. Winsemius and T. Yakushiji, *Beyond Interdependence: The Meshing of the World's*

been proposed as a way to reconcile concerns for development and economic growth with the need for environmental protection, but the concept remains contested.[81]

2.2.2 The Multilateral Trading System and Environmental Policies

Probing further into the details of the trade and environment debate, divergent perspectives are also reflected in the discussion about the role of the multilateral trading system (MTS) in resolving – or exacerbating – global environmental degradation. This debate has brought together two communities – the trade community and the environmental community – with often distinct goals, traditions, operating procedures and even languages. Dan Esty has referred to this both as a "clash of cultures" – trade negotiators who are utilitarian and comfortable working in secret versus environmentalists who may be more idealistic and place a high priority on the openness of decision-making processes – and a "clash of paradigms", essentially the liberal economic versus environmental perspectives as outlined above.[82]

Not surprisingly, the debate regarding the MTS parallels these two perspectives. Economists tend to assert that:

> ...GATT rules do not generally conflict with the pursuit of efficient environmental policies. Trade as such is not environmentally destructive, unlike subsidies to polluting activities, unclear property rights or inappropriate pricing of resources. By limiting the use of environmentally damaging policies – trade instruments and unilateral sanctions – GATT rules promote the search for more effective instruments and cooperative solutions. Moreover, GATT's promotion of free trade generates growth, which in turn makes it easier to allocate resources for environmental protection. GATT is thus very "pro-environment".[83]

Many environmentalists, on the other hand, argue that the GATT is environmentally 'blind', that it restricts the domestic actions that states can take to protect the

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Economy and the Earth's Ecology (New York: Oxford University Press, 1991). A more recent account, with some suggested practical solutions, can be found in the report of The Commission on Global Governance, *Our Global Neighbourhood* (Oxford: Oxford University Press, 1995).

[81] See section 1.2.

[82] See D. Esty, *Greening the GATT: Trade, Environment and the Future* (Washington, DC: Institute for International Economics, 1994), pp. 36-37.

[83] P. Sorsa, "The Environment: A New Challenge to the GATT?".

environment, and that international environmental agreements should be given priority over WTO rules.[84] A former Greenpeace economist argues that "free trade is a major cause of environmental damage...and GATT rules must be rejected in favour of a set of trade rules that will adequately protect the environment".[85] This section explores the key issues regarding the relationship between the MTS and environmental policies.

The central aim of the MTS, as overseen by the WTO, is to liberalise trade between contracting parties.[86] Its core principles are found in GATT Article I (Most Favoured Nation, or MFN, treatment), Article III (National Treatment) and Article XI (Elimination of Quantitative Restrictions). Article I requires that any trade advantage granted by any contracting party to any product either for import or export must also be applied to any other 'like product' originating in or bound for any other contracting party. Article III similarly requires imported and domestic 'like products' to be treated no less favourably with respect to internal laws, regulations and requirements. WTO members, in other words, are not permitted to discriminate between traded products produced by other WTO members, or between domestic and international products. Article XI forbids any restrictions other than duties or taxes on imports from and exports to other contracting parties.

The GATT does permit, however, certain trade restrictions in the pursuit of environmental protection under particular circumstances. Article XX (General Exceptions) states that:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:...
>
> (b) necessary to protect, human, animal or plant life and health;

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[84] See N. Shaw and A. Cosbey, "GATT, the World Trade Organization, and Sustainable Development", *International Environmental Affairs*, vol. 6, no. 2 (Summer 1994), pp. 245-60.

[85] C. Hines, "Summary of Remarks Made to the International Trade and Environment Conference", The Institute for Economic Affairs, London, 4 October 1996 (on file with author).

[86] There are currently 134 members in the WTO (contracting parties). For general discussion of the MTS, see J. Jackson, *The World Trading System: Law and Policy of International Economic Relations* (Cambridge, MA: MIT Press, 2nd ed, 1997).

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.[87]

Countries can, therefore, ban or restrict the import (or export) of products that will harm their own environments, as long as the standards applied are not discriminatory (either arbitrary or unjustified) between countries and between domestic and foreign production. This is to avoid having economic protectionism use environmental policy as a disguise.

A significant portion of the debate has centred on three issues: the use of unilateral trade related environmental measures, the difference between products and their process and production methods, and the use of trade restrictive measures in MEAs.

First, the use of unilateral trade related environmental measures (or TREMs) such as the US import restrictions against 'dolphin unfriendly' tuna. The US attempt to restrict tuna trade with Mexico was deemed GATT-incompatible because, among other things, it was a unilateral measure taken by the US against other GATT contracting parties. While the GATT *does* allow for unilateral TREMs to be taken for the specific reasons outlined in Article XX, such measures must not discriminate between countries or between domestic and foreign production as it did in this case. Supporters of the GATT argue that Article XX provisions are meant to ensure that TREMs are not used simply for the protection of domestic industry and to prevent one country forcing its environmental policies on another. Critics, on the other hand, argue that such limited exceptions to GATT regulations undermines the sovereign ability of states to set their own environmental standards and leads to a lowest common denominator approach to environmental protection.

A second and related issue are trade restrictions based on process and production methods (PPMs). GATT rules focus on eliminating trade barriers between 'like products' without any consideration of the different production methods that could be used to make similar products. In addition to objecting to the unilateral nature of the US ban on Mexican tuna, the GATT panel also found that the ban discriminated against a

[87] For a history and description of Article XX, see S. Charnovitz, "Exploring the Environmental Exceptions in GATT Article XX", *Journal of World Trade*, vol. 25, no. 5 (October 1991), pp. 37-55.

product because of the way it was *produced* (by killing dolphins at the same time as catching tuna) rather than on the basis of the characteristics of the *product* itself (tuna caught with dolphins is the same as tuna caught without killing dolphins - it is a 'like product'). The logic behind the like product distinction is that different countries have different standards for the production of goods and the imposition of PPM standards could undermine comparative advantages (such as the willingness to assimilate pollution during production). Developing countries have expressed concern that discussions about PPM standards – or trade restrictions based on PPMs – are really veiled attempts to impose 'green protectionism' under the guise of eco-labelling schemes that detail, for example, whether or not wood products were harvested sustainably. From an environmental perspective, it is clear that production processes can have serious environmental consequences and an artificial distinction between products and how those products are made is difficult to sustain. The notion of like product, however, is central to the functioning of the non-discrimination clauses of the WTO, making resolution of this issue in that forum extremely difficult.

Although the tuna-dolphin panel ruling was never adopted (mainly because Mexico did not want to jeopardise on-going NAFTA negotiations), critics argue that the ruling sets a precedent and sends the message that in a dispute, the GATT/WTO will most likely uphold the case of free markets at the expense of environmental regulation.[88] As Duncan Brack has noted, trade rules are set internationally and the multilateral trading system may fail to allow for differences in national efforts at achieving environmental sustainability, even when policies are aimed at controlling transboundary or global environmental problems.[89]

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[88] The GATT ruled a second time on this issue in June 1994 when the European Community initiated a second panel (upset that the recommendations from the first one were never adopted). Known as Tuna II, the ruling in this case was again *against* the United States, although some observers claim the reasoning in Tuna II is more cogent as it focused on the unilateral aspect of the American embargo. See Esty, *Greening the GATT*, pp. 30-31.

[89] D. Brack, "Guide to the Issues", pp. 1-17 in D. Brack (ed), *Trade and Environment: Conflict or Compatibility?* (London: Earthscan/RIIA, 1998), p. 2. The recent Appellate Body ruling in the shrimp-turtle case has prompted some observers to suggest that the WTO's approach to trade and environment conflicts is moderating. Similar to the tuna-dolphin dispute, the shrimp-turtle case was the result of a unilateral US import ban on shrimp from countries that did not use a 'turtle excluder device' to prevent the deaths of sea turtles while shrimp harvesting. A 1998 WTO dispute settlement panel ruled, as did a

The response made by GATT/WTO defenders is that the US tuna embargo was not the best policy for protecting the dolphins (a bilateral or international treaty would have been better, for example)[90]; moreover, it unfairly imposed a developed country's environmental standards upon a developing country, which is discriminatory.[91] In fact, it was partly due to developing country concerns regarding the US unilateral ban on tuna and a possible trend towards "environmental colonialism" that Principle 12 of the Rio Declaration stated: "unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided".[92]

The third issue, the use of trade restrictive measures in MEAs, will be discussed in greater detail in section 2.2.3. However, to understand the full context of all of the issues surrounding the relationship between the MTS and environmental policies, it is important to examine the institutional framework in which many of these debates took place and to detail subsequent developments.

The key forum for discussion on these three issues in the WTO has been the Committee on Trade and Environment (CTE), which was established at the conclusion

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subsequent appellate body, that this import ban violated GATT rules. In the case of shrimp-turtle, the WTO panel found that it was not possible to "justify interpreting Article XX to allow a Member to condition access to its market for a given product on the adoption of certain conservation policies by exporting Members in order to bring them into line with those of the importing Member"; WTO, "United States: Import Prohibition of Certain Shrimp and Shrimp Products, April 1998 Panel Report", p. 295. In other words, unilateral and discriminatory TREMs may not be used by one WTO member to alter production methods in another member so that it can maintain market access for that product. The US appealed this ruling against it, and the WTO Appellate Body ruled in October 1998 that the objective of the trade restriction (the protection of sea turtles) was in fact legitimate (unlike in the case of the tuna-dolphin panel decisions), thus admonishing the original Panel's decision not to examine whether or not the US measure was within the scope of Article XXg (the Appellate Body argued that is was). The Appellate Body nevertheless went on to rule that the application of the restrictions was arbitrary and unjustifiable, thus contravening WTO obligations (the 'chapeau' of Article XX). For discussion, see G. Shaffer, "The US Shrimp-Turtle Appellate Body Report: Setting Guidelines toward Moderating the Trade-Environment Conflict", *BRIDGES: Between Trade and Sustainable Development*, vol. 2, no. 7 (October 1998), pp. 9-12.

[90] However, this ignores US efforts at the time to convene an international agreement on dolphin protection (which is now in place); see S. Charnovitz, "Environmentalism Confronts GATT Rules", *Journal of World Trade*, vol. 27, no. 2 (April 1993), pp. 37-53.

[91] See Sorsa, "GATT and the Environment", p. 335.

[92] I. Porras, "The Rio Declaration: A New Basis for International Cooperation", pp. 20-34 in P. Sands (ed), *Greening International Law* (London: Earthscan, 1993), p. 23. See also section 1.2.

of the Uruguay Round in 1994.[93] The precedent for the CTE was the GATT working group on Environmental Measures and International Trade (EMIT), which was formed in 1971 but did not meet until 1991.[94] The mandate of the CTE is:

> to identify the relationship between trade measures and environmental measures in order to promote sustainable development [and] to make appropriate recommendations on whether any modifications of the provisions of the multilateral trade system are required, compatible with the open, equitable and non-discriminatory nature of the system.[95]

A preparatory Sub-Committee on Trade and Environment held five meetings during 1994 and discussed topics ranging from the relationship between the WTO and environmental standards to the use of trade restrictive measures in MEAs. With the formal creation of the WTO in January 1995, this work was then taken over by the CTE.

However, there has been widespread disappointment with the lack of concrete recommendations from the CTE. Dan Esty comments that the committee has had "almost nothing in the way of results to show for its first four years of efforts".[96] Despite a lack of concrete recommendations, the 1996 report made after the committee's first two years was only adopted by consensus on the understanding that it did not "modify the rights and obligations of any WTO Member under the WTO Agreements".[97] The trade and environment debate became quite polarised within the CTE context.

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[93] GATT, "Ministerial Declaration and Decision on Trade and Environment", MTN.TNC/45 (MIN), 6 May 1994.

[94] Unlike the CTE, which has a standing agenda, the EMIT group was on 'stand by' to consider specific environmental matters at the request of a GATT party. No request for EMIT's input was received until the countries of the European Free Trade Association (EFTA) requested it in 1990, in the run-up to UNCED and at a time when environmental concerns were peaking in industralised countries. Discussions held in EMIT between 1991 and 1994 "resulted in delegations being better informed of, and more comfortable with, the subject of trade and environment". WTO Trade and Environment Division, *Background Document for the High Level Symposium on Trade and Environment*, March 1999, pp. 3-8.

[95] Extracted from the WTO Ministerial Decision on Trade and Environment, reprinted in WTO, *Trade and Environment*, 8 May 1995, pp. 2-3.

[96] D. Esty, "Economic Integration and the Environment", pp. 190-209 in N. Vig and R. Axelrod (eds), *The Global Environment: Insitutions, Law, and Policy* (Washington, DC: CG Press, 1999), p. 200.

[97] WTO Trade and Environment Division, *Background Document for the High Level Symposium on Trade and Environment*, p. 13.

After presenting its report to the WTO Ministerial Meeting in Singapore in late 1996, the Committee relaxed the pace of its work program and is now focussed on analysing 'clusters' of issues rather than trying to achieve consensus on individual issues that proved to be too contentious (such as allowing for the use of trade restrictions in MEAs in Article XX, see section 2.2.3). The CTE is perceived by some observers and participants to have been useful in beginning a dialogue between the trade and environment communities and for educating trade officials about the concerns of the environmental community. This was achieved by, for example, holding special symposia for NGOs and CTE members and having MEA secretariats brief the CTE on developments in those agreements.[98] Other observers, however, have been highly critical of the CTE, claiming that its refusal to allow NGOs to observe their meetings – in contrast to the greater access they enjoy at UNEP meetings – illustrates a lack of transparency; any resolution regarding these potentially conflicting issues is thus unlikely to take place in this forum.[99]

As concerns about the ability of the WTO to resolve trade and environment questions increased – and many observers also questioned whether the WTO was even the appropriate body to undertake such work because of its exclusive trade focus – other intergovernmental groups began to consider many of the same issues. The OECD, for example, has undertaken work in its Joint Session of Trade and Environment Experts, and UNEP has published a series of studies on trade and environment issues.[100] Many of these reports – while helping to clarify complex issues – acknowledge that there is as yet no consensus on many of the outstanding questions. The NGO community has also

[98] Since 1994, the WTO Secretariat has held four symposia with NGOs on trade, environment and sustainable development. See WTO Trade and Environment Division, *Background Document for the High Level Symposium on Trade and Environment*, p. 33. In July 1998, eight MEA secretariats – including the Secretariats of the Basel Convention, Convention on Biological Diversity and Framework Convention on Climate Change – briefed CTE members. WTO, *Trade and Environment Bulletin*, Press Release TE 025, 13 August 1998.

[99] For a critique of the CTE, see J. Cameron, "The CTE: A Renewed Mandate for Change or More Dialogue?", pp. 168-87 in Brack (ed), *Trade and Environment*; and S. Charnovitz, "A Critical Guide to the WTO's Report on Trade and the Environment", *Arizona Journal of International and Comparative Law*, vol. 14, no. 2 (1997).

[100] See M. Reiterer, "OECD Perspective", pp. 163-66, and H. Abaza, "UNEP Perspective", pp. 166-68 both in Brack (ed), *Trade and Environment.*

taken up the challenge and the World Wide Fund for Nature (WWF) International has established an Expert Panel on Trade and Sustainable Development (EPTSD) in an attempt to broaden the debate to include development – as well as environment – issues.[101]

The first review of the results of UNCED and Agenda 21 was held in June 1997 at a special session of the UN General Assembly (UNGASS). UNGASS was perceived to have failed in its objective of advancing efforts to achieve sustainable development, and the UNGASS text on trade and environment simply refers to the need to "accelerate economic growth, poverty eradication and environmental protection" and the "need to promote the universality of the WTO".[102] However, new indications of how trade and environment policies are to be made mutually supportive in practice are absent, and UNGASS repeats the call for other bodies – the WTO, UNEP and UNCTAD – to consider how this could be done.

Following this, Sir Leon Brittan, then Trade Commissioner of the European Commission, proposed in March 1998 a high-level meeting on trade and environment issues to "break the log jam" in the CTE.[103] This proposal was subsequently supported by US President Clinton in his address to the GATT 50th anniversary celebrations in May 1998.[104] The meeting – the WTO High Level Symposium on Trade and Environment – was held in Geneva in March 1999, followed, at the insistence of developing countries, by a High Level Symposium on Trade and Development. No breakthrough was achieved, however, as many governments simply used the well-attended meetings to repeat their already known views on the trade and environment

[101] See C. Arden-Clarke, "The WTO Committee on Trade and Environment - Is it Serious?", *WWF Briefing Paper*, December 1996; and EPTSD Secretariat, *Report of the 4th Meeting of the EPTSD*, WWF International, June 1998.

[102] For discussion, see J. Krueger, "Trade and Environment: From Rio to UNGASS (via Singapore)", *Environmental Politics*, vol. 7, no. 1 (Spring 1998), pp. 207-213.

[103] Quoted in ICTSD, "Integrating the Global Trade and Environment Agendas", *BRIDGES Weekly Trade News Digest*, vol. 2, no. 11 (30 March 1998), p. 1.

[104] Their original proposal was to convene such a meeting at the ministerial level. Subsequent discussions revised the proposal to be a 'dialogue' at the level of senior officials. A developing country view of their proposal can be found in "The Unending Debate on Trade and Environment", *Economiquity*, no. 5 (Jan-April 1998), p. 3.

debate and to reiterate their initial negotiating positions regarding the upcoming round of WTO negotiations.[105]

The debate over the appropriate relationship between the MTS and environmental policies is unlikely to be resolved in the near future. Dissatisfaction with the lack of progress in the WTO's CTE and the fact that the WTO itself is a *trade* body and not an *environmental* organisation, have led other organisations such as UNEP, the OECD and the WWF, to initiate analytical work in this area. There have also been proposals to create an 'environmental counterweight' to the WTO – a Global Environment Organization (GEO), but the present political environment is not conducive to creating new, potentially large international bureaucracies.[106] In the meantime, therefore, the international community will continue to forge environmental policy through the creation of MEAs.

2.2.3 Multilateral Environmental Agreements and the World Trade Organization

Some multilateral environmental agreements contain trade restrictive measures, and the relationship between those measures and the provisions of the WTO is central both to the trade and environment debate and to this thesis. There are now around 200 MEAs in existence, with about 20 that regulate or restrict trade in some way. Trade measures are usually restraints on trade in particular substances or products, either between parties to

[105] See the government statements in a report of the meeting by C. Carpenter and L. Rajamani, "Report of High Level WTO Symposia", *Sustainable Developments*, vol. 12, no. 2 (22 March 1999). Another analysis of the meetings stated that "many participants from both governments and civil society expressed disappointment that the symposia focused on environment and development separately, and thus did little to dispel developing countries' distrust of 'trade and environment' as an essentially Northern agenda, one which competes with the Southern 'trade and development' agenda". ICTSD, "WTO Holds First-ever High Level Meetings on Sustainable Development", *BRIDGES: Between Trade and Sustainable Development*, vol. 3, no. 2 (March 1999), p. 1.

[106] Esty has argued for a Global Environmental Organization (Esty, *Greening the GATT*, pp. 78-83) and the former Director-General of the WTO, Renato Ruggiero, proposed a World Environment Organisation at the 1999 WTO High Level Symposium on Trade and Environment. However, the Programme for the Further Implementation of Agenda 21, adopted by UNGASS in 1997, emphasises greater coherence in various intergovernmental organisations and processes rather than establishing new institutions. See G. Ulfstein, "The Proposed GEO and its Relationship to Existing MEAs", Paper presented at the International Conference on Synergies and Coordination between Multilateral Environmental Agreements, United Nations University, Tokyo, 14-16 July 1999. Interestingly, the Secretary General of UNCTAD has also opposed a GEO; see R. Ricupero, "Balancing the WTO is Not the Way to Go – and Does Not Require a WEO", *BRIDGES: Between Trade and Sustainable Development*, vol. 2, no. 3 (April-May 1998), pp. 15-16.

the MEA and/or between parties and non-parties. Trade restrictive measures have been used in MEAs for four major reasons:

- to restrict markets for environmentally hazardous products or goods produced unsustainably;
- to increase the coverage of the agreement's provisions by encouraging governments to join and/or comply with the MEA;
- to prevent free-riding, i.e. enjoying the advantages of an MEA without incurring costs by remaining a non-party;
- and to ensure the MEA's effectiveness by preventing 'leakage', e.g. non-participants increasing emissions as a result of the control measures taken by parties.[107]

While no trade restrictive measures taken pursuant to an MEA have to date been challenged under the rules of the MTS, there are concerns that restrictions such as those used in the Basel Convention, CITES or Montreal Protocol would be deemed in violation of GATT disciplines if a challenge were brought to the WTO. Moreover, while the provisions in the GATT allowing trade restrictive measures for environmental purposes (Article XX) clearly state that these measures must not be arbitrarily or unjustifiably discriminatory, the trade measures actually used in MEAs *are* by their very nature discriminatory. Non-signatories to a given convention are provided with an incentive to join the agreement or to prohibit non-signatories from enjoying the benefits of the agreement. For example, imports and exports of CFCs, and products containing them, were prevented between parties and non-parties to the Montreal Protocol in order to encourage countries to adhere to it and to prevent industrial migration (or leakage) to non-parties to escape the control measures.

There are a limited number of ways in which the international community, or parties to an MEA more specifically, can influence the behaviour of other countries. These include political and diplomatic pressure, provision of financial or technical assistance, trade sanctions and military force. Since the use of military force is generally a non-option in international environmental politics, that leaves trade restrictions as one of three tools to help implement and encourage compliance with the objectives of an

[107] See D. Brack, "Environmental Treaties and Trade", in H. Ward and D. Brack (eds), *Trade, Investment and the Environment* (London: Earthscan/RIIA, 1999).

MEA. As Dan Esty argues: "[In an international system] lacking a global authority for managing environmental issues that makes cost internalization and other environmental policy mechanisms feasible and effective, the use of trade measures becomes politically attractive, if not strictly necessary".[108] Thus, existing and, quite likely, future MEAs will contain such trade restrictive measures.

As part of the increasing salience and importance of the trade and environment debate in the early 1990s, the question of the compatibility of such measures with the rules of the MTS became a central focus for discussion. The CTE placed it as the first agenda item in their work programme.[109] Numerous government and non-government studies have analysed the compatibility of specific agreements with the rules of the MTS and debated the issue of the appropriateness of using such measures as a tool of international environmental regulation.[110] Despite this debate and discussion, there is as yet no consensus on the issue.

Those concerned by the possibility that WTO rules could be used to undermine the trade measures used in MEAs point to the rulings on the tuna-dolphin and shrimp-turtle disputes as setting a precedent for conflicts between environment regulation and the GATT.[111] That is, a WTO dispute panel will necessarily favour free trade at the expense of environmental protection. However, the trade measures in these cases were taken unilaterally and several commentators suggest that trade restrictive measures endorsed by the international community, such as those found in MEAs, would be more

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[108] Esty, *Greening the GATT*, p. 130.

[109] The CTE agenda also included items on environmental taxes, domestically-prohibited goods, standards, packaging, and labelling.

[110] See, for example, OECD, *Trade Measures in Multilateral Environmental Agreements: Synthesis Report of the Three Case Studies*, Joint Session of Trade and Environment Experts (12 November 1998); R. Housman et al (eds), *The Use of Trade Measures in Select Multilateral Environmental Agreements* (Geneva: UNEP Environment and Trade Series 10, 1995); the contributions to Brack (ed), *Trade and Environment*, and A. Fijalkowski and J. Cameron (eds), *Trade and Environment: Bridging the Gap* (London: Cameron May Publishers, 1998).

[111] A. Taylor, "International Cooperation in Conflict: A Study of the Contradictions between International Trade Agreements and Environmental Responsibilities", *The Journal of Environment and Development*, vol. 2, no. 1 (Winter 1993), pp. 123-36.

likely to be acceptable to the WTO.[112] The WTO is particularly averse to trade measures taken unilaterally, whether for environmental protection or for some other reason, as its purpose is to provide a stable, predictable and mutually-agreed rule-based system for international trade. Recall that Principle 12 of the Rio Declaration warned specifically that "unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided".

However, Principle 12 also stated that "trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade", thereby implying that trade restrictions used in *multilateral* environmental agreements were subject to the norms of the MTS.[113] The question from this perspective is thus: are trade restrictions in MEAs arbitrary, unjustifiable or disguised? Developing countries in particular worry that trade restrictions in MEAs could be used to legitimise protectionist policies designed to limit access of their goods to markets in the industrialised world, therefore being both an arbitrary and disguised restriction on international trade. But the evidence from the experience of the operation of some MEAs employing trade restrictions suggests that such measures can often be justifiable as an important component in achieving the environmental objectives of the agreement.[114]

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[112] See, for example, D. Palmeter, "Environment and Trade: Much Ado About Little?", *Journal of World Trade*, vol. 27, no. 3 (June 1993), pp. 55-70; and C. Sills, "Observations on Trade and the Environment", *Columbia Journal of World Business* (Fall and Winter 1992), pp. 84-89; and M. Shahin, "Developing Country Perspective", pp. 150-63 in Brack (ed), *Trade and Environment.*

[113] At UNCED, the business community made known their opposition to the use of trade restrictions in MEAs: "Such agreements can and should be made compatible with existing international trade rules. Their effectiveness should *not* depend on the threat of trade restrictions against countries that do not comply with international environmental standards." S. Schmidheiny with the Business Council for Sustainable Development, *Changing Course: A Global Business Perspective on Development and the Environment* (Cambridge, MA: MIT Press, 1992), p. 73 (emphasis added). However, Charnovitz makes the provocative argument that "there is no reason why the environmental regime should eschew trade discrimination when the trade regime utilises it. Several of the clearest examples of trade discrimination occur in commodity agreements". See Charnovitz, "The Role of Trade Measures in Treaties", pp. 97-117 in Fijalkowski and Cameron (eds), *Trade and Environment*, p. 116.

[114] See Chapter 3.

Within the CTE, there are differing views regarding how to reconcile any possible inconsistency between MEA provisions and WTO rules.[115] Some countries have argued that because there is in fact a limited number of MEAs containing trade provisions, and because no trade dispute has yet arisen over those provisions, then no real problem exists.[116] Others suggest that the existing provisions of Article XX of the GATT are sufficient to exempt MEA trade measures from WTO rules and that it is neither necessary nor desirable to exceed that scope. Moreover, those countries concerned about trade restrictions in MEAs being used as a cover for protectionism simply argue that MEAs should avoid using trade measures that are inconsistent with WTO obligations.[117]

Other more proactive proposals focussed on an adjustment or amendment to Article XX, such as adding a general reference to 'environmental protection' to the list of legitimate exceptions on the conservation of exhaustible natural resources and protection of human, animal or plant life and health. Other proposals would create either selective or blanket waivers for MEAs, such that MEA provisions could take precedence over WTO obligations.[118] However, the 1996 CTE report conveyed a mixed message regarding the compatibility of trade restrictions in MEAs and the WTO, clearly showing that consensus had not been reached. The report *did* accept that trade measures could, in certain cases, play an important role in MEAs, as they had in the past and may

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[115] Reviewing all the proposals put forward in the CTE is beyond the scope of this thesis, but a comprehensive treatment can be found in K. Ewing and R. Tarasofsky, *The Trade and Environment Agenda: Survey of Major Issues and Proposals from Marrakesh to Singapore* (Gland: IUCN Environment Policy and Law Paper No. 33, 1997). See also the 1996 report of the CTE, *Report (1996) of the Committee on Trade and Environment*, WT/CTE/1, 12 November 1996, particularly paragraphs 5-31.

[116] *Report (1996) of the Committee on Trade and Environment*, WT/CTE/1, 12 November 1996, paragraph 10. However, as Chapter 4 will show, the risk that some MEAs like the Basel Convention may yet encounter a WTO challenge makes this view somewhat unrealistic.

[117] Once again, however, this view does little to address the question of MEAs already employing trade restrictions and ignores the fact that WTO inconsistent measures may be useful in some cases.

[118] This is the approach taken in the North American Free Trade Agreement (NAFTA). Article 104 of NAFTA provides that in the event of a conflict between it and the Montreal Protocol, CITES or the Basel Convention (or other MEAs where all NAFTA parties agree), the provisions of the MEA should take precedence over the provisions of the trade agreement, so long parties use "least NAFTA inconsistent" means for implementing the MEAs. D. Wilkinson, "NAFTA and the Environment: Some Lessons for the Next Round of GATT Negotiations", *The World Economy*, vol. 17, no. 3 (May 1994), pp. 395-412.

in the future.[119] But, the report also concluded that trade restrictions were not the only – nor necessarily the most effective – policy instrument to use in MEAs and that there was no agreement to modify WTO provisions to expressly accommodate MEA trade restrictions.[120]

Some observers find guidance in the Vienna Convention on the Law of Treaties.[121] For example, in international law, later treaties take priority over earlier ones, and more specific treaties take priority over the general. In reality, however, these principles do little to clarify the issues. While the MEAs signed in the 1970s and 1980s might be seen as the later treaties when compared to the GATT, this may not be the case. While the GATT was founded in 1947, it was amended in 1994; and the WTO was created in 1995.[122] Which date should be chosen? Furthermore, while a specific treaty regarding trade in hazardous waste should perhaps take priority over a general treaty regulating global trade, the rules for treaties are primarily focused on the relationship between agreements covering the same subject matter. Environmental treaties which incorporate some trade measures are arguably not of the same subject matter as trade agreements designed to liberalise world trade.

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[119] *Report (1996) of the Committee on Trade and Environment*, WT/CTE/1, 12 November 1996, paragraph 173.

[120] *Report (1996) of the Committee on Trade and Environment*, WT/CTE/1, 12 November 1996, paragraphs 25-29, and 176.

[121] J. Cameron et al, "Relationship Between Environmental Agreements and Instruments Related to Trade and Development", pp. 489-92 in P. Sand (ed), *The Effectiveness of International Environmental Agreements: A Survey of Existing International Instruments* (Cambridge, UK: Grotius Publications, 1992). See also Esty, *Greening the GATT*, p. 219.

[122] Some clarification on legal structure may be helpful at this stage. The GATT, created in 1947 and sometimes referred to as GATT 1947, is a multilateral agreement (or treaty) regulating international trade. The institution created to administer GATT 1947, the International Trade Organization, never came into being because the US refused to ratify the 1948 Havana Charter that created it. So while the ITO never existed, the GATT also never formally entered into force but its provisions were applied provisionally as a treaty obligation under international law. The GATT thus operated until 1994 as a treaty and *de facto* organisation for world trade. The Uruguay Round of trade negotiations (1986-94) then resulted in the creation of the World Trade Organization, which administers the GATT (renamed GATT 1994) and now also regulates the trade in services and trade-related aspects of intellectual property rights; the WTO is also endowed with a new and more powerful dispute settlement procedure. In simple terms, the GATT is the agreement setting out the rules to be followed (such as national treatment, MFN, etc.), and the WTO is the institution that administers the rules. For more detail on a complicated historical evolution, see Jackson, *The World Trading System*, chapter 2.

The issue of MEAs had a high profile at the 1999 WTO High Level Symposium on Trade and Environment, and many divergent positions were still apparent. The EU, for example, stressed the need for "confidence that WTO rules accommodate aims of Parties to MEAs" and proposed either a new interpretation or textual amendment to the rules.[123] Many developing countries such as Malaysia, India, the Philippines and Thailand were, however, opposed to changing Article XX in any way for the sake of MEAs.[124] While the compatibility of the MEAs with the rules of the MTS was initially considered one of the 'easier' trade and environment issues targeted for early resolution in the CTE, this has hardly been the case.

In sum, the progress to date on making trade and environment policies 'mutually supportive' has been slow. The difficulty in reconciling the different assumptions and values of the trade and environment communities, developing countries' strong wish to avoid policies that could be perceived as protectionist, and the complexity of the issues at stake means that international agreement regarding many of the issues outlined above will not take place any time soon. While the lack of progress in the CTE is disappointing, the WTO now includes over 130 countries and will necessarily be important to the future development of the debate. Other efforts to move the debate forward, such as the discussions in other fora like UNEP, the OECD and the WWF, are welcome, but there is as yet no single global institution that has both the mandate and the capacity to resolve trade and environment conflicts. While environment and sustainable development issues are sure to be discussed during the upcoming Millennium Round of trade negotiations, progress on these issues may or may not occur. Developing countries generally oppose discussing trade and environment issues in the new round and the negotiations have been characterised as likely to be "the most difficult trade talks ever held".[125]

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[123] Text from the speech of the Rt. Honourable Sir Leon Brittan, Vice-President of the European Commission, WTO Speech 99/47, 15 March 1999, www.wto.org/wto/hlms/lbenv.org (accessed 16 March 1999).

[124] See the government statements in Carpenter and Rajamani, "Report of High Level WTO Symposia", particularly pp. 3 and 4.

[125] ICTSD, "The Elusive Seattle Mandate: What Will Members Negotiate?", *BRIDGES: Between Trade and Sustainable Development*, vol. 3, no. 5 (June 1999), pp. 1 and 6.

Global environmental problems, however, do not await the schedule of the WTO. MEAs continue to be negotiated and implemented, some of which have potentially serious trade and international competitiveness consequences. The trade and environment debate therefore remains an important feature on the agenda of international environmental politics for the foreseeable future.

2.3 Formulating a Framework for Analysis

The preceding discussion outlined the two main bodies of literature that will be drawn upon in formulating an analytical framework for this thesis. Regime theory is a productive and well-developed method for analysing collective action and co-operation between states. While the arguments advanced in this thesis also draw upon work that is not directly related to regime theory – such as writings on international institutions and international co-operation more broadly – the discussion takes place within the academic debate about international regimes.

Second, the trade and environment literature illustrates the many important themes (such as the connection between economic growth and the environment) discussed here. It highlights the relationship between, and debates about, the use of trade restrictive measures in MEAs and WTO provisions. The question remains, however, how these literatures relate to the research question and what factors may be drawn from them to examine the conditions influencing regime content.

2.3.1 A Focus on Regime Content

The primary concern among regime analysts has been the conditions necessary for regime formation and maintenance. More recently, attempts have been made to investigate the question of regime effectiveness. A neglected dimension to regime theory, however, is *regime content*, which may also be termed regime properties or institutional design.

Young and Osherenko identify three aspects of regimes that should be differentiated: first, their formation; second, the timing of the regime formation process; and third, "the matter of a regime's substantive content. We want to know not only

whether and when a regime forms, but also how to account for the contents of a regime's principal provisions".[126] This proposition is echoed by Mayer, Rittberger and Zürn, who distinguish three main tasks for research on international regimes including "to categorize and explain regime properties".[127] Despite these recommendations, the question of regime content remains under-researched. Mayer, Rittberger and Zürn state that "up to now, a systemic and concerted study of the determinants of regime content (comparable with the study of regime formation) has not taken place".[128] Young agrees, stating that "our understanding of institutional design...remains primitive".[129]

There have been some preliminary attempts to consider various particular aspects of regime content. Oran Young discusses the specific attributes or properties of a regime, so-called "endogenous variables".[130] Such variables can include the voting procedures used to take decisions in international agreements or the review mechanisms created to verify compliance. In his study of the international oil pollution regime, Ronald Mitchell found that a regime design that aimed its rules at ship builders rather than at ship operators was more effective in reducing operational discharges of oil from tankers.[131] Other scholars have focussed on the norms of different regimes and how they impact regime functioning and state interests.[132] Nevertheless, regime theory has yet to

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[126] Young and Osherenko, "Testing Theories of Regime Formation: Findings from a Large Collaborative Research Project", in Rittberger (ed), *Regime Theory and International Relations*, pp. 224-25.

[127] Mayer, Rittberger and Zürn, "Regime Theory: State of the Art and Perspectives" in Rittberger (ed), *Regime Theory and International Relations*, p. 392.

[128] Mayer, Rittberger and Zürn, "Regime Theory: State of the Art and Perspectives" in Rittberger (ed), *Regime Theory and International Relations*, p. 418.

[129] O. Young, "The Effectiveness of International Institutions: Hard Cases and Critical Variables", pp. 160-194 in J. Rosenau and E. Czempiel (eds), *Governance Without Government: Order and Change in World Politics* (Cambridge: Cambridge University Press, 1992), p. 194.

[130] O. Young, *International Governance: Protecting the Environment in a Stateless Society* (Ithaca : Cornell University Press, 1994), p. 153.

[131] R. Mitchell, "Regime Design Matters: Intentional Oil Pollution and Treaty Compliance", *International Organization*, vol. 48, no. 3 (Summer 1994), pp. 425-458.

[132] S. VanDeveer, "Sea Changes and State Sovereignty", pp. 283-308 in L. Brooks and S. VanDeveer, *Saving the Seas: Values, Scientists, and International Governance* (College Park: Maryland Sea Grant College, 1997); and M. Finnemore, *National Interests in International Society* (Ithaca: Cornell University Press, 1996).

investigate seriously the conditions that contribute to particular regime properties. This research seeks to make first steps in the direction of explaining regime content in a theoretical and empirically substantiated manner.

The notion of regime content is in fact explicitly stated in the definition of a regime: social institutions that consist of agreed upon *principles, norms, rules, decision-making procedures, and programs.*[133] The research programme of regime analysis has, however, focused almost exclusively on formation rather than on the various components constituting regime content. But a regime's content is a link between its formation and its effective implementation. As Ronald Mitchell argues, regime design – or content – "matters".[134] While the study of regime formation is concerned with the conditions under which a regime is or is not created, and regime maintenance with the conditions needed to keep it functioning, the study of regime content focuses on how and why particular properties – norms, rules, etc. – are included in the regime.

All definitions of regimes note that rights and rules are important aspects of solving international collective action problems. These rights and rules reflect visions of what sorts of behaviour are to be encouraged or restricted.[135] As Young argues, "the core of every international regime is a cluster of rights and rules, [whose] exact content is a matter of intense interest" to the actors involved.[136] This research examines regime content by studying the conditions under which particular properties become part of a regime. One such property are the *rules* of a regime, and this thesis focuses on a particular set of rules – the trade restrictive provisions in MEAs.

2.3.2 Trade Restrictive Measures as an Example of Regime Content

The trade and environment literature highlights important considerations for this thesis from the debate regarding economic growth and the environmental protection. The

[133] See the discussion on regime definition in section 2.1.1.

[134] Mitchell, "Regime Design Matters: Intentional Oil Pollution and Treaty Compliance", p. 458.

[135] R. Keohane, "The Analysis of International Regimes" in Rittberger (ed), *Regime Theory and International Relations*, p. 43.

[136] Young, *International Cooperation*, p. 15.

debate displays the often large differences in fundamental assumptions and world-views. The tension between those who conceive of growth and trade as harmful to the environment and those who argue the contrary – that they in fact benefit environmental protection – is a significant dynamic and provides an important backdrop to this investigation of the conditions for inclusion of trade restrictive measures in MEAs.

The trade and environment literature also highlights an oversight within regime theory: regimes are not isolated but interact with one another. Regime theory tends to overlook this. As Young and Von Moltke point out:

> [T]here is a need to devote increased attention to the institutional interactions among regimes at the international level. For the most part, regime analysis has proceeded on the simplifying assumption that individual regimes are freestanding or self-contained arrangements that can be studied without reference to other regimes operating concurrently. As the trade and environment debate has made clear, however, this analytically attractive device can no longer be adopted with impunity.[137]

In an analysis of the use of trade restrictions in MEAs, it is therefore both empirically necessary, as well as theoretically beneficial, to examine both the trade regime (the multilateral trading system) and the environmental regimes (the various MEAs), and how they relate to and affect each other.

Furthermore, as the trade and environment debate is normally considered from legal, diplomatic, or economic perspectives, it could benefit from an international relations approach to some of its key controversies. By employing various comparative international environmental regimes as case studies, new insights may be gained regarding how regime properties interact and our understanding about the use of trade restrictive measures in MEAs advanced. Additionally, by constructing an analytical framework to investigate the question of regime content, first steps will be taken in this new area of regime analysis, and a more general contribution to the study of international relations can be made.

Before outlining the specific factors used to account for regime content, a clarification is needed about the type of trade restrictive measures examined as an

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[137] Young and von Moltke, "The Consequences of International Regimes: Report from a Barcelona Workshop", p. 362.

example of regime content. Trade measures may be employed in MEAs for different purposes. Four basic types of trade measures can be identified, of which three will be considered here. The first type are trade restrictions – on a specific environmentally harmful product – used by participants in an MEA to help achieve the larger goals of the treaty. These goals can include eliminating the production and consumption of a harmful product, reducing the free rider problem, and maximising the number of participants. This type of trade restriction deals directly with the product or resource that the MEA seeks to regulate as part of a wider package of measures. The second type are trade restrictions constituted through the MEA itself that governs the trade in a particular type of product. That is, regulation of the *trade* in a specific product or resource is the goal of the treaty. A third type is the provision of positive trade incentives such as access to markets and technology. Lastly, there are trade measures which are used in the case of a non-compliance problem; that is, as punishment for breaching the rules of the MEA. This fourth type of trade measure, more accurately called trade sanctions, does not relate to the product or resource considered by the MEA but to 'innocent' products.[138] As trade sanctions have not been employed in MEAs to date, they are excluded from the scope of this thesis.[139]

2.3.3 Factors Accounting for Regime Content

The above sections outlined the relationship between the research question and the relevant literatures, and suggested how this project contributes to the study of international trade and the environment and to international regime theory. It remains to

[138] Innocent products are products not related to the environmental problem under consideration by the regime. For example, restricting trade in electronic products to get compliance with a fish conservation treaty. On the concept and use of international sanctions generally, see K. Nossal, "International Sanctions as International Punishment", *International Organization*, vol. 43, no. 2 (Spring 1989), pp. 301-22. See also section 2.2.3.

[139] In other words, trade *sanctions* (such as the embargo on goods against Iraq to get it to comply with decisions about UN inspection of its military facilities) imposed to attempt to change state behaviour need to be differentiated from trade *restrictions* relating to a specific product or problem and employed to encourage adherence to specific obligations about that product or problem.

outline the factors that will be considered when answering the question: under what conditions will trade restrictive measures be incorporated into an MEA?

It would be possible to employ only one of the theories of regime formation, such as power-based approaches, and then test relevant case studies to see if power-based factors can account for the inclusion of trade restrictive measures in a given regime – e.g. the trade restrictions were included due to the influence of a hegemon. Examining only one factor has the attraction of simplicity and would make investigations of the case studies relatively easy. However, not only does this seem to be a limited approach to the issue – as the criticisms of each approach revealed in section 2.1.2 – but it is now becoming accepted in the literature that discussions of international co-operation need to draw on multiple sources to create a comprehensive explanation. This is perhaps especially true when considering environmental issues since they cut across traditionally defined academic and theoretical boundaries and force the observer to consider the interaction between many factors, including economics, politics, physical and earth science, social theory, and law but to name a few.

While most closely linked with the use of knowledge-based hypotheses, and particularly the epistemic community approach, Peter Haas argues that

> [a] satisfying analytic explanation of the origin of multilateral environmental cooperation requires the use of several different social science theories of cooperation and regime creation. Although each theory satisfactorily explains a part of the broader story, all need to be invoked to explain the full range of outcomes.[140]

This thesis therefore adopts an approach informed both by the various explanatory models of regime theory – power, interests, and knowledge – and by the discussion in the trade and environment literature – specifically the relationship between trade measures in MEAs and the provisions of the WTO.

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[140] P. Haas, "Stratospheric Ozone: Regime Formation in Stages", pp. 152-85 in Young and Osherenko (eds) *Polar Politics*, p. 152. Such an analysis is echoed by Young and Osherenko, Rowlands, and even earlier by Keohane and Nye. Young and Osherenko constructed a preliminary 'multivariate model' to examine co-operation. See Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", p. 246. Rowlands employs a multidimensional approach to his examination of ozone-layer depletion and climate change; see Rowlands, *The Politics of Global Atmospheric Change*, pp. 28-32. Keohane and Nye warned of the dangers of using a single model in 1977, see their *Power and Interdependence*, p. 59.

After the review of the relevant literatures and the observations made regarding the nature of the research question and its background, the substance of the analytical framework for this thesis can now be presented. Four factors will be investigated when examining the conditions under which trade restrictive measures are employed in MEAs:

1. power;
2. interests, or evaluation of costs and benefits;
3. knowledge; and
4. institutional forum.

The *first* factor relates to power. Traditional hegemonic stability theory would assert that a powerful state could dictate the terms of co-operation for a regime, and therefore what the contents of that regime would be.[141] With the help of this factor, I investigate whether this idea applies to the MEAs examined in this research. Were the MEAs influenced by the preferences of a powerful actor? Was this a state or another actor involved in the design of the MEA, such as a non-governmental organisation or an individual 'leader'?[142] Were the contents of the MEAs – in the form of inclusion of trade restrictive measures – a result of the actions of that powerful actor?

The *second* factor explores state interests. As a means of examining the role of interests in accounting for regime content, I discuss calculations of economic and environmental costs and benefits that are central to the trade and environment debate.[143] This factor is most closely related to interest-based approaches in regime theory. If

[141] Mayer, Rittberger and Zürn, "Regime Theory: State of the Art and Perspectives" in Rittberger (ed), *Regime Theory and International Relations*, p. 418.

[142] On the power of leaders to exert influence, see Young and Osherenko, *Polar Politics*, pp. 254-55.

[143] Rowlands has also examined the calculation of costs and benefits as part of an interest-based approach to regime formation. See Rowlands, *The Politics of Global Atmospheric Change*, p. 30. And Gehring has suggested that "the assessment by an actor of his preferences in a given decision situation may be conceived of as a cost-benefit calculation weighing up the disadvantages and advantages of cooperation". T. Gehring, *Dynamic International Regimes: Institutions for International Environmental Governance* (Frankfurt: Peter Lang, 1994), p. 348. Calculations of benefits and costs are not simply financial calculations, but consider the wider relative merits of employing trade restrictions. Moreover, such calculations of interests are not a static process as perceptions of costs and benefits can – and often do – change during the negotiation process.

parties negotiating an MEA regard the benefits of incorporating trade restrictive measures as being greater than their perceived costs, is there a greater likelihood that such measures will be employed? Perceived benefits of employing trade restrictions may include: (1) maximising the number of participants in the MEA; (2) the perception that without trade restrictive measures the MEA would fail in its environmental goals; (3) and the opportunity for new markets in new products or recycling technology. Perceived costs could include: (1) the elimination of markets and free trade with regards to a specific product or resource; (2) financial costs required to comply with the restrictions; (3) conflict with the WTO/GATT resulting in difficulties in the wider trade regime; and (4) an unfair advantage given to states that can more easily adapt to new environmental standards.

The *third* factor explores the role of knowledge, or rather whether the activities of an epistemic community can account for the use of trade restrictions. Of the two current approaches in knowledge-based regime analysis, the influence of an epistemic community on regime content is most relevant here. Analysts who emphasise the first approach – scientific consensus – as an important pre-condition for regime formation add that the influence of such knowledge decreases as negotiations start.[144] Diplomats require consensus from the scientific community before they can agree to negotiate. But once that decision is made, scientists have little or no influence over the details of the agreement – its particular properties.[145] The scientific convergence approach is thus not useful here. Supporters of the epistemic community approach, on the other hand, argue that regime formation can be influenced by a group of individuals with certain shared convictions and values. From their various influential positions in the negotiating process, members of the epistemic community actively influence the design of regimes by promoting their shared views. Was there an epistemic community of scientists and policy-makers who shared the common value that trade in environmentally harmful

[144] G. Sjöstedt, "Issue Clarification and the Role of Consensual Knowledge in the UNCED Process" in Spector, Sjöstedt and Zartman (eds), *Negotiating International Regimes*, p. 66.

[145] Scientists are most influential on the definition and framing of the issue during the pre-negotiation phase. See V. Kremenyuk and W. Lang, "The Political, Diplomatic, and Legal Background", pp. 3-16 in G. Sjöstedt (ed), *International Environmental Negotiation* (Newbury Park: SAGE Publications, 1993), p. 13.

substances and materials should be restricted? Did such a community actively promote the idea of trade restrictive measures and did its efforts result in the inclusion of trade restrictive measures in the agreements examined here?

The *fourth* and final factor considered when asking what conditions will result in the use of trade restrictive measures in an MEA is related to the institutional forum in which an MEA is negotiated. Such a forum could be the UN General Assembly or the UN Environment Programme. This factor is closely related to issue linkage between environmental regimes and the multilateral trading system, as well as to the debate about economic growth and environmental degradation.[146] Are trade restrictive measures more likely to be incorporated into an MEA when it is negotiated in an institutional forum that is sympathetic to using trade policies to achieve the environmental goals that are its main concern? On the other hand, are such measures less likely if an MEA is negotiated in a forum that is reluctant to use trade restrictions because they would conflict with that forum's other priorities, such as economic growth stimulated by trade liberalisation? Is the likelihood of using trade measures affected by an institutions' rules and procedures? UNEP meetings, for example, are open to a wide range of participants who often have specific objectives related to environmental protection, whereas the WTO's CTE is a closed-body narrowly focussing on trade concerns.[147] And as Breitmeier has pointed out, different international organisations can have different systems of thought or world-views about the causes of a global problem and prescriptions for appropriate solutions.[148] Such world views can also be an important factor influencing regime content.[149]

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[146] See, for example, Pistorius' examination of negotiations over plant genetic resources in the FAO, UNEP and GATT. R. Pistorius, "Forum Shopping: Issue Linkages in the Genetic Resources Issue", pp. 209-22 in R. Bartlett, P. Kurian and M. Malik (eds), *International Organizations and Environmental Policy* (Westport: Greenwood Press, 1995).

[147] See section 2.2.2 on the CTE.

[148] H. Breitmeier, "International Organizations and the Creation of Environmental Regimes", pp. 87-114 in O. Young (ed), *Global Governance: Drawing Insights from the Environmental Experience* (Cambridge, MA: MIT Press, 1997), p. 94.

[149] The importance of world views – or governing ideas – is outlined in Chapter 5.

2.3.4 Application of the Framework: the Case Studies

The previous sections outlined the framework for analysis for this thesis. First, a research question was posed and second, the two relevant literatures to be employed were reviewed and analysed. Third, the research question, and its relationship to the literatures, was further refined and defended; this led to the fourth step, presentation of the four specific factors to be examined in order to answer the research question. It remains, then, to present the case studies to which the framework will be applied.

The nature of the research question requires that any case studies examined involve elements of both 'trade measures' and 'multilateralism'. That is, the case studies must be clear instances of international co-operation explicitly involving restrictions on trade to achieve an environmental goal. They must also allow for comparison in order to test ideas about the determinants of regime content – in this case, trade measures. However, since the cases considered here differ in terms of their functional scope and context, they also offer interesting variance. This research focuses on trade restrictions in two MEAs:

1. the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, and its subsequent amendments
2. the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and its subsequent amendments

These MEAs were chosen because they are two of the most oft-mentioned examples of MEAs that employ trade restrictive measures to further their environmental goals and are the most commonly argued to be in conflict with the WTO. In other words, they are clearly at the intersection of trade and environment. Moreover, both the Montreal Protocol and the Basel Convention, as pre-UNCED MEAs, have enough negotiating history – such as documentation and availability of participants to interview – to provide empirical evidence to answer the research question. At the same time, they continue to evolve and their trade restrictive provisions remain relevant to the creation of future policy both for these agreements and for others.[150]

[150] For purposes of research design and length of the thesis, the third significant pre-UNCED MEA that restricts trade – the 1973 Convention on International Trade in Endangered Species (CITES) – is not examined.

In considering the possible limitations of the analytical framework and selected case studies, the following points should be made. First, the framework advanced here is used as a starting point to investigate the research question. That is, while certain factors accounting for or influencing regime content are proposed, they should not be considered inflexible and disallow the consideration of other factors in the course of the investigation. Second, there is the question of case selection. Two MEAs are not the universe of cases and one should therefore be wary about making generalisations regarding the factors accounting for regime content. There have, in fact, been at least twenty MEAs since 1933 that have used trade restrictive measures.[151] As Young and von Moltke remind us, there is an ever-present concern regarding selection bias and one must guard against manipulating the data so as to conform to theoretical expectation.[152] Carefully selected comparative case studies also have their advantages. That is, while the results of one case may be questionable, "the opportunity to compare conclusions across several well-chosen cases increases our ability to test specific hypotheses" and to refine theories regarding regime content.[153] Thus, to increase the generalisability of the findings and extend the analysis made based on the in-depth cases, two post-UNCED MEAs that restrict or regulate trade are also considered in Chapter 5: the Rotterdam Convention and the proposed Cartagena Protocol on Biosafety.

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[151] See Esty, *Greening the GATT*, Appendix D for a listing of MEAs incorporating trade measures.

[152] Young and von Moltke, "The Consequences of International Regimes: Report from a Barcelona Workshop", p. 359.

[153] Young and Osherenko, *Polar Politics*, p. ix.

Chapter Three

Trade Restrictions and the Montreal Protocol

The 1987 *Montreal Protocol on Substances that Deplete the Ozone Layer* is one of the most well-known multilateral environmental agreements that restricts international trade in order to achieve its environmental objectives. The negotiation of the Protocol has also provided a well-developed case study for scholars to test various theories regarding international regime formation.[1]

There are three reasons for this. Firstly, it is generally considered to be a 'successful' example of international co-operation both in terms of the high level of international participation in, as well as adherence, to the regime. Secondly, the problem it was designed to address – ozone layer depletion – may in fact be solved in the foreseeable future.[2] And thirdly, access to the proceedings, documents and actors involved has been relatively easy, both because it is a current and on-going process and because of the open structure of the regime – which allows participation by observers at the Meeting of Parties, for example. For these reasons, and because of the Protocol's reliance on trade restrictions as part of a package of regulatory measures, it also provides a good case-study for investigating the factors that determine regime content.

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[1] See, for example, P. Haas, "Stratospheric Ozone: Regime Formation in Stages," pp. 152-185 in O. Young and G. Osherenko (eds), *Polar Politics: Creating International Environmental Regimes* (Ithaca: Cornell University Press, 1993); K. Litfin, *Ozone Discourses: Science and Politics in Global Environmental Cooperation* (New York: Columbia University Press, 1994); T. Gehring, *Dynamic International Regimes: Institutions for International Environmental Governance* (Frankfurt: Peter Lang, 1994); and I. Rowlands, *The Politics of Global Atmospheric Change* (Manchester: Manchester University Press, 1995).

[2] The rate of build-up of ozone depleting substances in the stratosphere has slowed significantly due to the Protocol. The atmospheric abundances of some substitutes are increasing and full compliance with the Protocol's amendments will reduce chlorine concentrations to a level below critical (i.e. to normal pre-ozone hole levels) by about 2050. See R. Bojkov, *The Changing Ozone Layer* (Geneva: WMO/UNEP, 1995), p. 22; and UNEP, *Synthesis of the Reports of the Scientific, Environmental Effects, and Technology and Economic Assessment Panels of the Montreal Protocol* (Nairobi: UNEP, 1999), pp. 11-27. However, some problems – relating to compliance with commitments and other issues – remain. See O. Greene, "Emerging Challenges for the Montreal Protocol", *Globe* (27 October 1995), pp. 5-6; and J. Krueger and I. Rowlands, "Protecting the Earth's Ozone Layer", *Global Environmental Change*, vol. 6, no. 3 (1996), pp. 245-47.

This chapter addresses the question of regime content by examining the trade restrictive provisions (Article 4) of the Montreal Protocol. The first section briefly examines the history and science of ozone layer depletion before turning to an analysis of the negotiations of the Montreal Protocol and its amendments in the second section. The third section outlines specific issues relating to the inclusion of Article 4 in the regime, and the fourth section examines the trade restrictions in light of the four factors proposed to account for regime content. The fifth and final section provides a summary of the findings.

3.1 Background to the Montreal Protocol: Science and History to 1985

General awareness regarding the existence of ozone (O_3), the stratospheric ozone layer and chlorofluorocarbons (CFCs) has increased dramatically from the early 1970s – when it was discussed mainly by a small group of scientists – to the late 1980s when ozone layer depletion became an international issue. Indeed, it was the work of the scientists that set in motion a process that would eventually result in an international regime for protection of the ozone layer. The purpose of this section is to provide a general background of the science and history behind the Montreal Protocol.[3]

3.1.1 Science, Ozone and CFCs

Ozone is a rare molecule of three oxygen atoms found mostly in the stratosphere (10-50 km above the earth). Ozone is in fact so rare, that if all the ozone in the atmosphere was transferred to the earth's surface it would comprise a layer of only 3 millimetres.[4] It is formed by a process called photolysis, where solar radiation breaks down oxygen molecules (O_2) to atomic oxygen, which in turn combines with molecular oxygen to produce ozone. This ozone can again be broken down to repeat the cycle. As this process of ozone creation and destruction occurs naturally, there are always *natural*

[3] Information regarding the science of ozone layer depletion is taken largely from Bojkov, *The Changing Ozone Layer*; UNEP, *Scientific Assessment of Ozone Layer Depletion: 1994* (Nairobi: UNEP, 1994); UNEP, *Environmental Effects of Ozone Depletion: 1994 Assessment* (Nairobi: UNEP, 1994); and Litfin, *Ozone Discourses*, Chapter 3.

[4] Bojkov, *The Changing Ozone Layer*, p. 5.

variations in the amount of ozone in the stratosphere – but not to a degree which threatens the earth's surface.

This unusual molecule plays a vital role by absorbing harmful solar ultraviolet (UV) radiation that would otherwise damage most living organisms. Increased UV radiation due to ozone depletion would damage human health by increasing incidences of skin cancer, cataracts, and immune system problems; it also affects crops and aquatic ecosystems, especially marine phytoplankton which is important for the food chain and acts as a major sink for carbon dioxide (CO_2). An oft-quoted statistic is that a sustained 1 percent decrease in total ozone will result in an increase in non-melanoma skin cancers of 2-3 percent.[5] Destruction of the ozone layer would indeed have serious consequences.

How could such destruction take place? And how was it discovered that CFCs, and other ozone depleting substances (ODS), were responsible? First of all, while ozone was discovered in 1839, and surface ozone measurements have been made regularly since the 1860s, proof of the existence of ozone in the stratosphere only came in 1913.[6] It would take until 1957, the International Geophysical Year (IGY), to establish a global network of ozone observing stations under the responsibility of the World Meteorological Organization (WMO). Up to then, despite suspicions of a link between increased UV radiation and skin cancer, the world was "still unaware of the potential for human activities to deplete the ozone layer".[7]

The parallel development of importance was the invention of chlorofluorocarbons (CFCs). The General Motor Company of the USA had charged their Frigidaire Division to invent a new refrigerator coolant and the result, by 1930, was a non-flammable, non-toxic, odourless, colourless substance called CFC-12.[8] Quite

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[5] Litfin, *Ozone Discourses*, p. 56; Bojkov, *The Changing Ozone Layer*, p. 19. Non-melanoma is a basal skin cancer, whereas melanoma results in visible skin alterations.

[6] Stratospheric ozone should of course be distinguished from ground-level ozone that is a form of pollution (smog).

[7] Bojkov, *The Changing Ozone Layer*, p. 8.

[8] M. Soroos, *The Endangered Atmoshpere: Preserving the Global Commons* (Columbia: University of South Carolina Press, 1997), p. 148.

quickly, CFCs were used in many more applications than just refrigeration: air conditioning, blowing foams, solvents, sterilants, freezing agents and aerosol propellants were just some of the uses for this new 'miracle' substance. As a result, production of CFCs grew enormously from 1.2 million pounds in 1931, to 76 million pounds by 1950, to more than 700,000 *tonnes* (2 billion pounds) per year by the early 1970s.[9]

While not yet known, the invention and widespread use of CFCs (and other halocarbons such as bromine) was having a disastrous effect on the stratospheric ozone layer. Because they are so stable, CFCs released into the lower atmosphere eventually find their way into the stratosphere by convective air movements. Once in the stratosphere, CFCs are broken down by UV radiation and begin the process of ozone destruction.[10] Some ODS also have extremely long lifetimes – CFCs remain in the atmosphere for approximately 100 years. And while ozone is continually created, the artificial presence of chlorine results in the process of ozone destruction being faster and greater than the natural process of ozone creation, leading to a net ozone loss. This process is exacerbated in polar stratospheric conditions (due to ice and aerosol particles), leading to faster and greater ozone loss over the Poles.

3.1.2 Defining the Threat and the Start of the Controversy

While it is now known that ozone depletion is due to CFCs and other ODS, the first man-made threat to the ozone layer was suspected in the 1960s. Proposals for high-flying, supersonic passenger aircraft (SST) were considered in the US, Soviet Union, Britain and France. The prospect of fleets of SSTs flying in the lower stratosphere prompted some scientists to consider environmental effects. Primary among these concerns was that the exhaust of the planes (containing nitric oxide) might accelerate

[9] Chemical Manufacturers Association, *Production, Sales, and Calculated Release of CFC-11 and CFC-12 Through 1986* (Washington, DC: CMA, 1987); Bojkov, *The Changing Ozone Layer*, p. 9.

[10] Under UV radiation, chlorine atoms are released, which in turn break apart the ozone molecules to form chlorine oxide. And because the process is catalytic, the ozone depleter (chlorine, bromine, or fluorine, etc.) 'lives to deplete again'. One chlorine atom can destroy as many as 100,000 ozone molecules.

natural ozone destruction.[11] In the ensuing debate, some scientists, like Harold Johnson from the University of California (Berkeley), argued that a fleet of 500 SSTs would result in "average global ozone reductions ranging from 3 to 23 per cent", while others, like Boeing scientist Arnold Goldburg, countered that it was not nitrous oxide but perhaps water vapour that would be responsible for any ozone loss.[12] While the scientific debate was never clearly resolved, it was to some degree over-ridden when the US Congress cancelled the American SST program in 1971 – primarily for economic reasons – and the threat of ozone depletion from stratospheric transport receded. The Soviet program was also cancelled and the British-French project significantly reduced.[13]

Nevertheless, this controversy foreshadowed many important developments regarding CFCs. First of all, while scientists became involved in questions regarding environmental policy, the disagreement within the scientific community made significant impact upon the political process difficult.[14] Secondly, in the debate regarding landing rights for the British-French Concorde planes after the end of the American SST program, the Europeans accused the Americans of "attempting to export their own environmental standards as a veil for their economic interests" – a claim which would later be resurrected during the Montreal Protocol negotiations.[15] Lastly, while the political controversy over SSTs ended, the many remaining scientific questions mobilised much interest and research in atmospheric problems.

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[11] Bojkov, *The Changing Ozone Layer*, p. 9. This concern was originally voiced by scientist P. Crutzen, "The Influence of Nitrogen Oxides on the Atmospheric Ozone Content", *Quarterly Journal of the Royal Meteorological Society*, vol. 97 (1970), pp. 320-25.

[12] See L. Dotto and H. Schiff, *The Ozone War* (New York: Doubleday and Company, 1978), p, 64; and Rowlands, *The Politics of Global Atmospheric Change*, pp. 44-45. For a history of the SST controversy, see M. Horwitch, *Clipped Wings: The American SST Conflict* (Cambridge, MA: MIT Press, 1982).

[13] Rowlands, *The Politics of Global Atmospheric Change*, p. 47.

[14] Dotto and Schiff report that an original draft of Harold Johnson's paper was rejected by the editors of the journal *Science* because of too many references to political questions. But top White House advisors failed to take the scientific arguments seriously as long as there was no consensus among the scientists. Dotto and Schiff, *The Ozone War*, pp. 61-65.

[15] Litfin, *Ozone Discourses*, p. 62. See also section 3.3.2.

New research resulting from these concerns about the ozone layer first suggested that the planned US space shuttle could also be a serious threat. In a 1973 meeting in Japan, scientists Richard Stolarski and Ralph Cicerone suggested that chlorine in the exhaust of the shuttle could destroy ozone much more efficiently than the nitric oxide of the SST. However, it was the 1974 release of the now renowned paper by two University of California (Irvine) chemists, F. Sherwood Rowland and Mario Molina, that pushed the chlorine-ozone controversy forward.[16]

Theorising that CFCs could rise to the stratosphere and, when broken down by UV radiation, release chlorine atoms that would then begin a catalytic process of ozone destruction, Rowland and Molina initially believed that the ozone layer could be depleted between 7 and 13 percent given 1973 growth rates in CFC use. They suggested an immediate ban on CFCs as aerosol propellants. This was the beginning of an international debate that would eventually culminate in the Montreal Protocol. But it was to be a long and difficult journey from that first paper in 1974, to 1987 when the international community finally took decisive action.

3.1.3 The Great Ozone Debate of the 1970s

The suggestion that a seemingly harmless chemical in widespread use was destroying the earth's protective layer triggered varied and vocal responses. The public, concerned with health issues, reacted with an outcry that prompted some American states (such as Oregon and New York) to unilaterally restrict the use of CFCs as aerosol propellants.[17] Most sectors, however, including government, industry and other scientists, called for more research. The U.S. government, for example, commissioned the National Academy of Sciences (NAS) to prepare a report on the issue and the Manufacturing Chemists Association (now the Chemical Manufacturers Association, CMA) increased funding for its Fluorocarbon Program Panel.

While the basic science was eventually proven correct, the details were more complex. Two years after that first paper, Rowland and Molina had to revise their

[16] M. Molina and F. Rowland, "Stratospheric Sink for Chlorofluoromethanes: chlorine atom-catalysed destruction of ozone," *Nature*, no. 249 (28 June 1974), pp. 810-12.

[17] Litfin, *Ozone Discourses*, p. 64.

estimates of potential ozone loss when they discovered the presence of "reservoirs" of chlorine nitrate which could retard the rate of ozone depletion.[18] The much-anticipated NAS report, also released in 1976, suggested that ozone depletion was probably occurring – but in a lower range of 6-7.5 percent – and was therefore weak on suggesting regulatory action.[19] Industry believed that all of these findings vindicated their confidence in the 'harmlessness' of CFCs.[20]

Nevertheless, public concern in the US was great enough that amendments to the Clean Air Act banning CFCs in non-essential aerosol uses were completed by the end of 1978. Interestingly, by April 1979 it also became illegal to ship aerosol cans containing CFCs from one state to another.[21] The Americans tried to influence other countries to take action, but only Canada, Norway and Sweden followed suit. Again foreshadowing future developments, countries of the European Community (especially the British and French) were very resistant to placing any controls on these profitable chemicals.

Studies continued into 1979, and while a statement by the chemical manufacturer Du Pont made the point that ozone depletion remained a theory and had in fact never been detected, a second NAS report supported a higher level of possible ozone depletion (16.5 percent) and this time called for greater national and international efforts.[22] Studies in the UK were reaching similar conclusions on the nature of the problem – a 1979 Department of the Environment report also estimated 16 percent depletion. The UK report, however, differed significantly in its prescription for action. While the US was enacting domestic legislation, the UK argued for more research and a

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[18] F. Rowland and M. Molina, "Stratospheric Formation and Photolysis of Chlorine Nitrate," *Journal of Physical Chemistry*, vol. 80, no. 24 (1976), pp. 2711-13.

[19] Rowlands, *The Politics of Global Atmospheric Change*, p. 49.

[20] J. Gribben, *The Hole in the Sky: Man's Threat to the Ozone Layer* (London: Corgi Books, 1988), pp. 25-29.

[21] Gribben, *The Hole in the Sky*, p. 53.

[22] The Du Pont statement is found in S. Roan, *Ozone Crisis: the 15 Year Evolution of a Sudden Global Emergency* (Chichester: John Wiley and Sons, 1989), p. 96. The NAS report is in Panel on Stratospheric Chemistry and Transport, *Stratospheric Ozone Depletion by Halocarbons: Chemistry and Transport* (Washington, DC: NAS, 1979).

'wait and see' approach.[23] Industry took advantage of these national differences to support their position that more research was required. These circumstances made any subsequent international co-operation seem highly unlikely.

3.1.4 The Interim: 1980-85 and the Vienna Convention

The period between the first national action taken in the US and the first international agreement (the Vienna Convention) in 1985 was characterised by decreased public interest, continued questioning of the validity of the science behind ozone layer depletion and *downwards* revisions of the predicted amount of ozone loss. Continued research, however, developed a greater base of knowledge that eventually became internationally convincing.

Some small steps in regulation were taken in the early 1980s (a voluntary agreement among all major CFC producing countries to reduce non-aerosol emissions was reached in Oslo in April 1980), but with the ozone issue receding from public view and new conservative governments elected in the US and the UK, the possibility for a significant international agreement on CFCs seemed more and more unlikely.[24] Moreover, industry, sensing that further regulation was unlikely, reduced research on CFC alternatives. Du Pont, for example, stopped research in 1980 arguing that there was neither scientific nor economic justification for continuing.[25] That the third and fourth National Academy of Science reports revised the estimates of ozone depletion down to 5-9 percent in 1982, and then to 2-4 percent in 1984, did not encourage those still arguing for more controls on CFCs.

The necessity for international regulation was perhaps felt mainly in the United Nations Environment Programme (UNEP), that, along with the World Meteorological

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[23] Rowlands, *The Politics of Global Atmospheric Change*, pp. 50-51.

[24] Also in 1980, the EC agreed to a 30 percent reduction in aerosol uses of CFCs; however, since consumption had already fallen by this amount, this reduction simply maintained the status quo. A further decision by the EC to implement a production capacity cap was taken, but consumption at that time had decreased and large production plants were idle. Thus, a limit on creating new production capacity, such as preventing new factories, was largely symbolic. See Gehring, *Dynamic International Regimes*, p. 197; and M. Jachtenfuchs, "The European Community and the Protection of the Ozone Layer," *Journal of Common Market Studies*, vol. 28 (1990), pp. 261-77.

[25] Litfin, *Ozone Discourses*, p. 70.

Organization (WMO), had created the Coordinating Committee on the Ozone Layer (CCOL) in 1977 under the World Plan of Action on the Ozone Layer. UNEP's role was to assume "catalytic and coordinating functions".[26] By 1982, UNEP had established a Working Group to start work on a global convention. But divisions among the participants were apparent from the outset. Generally, the EC, Soviet Union and Japan opposed further controls on CFCs whereas what became know as the "Toronto Group" (the US, Canada, the Nordic countries and eventually Australia, Austria and Switzerland) supported a global ban on aerosol uses of CFCs and a limit on non-aerosol uses.[27] Seven meetings of the Working Group failed to resolve these differences. By March 1985, the Group had reached a framework agreement – the Vienna Convention – that only contained non-specific obligations and requirements for more research and exchange of information.

The Vienna Convention was nevertheless hailed as a sign of "political maturity" by UNEP's Executive Director Mostafa Tolba as the first legal instrument to protect the global atmosphere.[28] While it is clear that the Convention did not directly tackle CFC use, this framework agreement was seen as important for permanently placing the issue of ozone layer depletion on the international agenda and establishing a deliberative process which could, and eventually did, lead to further international measures.[29]

3.2 The 1987 Montreal Protocol

By the time of the Vienna Convention, two basic problems remained if further international action was to take place: neither the effect of ozone layer depletion (measured ozone decreases), nor the cause (CFCs), held international consensus among

[26] Gehring, *Dynamic International Regimes*, p. 199.

[27] See P. Széll, "Negotiations on the Ozone Layer," pp. 31-47 in G. Sjöstedt (ed), *International Environmental Negotiation* (Newbury Park: SAGE Publications, 1993). A detailed description of the negotiations leading up to the Vienna Convention can be found in Gehring, *Dynamic International Regimes*, pp. 200-34. At this time, participation by developing countries was negligible.

[28] Quoted in Litfin, *Ozone Discourses*, p. 75.

[29] See Gehring, *Dynamic International Regimes*, p. 217; Litfin, *Ozone Discourses*, p. 76.

the scientific or policy communities. The continuing international debate was thrown forward, however, when the first of these problems was resolved and ozone layer depletion was no longer just a theory. In May 1985, only two months after the Vienna Convention, the British Antarctic Survey published unexpected results showing that, for three consecutive years since 1982, major losses of ozone (between 30 and 40 percent during the month of October) had occurred over the Antarctic.[30] This was the discovery of the now renowned 'ozone hole'; the *cause* of this ozone layer depletion, however, could not yet be linked to CFCs.

With part of the puzzle solved, international negotiations continued from 1986 to 1987.[31] And despite the assertion of one participant that the negotiators had decided to formally ignore the Antarctic hole, the sense of urgency resulting from new scientific findings contributed to a substantial agreement in 1987 that had not been possible in 1985.[32] The negotiations for a protocol began somewhat informally with two UNEP-sponsored workshops held in Rome, Italy (May 1986) and Leesburg, USA (September 1996). The first meeting in Rome resulted in no more consensus on further controls than had been achieved at Vienna. The second meeting in Leesburg, on the other hand, resulted in a shift from 'should' CFCs be regulated to 'when and how' regulation should take place.[33]

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[30] J. Farman et al, "Large losses of total ozone in Antarctica reveal seasonal CLO_x/NO_x interaction", *Nature*, no. 315 (May 16, 1985), pp. 207-10. The trend of ozone loss was subsequently traced back much further than 1982, although the period when ozone loss became critical (i.e. when the 'hole' appeared) due to rising chlorine levels was the late 1970s to early 1980s.

[31] The Toronto Group had tried and failed to have a protocol attached to the Vienna Convention that would have required commitments to restrict CFC use. They continued to press for such an agreement immediately following the signing of the Convention.

[32] Richard Benedick, head of the US delegation, believed that "...linking the US position with the ozone hole would risk its being undermined if that phenomenon turned out to be unrelated to chlorine." See R. Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (Cambridge: Harvard University Press, 1991), pp. 19 and 56. On the importance of the ozone hole, see Litfin, *Ozone Discourses*, pp. 96-102; and Rowlands, *The Politics of Global Atmospheric Change*, p. 56. In addition to the British Antarctic Survey report, a WMO/NASA report was released in 1986 that predicted greater ozone losses than the 1982 and 1984 NAS reports. See WMO/NASA, *Atmospheric Ozone 1985* (Geneva: WMO Global Ozone Research and Monitoring Project Report #16, 1986).

[33] See Litfin, *Ozone Discourses*, pp. 86-92; Benedick, *Ozone Diplomacy* (1991), pp. 48-50. The UNEP report of the conference records the expectation that the formal negotiations to follow would benefit from the 'spirit of Leesburg'. See UN document UNEP/WG.148/3.3/Annex II.

The formal negotiations for a Protocol to the Vienna Convention began in December 1986. Despite any progress made in Leesburg, the principal adversaries remained as before: the EC (opposing strict reductions and timetables) and the so-called Toronto Group (advocating a more stringent protocol). There was, however, at least one influential actor that had changed position: US industry, in the form of Du Pont and the industry lobby "Alliance for a Responsible CFC Policy". The Alliance announced support for an international protocol that would limit global emissions and Du Pont declared that alternatives to CFCs would be available in as soon as five years.[34] Section 3.3.2 elaborates on this issue, so it suffices for now to point out the importance industry attached to the development of *internationally* agreed controls and to the significance of clear signals regarding regulation for the development of alternatives.

The Montreal Protocol on Substances that Deplete the Ozone Layer was signed by 24 parties in September, 1987. The control measures affect eight major ozone depleting substances (ODS)[35] and its key provisions are as follows:

- the production and consumption levels of five major CFCs were to be reduced by 50 percent of 1986 levels by 1999, while the production and consumption of three halons would be frozen within three years (except for those deemed as essential, such as fire retardants);
- developing countries (known as Article 5 countries, or those with less than a 0.3 percent annual consumption of CFCs per capita) were granted a 10 year grace period with respect to implementation of the control measures;
- periodic scientific reviews, which could lead to revision of the control measures, were to be held every four years beginning in 1990;
- and Article 4 imposed trade restrictions with non-parties (discussed further in section 3.3).

While the Montreal Protocol was an important step forward in the quest to protect the ozone layer, and was again hailed by UNEP's Executive Director as "unprecedented", it remained unsatisfactory in several ways.[36] First, despite the reductions in CFC use mandated by the Protocol, by the year 2000 there would still be enormous amounts of ODS emitted into the atmosphere from both controlled (CFCs) and non-controlled

[34] Litfin, *Ozone Discourses*, pp. 92-93.

[35] CFCs 11, 12, 113, 114, and 115 and halons 1211, 1301, and 2402.

[36] UNEP Executive Director Mostafa Tolba, quoted in Litfin, *Ozone Discourses*, p. 115.

sources (those ODS not yet addressed such as methyl bromide). Second, while most of the *current* producers and consumers of CFCs were party to the Protocol, the potential for CFC use by large developing countries (such as India and China) who were not involved in the regime posed a significant threat to the ozone layer. Thus, the mechanism for periodic review of both the science of ozone layer depletion and the possible revision of control measures would play an important role.

In fact, it was only months after the completion of the Montreal Protocol that the second mystery regarding ozone layer depletion was solved. While ozone depletion had been measured, it hadn't been conclusively established that CFCs were responsible. In 1986, there were still several competing theories regarding the possible causes of ozone depletion; the response of the scientific community was the creation of the Ozone Trends Panel, a NASA-sponsored group of over one hundred scientists from ten countries.[37] At about the same time as the on-going political negotiations, the Airborne Antarctic Ozone Experiment (AAOE) was about to take place.[38] The result of this experiment – involving a converted U2 spy-plane flying through the ozone 'hole' taking chemical samples from the atmosphere – was the proof needed to link ozone depletion to CFCs. The presence of chlorine in the stratosphere was the 'smoking gun' needed to complete the chlorine-ozone thesis. While the preliminary release of this new evidence at the end of September 1987 came too late to influence the just completed negotiations – the Protocol had been signed on September 16 – it would prove significant for future political discussions.

3.2.1 Post-Montreal Developments: Increasing Concern

The formal report of the Ozone Trends Panel (and the AAOE), released at a press conference in March 1988, made headlines around the world.[39] Concern regarding CFC use was further increased by 1988 and 1989 reports that overall stratospheric ozone was decreasing – not just above Antarctica but over more populated northern latitudes as

[37] Rowlands, *The Politics of Global Atmospheric Change*, p. 56.

[38] For a comprehensive account of the AAOE, see Gribben, *The Hole in the Sky*, pp. 100-33.

[39] R. Watson, F. Rowland and J. Gille, *Ozone Trends Panel: Executive Summary* (Washington, DC: NASA, 1988). See also Benedick, *Ozone Diplomacy* (1991), p. 110.

well.[40] There were some immediate responses to this new information, including a Swedish decision in June 1988 to ban CFC use, Margaret Thatcher's "conversion" to a belief in the seriousness of the problem (represented by her speech to the Royal Society in September 1988), and declarations by industry in support of a phaseout of CFCs. Du Pont announced that it would stop the production of CFCs as "soon as possible" and, later that same year, European industry and the Alliance for a Responsible CFC Policy both declared support for a CFC phaseout.[41]

All these events created pressure for a revision of the original commitments in the Montreal Protocol. UNEP sponsored meetings in March and October of 1988 to begin this process, and established four panels to provide information to the meetings of the Parties (panels on science, environmental effects, economics, and technical issues).[42] The Protocol itself came into force on 1 January 1989, and, increasingly, various countries were unilaterally committing to stricter controls: in February Canada announced a ban on CFCs and halons within ten years; in March, the EC Environment Council voted to end CFC use by 2000 and the United States also declared an end to CFC production by the end of the century.[43] The UK and UNEP sponsored a London conference in March 1989 on "Saving the Ozone Layer" that underlined the new consensus on the science of ozone depletion and brought to light the issue of developing country participation. The first Meeting of Parties (MOP) to the Protocol, held in Helsinki in May 1989, could not yet legally change the terms of the Protocol but built on the work of the meetings since 1987. Most significantly, the first MOP adopted guidelines for amending the Protocol at the next MOP (including a proposed phaseout of CFCs by 2000, a phaseout of halons at a date to be decided, and the addition of new

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[40] Gribben, *The Hole in the Sky*, pp. 120-27.

[41] Litfin, *Ozone Discourses*, pp. 124-26. Thatcher's change of position, and therefore that of the UK, was not just a result of the Ozone Trends Panel report, but also due to the *confirmation* of that report by the British Stratospheric Ozone Research Group. In addition, Du Pont was not only reacting to the scientific reports but had other considerations; see section 3.3.2.

[42] Gehring, *Dynamic International Regimes*, pp. 264-66; Litfin, *Ozone Discourses*, p. 127.

[43] Jachtenfuchs, "The European Community and the Protection of the Ozone Layer", p. 271; Gehring, *Dynamic International Regimes*, p. 262; Litfin, *Ozone Discourses*, p. 128.

substances) and initiated the discussion regarding the need for a financial mechanism to facilitate developing country participation).[44] These developments set the stage for the first major revision of the Protocol's commitments at the second MOP in London in 1990.

3.2.2 The 1990 London Amendments: Developing Country Participation and Financing

In preparation for the London meeting, the first combined report of the Expert Assessment Panels was released in 1989.[45] The Scientific Panel presented various scenarios showing the level of ozone depletion in relation to different chlorine loads in the atmosphere and suggested that recovery of the ozone layer would require the early elimination of most ODS, which would even then prevent the return of ozone to its pre-1970 level until 2070. The Environmental Effects Panel believed increased rates of skin cancer and eye cataracts would result but found it difficult to quantify environmental effects with much confidence. The Technological Panel suggested technically feasible phase-out scenarios (such as 95 percent reductions of CFCs by 2000) for most ODS except halons (due to the lack of substitutes). Lastly, the Economic Assessment Panel identified general benefits from the reduction of ODS and concluded that benefits of ozone layer protection were greater than the costs of ODS reductions.[46] By this point, there was little opposition to a phaseout of CFCs even among industry.

Certain disputes remained, however. In fact, severe conflicts regarding financing and the timetable for other ODS (especially those seen as 'transition chemicals' - such as hydrochlorofluorocarbons, HCFCs) were still to come. At London, the issue of developing country participation and financing took centre stage. As Karen Litfin argues:

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[44] See the Helsinki Declaration, UNEP/OzL.Pro.1/5/Appendix 1.

[45] UNEP, "Montreal Protocol Expert Assessment Panels' Synthesis Report", UNEP/OzL.Pro.WG.II(1)/4 (1989).

[46] This summary is taken from R. Twum-Barima and L. Campbell, *Protecting the Ozone Layer through Trade Measures: Reconciling the Trade Provisions of the Montreal Protocol and the rules of the GATT* (Geneva: UNEP Trade and Environment Series #6, 1994), pp. 26-27.

> As it became clear that CFCs were likely to be eliminated, developing countries became increasingly vocal, although only a handful of them were parties to the treaty. Article 5 granted them a grace period of ten years to reduce their CFC usage by 50 percent, but CFCs were likely to become scarce and expensive soon in the light of the proposed treaty revisions. Developing countries did not want to increase their dependency on a family of obsolete chemicals, nor did they want to pay far higher prices to the industrialized countries' chemical companies for substitutes. Yet the science assessment had demonstrated that, even with full compliance under the Montreal Protocol, chlorine concentrations would rise to an astronomical 11ppb, an unacceptable scenario for developing and industrialized countries alike.[47]

Thus, an Interim Multilateral Trust Fund for the Montreal Protocol was established at the London meeting to assist developing countries with the costs of phasing out CFCs and switching to alternative chemicals. Agreement on the Fund was achieved despite reservations expressed by the United States that a fund to support the elimination of ODS could set a worrying precedent – especially with regards a potential treaty on climate change.[48]

New control measures were also agreed, including the addition of controls on twelve new ODS, the acceptance of phaseout for CFCs by the year 2000, a pledge to review these commitments again in 1992 and an extension of the Article 4 trade restrictions (see section 3.3). Nevertheless, there was some dissatisfaction with the agreements reached at London. Firstly, the question of HCFCs – a potentially important transition substance that had smaller ozone depleting potential than CFCs – was only addressed in a non-binding resolution which set a voluntary phaseout date of 2040. Secondly, a group of thirteen countries dissatisfied with the agreement on CFCs issued a declaration of their intent to phaseout these chemicals by 1997, rather than 2000. Nevertheless, the achievements of the London conference should not be overlooked. Participation in the regime increased from 26 states in 1987 to 64 in 1990, and the acceptance of the elimination of an entire class of chemicals, which as recently as five years previous had been believed to be invaluable, was without precedence. Just as

[47] Litfin, *Ozone Discourses*, p. 142.

[48] The Fund is discussed in more detail in section 3.3.4.

important was the creation of the Multilateral Fund, which helped to address the equity concerns of developing countries.[49]

However, as occurred after the Montreal Protocol, there were new developments suggesting that the London amendments were still inadequate. The severity of the ozone depletion over Antarctica was increasing and the existence of ozone loss in the northern hemisphere was confirmed and believed to be getting worse. Despite this, the third MOP in Nairobi 1991 took few decisions. Several countries announced their intention to move the phaseout date for CFCs forward to 1997, but no new commitments were made. The parties did adopt, pursuant to Article 4.3, the annex listing the products containing CFCs and halons which were to be banned from import from non-parties. This annex entered into force in May 1992 and, unless an objection was made, was to be implemented within a year.[50]

3.2.3 The 1992 Copenhagen Amendments: CFC and Halon Phaseouts

Significant revisions were not made again until the fourth MOP in Copenhagen in November 1992. Reports of the Expert Assessment Panels again emphasised the increasing levels of ozone depletion and its risks. By this time, there seemed to be little opposition to amending the Protocol to phaseout CFCs by 1996 and halons by 1994. Agreement on two other substances, HCFCs and methyl bromide, was more difficult. Phaseout for HCFCs was put at 2030, while the only control for methyl bromide was a freeze by 1995 (at 1991 levels) for developed countries and a non-binding resolution calling for an evaluation of methyl bromide by the time of the seventh MOP in 1995. Other notable decisions taken at Copenhagen included establishing the Multilateral Fund on a permanent basis and the creation of an Implementation Committee to deal with non-compliance issues.[51] While the fourth MOP again represented progress in terms of tightening up phaseout schedules and the addition of new chemicals, it was not

[49] This is not to suggest that the creation of the Fund met all the concerns of the Article 5 countries; for example, they remained upset that the question of transfer of technology on preferential terms was not addressed. See Rowlands, *The Politics of Global Atmospheric Change*, pp. 170-78; Twum-Barima and Campbell, *Protecting the Ozone Layer Through Trade Measures*, pp. 31-32.

[50] See section 3.3.1.

[51] See footnote 59.

the final stage. The allowance of a 38-year transition period for ozone depleting HCFCs was proving particularly contentious.

The fifth MOP in Bangkok in 1993 took no action regarding chemicals, but did make a significant trade related decision: to accept the advice of the Technology and Economic Assessment Panel (TEAP) and not impose trade restrictions on products "made with but not containing" controlled substances.[52] The sixth MOP in 1994 witnessed a debate over studying the feasibility of advancing HCFC and methyl bromide phaseouts, an issue that would dominate the 1995 meeting.[53]

3.2.4 The 1995 Vienna Adjustments: Addressing New Problems[54]

The next major review of commitments under the Montreal Protocol took place at the seventh MOP in Vienna in December 1995. In the time between the Copenhagen and Vienna meetings, reports of increased ozone depletion continued. The 'hole' over the Antarctic continued to worsen, and levels of overall stratospheric ozone were also dropping.[55] But there were also some more positive developments.

First reported in 1993, and then confirmed in 1994, the atmospheric growth rates of several major ODS had slowed and the atmospheric abundances of several CFC substitutes were increasing. Both of these trends demonstrated the expected impact of the Montreal Protocol.[56] Additionally, adherence to the Protocol and its Amendments

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[52] Decision V/17, Report of the Fifth Meeting of the Parties, UNEP/OzL.Pro.5/12 (November 1993). See section 3.3.1.

[53] On the sixth MOP, see "Ozone Depletion Meeting Debates HCFCs, Methyl Bromide", *ENDS Report*, no. 237 (October 1994).

[54] The difference between an amendment and adjustment to the Protocol is as follows: when a MOP decision is made to introduce controls on a chemical for the first time, that decision is an amendment. All subsequent decisions relating to that chemical are adjustments. Amendments have to date only been made at three meetings (London, Copenhagen and Montreal).

[55] See, for example, the articles reporting a NASA study in the April 1993 edition of *Science*, no. 260 (23 April 1993) and WMO press releases No. 504 and 507, World Meteorological Organization (March 1993). The eruption of Mount Pinatubo in 1991 is also believed to have exacerbated the ozone holes of 1992 and 1993; see WMO, *Scientific Assessment of Ozone Depletion: 1994 (Executive Summary)* (Geneva: WMO, 1995), p. 28.

[56] UNEP, "More Protection of the Ozone Layer", *Our Planet*, vol. 5, no. 6 (1993), p. 17; and WMO, *Scientific Assessment of Ozone Depletion: 1994 (Executive Summary)*, p. 7.

was greater than ever: 150 countries were party to the Montreal Protocol as of November 1995.[57] However, as the regime was approaching the tenth anniversary of the Vienna Convention, significant problems remained. First, regulation of HCFCs and methyl bromide was proving controversial. Second, after several years of the Protocol's operation, the question of implementation of the core commitments was becoming vital – especially with the prospect of non-compliance by some parties. A third problem was the continued use of ODS – particularly by developing countries – and how to reduce it.

The Vienna meeting addressed most of these problems. Again presented with sobering scientific information (that peak ozone losses still lay ahead, that little could be done to change either the magnitude or timing of peak chlorine loading and that the question now was the speed of recovery of the ozone layer after peak loading), the Parties had to decide what new measures to take.[58] On the issue of HCFCs, the phaseout deadline for industrialised countries remained as before (2030) with a reduction in the baseline figure from 3.1 percent to 2.8 percent of 1989 CFC consumption plus 1989 HCFC consumption. Article 5 countries agreed to a phaseout date of 2040, with a freeze on consumption in 2016 based on 2015 levels.

Regarding methyl bromide, industrialised countries agreed to a scheduled phaseout by 2010 (with intermediate reductions of 25 percent by 2001 and 50 percent by 2005). Many developing countries, on the other hand, were keen to avoid any restrictions on a chemical valuable to the agricultural sector and only agreed to a freeze on consumption in 2002 (at a level equal to the average of the annual figures between 1995 and 1998). Other key issues at Vienna included the non-compliance of several eastern European states – including the Russian Federation – and questions regarding commitments to the Multilateral Fund.[59]

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[57] In addition to the 150 parties to the Montreal Protocol, there were 103 parties to the London Amendments and 48 parties to the Copenhagen Amendments; see Status of Ratification, *OzonAction*, no. 17 (January 1996), p. 10.

[58] For assessments of this meeting, see Krueger and Rowlands, "Protecting the Earth's Ozone Layer". See also "Ozone layer left at risk as talks stumble on funding", *ENDS Report*, no. 251 (December 1995), pp. 35-37.

[59] Wary of setting precedents for this and other multilateral environmental agreements, the Implementation Committee responded delicately to the problem of non-compliance and adopted a co-operative approach. That is, non-complying parties were encouraged to meet their commitments rather than being sanctioned for non-compliance. Similarly, no hard decisions were taken on the funding issue, primarily because it

3.2.5 *The 1997 Montreal Amendments: Methyl Bromide and Illegal Trade*

The Protocol celebrated its 10th anniversary in conjunction with the ninth MOP in Montreal in September 1997. Ten years after its signing, 95 chemicals were controlled by the Protocol and 162 countries were party to it, with 116 having ratified the London Amendments, and 70 having ratified the all-important Copenhagen amendments.[60] With the Multilateral Fund replenished to the tune of $540 million by the eight MOP, the Montreal meeting was faced with important decisions on methyl bromide and illegal trade.[61]

Decisions on methyl bromide brought the consumption phaseout deadline for industrialised countries forward to 2005, from the 2010 date agreed in Vienna. Developing countries also for the first time accepted a ban on consumption, the deadline being 2015, with the promise that $25 million would be made available to help developing countries pay for the phaseout.[62] Starting one year after the Montreal Amendment enters into force, parties will ban trade in methyl bromide with non-parties.[63] On illegal trade, parties agreed to institute a new licensing system for all countries for the import and export of new and recycled ODS.[64] The intention is to

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was not officially on the agenda until the next MOP in 1996. Non-compliance, black-market trading and funding remain three of the most significant challenges for the regime in the future. On implementation of the Montreal Protocol, see E. Parson and O. Greene, "The Complex Chemistry of the International Ozone Agreements", *Environment*, vol. 37, no. 2 (March 1995), especially pp. 36-40.

[60] The Copenhagen amendments are particularly important because if fully ratified and implemented, these controls will result in atmospheric concentrations of ODS returning to pre-ozone hole levels around 2050. Neither the Montreal Protocol nor London Amendments were sufficient to do this on their own. To illustrate, under the original Protocol, incidences of skin cancer would have increased four-fold by the end of 2100 due to increased UV radiation. With the Copenhagen Amendments, this increase will be limited to 10 percent by 2060, after which it would return to pre-ozone depletion levels.

[61] Proposals by the EU and Switzerland to accelerate the phase-out schedule for HCFCs were not accepted at this meeting. See UNEP, "Report of the Eighth Meeting of the Parties to the Montreal Protocol", UNEP/OzL.Pro.8/12 (19 December 1996), p. 19.

[62] UNEP, "Report of the Ninth Meeting of the Parties to the Montreal Protocol", UNEP/OzL.Pro.9/12 (25 September 1997), pp. 25 and Annex III. See also "Ministers Agree New Curbs on Ozone Depleters", *ENDS Report*, no. 272 (September 1997), p. 44.

[63] UNEP/OzL.Pro.9/12, Annex IV. See also section 3.3.1.

[64] UNEP/OzL.Pro.9/12, p. 28.

reduce illegal trade by tracking legal trade more closely and by identifying incidences of non-compliance with the new system, which is in effect from 1 January 2000.

With phaseout schedules for all the main ODS under the Protocol – the final one being HCFC phaseout in developing countries by 1 January 2040 – agreed after the Montreal meeting, the key issues for the Protocol's future are continued financing for phaseouts and substitutes in developing countries, ODS smuggling, and ratification and implementation of all Protocol amendments.

The Multilateral Fund has so far spent over $1 billion on reducing ODS use and funding alternative substances in 110 developing countries.[65] Yet, the first control measures for developing countries – a freeze on production and consumption of CFCs – only came into effect in June 1999.[66] Developing countries face a difficult task in the next century trying to phase out all the substances controlled under the Protocol, and even more money will be required. Asian countries alone account for about 80 percent of developing country ODS production and for slightly less of consumption, with China having tripled its ODS production since 1989.[67]

The illegal trade in ODS also has the possibility of undermining the environmental goals of the regime. However, the licensing system and increased attention to issues of "environmental crime" – like CFC smuggling – ought to reduce this as a challenge to the Protocol's goals.[68]

Finally, ratification of the Protocol and its amendments is proceeding well. As of mid-1999, the Protocol had 169 parties, with 132 ratifications of the London amendments, 93 ratifications of the Copenhagen amendments and 16 ratifications of the

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[65] "China receives $420 million to protect ozone layer", *Reuters News Service Online*, 9 July 1999 (http://www.reuters.com/news/, accessed 10 July 1999). The question of replenishing the Fund for the period 2000-2002 will be addressed at the 11th MOP, held in Beijing in November 1999.

[66] Many developing countries have met this deadline ahead of schedule.

[67] S. Oberthür, *Production and Consumption of Ozone Depleting Substances 1986-1996* (Eschborn: Deutsche Gesellschaft für Technische Zusammenarbeit, 1998), p. x.

[68] The Environment Ministers of the G-8 proposed an 'environmental Interpol' to combat the illegal trade in CFCs, hazardous waste and endangered species. Political will and financial resources will be needed to turn such a proposal into reality. See UNEP, "Attention Focuses on Environmental Crime", *OzonAction*, no. 26 (April 1998), p. 8.

Montreal amendments.[69] Effective implementation of the control measures contained in these regulations, however, is the key and much harder to ensure. Industrialised countries have shown a strong commitment to the control measures and, with continuing help from the Multilateral Fund, developing countries will also likely reach a high rate of implementation. Global use of many of the ODS controlled under the Protocol was reduced by more than 90 percent between 1986 and 1996.[70] In short, there is a strong chance that the Protocol will live up to its billing as the most successful MEA created to date.[71]

3.3 Trade Restrictions and the Montreal Protocol

The preceding sections outlined the background of science and negotiation that led to the Montreal Protocol and its amendments. The regime development was a dynamic process that incorporated new knowledge while at the same time was subject to powerful economic interests. This section examines these questions of economic interests further in relation to the inclusion of Article 4 in the Montreal Protocol. The purpose here is to outline both the origin and subsequent developments of the trade measures in order to help in the assessment of potential explanatory factors accounting for regime content (section 3.4).

3.3.1 The Trade Provisions of the Montreal Protocol

Trade restrictions with non-parties, Article 4, were part of the control regime of the Montreal Protocol. Before discussing the origins of those restrictions, however, they are

[69] UNEP, "Report of the Executive Director to the Eleventh Meeting of the Parties", UNEP/OzL.Pro.11/2 (19 July 1999), p. 6.

[70] Oberthür, *Production and Consumption of Ozone Depleting Substances 1986-1996*, p. ix.

[71] A review on the Protocol's 10th anniversary argued that "none of the subsequent international agreements has been as successful as the Montreal Protocol...". P. LePrestre, J. Reid and E. Morehouse, "The Montreal Regime: A New Model for International Cooperation on Global Environmental Issues?", pp. 1-10 in P. LePrestre, J. Reid and E. Morehouse (eds), *Protecting the Ozone Layer: Lessons, Models, and Prospects* (Boston: Kluwer Academic Publishers, 1998), p. 1. For a rejoinder to this perspective, see A. Khosla, "The Montreal Protocol: Whose Model?", pp. 117-21 in LePrestre, Reid and Morehouse (eds), *Protecting the Ozone Layer.*

outlined in more detail below. The restrictions were designed to cover both imports from and exports to non-parties of ODS in three categories: bulk ODS (e.g. CFCs themselves), products containing ODS (e.g. air conditioners), and products made with but not containing ODS (e.g. electronic components).

The *import* of controlled ODS in Annex A (the first 8 substances to be regulated) from non-parties was banned beginning in 1990, one year after the entry into force (EIF) of the Montreal Protocol. In 1993, one year after the London Amendments came into effect, imports of those ODS in Annex B (carbon tetrachloride, methyl chloroform and other CFCs) were banned, and Annex C imports (group II, HBFCs) were banned from June 1995, one year after the EIF of the Copenhagen amendments. Starting one year after the Montreal Amendment enters into force, parties will ban the import of Annex E substances (methyl bromide) with non-parties.

Exports of ODS to non-parties were banned for Article 5 (developing) countries beginning in 1993, while other parties were permitted to export to non-parties, but after 1993 the quantities exported were to count as part of the exporting country's consumption (and would subsequently decline).[72] However, the London Amendments transcended this provision and mandated export bans for *all* parties. The schedule was: January 1993 for Annex A substances, August 1993 for Annex B substances, June 1995 for Annex C, group II substances, and one year after the entry into force of the Montreal Amendment for Annex E substances. A proposal to ban import and export of Annex C, group I substances (HCFCs) will be presented to the 11th MOP in November 1999.[73]

[72] The original agreement that only banned exports from developing countries was part of the compromise made to get the EC to agree to the provisions. The EC had proportionately larger export markets for CFCs and therefore did not want to too quickly impose a costly export ban on their industries. Thus the export restrictions only took hold four years after the entry into force of the Protocol, whereas the import bans began after only one year. See discussion in sections 3.3.2 and 3.3.3.

[73] See "The Report of the Legal Drafting Group on Possible Adjustments and Amendment of the Montreal Protocol", UNEP/OzL.Pro.11/3 (17 June 1999), p. 13. Annex C, group I substances, HCFCs, have not been subject to any trade restrictions due to their status as a 'transitional controlled substance'. That is, as HCFCs (which have a smaller ODP than CFCs) were conceived of as a short-term alternative to CFCs that would also be phased out, it was feared that placing trade restrictions upon them would prolong reliance on CFCs. However, current proposals to restrict trade in HCFCs are based on fears that their current low price will extend reliance on these substances and prevent the adoption of non-ozone depleting alternatives.

For those *products containing* controlled ODS, the original agreement required that a list of products containing those substances be elaborated within three years of the EIF of the Protocol.[74] Parties who did not object to this list would then be required to ban imports of these products from non-parties within one year (exports of these products were not controlled). This list was adopted at the third MOP in 1991 and came into force in 1992 (as Annex D).[75] Further lists of products containing controlled substances (for those chemicals in Annexes B, C and E) have not been drawn up to date because the excessive work entailed in doing so would be "disproportionate to the benefits".[76]

The final type of trade restriction was to be applied to *products made with but not containing* controlled substances. As this measure did not to relate to the trade of ODS *per se*, a large number of goods were potentially at issue (such as electronic components that had been cleaned with an ODS-based agent). The original agreement was to determine the feasibility of applying trade restrictions to such products (made with substances of Annex A) within five years of the EIF of the Montreal Protocol. Consequently, the MOP addressed the feasibility question in 1993. It was determined that there were too many difficulties in establishing what products were made with CFCs, because it was either technically too difficult to establish if products were or

[74] The reason for allowing 3 years before banning the trade in products containing ODS with non-parties was because "it was felt that 3-4 years would be needed for many states to put into place the required laws to control imports and exports of these products and to collect the required data". G. Buxton, "The Montreal Protocol on Substances That Deplete the Ozone Layer", Paper presented to the 81st annual meeting of the Association Dedicated to Air Pollution Control and Hazardous Waste Management, Dallas, TX, June 1988, p. 10.

[75] The list included six categories of products: auto and truck air conditioning units, domestic and commercial refrigeration and air conditioning/heat pump equipment, aerosol products (except those with medical exemption such as metered dose inhalers), portable fire extinguishers, insulation boards, panel and pipe covers, and pre-polymers. Singapore initially objected to several of the listed products, but subsequently withdrew that objection. See D. Brack, *International Trade and the Montreal Protocol* (London: Earthscan/RIIA, 1996), p. 47.

[76] Decision VI/12 of the Sixth MOP and VIII/18 of the Eighth MOP. For example, the import ban for products containing carbon tetrachloride and methyl chloroform was to have come into effect in August 1996, while the chemicals themselves were to be phased out by January 1996; since all the significant producers of these chemicals were involved, it was unlikely that many products containing these substances would have been available when the substances themselves had been phased out seven months earlier.

were not made with CFCs or prohibitively expensive to do so.[77] In light of these findings, and also considering the phaseout dates for various ODS, it was decided that additional trade restrictions would not act as an incentive to encourage non-parties to join the regime and therefore products made with but not containing controlled substances were declared not subject to Article 4, subject to reviews by the Technology and Economics Assessment Panel (TEAP). TEAP has not since recommended any trade restrictions of this type.

A further issue with regard to Article 4 should be noted. That is, application of the trade restrictions is flexible, both for non-parties and parties. For example, Article 4(8) of the Protocol allows the parties to deem non-parties as being in compliance with control measures – if appropriate data to that effect is submitted – and therefore exempt from the trade restrictions. In 1992, the MOP decided that Colombia, a non-party, had submitted information regarding its control measures and was in compliance with the terms of the Protocol, and therefore not subject to Article 4.[78] Parties are also subject to interpretations of compliance that could effect their trading status. The second MOP, for instance, decided that any party not accepting the London Amendments on newly controlled substances would be considered a non-party with respect to those substances, and hence subject to trade restrictions.[79] Some observers have argued that these examples of flexibility are indicative of a well-drafted environmental agreement that focuses on a country's consistency with the substantive requirements of the accord – rather than its non-party status – in the determination of compliance.[80]

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[77] Report of the Fifth Meeting of the Parties, UNEP/OzL.Pro.5/12, p. 8. See also R. Van Slooten, "The Case of the Montreal Protocol", pp. 87-90 in OECD, *Trade and Environment: Processes and Production Methods* (Paris: OECD, 1994).

[78] See Decision IV/17B of the Fourth Meeting of the Parties UNEP/OzL.Pro.4/15. Other countries, including Malta, Jordan, Turkey and Poland, have also benefited from this flexibility. See Brack, *International Trade and the Montreal Protocol*, p. 50.

[79] This clause was added as Article 4(9). Twum-Barima and Campbell, *Protecting the Ozone Layer Through Trade Measures*, p. 29.

[80] See, for example, D. Esty, *Greening the GATT: Trade, Environment and the Future* (Washington, DC: Institute for International Economics, 1994), p. 151.

3.3.2 The Origins of Article 4: Concerns About Markets and Competitive Advantage or Environmental Enforcement Mechanism?

This section considers the origins of the trade restrictions of the Montreal Protocol. As will be demonstrated, economic concerns relating to market access and competitive trade advantages mixed with questions regarding regime design and the search for enforcement mechanisms to maintain the environmental integrity of the agreement.

The first incidence of a restriction of trade in CFCs predates the international efforts of the Montreal Protocol. The 1978 'can ban' in the United States was the first case of legislation regarding CFC use.[81] In April 1979 it became illegal to ship spray cans containing CFC propellants from one state to another.[82] Although this represents a domestic – as opposed to international – trade restriction, it is noteworthy for two reasons. First, it suggested that an effective way to help achieve the goals of a ban on a specific chemical was also to limit the movement of this good in the market. Second, and foreshadowing Article 4 of the Montreal Protocol, the trade restriction was applied to the *product containing* the controlled substance rather than to the substance itself.[83]

As the debate over CFCs and the ozone layer began, the economic value of these chemicals was immense. Global CFC production was concentrated mainly in the US and western Europe. But the US consumed most of their production domestically whereas the EC countries relied more on *exports* and therefore had a greater interest in the international trade of such substances. British exports in 1975, for example, were valued at £70 million.[84] In 1974, the US accounted for 44 percent of global CFC production and the EC for 33 percent; by 1986, the figures were 28 percent for the US

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[81] The use of CFCs for aerosol propellants was banned in October 1978 and, two months later, companies had to cease using existing supplies of CFCs in the manufacture of spray cans. See section 3.1.3.

[82] Gribben, *The Hole in the Sky*, p. 53.

[83] While this regulation applied only to those products containing CFCs as an aerosol propellant, the US EPA did propose regulation of non-aerosol CFCs as well. However, the limited success of making the aerosol ban international, a lack of substitutes and diminished public concern following the 'can ban' meant that this proposal would not be followed up until the Montreal Protocol. See Litfin, *Ozone Discourses*, pp. 66-67. The EPA *proposal* to regulate non-aerosol CFCs did, however, spark the formation of the industry interest group Alliance for a Responsible CFC Policy, an important actor in the international negotiations.

[84] Rowlands, *The Politics of Global Atmospheric Change*, p. 106.

and 42 percent for the EC.[85] In both cases, however, the monetary sums involved were huge – CFCs were a multibillion dollar industry.[86]

As a result, the debate regarding trade restrictions was to a substantial degree couched within the larger concerns regarding the costs and benefits of regulation. As the controversies over the science and economics of ozone layer depletion continued, it became clear that questions regarding competitive advantage and the importance of clear regulatory signals to stimulate the development of substitutes would be central. And while the first regulatory measures in the US did cause a drop in global CFC emissions, this was temporary as non-aerosol use increased in the US and general CFC use increased world-wide.

The period immediately following the regulation in the late 1970s was, however, characterised by a general perception that the costs of ODS regulation were greater than the benefits.[87] The benefits of ODS regulation were naturally difficult to prove before it was established that CFCs were indeed responsible for ozone layer depletion. This scepticism was already evident in Europe, and with the arrival of Ronald Reagan in the White House and his anti-regulatory forces in the EPA, further restrictions on CFCs seemed unlikely.[88]

A related event would later prove significant for the economic debate, and hence the trade debate. Although concern among environmental NGOs was minimal at this

[85] Rowlands, *The Politics of Global Atmospheric Change*, p. 105. 1974 figures are for CFCs 11 and 12 only, whereas the figures for 1986 are for all CFCs.

[86] Gehring, *Dynamic International Regimes*, p. 197. Brenton suggests that the annual value of international CFC production was $3-5 billion, and $300-400 billion for 'user' industries (such as fridge manufacturers). T. Brenton, *The Greening of Machiavelli: The Evolution of International Environmental Politics* (London: Earthscan/RIIA, 1994), p. 145. Between 1974 and 1980, Du Pont alone spent over $15 million simply researching alternatives; Litfin, *Ozone Discourses*, p. 70.

[87] Rowlands, *The Politics of Global Atmospheric Change*, p. 101.

[88] The British government argued that the science was "still inadequate in many respects", such that strict regulation was "not warranted at present". UK Department of the Environment, *CFCs and their Effect on Stratospheric Ozone*, Pollution Paper 15 (1979), pp. 10 and 209. For his part, President Reagan had issued Executive Order 12291 which mandated all major new regulations to undergo benefit-cost analysis – and at this point, the costs of regulating a profitable industry certainly appeared to be greater than the benefits of doing so; see Rowlands, *The Politics of Global Atmospheric Change*, pp. 108-09. Lastly, Anne Gorsuch Burford was appointed to head the EPA and was clearly sceptical of the threat posed by CFCs. See her statement to the US Senate Committee on Environment and Public Works, "Hearing regarding the nominations of Anne M. Gorsuch and John W. Hernandez", May 1 and 4, 1981.

point, the National Resources Defense Council (NRDC) of the United States decided to sue the EPA for neglecting to follow-up on the second phase of its proposed CFC regulations.[89] But when the NRDC prepared to file the suit in mid-1984, the EPA was able to persuade them to delay this action by arguing that threats of unilateral American action could undermine the delicate international negotiations that had started.[90] The NRDC agreed, for the moment, but this would not be the last of the lawsuit.

By this time the working group established by UNEP to negotiate an international convention was meeting and the question of restrictions on industry played a large part in the negotiating positions of the main protagonists (the Toronto Group and the EC). The weak Vienna Convention that resulted is not surprising given the divergent interests at the time. The EC supported a production cap and a reduction in non-aerosol uses of CFCs whereas the Toronto Group proposed reductions mainly on aerosol uses. None of these proposals, however, required much modification of behaviour on behalf of their sponsors; the US, Canada and the Nordic countries already *had* controls on aerosol uses and since the EC was not producing CFCs at full capacity, a cap could still allow them to *increase* production. Furthermore, a global aerosol ban would give US industry a competitive advantage, as they were already using alternative technologies for aerosols. They could then increase exports to a European market looking for alternatives. The EC recognised this and was correspondingly reluctant to put their industry at a disadvantage.[91]

After the Vienna Convention several developments pushed the involved parties to the first substantial international regulation that was agreed to at Montreal. Firstly, the theory of ozone layer depletion was proven with the discovery of the Antarctic ozone hole in May 1985. This added significant weight to the environmental and scientific arguments that further action was needed. Secondly, unhappy with the lack of progress at Vienna, the NDRC had gone ahead and filed their proposed lawsuit to press the US government to take action. This action would encourage US industry, and hence

[89] See note 83 above.

[90] See Litfin, *Ozone Discourses*, p. 72.

[91] See P. Sand, "Protecting the Ozone Layer: The Vienna Convention is Adopted", *Environment*, vol. 27, no. 5 (June 1985), pp. 19-23.

US negotiators, to seek an international agreement to prevent them being put at a disadvantage relative to the world market due to domestic regulation. Lastly, international negotiations were resumed soon after the Vienna Convention.

At the informal UNEP workshop held in Leesburg in September 1986, many of these factors came together to help move the international effort forward. While the background to the development of the "Leesburg spirit" may well have been the growing awareness that ozone layer depletion was a reality that needed to be dealt with, economic and other concerns were important. The US, for example, was taking the issue seriously on both environmental and economic fronts.

The EPA moved the US position from a concentration on aerosol uses to a more general restriction on five ODS (three CFCs and two halons). But this was not only due to the science; the pressure from the pending NRDC lawsuit to take unilateral action, which in turn would cause US industry to call for an international agreement, also contributed to the evolution of the US position. Indeed, the Leesburg meeting was subject to a strong and well-prepared American presence who maintained that science suggested the need for precautionary action to avoid future, and potentially higher, costs.[92] Furthermore, other Toronto Group members were also putting forward compromise positions, further contributing to a more co-operative atmosphere.[93]

While the EC still remained wary of substantial regulation, they recognised that the Toronto Group's alteration of position – from advocating restrictions on particular uses to advocating restrictions on production – addressed their concerns with respect to competitiveness in the aerosol-use sector. Moreover, if the Toronto Group were to eventually to accept some type of production cap or reductions, it would be less costly for the EC to comply with this by making initial reductions in the relatively cheaper area of aerosol-use (something most of the Toronto Group had already done), leaving

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[92] While the official US position on CFC reductions would not be finalized until November 1986, movement towards this could be seen at Leesburg. Litfin reports that the US delegation numbered fourteen to Britain's next largest delegation of four. Furthermore, of the 31 papers presented at the workshop, nearly half were from the US, and eleven of those from the EPA. Litfin, *Ozone Discourses*, p. 90.

[93] Canada, for example, suggested a plan for a "Global Emission Limit" on ODS (which was eventually rejected). See the paper by Buxton et al, "A Canadian Contribution to the Consideration of Strategies for Protecting the Ozone Layer", presented at the UNEP Workshop, Leesburg, VA, September 1986.

the EC with an advantage. As UNEP's Executive Director Tolba perceived it, "trade factors dictated much of the difference between the Toronto Group and the EC".[94]

American industry was also susceptible to the on-going developments. It was soon after the Leesburg meeting that both Du Pont and the Alliance for a Responsible CFC Policy announced support for an international protocol that would "reasonably limit" global emissions, with Du Pont further announcing that CFC alternatives could be available in five years.[95] While industry representatives claimed publicly that this alteration in their position was due to the improving scientific evidence of 1985-86, this claim fails to tell the whole story. Recall that the NRDC lawsuit had been filed, and both government and industry recognised the implications. That is, if US industry was forced to comply unilaterally with further US domestic restrictions, they would be placed at a serious disadvantage in the world market.[96] Only an international agreement could create a level playing field for the international trade in CFCs and not give advantage to a particular country's industry.

Furthermore, US industry perception that regulation was forthcoming – either nationally as a result of the NRDC suit, or internationally as a result of the slowly evolving UNEP negotiations – was likely to stimulate the search for alternatives, as the costs of the status quo (CFC use) was likely to rise. In the words of Du Pont's Environmental Manager, "by mid-1986 I saw that future regulation was definite. I concluded that there should be a real push for alternatives and than an international agreement was the only way to go".[97] Here, the importance of clear signals regarding regulation acting as a stimulus to the development of alternatives becomes apparent.

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[94] M. Tolba with I. Rummel-Bulska, *Global Environmental Diplomacy: Negotiating Environmental Agreements for the World, 1972-1992* (Cambridge, MA: MIT Press, 1998), p. 62.

[95] Litfin, *Ozone Discourses*, pp. 92-93.

[96] Litfin recounts that the executive director of the Alliance for a Responsible CFC Policy feared that the US would "go its own way and commit industrial suicide". Litfin, *Ozone Discourses*, p. 93. Although no specific numbers regarding CFC reductions were mentioned in the NRDC lawsuit, US industry realised the implications for global competitiveness of *any* further unilateral regulations.

[97] Dr. Joseph Steed , quoted in Litfin, *Ozone Discourses*, p. 95. A research group called the Chlorofluorocarbon Chemical Substitutes International Committee concluded in 1987 that the only constraint for the availability of substitutes was a *global* market for them. D. Dudek, A. LeBlanc and K. Sewall, "Business Responses to Environmental Policy: Lessons from CFC Regulation", pp. 35-60 in W. Hoffman et al (eds), *Business, Ethics and the Environment* (New York: Quorum Books, 1990).

Moreover, Du Pont's research into CFC alternatives would leave them more competitively placed in a global market that would demand non-CFC products.[98]

European industry reacted more cautiously. Some believed that US industry was advocating controls on CFCs to gain economic advantage with alternatives already developed in secret.[99] Yet the Europeans also realised that the dynamics of the situation were changing. In a carefully worded statement issued by the European Fluorocarbon Technical Committee, the CFC producers of the EC stated that a global production limit on CFCs 11 and 12 "would do much to remove unease about the effects of projected increases in their use".[100] Imperial Chemical Industries (ICI), the UK's largest producer, also began to investigate alternatives - but was much less optimistic that a full range of substitutes could be found within five years.[101] Nevertheless, the elements that would lead to the Montreal Protocol, and the use of trade restrictions within it, were slowly emerging.

This is not to say that an immediate convergence of positions took place before Montreal. In fact, the formal negotiations were to prove very difficult, even acrimonious at times. Industry had only indicated support for a treaty, not a *strong* treaty; and the reduction targets proposed by the Toronto Group and the EC were still altogether different. Other actors were also becoming more vocal. Japan and Russia were generally sympathetic to the EC position at this time. And the developing countries, while still generally on the margins, were observing with suspicion the developments towards regulation.

The formal negotiations for the Montreal Protocol began in December 1986, and two highly divergent opinions were immediately apparent. The US favoured a virtual phaseout of CFCs – 95 percent reduction within ten years – while the EC proposed a production cap that would not have entailed any reduction. The EC position, however,

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[98] M. Miller, *The Third World in Global Environmental Politics* (Buckingham: Open University Press, 1995), p. 75.

[99] Benedick, *Ozone Diplomacy* (1991), p. 123; Litfin, *Ozone Discourses*, p. 93.

[100] *ENDS Report*, no. 141 (October 1986), p. 7.

[101] *ENDS Report*, no. 141 (October 1986), p. 7.

was not yet homogeneous; Britain and France were particularly reluctant to accept any restrictions whatsoever.

While the trade restrictive measures were first suggested formally by the US delegation at this negotiating session, it is apparent that they and other parties were aware of the implications for trade of a potential agreement well before this point.[102] American negotiators certainly realised this as early as 1984 when the possibility of mandatory unilateral regulation was first raised by the NRDC lawsuit.[103] The trade issue, or more specifically the question of controlling exports of CFCs in aerosols to non-parties, was also discussed in the Vienna Convention negotiations in 1984, even though the final text makes no mention of this.[104] Lastly, a Canadian proposal for framing an international agreement, submitted to the Leesburg workshop four months earlier suggested that:

> Any global control strategy must avoid, to the degree possible, interfering with the international flow of goods and services. Conversely, it should not foster or encourage commercial practices which will undermine the efforts to protect the ozone layer.[105]

This proposal, although eventually rejected, also reviewed other suggested control strategies and noted that many of them would have (negative) global trade implications. After all, substantial reductions and the potential elimination of a large number of

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[102] The US negotiator recounts that the introduction of trade measures was made in the international negotiations in December 1986, although their first draft Protocol text (including the trade restrictions) was of course prepared earlier. See "Circular 175: Request for Authority to Negotiate a Protocol to the Convention for the Protection of the Ozone Layer", memo from US Assistant Secretary of State John Negroponte to Under Secretary of State Allen Wallis, November 28, 1986, reprinted in Hearing of US House Committee on Energy and Commerce, *Ozone Layer Depletion* (Washington: US Government Printing Office, 1987), pp. 119-29. See also, R. Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (Cambridge: Harvard University Press, enlarged edition, 1998), pp. 54 and 91.

[103] Recall that the goal of the Alliance for a Responsible CFC Policy throughout this period was "to prevent any unproductive, harmful, unwarranted unilateral domestic regulatory program that would injure US industry to the benefit of our international competition." Quoted in A. Goodman, "Negotiating the Montreal Ozone Protocol", pp. 79-93 in A. Williams (ed), *Many Voices: Multilateral Negotiations in the World Arena* (Boulder: Westview Press, 1992), p. 84.

[104] This was because the Convention did not mandate any reductions of CFCs. See UNEP, "Report of the Fourth Session of the Working Group for the Elaboration of a Global Framework Convention for the Protection of the Ozone Layer", UNEP/WG.110/4 (9 November 1984), p. 9 and Annex IV, p. 2.

[105] Buxton et al, "A Canadian Contribution to the Consideration of Strategies for Protecting the Ozone Layer", especially pp. 2-4 and 7.

profitable chemicals had *serious* international competitiveness consequences. The question was how to reduce the production and consumption of these substances without surrendering a trade advantage to those who were not taking action while at the same time ensuring markets for alternatives. One approach was an international agreement that restricted trade.

Nevertheless, it was only with the possibility of a substantial international agreement after the Vienna Convention, spurred on by new scientific findings and changing industry pronouncements, that the US proposal of December 1986 was taken seriously. In that proposal, parties were to establish target years that would: ban imports of controlled substances from non-parties (unless they were shown to be in compliance with the control measures); ban exports of technologies and direct investment in facilities that could produce controlled substances; and study the feasibility of restricting imports of products containing or produced with controlled substances from non-parties.[106]

Predictably, the EC reacted with caution to this proposal. Their counter-proposal was to "study the feasibility" of restrictions on imports of regulated ODS, and products containing or made with them, with non-parties.[107] Furthermore, as the decision whether to control production or consumption of CFCs had not yet been made (see section 3.3.3), the EC was especially concerned with protecting their lucrative export markets – the US export market being proportionately smaller – and were thus wary of trade measures. They suggested that further decisions should await an opinion from the GATT as to the compatibility of trade measures with global trade rules.

Between the first (December 1986) and second (February 1987) negotiating sessions, the issue of *unilateral* trade related action resurfaced. Rather than the NRDC lawsuit lurking in the background, this time it was an intervention from the US Senate. Concerned with the sluggishness of international progress, two senators proposed

[106] See UNEP, "Revised Draft Protocol on CFCs Submitted by the US", UNEP/WG.151/L.2 (25 November 1986).

[107] UNEP, "Proposal by the European Community", UNEP/WG.151/CRP.5 (December 1986). There were internal divisions within the EC as well. The Netherlands and Denmark were supportive of the proposed trade measures while Germany, the UK and France, all having ODS exporting industries, were initially against. Interview 6.

legislation that would unilaterally cut American CFC use by 95 percent *and* block the imports of products containing or manufactured with these chemicals.[108] The unilateral nature of this proposal would have certainly concerned US industry, but the signal to other countries was that the large American market for CFC-based products would be lost unless an international agreement could be reached. The Senate intervention strengthened the position of American negotiators seeking a strong international protocol. By the second meeting, the US used these threats of domestic action to seek out the moral highground, arguing that the proposed legislation would be necessary "to protect our industry from imports from countries which continue to ignore the threat to the global environment".[109]

While it is difficult to determine to what degree the threat of unilateral trade restrictions or the potential embarrassment of being branded an international environmental traitor might have affected other countries' negotiating positions, these were clearly *not* the only factors of importance. Within the EC, the West Germans began to promote a 50 percent reduction, but it was not until the summer of 1987 that ICI dropped its opposition for further reductions, thus allowing the British position to moderate.[110]

Also by the February 1987 negotiating session, there was a sub-group on trade issues, established by the Ad Hoc Working Group of Legal and Technical Experts.[111] With respect to the GATT-compatibility question posed by the Europeans, the working group believed that the proposed trade measures could be justified under GATT's

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[108] US Senate, "Stratospheric Protection Act of 1987", S.570 (1987); and US Senate, "Stratospheric Ozone and Climate Protection Act of 1987", S.571 (1987). For discussion, see Litfin, *Ozone Discourses*, pp. 106-09.

[109] Benedick, *Ozone Diplomacy*(1991), p. 17. For the British account of Benedick's admittedly American-centric version of the negotiations, see the review of Benedick's book by F. McConnell in *International Environmental Affairs*, vol. 3, no. 4 (Fall 1991), pp. 318-19.

[110] Jachtenfuchs, "The European Community and the Protection of the Ozone Layer," p. 268. See also, J. Maxwell and S. Weiner, "Green Consciousness or dollar diplomacy?: The British response to the threat of ozone layer depletion", *International Environmental Affairs*, vol. 5, no. 1 (Winter 1993), pp. 19-41.

[111] UNEP, "Report of the Ad Hoc Working Group on the Work of its Second Session", UNEP/WG.167/2 (4 March 1987), p. 5. At this session, the Working Group had established four informal subgroups to discuss four technical matters, including a review process, the needs of developing countries, the control measures and trade issues.

Article XX provisions.[112] The GATT Secretariat had been presented with a copy of the proposed trade provisions, but made no comment.[113] Then, at the April session of the group, a GATT legal expert agreed with the working group's findings that GATT Article XX(b) – allowing trade restrictive measures "necessary for the protection of human, animal or plant life or health" – would likely be compatible with the proposed Article 4. The expert also noted, however, that the final judgement would be left to the GATT Contracting Parties in the case of a dispute.[114]

The draft article on trade provisions submitted by the sub-group on trade issues in April 1987 was very similar to the original US proposal from December 1986.[115] It also suggested target years after which parties would: ban imports of controlled substances from non-parties; restrict, ban or discourage the export of technologies for the production of controlled substances; abstain from the providing financial aid for the same purpose; and determine the feasibility of restricting imports of products made with but not containing controlled substances. This draft was slightly stronger, however, than the original proposal in that import restrictions on products *containing* controlled substances could be "restricted" or "banned"; the US proposal had been to study the feasibility of such restrictions. It also proposed a ban on the export of bulk controlled substances themselves, in addition to the export ban on technologies.[116] The draft was forwarded to the final meeting in Montreal.

The rationale for restricting trade was to prevent industry from moving to countries that were not part of the regime and to encourage participation in the Protocol.

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[112] UNEP/WG.167/2, p. 22. See section 2.2.2 for more detail on Article XX of the GATT.

[113] Twum-Barima and Campbell, *Protecting the Ozone Layer through Trade Measures*, p. 63, n. 113. Brack argues that the Working Group had in mind the precedent of the CITES, that the GATT had not yet objected to, and that trade restrictions would be considered acceptable under international law. Brack, *International Trade and the Montreal Protocol*, p. 68. This interpretation seems reasonable given that the report of the sub-group on trade issues did make reference to CITES; UNEP/WG.167/2, p. 22. However, by not passing judgement on the acceptability of the proposed trade measures, the GATT Secretariat was not committing itself one way or the other should a Contracting Party raise an objection at a later date.

[114] UNEP, "Report of the ad hoc Sub-Working Group on Trade", UNEP/WG/172.2 (8 May 1987), p. 18.

[115] The sub-group draft is found in UNEP/WG.172/2 (8 May 1987).

[116] This was meant to more strongly encourage non-parties who needed to maintain access to supplies of ODS (e.g. customers of EC exports) to sign the agreement.

This logic was both environmental and economic. First, the environmental goal of the Protocol – of protecting the ozone layer by reducing CFC and other ODS use – could be undermined if industries producing CFCs could escape the control measures simply by changing location and then exporting the substances, and products containing or made with those substances, back to the country that was now a party to the agreement. Economically, an industry not subject to the control measures could gain competitive advantage and market share over those who were. Furthermore, a continued supply of controlled ODS from countries outside the Protocol would depress the market for substitutes (thus restricting the development of alternatives). An *import* ban against non-parties closed this loophole and gave an incentive to be 'inside' the regime.

Second, if *exports* to non-parties were restricted, then non-parties who sourced their ODS supplies from Protocol members would be cut-off from those supplies. So yet another incentive to adhere to the Protocol was created, especially for developing countries who received their ODS supplies from the developed countries most involved in the regime.[117] The benefit of being a 'free rider' would be decreased. Trade restrictions would thus act as an incentive to join the Protocol in order to maintain access to either customers or supplies, as the case may be. The greater the number of parties, the greater the protection of the ozone layer.

By September of 1987, there was enough compromise to allow for the signing of the Montreal Protocol.[118] Japan was brought into the process by a clause allowing countries to choose among the listed CFCs as to which would be reduced more, so long as the total ozone depletion potential was not exceeded.[119] Russia was also provided

[117] As the Head of the Austrian delegation remarked at the time: "Unless you join, you won't get those substances you need to meet your basic needs...[and because technology transfers are prohibited to non-Parties,] countries not signing the Protocol will be unable to produce their own"; quoted in A. Capretta, "The Future's So Bright, I Gotta Wear Shades: Future Impacts of the Montreal Protocol on Substances that Deplete the Ozone Layer", *Virginia Journal of International Law*, vol. 29, no. 1 (Fall 1988), pp. 211-48. The question of incentives for developing countries who had potentially large domestic markets and production capabilities, and who would therefore be unaffected by the trade restrictions, would require additional measures (and thus the creation of the multilateral fund – see below).

[118] The final form of the trade measures is outlined above, section 3.3.1. It accepted both the need to ban exports of controlled ODS and imports of products containing them.

[119] Japan's main interest in the Protocol can be traced to the importance of CFC-113 in the electronics industry (as a cleaner or solvent). At least one participant believes that the proposed US import ban alerted the Japanese Ministry of International Trade and Industry (MITI) to the possibility that their

with enticement to sign in the form of an allowance to complete two CFC plants already under construction. Although the process up to this point had been dominated by OECD countries, eight developing countries also signed the Protocol straightaway. However, further incentives would be required before there was widespread participation from these countries.[120]

3.3.3 Elements Influencing the Inclusion of Article 4

Concerns about international economic competitiveness and regime integrity were central during the debate on Article 4, and these concerns influenced the decision to include trade restrictions as well as the form the restrictions took. There are three related areas of importance which help to demonstrate this: the calculation of ODS production and consumption, the use of trade restrictive measures as an incentive, and the desire to influence decisions about trade restrictions taken in the future.

One of the more contentious issues during the formal negotiations for the Protocol with commercial and trade implications was the debate over whether it was production or consumption of ODS that was to be controlled. The EC position – that production itself should be controlled – was defended on the basis of simplicity: consumers were many but producers relatively few. However, the Toronto Group realised that this would have the effect of granting the EC a virtual monopoly on exports because their already proportionately larger share of the export market would be reinforced, as smaller exporting nations would have to concentrate on domestic demand. Moreover, it would perhaps also discourage developing countries from joining the regime as they would be prohibited from starting or expanding their own production and

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products could be rendered incompatible with world trade (and recall that the US Senate proposal included a unilateral import ban on products made with but not containing CFCs). See Litfin, *Ozone Discourses*, p. 210, n. 31. The question of trade restrictions prompted one of the senior lawyers with the NRDC to observe that: "Faced with the loss of major US markets, it is inconceivable that other countries would decline to [comply with]...a step [which has] trivial economic and political costs in comparison". Quoted in Capretta, "The Future's So Bright", p. 231, n. 135.

[120] Discussed in section 3.3.4.

could suffer supply problems as their markets grew – as producers concentrated first on domestic supply.[121]

A compromise was agreed, however, that satisfied both EC export concerns and that made the treaty attractive to other states. That is, consumption, or "adjusted production", is defined as production plus imports minus exports. This eliminated the potential for any monopoly based on existing export positions by allowing producing countries to slightly increase production (by 10-15 percent) for export to Protocol parties (such as developing countries with growing demand) without having to reduce its domestic consumption. Importing countries party to the Protocol faced with export cutbacks from one producer could then turn to another supplier of CFCs. The form that the trade measures took thus had to accommodate the international economics of production and trade in ODS. That is, some continued trade within the framework of the Protocol was permitted – a ban on ODS trade amongst parties would have been out of the question – while those countries outside the Protocol were faced with increasingly restrictive trade measures.[122]

A second element influencing the form that the trade measures took was their use as an incentive to join the Protocol. The incentive was increased by creating significant differences between how parties and non-parties were treated in the regime. It is generally considered that the trade restrictions are an integral part of the incentive structure of the Montreal agreement.[123] They added to the perception that it would be more advantageous to be a member of the Protocol than to remain outside the

[121] Twum-Barima and Campbell, *Protecting the Ozone Layer through Trade Measures*, p. 15; Litfin, *Ozone Discourses*, p. 111; Benedick, *Ozone Diplomacy* (1991), p. 80.

[122] Benedick, *Ozone Diplomacy* (1991), p. 81. Recall that Article 2 countries (i.e. OECD producers) were permitted to export to non-parties as well as to parties until January 1993 (after which time those quantities would be calculated as part of the exporting countries' 'consumption'). The London Amendments to Article 4, however, overrode this provision and mandated export bans for *all* Parties from January 1993. This would provide incentive to those non-party importers to join the Protocol so as not to lose suppliers.

[123] The US negotiator has referred to them as "critical". Benedick, *Ozone Diplomacy* (1991), p. 91. See also the comments of the UK legal expert, Patrick Széll, in "Negotiations on the Ozone Layer", pp. 31-47 in Sjöstedt (ed), *International Environmental Negotiation.*

agreement.[124] And while the inclusion of Article 4 was debated, this was related to larger controversies regarding calculations of production and phaseout schedules. Questions regarding control measures, access to technology, and funding were all more contentious in the negotiations.[125]

Lastly, the possibility that CFC use in the production methods of certain products could lead to trade restrictions on those products if they came from non-parties also acted as a substantial incentive for certain countries.[126] By including this possibility, not only was there incentive to join the Protocol to avoid such restrictions but also in order to *influence future decisions* about which products made with but not containing ODS would be subject to restrictions. Such influence could only be exercised from within the regime and therefore the threat of future trade action was another significant aspect in the design of Article 4.

3.3.4 Subsequent Concerns Regarding Article 4

The preceding sections outlined the origins and key developments regarding trade-related issues in the Montreal Protocol, with specific reference to Article 4. Although the elaboration of the trade restrictions was basically complete by this time, there were several key trade-related issues which would arise in the post-Montreal period. These were: the link between regulation and the development of alternative substances;

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[124] Subsequent (formal) cost-benefit analysis undertaken by the EPA in the US also suggested that the benefits of control were much higher than the costs. See A. Markandya, "Economics and the Ozone Layer", pp. 63-74 in D. Pearce (ed), *Blueprint 2: Greening the World Economy* (London: Earthscan, 1991). A study using an economic model of trade restrictions suggests that such measures can indeed deter free riding if they are both credible and substantial (as was the case here), even if they are never used; however, political realities must also be recognised (i.e. the developing countries' claim for compensation) and trade restrictions are best used in MEAs that are 'fair' (i.e. in those where there is compensation for those parties for whom the costs of trade restrictions would otherwise exceed the benefits) such as the Montreal Protocol. See S. Barrett, "Trade Restrictions in International Environmental Agreements", CSERGE Working Paper GEC 94-13.

[125] Interview 6. In the US case (again recalling the influence of proposed unilateral action), both industry and environmental groups were supportive of the trade provisions pretty much from the start. EC delegations, on the other hand, were still sensitive to the position of their industry on this question. Interview 8.

[126] C. Stevens, "Synthesis Report: Trade and Environment: PPM Issues", in OECD, *Trade and Environment: Processes and Production Methods* (Paris: OECD, 1994), p. 17; Brack, *International Trade and the Montreal Protocol*, pp. 55-56. While in 1987 it could not have been foreseen that this option would be eliminated by the 1993 Meeting of the Parties, the incentive nevertheless existed until then.

developing country participation in the regime; and the 'GATT compatibility' of the trade measures. This section examines those concerns in greater detail.

Firstly, the link between clear regulatory signals and the development of alternatives to CFCs became evident in the post-Protocol period. In fact, alternative chemicals began to appear in industry trade fairs as early as January 1988, including a substitute for CFC-113, so important to the electronics industry.[127] This is not to say that all opposition to the elimination of ODS disappeared. After all, the Montreal Protocol only mandated a 50 percent reduction on a limited group of chemicals. Investments made into alternatives, for example, needed to make economic sense. During the debate over HCFC (transitional substance) phaseout deadlines, the Alliance for a Responsible CFC Policy argued that the deadlines needed to be "far enough in the future to make investment in converting to HCFCs worthwhile, while research on the next generation of substitutes continues".[128] The creation of markets for these alternatives was another important concern for industry.

Secondly, developing country participation became a central issue after 1987. Initially, the developing world did not conceive of itself as part of the problem. These countries did not believe that ozone layer depletion would significantly affect them and in 1974 they were only responsible for 2 percent of global CFC production.[129] In 1986 however, while remaining insignificant producers of ODS, the developing countries' CFC consumption had risen to 15 percent globally – more than that of the USSR and East Europe.[130] Moreover, with industrialisation proceeding briskly in some countries and the prospect of very large domestic markets for CFC-based products such as refrigerators, countries in the South began to take a keener interest in international activities.

Developing country participation was also important for the North. In the not so distant future, expanding CFC production and use in large domestic markets –

[127] Litfin, *Ozone Discourses*, p. 121.

[128] See P. Zurer, "Industry, Consumers Prepare for Compliance with Pending CFC Ban", *Chemical and Engineering News*, 22 June 1992, pp. 7-13.

[129] Rowlands, *The Politics of Global Atmospheric Change*, p. 105.

[130] Rowlands, *The Politics of Global Atmospheric Change*, p. 167.

unaffected by the trade restrictions – could undermine any action taken by northern countries. It was obviously environmentally desirable to bring the South into the global regulatory framework. Additionally, these large emerging markets could serve as recipients of new alternative technologies developed by northern industry.

While the 1985 Vienna Convention made a vague reference to "taking account in particular the needs of the developing countries" (Article 4.2), only the Montreal Protocol began to address these needs in earnest. First, developing countries were given a 10-year grace period before needing to comply with the control measures of the Protocol, as long as their consumption of controlled ODS did not exceed 0.3 kg per capita. Second, access to technology and possibly finance was to be facilitated by industrialised countries. These features, along with the trade restrictions in Article 4, were intended to create incentives for developing countries to join the Montreal Protocol.

The developing countries' response set the tone for one of the major debates in the post-Protocol period. While a small group was initially supportive, others voiced their reservations loudly. Malaysia, for example, believed the Protocol to be "inequitable" and referred to it as "trade war by decree".[131] Countries with large domestic markets, such as India and China, wondered why they should restrict their own industry and rely on Northern suppliers, when there seemed to be little compensation forthcoming for a problem they did not create.[132] At the 1989 conference on "Saving the Ozone Layer", developing countries took the initiative and called for the creation of an international fund to pay for research, alternatives and to assist the (free) transfer of technology.[133] The response of Northern countries – particularly those who

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[131] A. Jaafar, "Trade War by Environmental Decree", *Asia Technology*, (January 1990), p. 51.

[132] See J. Krueger, "Trade Restrictions and the Montreal Protocol," in D. Tussie (ed), *Environmental Issues in North-South Trade Negotiations* (London: Macmillan Press, 1999). In fact, India did not participate in the Protocol negotiations and only sent an observer to the 1987 Montreal meeting. India, who was then developing an "exportable" surplus of CFCs, was subsequently criticised for being "caught off guard" by the trade restrictions placed on non-parties. See M. Rajan, *Global Environmental Politics: India and the North-South Politics of Global Environmental Issues* (Delhi: Oxford University Press, 1997), pp. 60-62.

[133] Litfin argues that increased attendance by developing countries at this conference can at least in part be attributed to the motivations of industry. That is, ICI realised that access to developing country markets

would be major donors in such a scheme, like the US, UK, Germany, France and Japan – was caution and reluctance.

Developing countries remained adamant, however, and in 1990 two of the most significant non-signatories, India and China, reaffirmed that they would not sign the Protocol without the guarantee of additional funds. The main impediment to an agreement on an international fund, the US, finally capitulated under domestic and international pressure.[134] The Multilateral Fund was first set at a sum of $160 million for three years, plus another $80 million if India and China were to join, which they subsequently did, and has been replenished every three years.[135] The question of free technology transfer was not guaranteed, but with the provision of the Fund, and a new clause (Article 5.5) making the implementation of control measures by developing countries dependent on the financial cooperation of the industrialised countries, enough incentive was finally created to facilitate widespread participation in the regime by developing countries.

The third and last trade-related issue to arise in the post-Montreal period was the evolution of the trade measures and the debate regarding 'GATT-compatibility'. Policies that restrict the free flow of goods and discriminate against trading partners in the international market are potentially in conflict with the provisions of the GATT.[136] The sentiment when the Protocol was negotiated was that the inclusion of Article 4 as it was designed would not create any problems. In fact, the head of the UK delegation recalls that the negotiators were not that concerned, or even aware of, the potential

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was crucial and of course preferred them to be 'exportable' (i.e. party to the Protocol). The British company then paid the travel expenses for some delegates from developing countries to attend this conference. See Litfin, *Ozone Discourses*, p. 211, n. 8.

[134] The US was especially reluctant to take new steps in the creation of an international fund, fearing a precedent for other international negotiations such as climate change. On the evolution of the US position, see Litfin, *Ozone Discourses*, 143-47. It has been asserted, however, that the Fund *has* become an important precedent for future environmental aid mechanisms. See R. Falkner, "The Multilateral Ozone Fund for the Montreal Protocol", *Global Environmental Change*, vol. 8, no. 2 (1998), pp. 171-75.

[135] See the discussion about the Protocol's various amendments, section 3.2. For further analysis of the Fund, see F. Biermann, "Financing Environmental Policies in the South: Experiences from the Multilateral Ozone Fund", *International Environmental Affairs*, vol. 9, no. 3 (Summer 1997), pp. 179-218.

[136] See section 2.2.3.

GATT implications at first.[137] At the time, negotiators believed that the inclusion of paragraph 8 of Article 4 – which suspends the trade restrictions for those non-parties deemed to be in compliance – would help to ensure conformity with the GATT by appearing to be 'non-discriminatory'.[138]

Regarding the application or suspension of the trade measures, the Protocol has proven to be a forceful yet flexible agreement. When combined with access to the Multilateral Fund, the trade restrictions have proven influential. In the cases of Myanmar, Taiwan and Israel, the desire to avoid trade restrictions – especially on products containing or made with restricted ODS – was instrumental in their accession to the Protocol.[139] South Korea found the threat of trade restrictions on their exports of refrigerators, air-conditioners (in autos), and electronics products made with but not containing CFCs, to large markets such as the UK and Europe especially compelling.[140] Thailand, on the other hand, had no domestic CFC production when it joined the Protocol in 1989 and therefore its entire consumption of the substances in the electronics, air-conditioning and refrigeration sectors had to met by imports.[141] It therefore needed to join the Protocol to maintain access to supplies. In these cases the trade restrictions had the desired effects.

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[137] Indeed, she recalls that the general feeling was "why can't the GATT just be ignored?". Interview 6. This sentiment - "that people weren't too aware of the GATT" - is echoed by one of the members of the American delegation. Interview 8.

[138] G. Buxton, "The Montreal Protocol on Substances That Deplete the Ozone Layer", p.11; J. Lang, "Commentary: Some Implications of the Montreal Protocol to the Ozone Convention", pp. 179-85 in W. Lang, H. Neuhold and K. Zemanek (eds), *Environmental Protection and International Law* (London: Graham & Trotman, 1991). In other words, Article 4(8) meant that non-party countries in compliance with the Protocol's provisions would not be discriminated against in trade matters simply because they had not *signed* the Protocol.

[139] See Rowlands, *The Politics of Global Atmospheric Change*, p. 183; Brack, *International Trade and the Montreal Protocol*, pp. 55-57; and L. Collins, "Sanctions Threatened this Summer", *The Jerusalem Post*, 29 April 1992.

[140] Interview 23. Additionally, South Korea as of 1992 no longer met the criteria for assistance from the Multilateral Fund, as it consumed more than the per capita requirement for Article 5 countries, and would therefore not be eligible for financial assistance to help its industries. See also Brack, *International Trade and the Montreal Protocol*, p. 55.

[141] R. Vossenaar and V. Jha, "Implementation of MEAs at the National Level and the Use of Trade and Non-Trade Related Measures: Results of Developing Country Case Studies", pp. 66-86 in A. Fijalkowski and J. Cameron (eds), *Trade and the Environment: Bridging the Gap* (London: Cameron May, 1998), p. 69.

The Protocol has shown flexibility in cases where the strict application of trade measures might undermine the greater goal of the agreement. For example, Malta, Jordan, Poland and Turkey, all non-parties during 1992-93, were given exemptions from Article 4 until they signed the Protocol because they were submitting data that indicated compliance with control measures. The number of non-parties is now very small, and the amount of (current and potential) ODS consumption they represent is also relatively small. Furthermore, there is no indication that non-parties have either remained outside the Protocol to evade control measures or that their activities pose any significant threat to the ozone layer.[142]

The compatibility of Article 4 with the GATT, however, has raised more concern recently than it did when originally included in the Protocol. This coincides in part with an increase in the 'trade and the environment' debate, which was virtually non-existent in 1987.[143] Nor has the GATT Secretariat helped clarify the confusion because, despite their initial silence on the issue, a subsequent 1992 GATT report cast doubt about the compatibility of Article 4 with the General Agreement.[144] Some have suggested that a conflict between the GATT and the Montreal Protocol is unlikely to arise because the Protocol is a strongly supported international agreement and any opposition to it through an appeal to the GATT would leave the country in question isolated within the international community.[145] GATT supporters simply respond that conflict has not arisen, and that it was not necessary to include Article 4, because virtually all the major CFC producers were party to the Protocol.[146] What both

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[142] Brack, *International Trade and the Montreal Protocol*, p. 54.

[143] See section 2.2.

[144] GATT Secretariat, *Report on International Trade, 1990-91* (Geneva: GATT, volume 1, 1992). Then in 1996, the Director of the WTO Trade and Environment Division stated that the trade restrictions were not necessary to the success of the Montreal Protocol. Testimony given by Richard Eglin to the UK House of Commons Environment Committee, 14 February 1996 (author's notes).

[145] A. Taylor, "International Cooperation in Conflict: A Study of the Contradictions between International Trade Agreements and Environmental Responsibilities", *Journal of Environment and Development*, vol. 2, no. 1 (Winter 1993), pp. 123-36; S. Charnovitz, "Trade Measures and the Design of International Regimes", *Journal of Environment and Development*, vol. 5, no. 2 (June 1996), pp. 168-96.

[146] P. Sorsa, "GATT and the Environment: Basic Issues and Some Developing Country Concerns" in P. Low (ed), *International Trade and the Environment* (Washington, DC: The World Bank, 1992), p. 338.

arguments overlook is that the trade restrictions acted as an *incentive* to join the agreement in the first place. It does seem unlikely, however, that a challenge to Article 4 would be brought to the WTO.[147]

3.4 Factors Influencing the Trade Restrictions of the Montreal Protocol

The preceding sections have outlined a general history of the Montreal Protocol and, specifically, the development and origin of the trade restrictions in Article 4. From a cursory reading, it would seem that both environmental and economic concerns were influential in determining that trade restrictions should be employed in this particular MEA. The purpose of this study, however, is to analyse these developments in more depth with the help of the factors that account for regime content. This section considers the inclusion of Article 4 in light of four different factors: power, costs and benefits, knowledge, and institutional forum.[148]

3.4.1 Power and Article 4

The first consideration relates to power. Were the trade restrictions used in the Montreal Protocol due to the preferences of a powerful actor? In keeping with an approach that not only examines state-based power, the preferences of powerful states will be examined but so will the preferences of other important actors such as industry, environmental NGOs and individuals.

Traditional hegemonic stability theory would predict that the most powerful state could dictate the terms of co-operation – the formation of a regime, for example – and, by extension, what the contents of that regime would be. International environmental relations scholars argue, however, that not all types of power are

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[147] For discussion, see J. Lang, "The Problem Was Already Solved: GATT Panels and Public International Law", Paper presented to the Dublin Conference of the International Bar Association, Irish Centre for European Law, November 1994. A resolution to the question of the GATT compatibility of trade restrictive measures taken in MEAs nevertheless remains desirable, if only for the sake of future agreements. See section 6.2.

[148] See section 2.3.2.

fungible. That is, power in one area, such as military strength, may not be transferable to another area such as environmental negotiations. Studies of the formation of the ozone regime support the assertion that traditional analyses of power have little value in explaining the evolution of the Montreal Protocol. Ian Rowlands argues that it is important to recognise the importance of *economic* power in the processes of international co-operation, and Karen Litfin notes that states with little military capability and small economies can influence outcomes as a result of their growing populations, their territorial control of economic and environmental resources, or even their lack of ability to comply with international commitments.[149]

In this view, various actors can be said to exercise issue-specific power in pursuit of environmental goals.[150] Peter Haas discusses environmental issue-specific power and refers to a 'follow the leader' phenomenon when a state with issue-specific power determines the conditions of co-operation with the others following along.[151] While taking note of these arguments, it remains to be seen whether power is exercised the same way in the determination of regime content as it is in regime formation.

When considering the influence of the states that participated in developing the Montreal Protocol, it is clear that the United States played a key role. The US was certainly a powerful actor when considering its economic interests and its scientific expertise in relation to ozone layer depletion. The EC, as well, had significant economic and scientific resources at its disposal – the US and the EC each accounted for about 30 percent of the international CFC market and the original report of the ozone 'hole' was

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[149] Litfin asserts that global environmental politics lends itself to the peculiar phenomenon of the 'power of the weak'; Rowlands suggests that a 'negative hegemony' may be at work such that the power of states may not be in their ability to impose agreement, but in their ability to prevent it. See Litfin, *Ozone Discourses*, p. 2; and Rowlands, *The Politics of Global Atmospheric Change*, pp. 264 and 161, n. 16. For an evaluation of the explanatory power of different theories (power, interests and knowledge) in relation to the *creation* of the ozone regime, see P. Haas, "Stratospheric Ozone: Regime Formation in Stages", pp. 152-185 in O. Young and G. Osherenko (eds), *Polar Politics: Creating International Environmental Regimes* (Ithaca: Cornell University Press, 1993).

[150] R. Keohane and J. Nye first discussed issue specific power in *Power and Interdependence* (Boston: Little, Brown and Co, 1977), pp. 50-51. On issue-specific hegemony, the ability of a single state to play a dominant role with respect to a specific issue, see O. Young and G. Osherenko, "Testing Theories of Regime Collaboration", in V. Rittberger (ed), *Regime Theory and International Relations* (Oxford: Clarendon Press, 1993), p. 229.

[151] P. Haas, "Epistemic Communities and the Dynamics of International Environmental Cooperation", pp. 168-201 in Rittberger (ed), *Regime Theory and International Relations*.

made by the British Antarctic Survey. However, because the US was supportive of an international agreement to limit CFC use, it employed its resources to help achieve that end. Some observers have thus argued that the US acted as an issue-specific hegemon. As Peter Haas notes,

> The issue-specific hegemony of the United States was based on its dominance in science, its diplomatic competence, and its market dominance – 80 to 90 percent of the world's atmospheric science is done in the United States. The Americans sent large and well-prepared delegations to all of the bargaining sessions. The United States sufficiently controlled world production of CFCs so that unilateral action could effectively transform relative prices for consumers elsewhere in the world... Moreover, the United States had the will to use the power it had. Congress could deny foreign producers of CFCs and products containing CFCs access to the US market...[152]

When combined with the fact that the US proposed the use of trade restrictions in the agreement, and that the final form of Article 4 was merely a somewhat stronger version of their original proposal, it might seem that the inclusion of the trade restrictions was indeed the result of the preferences of this powerful actor.

However, although it is true that the economic position of the US was important in the decision to include trade restrictions – other parties were afraid of losing access to American markets if no international agreement was reached – it would be misleading to attribute the inclusion of Article 4 solely to the preferences of the US. While the US was a powerful actor, it was not a hegemon that could just impose its preference for a ban on trade with non-parties on other participants. As Edward Parson has pointed out, "it is not plausible that the United States acting alone could provide sufficient incentives to persuade the rest of the world to adopt its regulations".[153] Indeed, the other main protagonist, the EC, was at least as powerful an actor. The EC did not allow agreement on the trade restrictions to move forward until its concerns regarding export markets –

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[152] P. Haas, "Stratospheric Ozone: Regime Formation in Stages", pp. 152-85 in Young and Osherenko (eds), *Polar Politics*, p. 165.

[153] E. Parson, "Protecting the Ozone Layer", pp. 27-73 in P. Haas, R. Keohane and M. Levy (eds), *Institutions for the Earth: Sources of Effective International Environmental Protection* (Cambridge, MA: MIT Press, 1993), p. 70.

and hence their concern with the GATT – were satisfied.[154] Moreover, the larger developing countries exercised enough significant influence – by virtue of their ability to undermine the agreement by not signing it and avoid the trade restrictions by simply producing CFCs domestically – to have their needs addressed by the creation of the multi-million dollar multilateral fund.[155]

Although the US could threaten unilateral action that would force others to pay close attention to American demands, the US also needed support and reciprocity from other countries. Recall that the US preference was for an international agreement that would maintain a level playing field for its industry, rather than for domestic action which would put its industry at a disadvantage. The US did not have the type of power needed to simply impose its wish for an international agreement with trade restrictions on the other countries. So, despite being a military superpower, this type of power was not relevant in the determination of the outcomes of the Protocol process.

Moreover, the US did not have to impose their preference for trade restrictions on other states. The logic of restricting trade in order to encourage participation and minimise environmental harm was very compelling also to less powerful actors, who did not need to be 'coerced' to agree by more powerful parties.[156] So while the inclusion of Article 4 was a preference of the most powerful actor – and the US took actions which support this by threatening unilateral trade measures – the trade restrictions were a feature which could be supported by other parties independently of US persuasions.

Consideration of the preferences of powerful actors other than states reveals additional insights. First, it has already been shown above how industry was a powerful

[154] The inclusion of trade restrictions was linked to the resolution of other issues – such as competitiveness issues addressed by the definition of 'consumption' and how much production would be allowed for export. See section 3.3.3.

[155] Krueger, "Trade Restrictions and the Montreal Protocol" in Tussie (ed), *Environmental Issues in North-South Trade Negotiations*. Although outside the scope of this thesis, a consideration of other aspects of regime content might reveal that they cannot solely be explained due to the preferences of the most powerful actor. The US was very much against the creation of the Multilateral Fund, for example, but was eventually persuaded to agree to it.

[156] Interview 8.

influence in the establishment of the Montreal Protocol.[157] While industry would have preferred as little regulation as possible, once control measures were going to be initiated by the participating states, industry preferred a level playing field with respect to the international market. Industries in non-party countries should not be allowed to gain competitive advantage by not being subject to the control measures of the regime, and should therefore be excluded from markets by the use of trade restrictions. However, it is important to again emphasise that the subject of the trade restrictions was linked to the larger questions of market access and the costs of compliance with the control measures. Agreement on these issues was conditioned by environmental as well as economic concerns which were not in the power of industry to control. Industry, although clearly an influential actor, could not determine the exact content of any of the regime's components.[158]

Second, NGOs played a notable role in the development of the Montreal Protocol and it is worth investigating their contribution to the inclusion of Article 4.[159] With respect to ozone layer depletion generally, NGOs played their most significant role in influencing national governments and raising public awareness of the problem by campaigns against companies using CFC products like spray cans. Their influence at the international negotiations was not significant until 1989, and therefore they could not

[157] Noting the importance of the industry coalition in the US case, Haas states that "the range of options open to negotiators is determined to a large extent by domestic coalitions that have formed around different policy options". Haas, "Stratospheric Ozone: Regime Formation in Stages" in Young and Osherenko (eds), *Polar Politics*, p. 168. Litfin also argues that, "as the largest CFC producer and the leading researcher for replacement compounds, Du Pont was a major force in shaping the tone of the policy debates" and that "in those countries where industry-related agencies were most influential, namely Britain, France and Japan, the governments were slowest to back stringent controls". Litfin, *Ozone Discourses*, pp. 94 and 182. Finally, Rowlands states that "throughout the issue's history, the potential impact of any regulatory legislation upon the major states' domestic chemical industries was a key determinant of governments' actions". Rowlands, *The Politics of Global Atmospheric Change*, p. 151.

[158] Industry, however, probably had more direct influence over the negotiations than any other non-state actor. It was not uncommon for industry representatives to serve on national delegations, especially for the EC countries and Japan. See Sand, "Protecting the Ozone Layer: The Vienna Convention is Adopted", *Environment*, vol. 27, no. 5 (1985), pp. 19-23; and Parson, "Protecting the Ozone Layer" in Haas, Keohane and Levy (eds), *Institutions for the Earth*, p. 37.

[159] On the involvement of NGOs in the Protocol, see Rowlands, *The Politics of Global Atmospheric Change*, pp. 227-29.

have influenced Article 4.[160] The only evidence that NGOs were influential on the issue of the trade restrictions stems from the example of the NRDC. In their lawsuit against the US EPA, the NRDC not only helped to keep the ozone issue on the agenda, but created concern regarding the possibility that the US might have to take unilateral trade-related action. This concern was a significant factor in the drive to reach international agreement. Overall, however, NGOs were less concerned with the trade aspects of the regime than with the strength of the control measures.

Last is the potential influence of various 'leaders' – such as scientists or key individuals. In the context of international negotiations, leaders are individuals who are influential in determining the outcome of the process. Leadership can take different forms: first, there are structural leaders who bring the structural resources of an actor (usually a state) to bear as bargaining leverage; second, entrepreneurial leaders use their negotiating skills to influence the process; and third, intellectual leaders who rely on the power of ideas.[161] In the case of the Montreal Protocol, most accounts stress the important role played by the Executive Director of UNEP, Mostafa Tolba, as an entrepreneurial and intellectual leader.[162] Similarly, US head delegate Richard Benedick has been identified as a structural and entrepreneurial leader.[163] Benedick used the threat of the trade restrictions proposed by the US Senate as a means of putting pressure on other participants.[164] With respect to the inclusion of Article 4, however, it is difficult to

[160] Benedick reports that only a few NGOs were at the original Montreal meeting, whereas by 1989 there were 93 environmental and citizen's groups at the London Conference on Saving the Ozone Layer. See R. Benedick, "Perspectives of a Negotiation Practitioner", pp. 219-43 in G. Sjöstedt (ed), *International Environmental Negotiation*, p. 227.

[161] These are the categories of leadership proposed by Young and Osherenko in *Polar Politics*, pp. 18 and 254-55. Rowlands considers a similar factor of 'political entrepreneurs'. Rowlands, *The Politics of Global Atmospheric Change*, p. 223.

[162] Haas, "Stratospheric Ozone: Regime Formation in Stages" in Young and Osherenko (eds), *Polar Politics*, p. 174; Rowlands, *The Politics of Global Atmospheric Change*, pp. 223-24; Benedick, *Ozone Diplomacy* (1991), p. 208. Tolba in his own words noted that rather than adopt a "passive role", he moved UNEP "away from the traditional noncommital neutral attitude of international organizations". M. Tolba, "The Story of the Ozone Layer: Lessons Learned and Impacts on the Future", pp. 19-25 in LePrestre, Reid and Morehouse (eds), *Protecting the Ozone Layer*, p. 22.

[163] Haas, "Stratospheric Ozone: Regime Formation in Stages" in Young and Osherenko (eds), *Polar Politics*, p. 175.

[164] Litfin, *Ozone Discourses*, p. 109.

isolate the influence of any particular leader beyond their importance in the overall establishment of the regime. The trade measures were not included due to the influence of a powerful individual leader.

The evidence suggests that there is some correlation in this case between the preferences of the most powerful actor (defined as the United States) and the inclusion of the trade restrictions, as well as the form that the trade measures took. Article 4 was proposed by the US, and the international community had to take that proposal seriously. It seems reasonable to assert that if the proposal had come from a less powerful actor, and had the US been opposed to it, trade restrictions would likely not have been included. However, there are several factors that counsel against relying on the 'power factor' alone. First, the US was perhaps the most powerful actor, but it was neither the only powerful actor nor a hegemon. While the inclusion of Article 4 is consistent with the interests of the US, it was only included once agreement on other issues had been reached with other parties who were also exercising power; in this case, the EC using its leverage to delay agreement on Article 4 until other concerns were addressed. Second, the nature of the problem and the benefits gained by using trade restrictions meant that less powerful states also agreed to the inclusion of Article 4. In essence, since there was no need to impose the US preference for trade restrictions on others, power-based approaches to regime theory cannot account for regime content in this case.

3.4.2 Costs, Benefits and Article 4

The second factor accounting for regime content is costs and benefits. If parties negotiating an MEA regard the perceived benefits of incorporating trade restrictive measures as being greater than any perceived costs, is there a greater likelihood that such measures will be employed? What factors influence the perceptions of benefits and costs and can these perceptions change (and if so, how and why)?

When considering what role the calculation of costs and benefits played in the decision to include trade restrictions in the Montreal Protocol, an outline of what potential benefits and costs might have been perceived to arise as a result of Article 4 is

useful. Recall that both environmental and economic concerns were motivating the actors in the negotiations leading up to the Montreal meeting when Article 4 was first adopted. A potential benefit of including trade restrictions is the increased likelihood of maximising the number of participants in the regime – to increase the possibility of rectifying the environmental problem and to prevent free riding. Another benefit is the potential of creating markets for alternative substances that might be produced as a result of the control measures. Perceived costs of trade restrictions relate to the loss of markets in a specific substance or product, increased prices for both regulated and new substances, and potential conflicts with the rules of the global trade regime.

It is important not to underestimate the fact that, in the pre-Montreal period, US industry faced potential unilateral CFC reductions and a trade ban that, if enacted, would be highly costly in terms of competitiveness and loss of market share. Thus, the prospect of domestic restrictions in the US was a factor in pushing for an international agreement because relatively early on the US had assessed the costs of a unilateral trade ban as high whereas the costs of international trade restrictions would be acceptable.

During the negotiations after the Vienna Convention, when international regulation looked increasingly likely, the EC countries – the UK and France particularly – were concerned about their export markets. In their view, the US proposal for trade restrictions with non-parties looked to entail high costs. However, the costs of the trade restrictions themselves were actually linked to other issues – because trade concerns markets, and markets can be influenced in different ways. For the EC, the perception of the costs of the trade restrictions decreased significantly once the definition of 'consumption' was agreed. Because the control measures allowed a slight increase in production for export to Article 5 parties of the regime, the EC countries could retain export markets as long as their customers were also persuaded to sign the Protocol, since the trade restrictions only applied to non-parties. Thus, the form the trade measures took was also influenced by these calculations of costs and benefits, which were in turn related to the concerns about competitiveness and markets.

After this point, the perception by the two main protagonists – the Toronto Group and the EC – was that the benefits of having Article 4 as a part of the package of measures in the Protocol were greater than its costs. The only remaining question was

the time and incentives needed for the EC to persuade its customers to sign on.[165] In the US, studies by both the EPA and the Council of Economic Advisers concluded that the "regulations to implement the Montreal Protocol were highly cost-effective".[166] Furthermore, if the main international producers were party to the Protocol, and it achieved widespread compliance, markets for substitutes would also be secured, thus ensuring European support.[167] All of these factors combined in such a way that by September 1987, the two main protagonists agreed to the inclusion of Article 4 in the Montreal Protocol.

The question of potential conflict with the GATT as a 'cost' of introducing Article 4 also arises. Whether the EC reaction to the US proposal – to study the feasibility of trade restrictions – was simply a delaying tactic while other issues were still under negotiation or based on a genuine concern for possible conflict between the GATT and the Protocol, or some mixture of both, is not obvious. However, the combined evidence – the acceptance of the opinion of the GATT expert regarding potential conflict, the inclusion of Article 4(8) as an attempt to avoid conflict, and the general feeling that the GATT was not as important as other considerations – suggests potential conflict with the GATT was not seen as a significant cost to the inclusion of Article 4.

When combined with the acceptance of the logic that the trade measures would maximise adherence to the Protocol and thus improve the chances of achieving the environmental goal of protection of the ozone layer, it is clear that the benefits of the trade restrictions most certainly outweighed the costs, at least for the industrialised countries. However, developing countries had different concerns, and the period after

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[165] Hence the original clause *allowing* exports to non-parties for Article 2 (OECD) countries, but that after 1993 exports would have to count as consumption. Recall that the London Amendments instituted an export ban for *all* parties.

[166] J. Hammitt and K. Thompson, "Protecting the Ozone Layer", pp. 43-92 in J. Graham and J. Hartwell (eds), *The Greening of Industry: A Risk Management Approach* (Cambridge: Harvard University Press, 1997), p. 64.

[167] However, it might be noted that industry might have over-estimated the degree to which the prices for substitutes in those markets would be profitable. Brack reports that industry is experiencing much slower than expected returns on investments for fluorocarbon alternatives to CFCs. See Brack, *International Trade and the Montreal Protocol*, p. 31. Had this been known at the time, surely industry would have been more stringent in opposing accelerated phase-out schedules and perhaps the trade measures.

Montreal when they became more active in the negotiations reflects this. Whereas the industrialised countries may have calculated the costs and benefits of Article 4 in terms of maintaining market access, competitive advantage and maximising the ability of the Protocol to achieve its environmental goal, developing countries were calculating on a different basis. They were concerned with the possibility of price increases for scarce chemicals and their substitutes, with maintaining reliance on a handful of producers for obsolete equipment – such as air conditioners using CFCs – and with the potential future regulation of chemicals like methyl bromide, which would open up the possibility that the trade restrictions would prevent market access for developing country goods like cut flowers.[168]

While the developing countries may have been sympathetic to the overall objective of protecting the ozone layer, and seen the benefit of the trade restrictions in achieving this end, their different circumstances resulted in a different perception of the costs and benefits of Article 4. This situation was essentially dealt with by ensuring that the terms of the Protocol made the benefits of joining the regime greater than the costs. While smaller developing countries may have been persuaded to join by the need to maintain supplies that would have been cut-off if they remained outside the Protocol, the larger developing countries required something more – the Multilateral Fund. For some developing countries, the creation of the Multilateral Fund was at least as important as the trade restrictions in helping them to determine that the benefits of signing the Protocol were greater than the costs.[169]

The trade restrictions were thus included in the Montreal Protocol only when they were perceived by the main countries involved – Article 2 countries – to have greater benefits than costs. The US calculated the benefits of trade restrictions to be greater than the costs of unilateral measures that might have had to be taken in the absence of international agreement. The EC, on the other hand, had to be persuaded of

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[168] Haas also argues that the developing countries calculated social disruption from denying their populations CFC-goods such as refrigerators as being greater than the social costs resulting from ozone depletion. Haas, "Stratospheric Ozone: Regime Formation in Stages" in Young and Osherenko (eds), *Polar Politics*, p. 160.

[169] See Krueger, "Trade Restrictions and the Montreal Protocol" in Tussie (ed), *Environmental Issues in North-South Trade Negotiations*.

the benefits of trade restrictions by concessions made in other areas, such as the allowed increase in CFC production for export. In explaining the inclusion of Article 4, costs and benefits play a central role as predicted by interest-based approaches to regime theory. Interest-based approaches therefore appear to account for the regime content in this case.

3.4.3 Knowledge and Article 4

Cognitive approaches in regime analysis have stressed the importance of knowledge and ideas in the process of regime formation. Can regime content also be explained by the activities of an epistemic community actively promoting the use of trade restrictive measures?

It is generally recognised that scientific knowledge had several impacts on the Montreal Protocol. The evolving science of ozone depletion and its terrestrial effects influenced the timing of the creation of the Protocol and catalysed the negotiating process. By highlighting, for instance, that a 50 percent reduction in CFCs would not significantly reduce ozone depletion, scientists also encouraged increased stringency in the control measures – reductions on production and consumption of ODS – as the Protocol developed. Many other factors relating to economic and political considerations were, however, key to determining the timing and content of the agreement. Analysts agree that scientific consensus by itself cannot account for the creation of the Protocol; nor was it the work of an epistemic community.[170]

The concern here, however, is not with regime formation but with regime content, and more specifically the trade restrictions of the Montreal Protocol. A review of the case failed to find any group of actors advocating the use of trade restrictions that acted as, or could qualify as, an epistemic community.[171] The analysis revealed no pattern of any group composed of scientists and policy-makers who acted jointly,

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[170] Rowlands, *The Politics of Global Atmospheric Change*, p. 95; Litfin, *Ozone Discourses*, p. 79. See also B. Seaver, "Stratospheric Ozone Protection: IR Theory and the Montreal Protocol on Substances that Deplete the Ozone Layer", *Environmental Politics*, vol. 6, no. 3 (Autumn 1997), pp. 31-67 (p. 50).

[171] The qualifications for an epistemic community are outlined in section 2.1.2.

informed by shared scientific ideas about the utility and appropriateness of trade restrictions to address environmental protection under the agreement. The task of advocating trade restrictions instead fell to individual governments like the US, who supported the measures for both environmental and economic reasons. They were pushed by domestic actions of groups like the NRDC – pursuing unilateral measures – and by industry – fearful of a loss of competitive advantage and therefore seeking international trade restrictions. The EC was influenced by other conditions. European industry was concerned with both production cuts and potential loss of export markets. The inclusion of trade restrictions was thus not the result of any efforts of an epistemic community.

3.4.4 Institutional Forum and Article 4

The fourth factor under examination here relates to the institutional forum in which an MEA is negotiated. Are trade restrictive measures more likely to be incorporated into an MEA when that agreement is negotiated in an institutional forum, such as UNEP, sympathetic to using a range of options, including trade measures, to achieve environmental goals?

In the case of the Montreal Protocol, the regime clearly developed under the auspices of UNEP. At the outset of the process, however, UNEP was not seen by all countries to be the most logical place to address the issue because of its small staff and its location in a developing country. Since the industrialised countries had a greater interest in the problem at this time – both scientifically and economically – the OECD was suggested as the venue to address the problem internationally.[172] In the early 1980s, however, this interest decreased after the first attempts at domestic regulation. At the same time, UNEP – which had already been involved in the World Plan of Action on the Ozone Layer and the creation of the Coordinating Committee on the Ozone Layer – increased its efforts to co-ordinate an international response. At the suggestion of several Scandinavian countries, UNEP established a Working Group to elaborate an

[172] Litfin, *Ozone Discourses*, p. 74; I. Mintzer and A. Miller, "Stratospheric Ozone Depletion: Can We Save the Sky?", pp. 83-91 in H. Bergesen et al (eds), *Green Globe Yearbook* (Oxford: Oxford University Press, 1992).

international convention and from that time UNEP emerged as the main sponsor of the Montreal Protocol.[173]

A first consideration regarding the influence of UNEP on the inclusion of trade restrictions is representation. Participants sent to represent their governments at negotiations for a global environmental treaty under UNEP auspices were mainly from environment and foreign ministries – as opposed to representatives from treasury and trade departments. Section 3.3.4 showed how at least some of the participants were initially unaware or unconcerned with the potential GATT implications of Article 4. Thus, as a bureaucratic politics approach would suggest, representatives of environment ministries would be less reluctant to consider trade controls than would representatives from a trade and industry ministry.

This is not to suggest, however, that UNEP's impact on representation was so strong that other non-environmental interests were not involved. In fact, those negotiating the Protocol had to be aware of a range of environmental as well as economic interests. The negotiating group did, after all, create a sub-group to discuss trade issues related to the draft Protocol. Nevertheless, the environmental forum of UNEP was less politicised with respect to sensitive issues regarding economic and equity interests than another forum – such as the UNGA – might be and therefore more control options, including trade restrictions, were 'on the table'.[174]

The timing of the negotiations was another factor because the trade and environment debate was much less significant in 1986-87 than it has subsequently become. In such a forum, proposals that might be more controversial in another setting – such as the need to restrict trade with non-parties – are given a hearing and it is more likely that they could be adopted. Within the Meeting of the Parties, for instance, the rules of procedure are adapted from those used in the UNEP Governing Council and allow non-governmental organisations to participate as observers.[175] This may be

[173] Except for a brief period following the signing of the Vienna Convention where some nations proposed – unsuccessfully – that the WMO, rather than UNEP, host the Convention Secretariat and subsequent negotiations. Benedick, *Ozone Diplomacy* (1998), p. 46.

[174] Interviews 1, 5 and 6.

[175] Széll, "Negotiations on the Ozone Layer" in Sjöstedt (ed), *International Environmental Negotiation*, p. 39.

contrasted with the rules of procedure of the WTO Committee on Trade and Environment that, even when discussing international *environmental* agreements, do not allow NGO participation.

The evidence suggests that having the Montreal Protocol negotiated under the auspices of UNEP was important in terms of the 'atmosphere' that was created.[176] Participants were subject to fewer 'outside' pressures than if the ozone regime been negotiated somewhere else. Experiences from UNCED or the Framework Convention on Climate Change – both under UN General Assembly auspices – indicate that agreement on global environmental issues becomes more difficult when the forum of negotiation is highly politicised.[177] A relatively narrowly designed body such as UNEP does not deal explicitly with the controversy arising from the use of trade measures to pursue environmental goals and GATT implications, whereas it is more difficult for a larger body such as the UNGA or the WTO to ignore the broader debates regarding trade and the environment.[178]

Thus, the fact that the Protocol was negotiated under the auspices of UNEP was an important factor in providing an atmosphere in which otherwise controversial ideas about restricting trade might not gain a hearing. It is far from a sufficient condition, however, to explain why trade measures were adopted. As a result, the other factors discussed here (interests in particular) play a stronger role in accounting for the inclusion of Article 4.

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[176] Interestingly, the Secretariat of the Montreal Protocol is the only MEA examined in this thesis that has its secretariat co-located with UNEP headquarters in Nairobi. Most other secretariats – even UNEP ones – are in Geneva, Bonn or other European or North American cities.

[177] The debate regarding trade and environment in Agenda 21 (section 1.2) is instructive in this case. There, the various participants were intensely concerned about the implications of appearing to allow the use of trade measures for environmental purposes. See the account of the Argentinean delegate, O. Avalle, "The Decision-making Process from a Developing Country Perspective", pp. 135-47 in B. Spector, G. Sjöstedt and I. Zartman (eds), *Negotiating International Regimes: Lessons Learned form the United Nations Conference on Environment and Development* (London: Graham & Trotman, 1994). On the FCCC, see note 5 in Chapter 5. The experience of post-UNCED MEAs is also outlined in Chapter 5.

[178] Interview 26.

3.5 Summary

An examination of the inclusion of trade restrictive measures in the Montreal Protocol suggests that a variety of factors were responsible both for the decision to employ trade restrictions and for the particular shape that the restrictions took. The US was a powerful actor advocating trade restrictions, but was not a hegemon able to simply impose Article 4 on the other actors. Hence, power alone cannot account for the inclusion of trade restrictive measures as regime content.

The calculation of the costs and benefits of the trade restrictions was, however, quite a significant factor in this case. The perceived benefits of Article 4 were that it would encourage participation in the regime, provide markets for substitutes, and not be overly disruptive economically. These were important elements for both of the two main actors in the initial negotiations. For the US, including the trade measures levelled the economic playing field for American exporters and made the agreement more 'watertight'. The initially low rate of CFC reduction (50 percent) and an exemption to allow for exports to parties encouraged the EC to see the trade restrictions as beneficial and as a part of a larger package not outweighed by economically damaging costs. Had either the US or the EC perceived that the costs of the trade restrictions outweighed their benefits, it is unlikely that they would have remained part of the Protocol's regulatory package.

While developing countries did not play a significant role in the negotiation of Article 4, they were subsequently influenced by the trade measures in different ways. Many smaller developing countries with either export markets for products made with ODS or a need to maintain supplies from industrialised Protocol parties, found the trade measures to be an incentive to be inside the regime. Yet for larger developing countries with large internal markets for CFCs and products containing them, the trade measures alone did not sufficiently increase the benefits of joining the agreement; another type of incentive – the Multilateral Fund – was required.

There is no evidence that any epistemic community influenced the inclusion of Article 4. No group qualifying as an epistemic community could be found promoting the trade restrictions. Rather, Article 4 was the product of the US proposal and the resolution of the EC's underlying economic concerns regarding exports.

Lastly, the institutional forum of UNEP provides only a partial explanation regarding the inclusion of the trade measures. During the 1986 to 1987 period when the Protocol was negotiated, UNEP was a strongly environmental forum where trade considerations, while notable, were not the over-riding concern. Montreal Protocol negotiators took the possible conflict with the GATT seriously, but did not think that their efforts to protect the global ozone layer would be compromised by restricting trade to achieve their environmental objectives.

Chapter Four

Trade Restrictions and the Basel Convention

The 1989 *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* seeks to protect human health and the environment from the negative effects of hazardous wastes and create a framework for their environmentally sound management. Negotiated under the auspices of UNEP, this pre-UNCED Convention regulates the international trade in hazardous wastes and contains a prohibition on hazardous waste exports from OECD to developing countries for final disposal and certain shipments for recycling or recovery. Unlike the Montreal Protocol, the regime is mainly structured around trade regulation and does not use trade restrictions as part of a larger package of measures designed to reduce a transboundary environmental hazard.

This chapter outlines the trade restrictive elements of the Basel Convention and examines them in light of the four factors that account for regime content. The first section introduces the problems related to transboundary movements of hazardous wastes and discusses some of the early regional and international policy responses before turning in the second section to an analysis of the Basel Convention and its subsequent development. The third section examines the inclusion of the trade restrictive provisions. The fourth section discusses the Convention's trade restrictions with respect to the four factors, while the fifth and final section summarises the findings.

4.1 Background to the Basel Convention: Hazardous Waste and its Transboundary Movement

Wastes, as by-products of industrial or household activity, exist in many forms – solid, liquid and gaseous. Hazardous wastes can range from materials contaminated with dioxins and heavy metals such as mercury, cadmium or lead, to organic wastes that are generally considered less hazardous. The waste may take many forms, from barrels of liquid waste, to sludge, old computer parts, used batteries or incinerator ash. In industrialised countries, industry and mining are the main sources of hazardous wastes,

though small-scale industry, hospitals, military establishments, transport services and small workshops all contribute to the generation of large and diverse quantities of hazardous waste in both the industrialised and developing worlds.[1]

Despite various attempts at elaborating an internationally agreed definition, there is no generally recognised, detailed and practical definition of "hazardous waste".[2] Industrialised countries receive some guidance from the OECD and EU. The OECD, for example, defines hazardous wastes as "wastes which, if improperly managed or disposed, could harm man and/or the environment because they are toxic, corrosive, explosive, combustible, etc".[3] This definition excludes most municipal or household wastes, as well as nuclear wastes, and generally refers to industrial or agricultural wastes.[4] But many countries have national definitions of hazardous waste that correspond neither with regional definitions (such as that of the EU) nor international definitions (such as the Basel Convention). Moreover, the definition of certain hazardous waste used in a country for its national purposes may not necessarily be used for the export and import of such wastes.

The Basel Convention defines wastes as "substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law".[5] The Convention then goes on to define disposal as any "operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative use" (i.e. final disposal). Disposal also means any "operations which may lead to resource recovery, recycling, reclamation, direct re-

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[1] UNEP/Secretariat of the Basel Convention, *The Basel Convention: A Global Solution for Controlling Hazardous Wastes* (New York/Geneva: United Nations, 1997), p. 1.

[2] K. Kummer, *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules* (Oxford: Clarendon Press, 1995), p. 5.

[3] OECD, *Monitoring and Control of Transfrontier Movements of Hazardous Wastes* (Paris: OECD Environment Monograph No. 34, 1993), p. 7.

[4] Nuclear or radioactive wastes are not controlled by the same international regulations as hazardous wastes, but rather under IAEA provisons. See A. Blowers, D. Lowry and B. Soloman, *The International Politics of Nuclear Waste* (London: MacMillan Press, 1991). Accordingly, this chapter will not consider radioactive wastes.

[5] UNEP, "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal", UNEP/IG.80/3 (22 March 1898), Article 2(1). Hereafter *Basel Convention*.

use or alternative uses".[6] In other words, to dispose of something, in Basel terms, is also to recycle it.

Hazardous wastes should only be disposed of in an environmentally sound manner; however, in practice they may be disposed of in several ways. The cheapest and most environmentally dangerous way is simply to dump the wastes in an open pit or landfill. A better option is to use a specially engineered landfill where wastes are placed into lined cells that are capped or isolated from each other to prevent leakage and contamination of the surroundings. High temperature incineration is another common method of disposing of certain hazardous wastes (such as polychlorinated biphenyls, PCBs), but is more costly than landfilling and can result in airborne contamination if done improperly. However, an increasingly used procedure for dealing with some hazardous wastes is to recycle or re-use elements in the waste – such as extracting lead from used lead-acid batteries for use in new batteries.

Improper handling and disposal of wastes and hazardous wastes can affect human health and the environment through leakage of toxins into ground water, soil, waterways, and the atmosphere. Environmental and health effects can be immediate – such as on-site human exposure to toxins in the waste – or long-term – contaminated waste leaches into groundwater or soil and then into the food chain. There are also economic costs associated with the damage caused by hazardous wastes: cleaning up old and contaminated waste sites can be costly for local authorities. This factor is magnified if the wastes are located in poor communities without the proper resources and know-how to properly manage the waste.[7] Chapter 20 of Agenda 21, the action-plan for the implementation of sustainable development agreed at UNCED in 1992, asserts that:Human health and environmental quality are undergoing continuous degradation by the increasing amount of hazardous wastes being produced. There are increasing direct

[6] *Basel Convention*, Article 2(4) and Annex IV.

[7] L. Strohm, "The Environmental Politics of the International Waste Trade", *Journal of Environment and Development*, vol. 2, no. 2 (Summer 1993), pp. 129-53 (p. 6).

and indirect costs to society and to individual citizens in connection with the generation, handling and disposal of such wastes.[8]

Both the final disposal and recycling of hazardous wastes can result in negative environmental and health affects, and, in the absence of adequate safeguards, recycling and recovery operations can result in greater health dangers given the higher level of worker exposure and handling.[9]

International awareness of the problems associated with the trade in hazardous wastes increased noticeably during the 1980s. There was increasing concern that rich, industrialised countries would export wastes to poor, developing countries lacking the administrative and technological resources to dispose of or recycle it safely. Exporting wastes to countries with low disposal costs – i.e. lower labour costs and less stringent environmental regulation – could thus yield considerable profit. Combined with the increased concern for environmental issues that characterised public opinion in industrialised countries in the late 1980s, these elements formed the wider international context in which the Basel Convention was signed in 1989.[10]

Several prominent cases of illegal or mismanaged international hazardous waste movements occurred during this period. Beginning in 1986, the cargo ship *Khian Sea* spent nearly two years at sea searching for a disposal site for its 14,000 tonne cargo of incinerator ash from Philadelphia. Nearly 4,000 tonnes of the ash were dumped on a beach in Haiti – having been labelled as soil fertilizer – and, after being denied access to several other ports, the ship changed its name twice and then dumped the remainder of the ash somewhere between the Suez Canal and Singapore.[11] In 1987, the two Italian firms sent almost 4,000 tonnes of PCB contaminated waste to Koko, Nigeria, under the

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[8] United Nations, *Agenda 21: The United Nations Programme of Action from Rio* (New York: Department of Public Information, 1992), Chapter 20, paragraph 20.9.

[9] OECD, *Trade Measures in the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* (Paris: OECD, COM/ENV/TD(97)41/FINAL, May 1998), p. 5.

[10] For a good popular account of the developments during this period. See B. Moyers, *Global Dumping Ground: The International Traffic in Hazardous Waste* (Cambridge, UK: The Lutterworth Press, 1992).

[11] As a postscript to the *Khian Sea* case, around 2,000 tonnes of the ash were to be returned to the US in 1998 and the dumpsite cleaned up; see "New York Tries to Clean Up Ash Heap in the Caribbean", *The New York Times*, 14 January 1998, p. 5. However, as of June 1999, the waste remains in Haiti; see "Haiti: No Welcome Mat for Return of US Wastes", *InterPress Service* (13 June 1999).

label of substances "relating to the building trade", where they were stored in a farmer's backyard for a small fee. The barrels containing the wastes, stored without precautions, began to leak before authorities discovered the problem and many of the cleanup workers were hospitalised. The Italian government was forced to remove the waste and the Nigerian government threatened the death penalty to anyone caught trading in hazardous wastes.

In 1991-92, Albania received toxic chemicals and pesticides from Germany – banned in the EC since 1983 – under the guise of "humanitarian aid" for Albania's agricultural sector. In 1996, a German company was found to have shipped 560 tonnes of mixed plastic waste (partly contaminated with chemicals and outdated medicine) to Beirut that was declared to be plastic raw material for industrial production.[12] In late 1998, between 3,000 and 4,000 tonnes of mercury-contaminated concrete waste packed in plastic bags was found in an open dump in the town of Sihanoukville, Cambodia. The waste, labelled as "construction waste" on import documents, came from a Taiwanese petrochemical company called Formosa Plastics and was subsequently implicated in the deaths of at least two local people. The presence of the toxic material also caused a riot and panicked exodus from the town, resulting in four more deaths. The waste was eventually returned to Taiwan and now awaits its future while being stored on a ship in a Taiwanese port – Formosa Plastics has so far tried unsuccessfully to have the waste sent to disposal facilities in California and Idaho. In June 1999, a Cambodian court sentenced two Taiwanese businessmen to jail terms and fines in connection with the dumping.[13]

4.1.1 The Generation of Hazardous Wastes

Exact figures regarding the amounts of hazardous waste generated internationally are quite difficult to obtain. In 1995, the International Maritime Organization noted that "the level of quantitative information that is available on hazardous waste generation

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[12] In both the Albanian and Lebanese cases, the wastes were returned to Germany.

[13] "Cambodian Court Convicts Taiwan Men Over Dumping", *Reuters Newswire*, 17 June 1999.

around the world is sparse".[14] Waste is, after all, usually an unwanted by-product of commodity production and consumer consumption. Unlike CFCs, that, until they were discovered as the culprits of stratospheric ozone depletion, were widely hailed as 'wonder chemicals', hazardous waste by definition does not carry a positive association. Moreover, trade data is usually collected at a level of aggregation that does not allow hazardous wastes to be distinguished from other wastes or products in a similar statistical category.

Despite these limitations, there are some sources of information on hazardous waste generation. UNEP estimates the total annual world-wide generation of hazardous wastes to be between 300 and 500 million tonnes.[15] During the late 1980s, the OECD estimated that hazardous waste generation within the OECD was around 300 million tonnes per year (of which the US accounted for around 260 million tonnes), while Eastern European countries generated around 19 million tonnes and other non-OECD countries accounted for approximately 16 million tonnes.[16] OECD data from the 1990s indicates that the generation of hazardous waste increased in that region from 258 million tonnes in 1991 to 323 million tonnes in 1993.[17] In some of the rapidly developing countries of Asia, the technical and regulatory structures required for proper hazardous waste management cannot keep pace with industrialisation. Thailand, for example, generated approximately 1.9 million tonnes of hazardous waste in 1990 – a figure which is expected to quadruple by 2001.[18] Such figures must however be treated with care because of the different definitions of hazardous waste. At a general level, though, there appears to be a global increase in the generation of hazardous wastes.

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[14] International Maritime Organization, *Global Waste Survey: Final Report* (London: IMO, 1995).

[15] UNEP/Secretariat of the Basel Convention, *The Basel Convention: A Global Solution for Controlling Hazardous Wastes*, p. 1.

[16] Kummer, *International Management of Hazardous Wastes*, p. 5.

[17] OECD, *Transfrontier Movements of Hazardous Wastes: 1991 Statistics* (Paris: OECD, 1994); OECD, *Transfrontier Movements of Hazardous Wastes: 1992-93 Statistics* (Paris: OECD, 1997). Data from the US indicates that it generated about 279 million tons of hazardous wastes in 1995. See www.epa.gov/epaoswer/osw/basifact.htm#hazwaste (accessed 6 August 1999).

[18] R. Repetto, *Trade and Sustainable Development* (Geneva: UNEP Environment and Trade Series #1, 1994), p. 4. However, the economic downturn in South East Asian economies during 1997-98 may lead to less hazardous waste generation by 2001 than was expected in 1990.

4.1.2 International Movements of Hazardous Wastes

Accurate information regarding the exact scale and direction of flows of international hazardous waste transfers is also difficult to obtain. As with determining quantities of hazardous waste generation, a key problem in determining the scale of the international waste trade is that the definition of hazardous waste can vary from country to country, and the definition employed by the non-governmental sector (e.g. Greenpeace) is sometimes different again. Moreover, there are differences in the reporting systems for exports and imports in various countries, and often failure or inability to provide data about waste trading, hazardous or otherwise.

Available statistics indicate that about 10 percent of generated hazardous wastes are shipped across international boundaries and that the majority of this waste is traded between OECD countries.[19] A report from UNEP also suggested that several hundred thousand tonnes of hazardous waste moved from OECD to non-OECD countries each year until 1994.[20] Using data for both legal shipments and schemes that were uncovered and claimed to be illegal, Greenpeace has suggested that – prior to the coming into force of the Basel Convention in 1992 – approximately 5.2 million tonnes of hazardous wastes were exported by industrialised states to eastern Europe and developing countries in the period 1986-90, and 2.5 million tonnes exported from OECD to non-OECD countries between 1989 and March 1994.[21]

While it remains difficult to quantify precisely how much hazardous waste moves across international boundaries, the data in Table 1 shows that total exports from OECD countries increased between 1990 and 1991, then began to decrease towards 1994. It has been suggested that the decline in OECD exports, at least for wastes destined for final

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[19] UNEP/Secretariat of the Basel Convention, *The Basel Convention: A Global Solution for Controlling Hazardous Wastes*, p. 1. The OECD estimates that about 80 percent of the (legal) trade occurs between OECD countries, with 10-15 percent going to eastern Europe and the remainder to developing countries.

[20] K. Kummer, *Transboundary Movements of Hazardous Wastes at the Interface of Environment and Trade* (Geneva: UNEP Environment and Trade Series #7, 1994), p. 7.

[21] J. Vallette and H. Spalding (eds), *The International Trade in Wastes: A Greenpeace Inventory* (Washington, DC: Greenpeace USA, 1990); Greenpeace, *Database of Known Hazardous Waste Exports from OECD to non-OECD Countries, 1989-March 1994* (Amsterdam: Greenpeace, 1994).

disposal (rather than for recycling), could be due in part to the increasing stringency of the Basel regime.[22] The 1994 second Conference of Parties to the Basel Convention introduced an immediate OECD to non-OECD export ban in hazardous wastes for final disposal and, by 1998, for recycling and recovery.[23] However, export regulations within the EU and OECD have also become increasingly strict, so it is difficult to attribute the causes of these trends to the Basel Convention with certainty.[24]

Table 1: OECD Exports of Hazardous Wastes, 1990-95

	1990	1991	1992	1993	1994[25]	1995
Total Hazardous Waste Exports from OECD countries (tonnes)[26]	1,801,108	1,941,317	1,425,962	1,396,470	1,299,315	No precise data[27]
Average share going to Final Disposal (%)[28]	53.1	51.3	49.8	41.6	32	22
Average share going to Recovery (%)	46.9	48.7	50.2	58.4	68	78

source: OECD, *Trade Measures in the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, Paris: OECD, COM/ENV/TD(97)41/FINAL, May 1998); OECD, *Transfrontier Movements of Hazardous Wastes, 1994-95 Statistics*, ENV/EPOC/WMP/WD(98)6, 9 April 1998, pp. 7-9 (draft only).

[22] N. Johnstone, "The Economic and Environmental Effects of the Basel Convention," Draft Report for UNEP Environment and Trade Unit (16 January 1998), p. 11.

[23] See section 4.2.2.

[24] Note also that while US data may appear in OECD waste exports, the US is not party to the Basel Convention.

[25] Figure based only on data from 18 countries out of 29.

[26] The export data submitted to the OECD by member countries is *supposed* to include exports to other OECD countries as well as to non-OECD countries. However, not all OECD countries submit data regarding exports to non-OECD countries and so the OECD data is aggregated such that it is not clear what portion is exports to other OECD countries (and exported by which countries) and what portion to non-OECD countries.

[27] The OECD did not make calculations for amounts due to the small number of available data (13 of 29 countries) which would not provide representative results.

[28] Averages based only on data from those countries where separate figures for recovery and final disposal are available.

Table 1 also shows change in the final destination of hazardous wastes that are exported from OECD countries. The percentage of exported OECD hazardous waste destined for final disposal *decreased* from 53 percent to 22 percent between 1990 and 1995, while the share destined for recovery or recycling *increased* from 46 percent to 78 percent over the same period. The OECD also estimates that around 95 percent of the wastes legally exported from OECD to non-OECD countries between 1989 and 1991 were destined for recycling or recovery.[29]

What are the causes of the international hazardous waste trade? It can be traced to the increase in hazardous waste generation in industrialised countries over the last few decades and the increasing difficulty in siting and building new hazardous waste disposal facilities.[30] The pressure to export waste for disposal was also exacerbated by the increasingly global scope of the waste disposal industry, as well as decreasing costs of international transportation. An additional factor was the increase in international movements of goods and services in the world economy, facilitated by the growing scope of the multilateral trading system.[31] The main causes of North–South movements of hazardous wastes are opposition in the North to new hazardous waste disposal facilities to cope with increasing generation and the cheaper cost of waste disposal in developing countries. This is illustrated by the fact that in the late 1980s, the average disposal cost for one ton of hazardous waste in Africa was between US $2.50 and $50, while the cost in the OECD ranged from $100 to $2,000.[32]

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[29] The majority of these wastes were metals or metal-compounds subject to resource recovery; the OECD further estimates that the value of recoverable metals or metal-bearing waste subject to international trade in 1989 was $16 billion. See Kummer, *International Management of Hazardous Wastes*, p. 9.

[30] Between 1980 and 1992, for example, only one new commercial hazardous waste facility was permitted in the US, mainly due to local opposition. C. Bering, "Garbage Trucks and Closed Borders: The 'Proximity Principle' in Europe and the United States", *International Environmental Affairs*, vol. 8, no. 3 (Summer 1996), pp. 191-211 (p. 204).

[31] For more detail on the causes of the waste trade, see K. O'Neill, *Domestic and International Environmental Regulation: The Trade in Hazardous Wastes among OECD Countries* (New York: Ph.D. thesis, Columbia University, 1998), chapter 3.

[32] Kummer, *Transboundary Movements of Hazardous Wastes at the Interface of Environment and Trade*, p. 8.

There is an additional important reason for international transfers of hazardous waste: their potential value as secondary raw materials to be recovered, re-used and recycled. Hazardous wastes with an economic value – such as contaminated scrap metal – are exported to countries with recycling facilities to recover valuable elements contained in the waste. It is often the case that developing countries with lower labour costs, lower recycling costs and a market for the materials recycled from hazardous wastes are importers of hazardous and non-hazardous wastes for recycling. The tightening of environment and health regulations regarding hazardous waste management in industrial countries forces specialisation within industry – such as the building of a high-temperature incinerator – which in turn could lead to off-site treatment at a specialised site, thus requiring a transboundary movement. Additionally, the need for imported secondary raw materials – which may or may not be classified as hazardous waste – and the requirements of economies of scale for certain recycling industries may also require the international movement of hazardous wastes.

4.1.3 The Beginnings of International Regulation: the OECD and EC

International legislation dealing with transboundary movements of hazardous waste began not with the Basel Convention, but with efforts in the OECD and the European Community to improve international coordination on hazardous waste management in the early 1980s. These developments were spurred on in part by the 'Seveso affair' of 1983 when 41 'missing' drums of topsoil contaminated with highly toxic dioxins from the 1976 explosion of a chemical plant in Seveso, Italy, were found abandoned in a barn in northern France.

The OECD

In the 1980s, the OECD developed a number of guidelines for the export and import of hazardous wastes that proved influential for the subsequent Basel Convention process. The organisation developed principles for the control of transfrontier movements of hazardous wastes within the OECD area in 1984, and included in 1986 requirements for the prior notification and consent of the competent authorities before a transborder shipment of hazardous wastes could take place. This decision also applied to

transactions with non-OECD countries and created standard forms for notification, consent and shipment.[33] In 1988, the OECD established a waste classification system (the International Waste Identification Code, IWIC) and created a core list of wastes to be controlled, an approach that was subsequently employed in the Basel Convention.

In parallel to these developments, the OECD also developed a draft international agreement stemming from a recommendation at a 1985 OECD-sponsored conference on International Cooperation Concerning Transfrontier Movements of Hazardous Wastes, held in Basel, Switzerland, to elaborate an effective international system for the control of transfrontier movements of hazardous wastes. Work on this draft international agreement, which was initially to be concluded between OECD member states and included the IWIC classification system, was suspended once UNEP became responsible for preparing a global legal instrument in 1987.

In the 1990s the OECD has concentrated on developing different regulations for wastes intended for final disposal and wastes intended for recycling or further use. In 1991, the OECD developed a multilateral agreement, pursuant to Article 11 of the Basel Convention, that governs the trade in recyclable hazardous wastes among OECD countries.[34] Subsequently, the 1992 OECD Council Decision Concerning the Control of Transfrontier Movements of Wastes Destined for Recovery Operations established a three-tier system known as the 'red, amber, green' control system (Decision C(92)39/FINAL).

This Decision applies to all wastes destined for recovery operations and assigns them to Green, Amber, or Red lists depending on their overall environmental risk and establishes different levels of control for each list. The green list of recyclable waste is only subject to controls 'normally applied in commercial transactions', provided the wastes do not exhibit hazardous characteristics. The green list includes certain metals and metal alloys in non-dispersible form, solid plastic, paper, glass, textiles and food waste.

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[33] H. Smets, "Transfrontier Movements of Hazardous Wastes: An Examination of the Council Decision and Recommendation", *Environmental Policy and Law*, vol. 14, no. 3 (1985), pp. 16-21.

[34] See section 4.3.1 for more on Article 11.

Wastes on the amber list typically exhibit one or more hazardous characteristics and are subject to the requirement of notification and consent procedures, though the consent may be tacit (no response) or the consent requirement may even be waived by importing authorities. Materials on the amber list include ashes and residues of various metals, waste oil and petrol, sewage sludge and household waste. The red list of recyclable wastes requires mandatory prior notification and consent of importing authorities. Red list materials are considered intrinsically hazardous and include or contain, for example, PCBs, asbestos, and wastes containing or contaminated with polychlorinated dioxins.[35]

As noted in a 1998 OECD report, the 'red, amber, green' system

> was negotiated with the express intent of preserving the ability to continue the transboundary movement of these waste recyclables among OECD countries. In this regard, the commercial value of the continued use of these materials by OECD industries was recognised.[36]

As will be shown below, the establishment of this system also influenced events in the European Community and the Basel Convention.

The European Community (EC)

EC policy and legislation on hazardous waste developed largely in parallel to that of the OECD, mainly because of the close involvement of the European Commission and member states in the work of the OECD. The EC also began addressing the issue of transboundary movements in the early 1980s. A 1984 Directive regulated the transboundary movement of toxic and dangerous wastes within the Community using prior notification only, but was amended in 1986 to cover waste movements to countries outside the EC and incorporated full prior notification and consent.[37]

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[35] The details of the OECD control system and the red, amber, and green lists are found in OECD, *The OECD Control System for Transfrontier Movements of Wastes Destined for Recovery Operations: Guidance Manual* (Paris: OECD Environment Monograph No. 96, 1995).

[36] OECD, *Trade Measures in the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, p. 9.

[37] C. Ripa di Meana, "Hazardous Waste Shipments: Regulation within the EC", *Marine Policy*, vol. 14, no. 3 (May 1990), pp. 271-74.

However, these Directives were replaced in 1993 by a Regulation on the "Supervision and Control of Shipments of Waste Within, Into and Out of the European Community".[38] Not only did the Regulation approve the Basel Convention on behalf of the EC, it also created different levels of control for wastes intended for disposal or recycling and adopted the 'red, amber, green' classifications of the OECD.[39] Wastes destined for final disposal within the EC are subject to prior notification and consent, while wastes destined for recovery or recycling may proceed on the basis of notification alone. Waste shipments destined for disposal outside the EC are prohibited except to European Free Trade Area (EFTA) states party to the Basel Convention. Wastes destined for recovery are prohibited except to countries applying OECD Council Decision C(92)39/FINAL or to parties of the Basel Convention; in line with the Lomé IV agreement, however, all hazardous waste exports are prohibited to African, Caribbean and Pacific countries.

Similar to the OECD regulations, the EC established a different control mechanism for recyclable hazardous wastes based on the perception of their economic value. Most recently, the EC has passed a Regulation that implements the 'ban' amendment of the Basel Convention. The ban and the EU Regulation implementing it are considered in greater detail below.[40]

4.2 The 1989 Basel Convention

The United Nations Environment Programme (UNEP) began serious consideration of the generation and transport of hazardous wastes in the early 1980s. In 1981, UNEP's Governing Council mandated a group of senior government experts to determine major subject areas in need of increased co-operation in the field of international environmental law. Known as the Montevideo Programme for the Development and

[38] EC Regulation 259/93. The use of a Regulation, which establishes rules that are immediately and directly applicable in the member states, was chosen because of the poor record of implementation of the previous Directives (which apply only after a member state has passed implementing legislation).

[39] A. Skroback, "Even a Sacred Cow Must Live in a Green Pasture: The Proximity Principle, Free Movement of Goods, and Regulation 259/93 on Transfrontier Waste Shipments within the EC", *Boston College International and Comparative Law Review*, vol. 17, no. 1 (1994), pp. 85-109.

[40] EC Regulation 120/97. See section 4.2.2.

Periodic Review of Environmental Law, one of the conclusions of the group was that the transport, handling and disposal of toxic and dangerous wastes was a major subject area in which UNEP should prepare guidelines and principles which could lead to a global convention.

In 1985, the non-binding *Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes* were published and then approved by UNEP in June of 1987. In addition to the declared aim of ensuring the protection of human health and the environment against the effects of hazardous wastes, the Cairo Guidelines also adopted the principle of prior notification and consent by states of import and transit for the transborder movements of such wastes. Also in June 1987, UNEP's Governing Council requested that the Executive Director prepare a global legal instrument to control transboundary movements of hazardous wastes. Given that the OECD had already begun work on an international agreement, the initial efforts of the UNEP group were based in large part on the OECD draft.[41] However, as the OECD draft envisioned the regulation of such movements of waste – and not a ban on these movements – this decision had implications for the international negotiations.

The UNEP Ad Hoc Working Group of Legal and Technical Experts charged with elaborating a global convention began their deliberations in October 1987, and completed a total of five further meetings ending with the establishment of the Basel Convention in March 1989. The Convention entered into force on 5 May 1992 when it received twenty ratifications. As of June 1999, there are 124 Parties to the Convention with the most notable non-party being the US.[42]

The objectives of the Basel Convention are to minimise the generation of hazardous wastes and to control and reduce their transboundary movements so as to protect human health and the environment. To achieve these objectives, the Convention contains several general obligations. For example, waste exports are prohibited to

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[41] Kummer, *International Management of Hazardous Wastes*, p. 160.

[42] The United States has signed but not ratified the Convention because its government has not yet passed implementing legislation. However, the US EPA is now drafting legislation that would allow the US to ratify the Convention (but not the ban amendment). The process could take up to two years or more and may also depend on the degree of interest in the Congress in passing such legislation. Interview 28B.

Antarctica and to countries that have banned such imports as a national policy. Additionally, waste exports to non-parties are prohibited unless they are subject to an agreement that is as stringent as the Basel Convention. Those hazardous waste transfers that *are* permitted under the Basel regime are subject to the mechanism of prior notification and consent which requires that parties not export hazardous wastes to another party unless the "competent authority" in the importing state has been properly informed and has consented to the trade.[43] The most important development since the negotiation of the Convention has been the decision to ban hazardous wastes destined for disposal or recycling sent from OECD to non-OECD countries.

The Convention does not define hazardous wastes in detail but creates a mechanism to determine when wastes are hazardous. Wastes are designated as hazardous if they belong to certain categories (Annex I) and contain certain characteristics (Annex III).[44] The debate over how to determine which wastes are hazardous and which are not was contentious during the negotiations – due to the fact that different national definitions of hazardous often reflect different economic and environmental priorities – and remains contested in on-going debates regarding wastes destined for recovery and recycling. Furthermore, hazardous wastes are to be managed in an "environmentally sound manner" and should not be transferred unless this can be assured. The Basel Convention defines environmentally sound management as "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects

[43] Such a notification and consent mechanism is often referred to as prior informed consent, or PIC. However, in line with more recent practice and to keep distinct the reference to this mechanism in the case of the Basel Convention and its use for chemicals regulation (such as in the Rotterdam Convention), this chapter will refer to 'prior notification and consent' when referring to hazardous wastes, and 'PIC' when referring to chemicals. The exporting state must also not allow the transfer to begin until it has received written consent from the competent authority of the importing state, as well as confirmation of a disposal contract between the exporter and the disposer that confirms the environmentally sound management and disposal of the waste. However, there is no requirement that the state of export verify the contents of the disposal contract and the transaction may begin simply on the verification that the contract exists. Kummer, *International Management of Hazardous Wastes*, p. 66.

[44] Household wastes as well as residues from their incineration are also covered by the Convention (Annex II, Categories of Wastes Requiring Special Consideration). Wastes that are *not* included in the scope of the Convention are: radioactive wastes (subject to controls of the IAEA), wastes that result from the normal operations of a ship (subject to IMO rules) and hazardous waste dumped at sea (subject to the London Convention).

which may result from such wastes".[45] This definition has also proven to be controversial with some critics arguing that is overly vague; it is not clear, for example, whether the criteria for "environmentally sound" is to be determined by the importing or the exporting country.[46]

At the initial negotiations between 1987-89, developing countries – particularly African governments – and environmental NGOs – such as Greenpeace – advocated a global ban on hazardous waste transfers to prevent the "toxic imperialism" of industrialised countries sending their hazardous wastes to be disposed of in poor countries ill-equipped to handle them.[47] Most OECD countries, on the other hand – the US, the UK, Canada, West Germany and Japan in particular – preferred a regulatory system based on notification and consent, to preserve the trade in valuable wastes.

With the increasing public attention to high-profile cases of hazardous waste dumping in developing countries, the North-South aspect of the problem under negotiation became a central focus. And faced with Northern rejection of a prohibition on the global waste trade, proposals for a global ban changed to calls for a North-South ban.[48] The final text in the Convention, however, is based on notification rather than prohibition, as the majority of developing countries failed to overcome the interests of the fewer – but powerful – industrialised countries.[49] After all, if the negotiations failed,

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[45] *Basel Convention*, Article 2(8).

[46] See, for example, D. Abrams, "Regulating the International Hazardous Waste Trade: A Proposed Global Solution", *Columbia Journal of Transnational Law*, vol. 28, no. 3 (1990), pp. 827-31; and C. Hilz and M. Radka, "Environmental Negotiation and Policy: the Basel Convention on Transboundary Movement of Hazardous Wastes and their Disposal", *International Journal of Environment and Pollution*, vol. 1, no. 1/2 (1991), pp. 55-72.

[47] Developing countries saw the transfer of any hazardous wastes to poorer countries as a continuing form of colonial exploitation and the Chair of the Organization for African Unity (OAU) famously stated in 1988 that the dumping of toxic wastes on the African continent was a crime against all of Africa and its peoples. See M. Tolba, "The Global Agenda and the Hazardous Waste Challenge", *Marine Policy*, no. 205 (1990), pp. 205-09 (p. 207).

[48] This was despite the fact that at the time, the vast majority of international waste transport occurred between industrialised countries. Kummer, *International Management of Hazardous Wastes*, p. 43.

[49] Developing countries, particularly those from Africa, had proposed that transboundary movements *could* take place if there was the simultaneous transfer of adequate and environmentally sound technology. This proposal was rejected. See section 4.3.2 for more detail on why transboundary movements were restricted.

the status quo – no international controls – benefited the industrialised countries as the primary exporters of hazardous waste. Despite calls first for a complete ban and then for a North-South ban, developing countries perceived the situation with a Convention – even one only regulating the trade – as better than no Convention at all.

Agreement about the details of the notification scheme to be used to regulate transboundary hazardous waste transfers was not easily reached however. Disagreement between industrialised and developing countries on issues such as the stringency of the notification and consent requirements, the need to provide financial and technical assistance to developing countries, the question of liability and compensation rules, the position of transit states, the role of the secretariat, and measures needed to combat illegal disposal led to serious doubts whether there would be any convention to sign when the parties met in Basel in March 1989.[50] The Executive Director of UNEP had to convene informal discussions among the main protagonists even up to the last minute, and agreement was reached on the text of the Convention only in the early hours of the final day of the Basel conference. The agreed text, in the words of one participant, was indeed a "precarious compromise" and the lack of precision and complexity in some of the wording has been described as the result of the last-minute negotiations.[51]

4.2.1 Towards a North-South Trade Ban, 1990-94

> "You industrial countries have been asking us to do many things for the global good – to stop cutting down our forests, to stop using your CFCs. Now we are asking you to do something for the global good: keep your own waste." – *Indian delegate speaking at Basel COP-1 (November 1992).*[52]

The Basel Convention was in many ways negotiated to address the concerns of developing countries, particularly African countries, about the dumping of industrialised countries' hazardous waste on their territories. As one observer has noted, the negotiation of the Basel Convention was

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[50] See also F. Hampson and M. Hart, *Multilateral Negotiations: Lessons from Arms Control, Trade, and the Environment* (Baltimore: The Johns Hopkins University Press, 1995), chapter 10.

[51] Kummer, *International Management of Hazardous Wastes*, p. 45-46.

[52] Quoted in A. Leonard and J. Rispens, "Exposing the Recycling Hoax: Bharat Zinc and the Politics of the International Waste Trade", *Multinational Monitor*, vol. 17, no. 1 and 2 (January/February 1996), p. 1

> probably the first major international environmental negotiation in which the developing countries, led by the Africans, were demanding tougher environmental regulation than the West. The wave of developing country anxiety following the [Koko] Nigeria case...coupled with the exploitative overtones of the subject, outweighed any commercial interest in the reprocessing of waste and produced an African demand that the trade be internationally banned.[53]

Despite the low number of ratifications of the Convention by developing countries in the immediate aftermath of the initial negotiations, the much higher level of developing country participation, including African countries, after the Convention's entry into force in 1992 suggests a greater acceptance of the regime.

In fact, developing countries did not give up their desire to achieve a North-South ban on hazardous waste transfers with the signing of the Convention.[54] Because this key demand had not been met, it was certain to play a central role in all the subsequent meetings. Once the Convention entered into force in May 1992, the first Conference of the Parties (COP-1) was held in Piriapolis, Uruguay in December the same year. Under significant pressure from a pro-ban coalition of developing countries, Greenpeace and the Nordic states, parties adopted Decision I/22 that requested industrialised countries to refrain from exporting hazardous wastes for disposal to developing countries. The question of hazardous wastes destined for recycling or recovery was assigned for study to the Technical Working Group (TWG) that had been established under the Convention, and in the meantime were only to "take place in accordance with the provisions of the Convention".[55] However, since Decision I/22 was not legally-binding – and did not address hazardous wastes intended for recycling – the pro-ban coalition continued to press for a binding amendment to the Convention.

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[53] T. Brenton, *The Greening of Machiavelli: The Evolution of International Environmental Politics* (London: Earthscan/RIIA, 1994), p. 132.

[54] Indeed many then instituted national and regional waste trade bans, such as the 1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, in a response to Basel's initial failure to do so.

[55] M. Tolba with I. Rummel-Bulska, *Global Environmental Diplomacy: Negotiating Environmental Agreements for the World, 1973-1992* (Cambridge, MA: MIT Press, 1998), p. 118.

4.2.2 Strengthening the Trade Restrictions, 1994-98

At COP-2 in March 1994, parties agreed to Decision II/12 that banned immediately the export of hazardous wastes from OECD to non-OECD countries for final disposal and, by 1998, banned wastes intended for recovery and recycling. The banning of hazardous wastes for disposal from industrialised to developing countries had essentially been agreed at COP-1 (Decision I/22) and so the debate at COP-2 focussed on the ban for hazardous waste exports destined for recycling or recovery, with the end compromise that the recycling ban would be phased in by the end of 1997. Some OECD countries – including Australia, Canada, Japan, the European Union and the US, a non-party – initially opposed the ban on exports intended for recycling but decided not to break the consensus of the COP on this decision.[56] Because Decision II/12 was not incorporated into the text of the Convention itself, however, some parties questioned whether it was legally binding or not.

At COP-3 in 1995, the Nordic states proposed that the ban be formally incorporated into the Basel Convention as an amendment: Decision III/1. However, Decision III/1 did not use the OECD/non-OECD distinction used in Decision II/12, but banned hazardous waste exports for final disposal and recycling from 'Annex VII' countries (Basel Convention parties that are members of the EU, OECD and Liechtenstein) to 'non-Annex VII' countries (all other parties to the Convention). This was so that non-OECD countries would theoretically retain the option of receiving OECD hazardous wastes for recycling by joining Annex VII, rather than joining the OECD or EU.

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[56] L. de La Fayette, "Legal and Practical Implications of the Ban Amendment to the Basel Convention", *Yearbook of International Environmental Law*, vol. 6 (1995), pp. 703-717 (p. 707). Developing countries were able to gain increased moral and political force for their call for a ban when the opinion of the then Chief Economist of the World Bank, Lawrence Summers, was leaked to the press. Summers had stated that "I've always thought that under-populated countries in Africa are vastly under-polluted [and that] the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that" (reprinted in *The Economist*, 8 February 1992, p. 66). After the memo became public in February 1992, Brazil's then-Secretary of the Environment Jose Lutzenburger wrote back to Summers: "Your reasoning is perfectly logical but totally insane... Your thoughts [provide] a concrete example of the unbelievable alienation, reductionist thinking, social ruthlessness and the arrogant ignorance of many conventional 'economists' concerning the nature of the world we live in... If the World Bank keeps you... it will lose all credibility." For discussion, see J. Foster, "Let Them Eat Pollution: Capitalism and the World Environment", *Monthly Review*, vol. 44, no. 8 (January 1993), pp. 10-20. Mr. Summers was appointed US Treasury Secretary in 1999.

As with Decision II/12, the most controversial aspect of Decision III/1 is the ban on exports of wastes intended for recovery and recycling.[57] Because of the desire in certain industrialised countries and, increasingly, some of the more rapidly industrialising developing countries, in the maintenance of an economically beneficial trade in hazardous wastes for recycling, the ban amendment may or may not be endorsed.[58] The Decision must be ratified by two-thirds of the Parties who were present at COP-3 to enter into force (62 parties). As of September 1999, only fourteen countries – Finland, Norway, Luxembourg, Andorra, Spain, Denmark, Sweden, the UK, Ecuador, Paraguay, Slovakia, Panama, Uruguay and Sri Lanka – and the European Community have ratified the ban amendment.[59]

Some industrialised countries have objected to the export ban as being bad environmental policy because the same objectives could have been achieved through a more flexible import ban mandated by the Convention.[60] However, many developing countries felt that they did not have the capacity to enforce an import ban, which many of them had already instituted as national policy, and that an export ban that placed the responsibility on industrialised countries with the capacity to enforce it was more appropriate.

Parties had agreed at COP-3 to create lists of wastes that would be subject to and exempt from the Convention, to minimise potential confusion surrounding what wastes

[57] The Basel Convention lists disposal operations related to recycling as "operations which may lead to resource recovery, recycling, reclamation, direct re-use or alternative uses" and then lists 13 "R categories" that are considered as such operations. For the sake of simplicity, this chapter only uses the terms recycling, recovery and re-use to refer to all such operations.

[58] See section 4.3.3 below regarding the concerns of some developing countries about the recycling ban.

[59] UNEP, "Implementation and Monitoring: Report on the Implementation of Decision III/1", UNEP/CHW.5/ 3 (23 September 1999).

[60] Interviews 28A, 30 and 33. It is also the case that some participants objected to the ban on the basis of setting a bad precedent for other MEAs because recycling is normally considered an environmentally beneficial practice that should be encouraged and that the developmental aspirations of some developing countries could be hampered by such an export ban. Additionally, the ban does not address the issue of South-South trade in hazardous wastes, which can be as environmentally harmful as North-South trade. See sections 4.3.2 and 4.3.3.

would be prevented from being exported from Annex VII to non-Annex VII countries.[61] A number of parties, including Canada and Australia, indicated that they would not ratify Decision III/1 until it was clear which wastes were covered by the Convention and thus would be subject to the export prohibition.[62] The Convention's Technical Working Group (TWG) was to determine the contents of these lists.

Held in February 1998, COP-4 focused on two main items: incorporation of the lists of wastes that were to be subject to the Convention and the composition of and membership in Annex VII. Both these issues were central to the further tightening of the Convention's trade restrictions.

Parties first accepted the two lists the TWG had created:

- **List A:** wastes characterised as hazardous under Article 1, paragraph 1(a) of the Convention (although their designation on this list does not preclude the use of the Annex III to demonstrate that a waste is *not* hazardous);
- **List B:** wastes not covered by Article 1, paragraph 1(a) of the Convention *unless* they contain an Annex I material to an extent causing them to exhibit an Annex III characteristic.

List A includes wastes containing arsenic, lead (such as used lead acid batteries), mercury, asbestos, and dozens of other chemicals and substances. List B includes scrap iron, steel or copper, certain electronic assemblies, non-hazardous chemical catalysts, and many ceramics, solid plastics, paper and textile wastes. There is also a third list, List C, that is a working list of wastes awaiting classification. List C includes materials such as PVC and PVC-coated cables.[63] Parties at COP-4 decided to incorporate Lists A

[61] For a more detailed overview about the process of creating the lists, see L. Campbell, "The Effects on Trade of the Basel Convention", in S. Vaughan (ed), *Policy Effectiveness and MEAs* (Geneva: UNEP Environment and Trade Series #17, 1999), p. 24.

[62] The Canadian delegate noted that "we will be unable to consider ratification of this amendment prior to an outcome on definitional terms from the Technical Working Group, from which Canada can draw assurance that trade in non-hazardous recyclables will not be jeopardized". The Australian delegate stated that they "will only consider ratifying the amendment when the work on the definition of hazardous characteristics is completed to our satisfaction". For the full text of these statements, see Annex III of the Report of COP-3, UNEP/CHW.3/34 (17 October 1995).

[63] See UNEP/CHW.4/L.2/Add.2 (26 February 1998).

and B as annexes to the Convention; List A is now Annex VIII and List B is Annex IX, while List C remains a working list of wastes.[64]

The second major issue at COP-4 was the composition of and membership in Annex VII. Decision II/12 had referred to an OECD to non-OECD ban, but some industrialised countries vigorously opposed this as an arbitrary distinction based on a country's membership in an economic organisation. They argued that those non-OECD countries with environmentally sound and economically viable recycling operations would be penalised by such a distinction – by having their access to supplies from OECD countries cut off. The new Annex VII/non-Annex VII distinction, originally proposed by Australia, means that a non-Annex VII country wanting to receive hazardous wastes for recycling from an Annex VII country – which, at the moment, is essentially OECD countries – could do so by joining Annex VII.

At COP-4, Israel, Monaco and Slovenia all applied to join Annex VII, but the COP decided that the membership of Annex VII will remain unchanged until Decision III/1 enters into force.[65] The greater part of the responsibility for achieving entry into force of Decision III/1 clearly lies with the greater numbers of developing countries (both because they have been asking for the ban and their greater numbers are required if the threshold of 62 ratifications is to be reached).[66] However, ratification of an amendment that has significant implications for the international trade in recyclable hazardous waste is likely to be a complex process and is not assured. Countries concerned about a 'closed' Annex VII – one that cannot be amended to include other countries – may be unlikely to ratify a ban amendment that they would first like to see clarified in terms of the flexibility of Annex VII membership. However, there is as yet no agreement in the COP whether criteria for Annex VII membership should be established.[67] Australia and New Zealand, in fact, noted that they considered the text

[64] "Report of the Fourth Meeting of the Conference of the Parties to the Basel Convention", UNEP/CHW.4/35 (18 March 1998).

[65] UNEP/CHW.4/35 (18 March 1998), Decision IV/8.

[66] At the time of writing, however, only six non-OECD countries (Ecuador, Paraguay, Slovakia, Uruguay, Panama and Sri Lanka) had ratified the ban.

[67] See also the discussion regarding the WTO and the Basel Convention in section 4.3.3.

regarding no change to Annex VII until Decision III/1 entered into force to be legally questionable.[68]

This section has outlined the development of the Basel Convention by discussing the impetus for the original negotiations, which resulted in regulated trade, and its subsequent modification to include a North to South trade ban. Since the establishment of the Basel Convention in 1989, the most controversial issue has been the effort to ban hazardous waste shipments for recycling from industrialised countries to developing countries as now embodied in the 1995 Decision III/1. Attention is now turning to other issues, such as the implementation and repercussions of Decision III/1 and the development of a protocol on liability and compensation.[69] But the controversy over restricting trade in recyclable hazardous waste is not yet resolved. The following section examines in more detail the history, development and consequences of restricting trade in hazardous wastes.

4.3 Trade Restrictions and the Basel Convention

The preceding section demonstrated that restricting the international trade in hazardous wastes has been a highly contentious affair, based largely upon the perceived value of

[68] UNEP/CHW.4/35, pp. 12-13. New Zealand stated that its concerns "arose as a matter of environmental policy and the need for sound decisions in global environmental matters" and Australia noted that "a decision of one meeting of the COP could not constrain decisions by future meetings of the COP". There was a small concession to those who wanted to discuss criteria for membership in Annex VII before Decision III/1 enters into force: Decision IV/8 requested the Technical Working Group in co-operation with the Consultative Sub-group of Legal and Technical Advisers to "provide Parties with a detailed and documented analysis that would highlight issues related to Annex VII". Previous drafts of Decision IV/8 made reference to including "technical elements" in the analysis to be prepared on Annex VII, but this language was opposed by some developing countries (and Denmark) who feared that this would allow for the creation of (weak) criteria for joining Annex VII which would then undermine the intent of the ban. The matter was discussed by the two groups at joint meetings in November 1998 and April 1999, and it was agreed that the preliminary stage of the analysis will deal with providing information on legal and illegal transboundary movements of hazardous waste, changes in waste streams due to the export ban, and other similar information (such as generation of wastes and trade in recyclables) but would *not* examine criteria or options for changes to Annex VII. A final report will be presented at COP-5 in December 1999. However, given the heavy workload and time available to the TWG before the next COP, it is unlikely that a report on 'issues related to Annex VII' will be very detailed or propose any solutions. This means that the question of Annex VII membership is sure to play a major, and probably controversial, role at COP-5 or at future COPs when, at least in theory, new decisions regarding the 'openness' of Annex VII could be adopted (as Decision III/1 will not have entered into force by December 1999).

[69] See J. Krueger, *International Trade and the Basel Convention* (London: Earthscan/RIIA, 1999), chapter 6.

the trade in hazardous wastes for recycling. This section describes in more detail the trade-related elements of the Convention. It examines why this treaty was designed to regulate the international trade in hazardous wastes – rather than directly regulating hazardous waste generation, for example – and discusses the importance of the debate regarding the trade implications of Decision III/1 to help in the assessment of the factors that account for regime content.

4.3.1 The Trade Restrictive Provisions of the Pre-Ban Basel Convention

The negotiation of the Basel Convention was a contentious process that featured most developing countries advocating a *ban* on transboundary movements of hazardous wastes, while some OECD countries preferred to simply *regulate* such movements using a notification and consent system. As described in the previous section, the Convention has since evolved to include a version of the North-South trade ban that some parties had sought since 1989. This subsection briefly describes the trade restrictions in the original Convention – exports to states that have prohibited imports as a national policy and to non-parties.[70]

First, regarding hazardous waste traffic between parties to the Basel Convention, no party may export hazardous wastes to a party that has prohibited their import. Indeed, the sovereign right of every state to "ban the entry or disposal of foreign hazardous wastes and other wastes in its territory" is explicitly recognised in the preamble of the Convention.[71] Exporting and importing party states are further obliged to prevent transboundary movements if there is reason to believe that the wastes in question will not be managed in an environmentally sound manner.[72] Hazardous waste transfers between parties not restricted by any of the above must then only take place in

[70] Of course the ban (if it enters into force) will only be an additional measure for those parties subject to it (i.e. for exports from Annex VII to non-Annex VII parties). The Convention continues to operate in its original form for trade between Annex VII parties, between non-Annex VII parties, for export from non-Annex VII parties to Annex VII parties and for trade between Basel Convention parties who have not ratified Decision III/1 and non-parties to the Convention.

[71] *Basel Convention*, Article 4.1.b and Preamble.

[72] Recall that the Basel definition of 'environmentally sound' is vague, see above section 4.2.

accordance with the general obligations of the prior notification and consent procedure (as outlined in Articles 6 and 7 of the Convention).

Second, for hazardous waste movements between parties and non-parties, the Convention introduced the concept of the "limited ban".[73] Article 4.5 states that "A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party". However, Article 11.1 then goes on to state that

> Notwithstanding the provisions of Article 4 paragraph 5, Parties may enter into bilateral, multilateral, or regional agreements or arrangements regarding transboundary movements of hazardous wastes or other wastes with Parties or non-Parties provided that such agreements do not derogate from the environmentally sound management of hazardous wastes and other wastes as required by this Convention. These agreements or arrangements shall stipulate provisions which are not less environmentally sound than those provided for by this Convention in particular taking into account the interests of developing countries.

This is yet another reflection of the compromises that were made in the Basel Convention between the prohibition advocates and the regulation advocates. The logic of Article 4.5 is similar to that of the trade restrictions of the Montreal Protocol in that by excluding non-parties from trade with parties, there is an incentive for those non-party countries to join the Convention to maintain that trade. They are then subjected to the requirements of the Convention, thereby improving the environmentally sound management of hazardous wastes. As Sean Murphy notes, "those countries which have not ratified will find themselves increasingly isolated as regards countries with which they may trade in the Basel-covered wastes...all other waste trade is at risk of being shut down if the country at the other end of the waste movement is a Basel party".[74]

However, the inclusion of Article 11 clearly undermines the stringent and unambiguous incentive given by the trade restriction to join the regime by allowing the conclusion of other agreements with non-parties subject to the unclear caveat of being

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[73] The 'limited ban' between parties and non-parties should not be confused with the 'Basel ban' or the ban amendment which prohibits exports from Annex VII to non-Annex VII countries (Decision III/1). In this way, the Basel Convention differs from the Montreal Protocol where the key question regarding trade restrictions focused on non-parties, whereas in the Basel case the trade ban is to function *between* parties (Annex VII and non-Annex VII countries).

[74] S. Murphy, "The Future of Transboundary Hazardous Waste Movements", *International Practitioner's Notebook*, no. 55 (1992), p. 13.

"not less environmentally sound".[75] The inclusion and wording of Article 11 was an extremely controversial subject during the original negotiations, and a number of countries proposed its deletion because it was a clear weakening of the non-party trade ban in Article 4.5. The African group had proposed that such other agreements at a minimum "be in conformity with the provisions of the present Convention", wording that would have prohibited agreements that were in any way less stringent than Basel, but this was opposed by some industrialised countries who feared that their existing regional instruments would not meet this requirement.[76] In contrast, the trade restrictive provisions of the Montreal Protocol (Article 4) contain no such watering down to allow trade in ozone depleting substances between parties and non-parties (unless the non-party in question is in full compliance with the other requirements of the Protocol and is therefore a party in all but name).

4.3.2 The Origins of the Convention's Trade Restrictions: Concerns about the Free Trade in Recyclable Wastes or Stopping a "Toxic Trade"?

The Basel Convention is unlike many other multilateral environmental agreements because it seeks to regulate trade in the environmental hazard – the waste – rather than regulate the generation of that hazard. This section discusses *why* regulation of transboundary movements became the focus of the Convention and outlines the debate over *how* this was to be done. The trade restrictions originated from the conflict between

[75] A detailed analysis of the legal interpretations of 'environmentally sound' with respect to Article 11 agreements is beyond the scope of this chapter. For further detail see Kummer, *International Management of Hazardous Wastes*, pp. 90-99. Parties to the Basel Convention have indeed used Article 11 to conclude other agreements, both with countries that are of similar levels of economic development and between OECD and non-OECD countries. As noted in section 2.3, the intra-OECD Decision governing transfrontier movements of recyclable wastes is one example of a multilateral agreement taken pursuant to Article 11. As of 20 August 1997 (the most recently compiled information), there were 25 reported bilateral agreements, 9 multilateral or regional agreements (with 3 under preparation). However, the EU regulation implementing Decision III/1 (EC 120/97) *prohibits* any exports from EU members to non-OECD countries that do not apply OECD Council Decision C(92)39/FINAL that were previously undertaken pursuant to an Article 11 arrangement. As yet, there is no agreement in the COP as to whether Article 11 agreements are permissible under the ban decision (as a way for an Annex VII country to export to a non-Annex VII country). See section 4.3.3.

[76] Kummer, *International Management of Hazardous Wastes*, pp. 61-62. The US, for example, has had bilateral waste trade agreements with both Canada and Mexico since 1986.

strong normative concerns against toxic waste dumping and the economic interests of hazardous waste recyclers.

The Convention is a product of the particular circumstances of the late 1980s and deals with a more diffuse problem than many other MEAs. While it is relatively simple to identify a CFC, or a dangerous pesticide like DDT, identifying waste is more complex. When the international community first began considering the issue of transboundary hazardous waste movements in the mid-1980s, a significant reason was a number of highly publicised cases of hazardous wastes dumped or discovered in a country other than the one where they had been produced. Because of a strong public perception that countries should keep their own waste – a classic manifestation of the not-in-my-backyard, NIMBY, syndrome – it seemed from a regional or international policy perspective that the problem to be tackled was the transboundary movement of such wastes, rather than their generation.

A UNEP Governing Council Decision of June 1987 mandated the Executive Director of UNEP to convene a working group with the task of elaborating a global convention on the control of *transboundary movements* of hazardous wastes.[77] The Decision was based on the Cairo Guidelines drawn up by a working group tasked with developing guidelines or principles on the environmentally sound transport, management and disposal of hazardous wastes.[78] The mandate of this working group, in turn, had been based on the Montevideo Programme that had identified the transport, handling and disposal of toxic and dangerous wastes as a major subject area in which UNEP should prepare guidelines leading to a global convention.[79] More specifically, the UNEP working group had a

[77] UNEP Governing Council Decision 14/30 (June 1987).

[78] In fact, the Cairo Guidelines were broader in their treatment of hazardous waste issues than just their transboundary movements. For example, these Guidelines included the principle of waste minimisation (a principle also implicitly recognised in the Basel Convention) and the promotion of low-waste technology. However, neither the Cairo Guidelines nor the Basel Convention require parties to reduce their hazardous waste generation by certain amounts or to specified levels. Chapter 20 of Agenda 21 is another example of an international document that refers to wider hazardous waste management issues without requiring specific action by countries to reduce its generation. The emphasis in terms of the creation of a global and legally binding convention on hazardous wastes has been from the beginning on transport and transboundary movement.

[79] Kummer, *International Management of Hazardous Wastes*, pp. 38-39.

> mandate to prepare a global Convention on the control of hazardous wastes taking into consideration the work of the EC and OECD, which had already done substantial work on this issue. The experts agreed that the Convention should include two main elements. First, it should take the form of a framework Convention that would require further specific implementation instruments. Secondly, it should also contain provisions with direct implications for the *control of transboundary movements* of hazardous wastes specifying clearly the responsibilities of States involved in such movements.[80]

Thus, the decision to negotiate the Basel Convention stemmed from a number of previous efforts that focused on the transboundary movements of hazardous wastes as the problem that required international regulation, rather than the generation of such wastes.[81]

A related aspect to the question of *why* it was transboundary movements of hazardous wastes that were regulated is the question of *how* they should be regulated: the key debate between industrialised countries (who advocated regulation) and many of the developing countries (who argued for prohibition) during the negotiations on the Basel Convention. Here, the reference in the mandate of the UNEP working group to the work of the OECD and EC again becomes significant. The recommendation of the 1985 OECD conference to initiate an international convention noted that "an effective international system for control of transfrontier movements of hazardous wastes should be developed by the OECD, based upon and further developing the Principles contained in the [previous] OECD Decision and Recommendation...".[82] Previous OECD work, of course, had not been concerned with banning or stopping transboundary movements, but with their regulation. One analyst has noted that the early efforts of the EC and OECD on transboundary hazardous waste movements were "devoted entirely to

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[80] UNEP/Secretariat of the Basel Convention, *The Basel Convention: A Global Solution for Controlling Hazardous Wastes*, p. 3 (emphasis added).

[81] The Convention does include language aimed at minimising the generation of hazardous wastes (such as Article 4. 2.(a) which reads: Each Party shall take appropriate measures to...ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects), but none of this language commits states to take specific actions to reduce hazardous waste generation to specified levels.

[82] OECD, *Resolution on International Cooperation Concerning the Transfrontier Movements of Hazardous Wastes* (Paris: OECD C(85)100, 20 June 1985).

ensuring that participants exercise due care in this international trade...[but] no attempt [was] made to regulate its volume, organisational complexity or geopolitical reach".[83]

Moreover, the OECD draft international agreement text was extensively used in drafting the Basel Convention. As the OECD noted in 1990:

> In keeping with the instructions of the UNEP Governing Council, some portions of the Basel Convention are taken verbatim or are close paraphrases of the OECD draft international agreement. For example, wastes subject to control are essentially those of the OECD Core List of Council Decision C(88)90(Final). The obligations placed upon generators, exporters, importers and disposers are founded upon the OECD text as well.[84]

What resulted was a divisive debate between countries supporting the OECD model as the model also for international regulation of transboundary movements of hazardous wastes, and developing countries and NGOs who were determined to stop what they perceived as toxic trade. It is worth noting, however, that developing countries did not actively promote any international agreement preventing hazardous waste *generation*. As Marian Miller has suggested:

> [N]either the Third World countries nor the developed states pressed for a definition [of the problem to be negotiated] that would address the major problem underlying the hazardous waste trade: the polluting and toxic nature of many industrial processes. Although NGOs such as Greenpeace identified the existence of dirty industries as a significant problem to be addressed, the priority for the developing countries was the issue of the hazardous waste trade.[85]

Moreover, the main concern at the time of the original Basel negotiations was the question of hazardous waste exported or imported for *final disposal*; the question of *recycling* – and thereby the potentially economically valuable aspects of the waste trade – only became a primary concern later in the process.

To understand the origins of the trade restrictions, it is also useful to examine the role of industry, as their 'products' were potential subjects of new trade regulations. Notably, industry was neither as aware nor as effective and organised as the other non-

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[83] B. Wynn, "The Toxic Waste Trade: International Regulatory Issues and Options", *Third World Quarterly*, vol. 11, no. 3 (July 1989), pp. 120-46 (p. 137).

[84] OECD, *Monitoring and Control of Transfrontier Movements of Hazardous Wastes*, p. 12.

[85] M. Miller, *The Third World in Global Environmental Politics* (Buckingham: Open University Press, 1995), p. 97.

state actors in the Convention negotiations – such as environmental NGOs like Greenpeace.[86] However, in a letter to UNEP in June of 1988, the Secretary General of the Bureau of International Recycling (BIR) insisted upon "the important distinction which must be made between hazardous wastes which are to be eliminated and 'recyclable' material whose trade and consumption are indispensable for the proper management of our resources and our environment".[87] The letter further states that the negotiations "[must] take into account the economic realities of our sector and avoid any type of administrative formalities or controls which are liable to hinder or simply and solely bring to a halt the collection, processing, recycling and international free trade of our commodities".

The original Convention nevertheless defined wastes intended for disposal to include waste intended for recycling and created 'administrative formalities' – in the form of the prior notification and consent procedure – that, from an industry standpoint, hindered the free trade in their commodities. One industry commentator referred to the prior notification and consent procedure as a "very cumbersome, expensive and uncertain process".[88] Industry has taken a much larger role in the debate since the first

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[86] W. Kempel, "Transboundary Movements of Hazardous Wastes", pp. 48-62 in G. Sjöstedt (ed), *International Environmental Negotiation* (Newbury Park: SAGE Publications, 1993), p. 51. Greenpeace began its waste trade campaign in 1987 and published a quarterly newsletter entitled *Waste Trade Update* (renamed *Toxic Trade Update* in 1992). It has been asserted that Greenpeace's research efforts gave it significant expertise on this issue. Furthermore, during the negotiations on the Convention, several African governments briefed Greenpeace delegates on the proceedings of the closed-door meetings, much to the consternation of some OECD countries and industry. In turn, Greenpeace provided developing countries with information and knowledge about potential waste trade schemes and waste management. Lastly, Greenpeace linked up with other environment and development NGOs to form the International Toxic Waste Action Network (ITWAN) in order to promote the 'global ban' option during the negotiations. See J. Clapp, "Africa, NGOs, and the International Toxic Waste Trade", *Journal of Environment and Development*, vol. 3, no. 2 (Summer 1994), pp. 17-46. ITWAN has since been superseded by the Basel Action Network (BAN); BAN is devoted to promoting national implementation of the Basel Convention and the ban.

[87] Letter of 1 June 1988 from the Secretary-General of the Bureau International de la Récupération (BIR) to the UNEP Environmental Law and Machinery Unit, UN Doc. UNEP/WG.186/INF.8, 6 June 1988, reprinted in B. Kwiatkowska and A. Soons (eds), *Transboundary Movements of Hazardous Wastes in International Law: Basic Documents* (Dordrecht: Martinus Nijhoff, 1993), p. 1332.

[88] J. Bullock, "The Basel Convention and Trade", Paper presented to a meeting of the Global Environment and Trade Study, 19 January 1996, p. 3.

moves towards a North-South ban and the debate over banning recyclable hazardous waste.[89]

During the negotiations in the late 1980s, the key debate initially focussed on the transboundary aspect of hazardous wastes sent for final disposal and more particularly on the question of regulating or banning North-South transfers. The developing countries' inability to obtain a North-South ban in the context of the original Basel Convention shaped the future development and tone of all subsequent negotiations. The number of compromises in the Convention text resulted in many countries not signing it immediately. The African states because they considered it too weak and some OECD countries – the US, UK, Japan and West Germany – because it was too strong.[90] Early Basel negotiations also focused mainly on the problem of hazardous wastes sent for final disposal, with the issue of recycling becoming increasingly dominant in the last several years.

4.3.3 The Continuing Ban Debate: the Recycling Industry, Developing Countries and the WTO

Because the economic interests of those countries wanting to maintain a trade in recyclable hazardous wastes conflicted directly with developing countries promoting a complete cessation to all international hazardous waste movements, additional important issues have arisen since 1995. These issues – the concerns of the recycling industry and some developing countries, and ongoing questions regarding the ban's GATT-compatibility – are examined here.

The level of hostility towards the ban amendment among some actors remains high, particularly in the recycling and scrap metal industries. An International Council on Metals and the Environment (ICME) report suggested that Basel was "a badly-

[89] See section 4.3.3.

[90] Kummer, *International Management of Hazardous Wastes*, p. 45; Wynn, "The Toxic Waste Trade", p. 138.

flawed Convention whose problems are compounded by the proposed export ban".[91] Israel, who sought access to Annex VII at COP-4, has argued that without the import of hazardous waste as a supply of secondary raw material, their recycling and reclamation industry would be rendered uneconomical and possibly cease to exist.[92]

Four other recent developments help to illustrate the high level of concern about the ban in industry circles. First, the European recycling industry is attempting to have wastes redefined in the context of the EU so as to allow exports of scrap metal that might otherwise be banned due to EU implementation of Basel regulations. However, the European Court of Justice (ECJ) ruled in June 1997 that substances sold or sent for recycling or reuse still fall within the EC waste control legislation.[93] Second, in January 1998, steel and non-ferrous metal recycling firms in Germany, Belgium and the Netherlands called for free global trade in secondary raw materials.[94] From their perspective, materials that can be re-used after initial processing should be categorised as products and not waste, seemingly regardless of any potential dangers to human health or the environment. Third, the British Metal Federation, supported financially by the Bureau for International Recycling (BIR), mounted a legal challenge to the inclusion of secondary metals in the UK government definition of waste in 1997-98. Industry has argued that such legal challenges "must be emulated in as many European countries as possible" and that "Europe-wide litigation at a sensible price" is the best way to advance industry interests in having certain materials currently considered wastes re-classified as products.[95] And finally, in the United States, currently a non-party to Basel, the EPA

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[91] M. Geuvara and M. Hart, *Trade Policy Implications of the Basel Convention Export Ban on Recyclables from Developed to Developing Countries* (Ottawa: International Council on Metals and the Environment, 1996), p. iii.

[92] See L. Collins, "Israel seeking to import hazardous waste", *The Jerusalem Post*, 27 February 1998. Previously at COP-3 in September 1995, India, Brazil and South Korea (not yet an OECD member at that time) also expressed concern about the economic costs of the ban. See *ENDS Report*, no. 248 (September 1995), p. 41.

[93] ECJ decision (25 June 1997) on joined cases C-304/94, C-330/94, C-342/94 and C-224/95.

[94] "Lobby Urges Free Trade in Secondary Raw Materials", *Reuter News Service*, 23 January 1998.

[95] See "Fast-track legal action to establish that secondary metals are not wastes", *BIR Press Release*, 13 June 1997. However, in the ruling released on 9 November 1998, the High Court upheld the UK government definition that scrap metal requiring one or more recovery operations is waste (the exception being ferrous and non-ferrous scrap metal that requires no further processing before being used as

ruled in 1997 that excluded scrap metal would be no longer be considered waste; this reclassification has been welcomed as a "major victory" by the Institute for Scrap Recycling Industries.[96]

Some segments of industry will be lobbying sympathetic governments to ensure that Decision III/1 does not come into force. On the other hand, some observers have suggested that states will already be implementing the ban amendment in the period before the ban might enter into force, and so actual entry into force would be more of symbolic significance rather than legal or practical significance.[97]

While it is generally accepted that the Basel Convention has helped to eliminate the most harmful of international hazardous waste transfers destined for final disposal, the ban on wastes destined for recycling has proven very contentious. Some OECD countries, the recycling industry and, increasingly, some developing countries have expressed concern about the potentially large impact that the ban might have on trade and on some recycling industries.[98]

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feedstock). See Judgement CH 1997 M No. 2722 (available at http://www.courtservice.gov.uk/mayer.htm).

[96] See "United States excludes secondary metals products from its waste classification", *BIR Press Release*, 2 May 1997. However, different definitions in the US have already caused international incidents. In August 1997, for example, a US company was found to be exporting used lead acid batteries to a recycling plant in Brazil where lead contamination levels were up to five times higher than is safe by EPA rules. See J. Bussey, "Toxic waste trade growing with few controls", *Miami Herald*, 26 October 1997, p. F1. While Brazil had banned imports of scrap batteries since 1994, by US law such batteries are considered hazardous waste only if they are crushed and therefore were exported legally under US law. Greenpeace argues that this transfer contravened the Basel Convention because Brazil (a Basel Party) does not have an Article 11 agreement with the US (a non-party). See "US Exports of Lead Acid Batteries Poisoning Brazil", *Greenpeace Press Release*, 4 August 1997.

[97] de La Fayette, "Legal and Practical Implications of the Ban Amendment to the Basel Convention", p. 711.

[98] The case for and against recycling hazardous wastes is, briefly, as follows. On the one hand, by achieving re-use of potentially valuable substances that would otherwise be discarded, recycling can slow down the depletion of limited natural resources and reduce the quantity and hazard potential of wastes going to final disposal. Provided the country of destination has environmentally sound facilities and equivalent or higher environmental standards than the country of origin, export of hazardous wastes for recycling can ultimately lead to an overall reduction of air and water pollution. From an economic viewpoint, recycling of certain wastes leads to the recovery of valuable raw materials. On the other hand, recycling must take place under conditions meeting certain environmental criteria if it is to have the environmental and economic benefits mentioned, and not provide a source of environmental hazard equal to that of disposal operations. This may be difficult in practice, especially in countries with little technical and infrastructural capacities. Subjecting the export of hazardous wastes for recycling to less strict rules than the export for disposal might provide a disincentive to the promotion of waste reduction in the country of origin. It could also encourage fake recycling schemes, i.e. the use of the label of 'recycling'

For example, the trade in metal scrap and metal-bearing residues, used in some industries as secondary materials, had an average value of $37.2 billion per year (in constant 1985 US$) between 1980 and 1993, with the export of metal scrap from OECD to developing countries totalling $2.9 billion in 1993.[99] Moreover, the flow of metal scrap from OECD to non-OECD countries, as a percentage of total world trade in metal scrap, increased from 5.2 percent in 1980 to 29 percent in 1993 and South to South trade also increased quite significantly from 0.4 percent to 6 percent.[100] However, because trade statistics do not distinguish between hazardous and non-hazardous metal scraps – metal scrap from industrial processes may be contaminated with lead or mercury, for example – it is difficult to know how great an increase in *hazardous* material transfers to non-OECD countries this represents. If large amounts of these materials are defined as hazardous under the Basel Convention, then there is a possibility that trade could be disrupted as the export ban for Annex VII countries comes into effect. However, the TWG has generally exempted clean metal scrap from the scope of the ban. As long as the metal is not contaminated with toxic materials so that it exhibits hazardous characteristics, it is an Annex IX entry.[101]

There is thus a fundamental disagreement between sectors of the recycling industry that do not perceive the materials they trade as being hazardous waste but rather a product or secondary raw material, and actors such as Greenpeace who argue that a recycled hazardous material still leaves some toxic material to be disposed of and therefore all of these materials should be banned from international trade. However, at least one study has concluded that while trade in some particular wastes may be adversely affected, such as lead-acid batteries, the majority of non-ferrous metal waste

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for disposal operations that would otherwise be prohibited. See Kummer, *International Management of Hazardous Wastes*, p. 10.

[99] H. Alter, "Industrial Recycling and the Basel Convention", *Resources, Conservation and Recycling*, no. 19 (1997), pp. 29-53; Guevara and Hart, *Trade Policy Implications of the Basel Convention Export Ban on Recyclables from Developed to Developing Countries*, p. 2.

[100] U. Hoffmann, *A Statistical Review of International Trade in Metal Scrap and Residues with Particular Emphasis on Trade between OECD and non-OECD Countries in the Period 1980-1993* (Ottawa: International Council on Metals and the Environment, 1995), p. 31.

[101] "Scrap Metal Not Covered by Toxic Waste Ban", *Reuter News Service*, 27 February 1998.

with secondary value will not be subject to the ban and thus there will be no trade disruption in those materials.[102] Moreover, the volume of trade in hazardous recyclable wastes affected by the ban is relatively small compared to the total world trade in recyclables.

Some developing countries, especially those that are quickly developing advanced industrial capacities, have concerns about Annex VII membership and loss of access to potential sources of secondary raw materials. This has led to a partial split in the developing country coalition that had promoted the prohibition of North-South transfers in the Basel Convention. Some countries currently not in Annex VII may eventually wish to be included in the group of industrialised countries that are allowed to trade hazardous wastes with each other. Lim Cheng Sang of the Federation of Malaysian Manufacturers Committee put it this way at COP-4: "What about when we have become a developed country? We will be generating hazardous wastes then and we may want to trade wastes with OECD countries".[103] But there is currently no agreement about how or whether change to Annex VII should be allowed.

Some developing countries are also worried about access to secondary materials. Used lead acid batteries (ULABs), for example, are an Annex VIII entry under the Basel Convention and thus subject to the ban. Some developing countries source a significant proportion of their lead requirements from imported ULABs. In both India and the Philippines, for example, imported battery scrap accounted for about 60-70 percent of lead consumption in the early 1990s.[104] However, the increased demand for lead in developing countries in Southeast Asia – due to the need for batteries for cars and motorcycles, telecommunications and computer equipment – and the inability for their industries to source ULABs from OECD countries – if the Ban is implemented –

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[102] N. Johnstone, "The implications of the Basel Convention for developing countries: the case of trade in non-ferrous metal-bearing waste", *Resources, Conservation and Recycling* (forthcoming 1999).

[103] Quoted in E. Tan, "Loopholes in Basel Treaty Remain", *New Straits Times (Malaysia)*, 22 March 1998.

[104] See UNCTAD, *An Integrated and Multi-Stakeholder Approach to Sound and Cost-effective Management of Environmental and Occupational Health Risks of Recycling of Hazardous Waste: The Case of Used Lead-acid Batteries in India and the Philippines* (Geneva: UNCTAD Draft Paper, March 1998).

suggests that either this new demand will need to be met by domestic supplies or by imports from non-Annex VII countries.

A preliminary study by UNCTAD suggests that if the Philippine secondary lead smelter that accounts for around 80 percent of the Philippine refined lead output cannot make up for the loss of ULABs normally sourced from OECD countries – which have been required to meet the feedstock requirements of their battery recycling – the plant may need to close. This scenario could also lead to an increase in what is known as the "informal" recycling sector – backyard recyclers who operate with few health and environmental controls – a situation that would have negative health and environmental effects.[105] A paper prepared for the International Lead and Zinc Study Group suggested that Brazil's adherence to the Basel Convention resulted in lost sales and profitability in the domestic battery industry – due to the need to import higher priced primary lead and new batteries because of the import ban on ULABs – and that there was an increase in the more hazardous informal lead recycling sector.[106]

India also has had concerns regarding the potential economic impacts of the Basel Convention on their secondary zinc imports. The BIR has argued that the restriction on imports of secondary zinc materials – such as zinc ash, dross and skimmings – puts 30,000 to 50,000 jobs at risk.[107] While an import ban on hazardous waste, including zinc ash, was enacted by the Delhi High Court in 1997, the Indian government has changed its mind more than once about the status of secondary zinc as a hazardous waste under their domestic law because of the size of its secondary zinc industry. In 1997, India created a high-level committee to monitor the implementation of national hazardous waste regulations, including the issue of whether or not to import

[105] For a more detailed elaboration of the possible scenarios that might result from ULABs being subject to Decision III/1, see the UNCTAD study referred to above.

[106] A. Serrão and D. Melhen Jr., "Present Overview on Lead Recycling in Brazil", Paper presented at the International Lead and Zinc Study Group's 7th International Recycling Conference, Toronto, Canada (May 1998).

[107] See "Impact of the Basel Convention and Trade Ban on the Supply of Secondary Raw Materials", Bureau of International Recycling, June 1997. For a critique of India's zinc recycling industry, see Leonard and Rispens, "Exposing the Recycling Hoax: Bharat Zinc and the Politics of the International Waste Trade".

wastes as raw material for recycling.[108] However, the Indian Ministry of Environment has recently decided to once again allow imports of zinc ash.[109]

Nevertheless, it is possible to argue that for the large group of least developed countries that have little or no recycling industry – such as those in sub-Saharan Africa – the Basel ban will be positive and protect them against the import of hazardous wastes, particularly those using fake recycling schemes as a pretext for export. And in many ways, this is the group of countries that the Basel Convention sought to protect in the first place. As the preamble to Decision III/1 states, "...transboundary movements of hazardous wastes, especially to developing countries, have a high risk of not constituting an environmentally sound management of hazardous wastes as required by this Convention". Moreover, at least in theory the ban provides industries in OECD countries with the incentive to recycle their own wastes and the opportunity for recycling and low-waste industries to expand market share due to the need to treat wastes that might otherwise be exported.

The final issue relates to the concerns regarding the compatibility of the ban amendment with the GATT. Actors with interests in reclassifying wastes as goods will try and undermine those environmental regulations that they perceive as too strict. The most extreme scenario would be for the Basel ban amendment to be challenged in the WTO. An industrialised country hostile to the export ban on recyclable waste to developing countries could argue that their WTO rights have been impaired in that their ability to export goods or products – hazardous wastes being used as secondary raw materials – has been over-ridden.[110] Or, a rapidly-industrialising non-Annex VII country may argue that their access to secondary raw materials from industrialised (Annex VII) countries has been taken away, thus negating their WTO rights.

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[108] "Panel to Monitor Waste Management", *Asia Intelligence Wire*, 2 February 1998.

[109] H. Babu, "India Allows Freeports of Banned Hazardous Waste", *India Abroad News Service*, 17 July 1999.

[110] In a 1996 letter to Sir Leon Brittan, the Union of Industrial and Employer's Confederation of Europe (UNICE) stated that the Basel ban "constitutes an unacceptable infringement to the most basic WTO obligations of the European Union and results in arbitrary discrimination and disguised restriction on international trade". "Singapore Minsterial Conference", *Reuter Textline*, 14 October 1997.

Given that the Basel Convention was structured as an agreement that restricted the international trade in hazardous wastes, it is curious that there appears to have been little effort to minimise the likelihood of conflict between the Basel Convention and the GATT. Despite the presence of GATT Secretariat observers at the negotiations, as well as at COPs-1 and 2 (when the first comprehensive ban decision – Decision II/12 – was taken), no party formally raised these issues.[111] Nor did Basel Convention negotiators explicitly "seek advice" from the GATT Secretariat about the trade restrictive measures, as was done in the case of the Montreal Protocol.[112] Moreover, the Protocol, in contrast with the Basel Convention, included a clause (Article 4.8) that suspended the Protocol's trade restrictions for those non-parties deemed in compliance with its provisions partly to help ensure conformity with the GATT.[113] It should also be remembered, however, that the idea of potential conflict between MEA provisions and the GATT was not seen as a major problem area before 1990. Indeed, the whole issue of the relationship between the trade policy and environmental policy was not considered as important as it is today.[114]

At the time of Decision II/12 in 1994, which banned exports of hazardous wastes from OECD to non-OECD countries – before the Annex VII distinction – some experts suggested that the OECD/non-OECD distinction could be GATT incompatible simply because the trade discrimination was based purely on a country's membership in an international organisation – the OECD.[115] This particular concern has since been superseded by Decision III/1 and the use of the Annex VII classification. The Basel Convention, however, has a difficulty that other environmental agreements do not: are the substances controlled by the Convention – hazardous and other wastes – in fact products or goods that fall under the jurisdiction of the WTO? As Katharina Kummer

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[111] P. Hagen and R. Housman, "The Basel Convention", pp. 131-61 in R. Housman et al (eds), *The Use of Trade Measures in Select Multilateral Environmental Agreements* (Geneva: UNEP Environment and Trade Series #10, 1995), p. 145. Interviews 22, 26, 34 and 38.

[112] Interview 34.

[113] See section 3.3.4.

[114] See sections 1.3 and 5.4.

[115] See Hagen and Housman, "The Basel Convention", p. 158.

has noted, the question of the 'GATT-ability' of the Basel Convention presents itself in a different light depending on the definition of product: if wastes are not products, then they do not come within the scope of the WTO and therefore there cannot be a conflict between it and the Basel Convention.[116]

The problem is that there is no precise definition of "product" in the GATT and the question of whether or not wastes are products has yet to be answered conclusively.[117] The dilemma for the Basel Convention is therefore acute with respect to recyclable hazardous wastes that are more likely to be interpreted as products, and therefore within the scope of the WTO. Most observers suggest that recyclable hazardous wastes would likely be considered products under GATT/WTO law, thus making Decision III/1 of particular concern with respect to WTO compatibility.[118]

The question of whether there would in fact be a conflict between the Basel Convention and the WTO in the case of a dispute may also be said to rest on two unresolved issues: the openness of Annex VII and the availability of Article 11 agreements. The ban on exports of hazardous waste is between countries listed in Annex VII and countries not so listed. Annex VII currently consists of countries of the OECD, EU and Liechtenstein. At the moment, a party wanting to join Annex VII would have to propose an amendment to the Annex. However, there are not yet any guidelines or criteria for how such an amendment should be viewed – i.e. what are the terms of membership for Annex VII parties? At COP-4, Israel, Slovenia and Monaco all applied to join Annex VII but the decision was not to change Annex VII membership until

[116] Kummer, *Transboundary Movements of Hazardous Wastes at the Interface of Environment and Trade*, p. 72.

[117] Kummer, *Transboundary Movements of Hazardous Wastes at the Interface of Environment and Trade*, p. 72; D. Wirth, "International Trade in Wastes: Trade Implications of the Recent Amendment to the Basel Convention Banning North-South Trade in Hazardous Wastes", Paper presented to *Trade and Environment: Challenges for 1996* (19 January 1996), p. 42.

[118] This is based on the opinion of several legal experts (J. Crawford and P. Sands, *Article 11 Agreements Under the Basel Convention* (Ottawa: ICME, 1997), p. 29; Hagen and Housman, "The Basel Convention", pp. 146-47) as well as the assumption that if a challenge to the Basel Convention were brought to the WTO, the complainant would clearly be arguing that the free trade of a product – such as some form of metal scrap – had been impaired by the Convention.

Decision III/1 enters into force.[119] The rationale given by supporters of a closed Annex VII is that there are no clear criteria for how a country may accede to Annex VII and that a 'loose' Annex VII would undermine the clear need to ban hazardous waste exports from rich countries to the rest of the world as reflected by Decision II/12.[120]

Supporters of a more open Annex VII argue that a closed Annex would be contrary to the principle of environmentally sound management of hazardous wastes if countries with appropriate recycling facilities are denied access to the international trade in recyclable hazardous wastes.[121] More significantly, some supporters of an open Annex VII note that a closed Annex VII could raise WTO problems as a trade barrier based on the arbitrary distinction of membership in an international organisation (as the current Annex VII is essentially OECD countries).[122] The question of the status of Annex VII in fact became the most serious debate at COP-4. The final decision that no change will be made to Annex VII until Decision III/1 enters into force was adopted by a fragile consensus.[123] Some delegations indicated that a WTO challenge could be the result of a closed Annex VII and that Israel would particularly be in a position to bring a challenge in that the ban was "arbitrary" in its treatment of which countries were part of Annex VII.[124]

A related question to the WTO-compatibility of Decision III/1 is the availability of Article 11 agreements – bilateral or regional waste trade agreements – under the ban.

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[119] However, the bids by Israel and Monaco to join Annex VII *were* supported by the US, Canada and Australia, with the EU (particularly France) also supporting the inclusion of Monaco in Annex VII. According to Greenpeace, Slovenia's bid was supported by Germany and Austria. See "Global waste trade ban prospects boosted", *ENDS Environment Daily*, 27 February 1998.

[120] Greenpeace argues that opening Annex VII to other countries would create a 'domino' effect whereby other countries, pressured by industrial interests, would also seek Annex VII status. See Greenpeace, *Implementing the Basel Ban: Moving Towards Clean Production*, presented at COP-4.

[121] See, for example, "Canadian Non-Paper on the Rationale for Accession To and Deletion From Annex VII", presented at COP-4 (UNEP/CHW.4/CRP.2).

[122] Statement of Australian delegation to COP-4, 26 February 1998. Interviews 29, 30, 33 and 37. Notably, there was no WTO observer at COP-4.

[123] After the decision on Annex VII was taken, several delegations, including New Zealand and Australia, declared that they questioned the legal basis of that decision. UNEP/CHW.4/35, pp. 10-11.

[124] Interviews 27, 29, 30 and 33.

If Annex VII is closed, then Article 11 agreements could provide a way in which countries wishing to engage in trade could do so. However, if Annex VII is closed and Article 11 agreements are not available (that is, the ban is absolute), then the chance of a WTO challenge by those still opposed to Decision III/1 increases as the ban would appear to discriminate against countries not members of the OECD. There is not, however, any consensus among Basel Parties that Article 11 agreements are or are not available under Decision III/1.[125]

A further situation that could also give rise to a WTO challenge is the European Union Regulation of January 1997 implementing the Basel ban amendment.[126] The Regulation explicitly prohibits the use of Basel Convention Article 11 agreements after 1 January 1998 and also notes that existing Article 11 agreements with non-OECD countries for purposes of exporting wastes for recycling or recovery expired as of that same date. In this way, the early EC *implementation* – as opposed simply to ratification – of a ban amendment that is not yet in force could be perceived as a *unilateral* measure that could be challenged in the WTO. Previous WTO panels on trade and environment issues have indicated that they are most averse to unilateral trade restrictions. This situation has not gone un-noticed – the International Chamber of Commerce has noted that "the EU has unilaterally taken a major step by banning shipments prior to ratification of the pending ban amendment (Decision III/1). The legality of this action under WTO rules must be questioned".[127]

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[125] The EC and Greenpeace have argued that Article 11 agreements would not be allowed under the ban, whereas New Zealand, Australia and the United States disagree. See "Basel parties make progress on hazardous waste lists", *ENDS Report*, no. 255 (April 1996), p. 47, and the statements made by Australia and New Zealand at COP-3 in UNEP/CHW.3/34. The preamble to Decision III/1 does note that "the Technical Working Group will develop technical guidelines to assist any Party or State that has sovereign right to conclude agreements or arrangements including those under Article 11". Some parties have argued that this indicates that Article 11 agreements would continue to be available under the ban; others note that the reference to Article 11 is not in the operational paragraphs of the Decision and is therefore not applicable. In fact, the reference to "having a sovereign right to conclude Article 11 agreements" was inserted at the insistence of one party (Korea, not an OECD member at the time of Decision III/1) in exchange for their not opposing the consensus on the text of the Decision. See de La Fayette, "Legal and Practical Implications of the Ban Amendment to the Basel Convention", p. 709.

[126] Regulation 120/97.

[127] International Chamber of Commerce, "Basel Convention: Environmental Protection, Recycling and Development", ICC Document 210/555 (31 October 1997). Industry in general would be supportive of a WTO challenge to Decision III/1 due to, among other things, competitiveness concerns.

What is clear from the preceding discussion is that the distinction between waste and product in international trade is a controversial one. And unlike the trade restrictions in the Montreal Protocol, the trade restrictions of the Basel Convention, and the ban amendment in particular, could well face the first ever challenge in the WTO. If such a challenge *were* brought to the WTO, however, it would set a precedent for bringing decisions taken in the forum of an MEA for adjudication in the WTO.[128]

4.4 Factors Influencing the Trade Restrictions in the Basel Convention

The preceding sections have outlined a general history of the Basel Convention and, specifically, the development and origin of the Convention's trade restrictive measures. The weaker provisions of the original Convention, with a notification and consent procedure and a circumventable ban on trade with non-parties, was superseded by a stronger amended Convention that essentially banned hazardous waste exports from North to South. Developing countries' moral and environmental concerns, supported by a strong NGO voice from Greenpeace, conflicted with the economic interests of some industrialised countries and the recycling industry. This conflict became particularly acute when the regulatory procedure of prior notification and consent for trade was superseded by an export ban. Different perspectives regarding recyclable hazardous wastes have made the increasingly stringent trade restrictions even more controversial. The following section analyses these developments from the perspective of the factors that account for regime content to more clearly determine what motivated their use.

4.4.1 Power

The first consideration relates to power. Were the trade restrictions used in the Basel Convention because of the preferences of a powerful actor? In keeping with an approach that is not limited to state-based power, the preferences of powerful states will be examined but so will the preferences of other important actors such as industry, NGOs, and individuals.

[128] See section 6.2 for why this would be an undesirable development.

When considering the influence of various states in the development of the Basel Convention, two main protagonists emerged. In the initial Basel negotiations, the developing countries, the African states in particular, and often supported by the Nordic countries and Greenpeace – who were particularly adept at generating high-profile media coverage of the problem – formed a strong coalition in favour of enacting a ban in the Convention. In opposition to this position was a group of powerful OECD countries that included the US, Canada, the UK, Germany, Japan and Australia, reluctant to agree to any measures restricting valuable trade in wastes.

The initial result of the Basel Convention – no ban but a notification and consent system – has triggered different interpretations of which side 'prevailed' in 1989. Jennifer Clapp argues that "against the wishes of African governments and Greenpeace, the Basel Convention regulates the trade in hazardous waste...".[129] Conversely, Willy Kempel suggests that "there is no doubt that the interests of the developing countries prevailed over those of industrialised countries".[130] Given that developing countries had advocated a ban in the original negotiations, this latter interpretation is less convincing because the Convention only included a notification and consent procedure. The group of industrialised countries opposed to banning hazardous waste transfers were thus successful in the initial phase of negotiations – 1987 to 1989 – in not having such a trade restrictive measure included in the Convention.

However, with the ban Decisions II/12 and III/1 of 1994 and 1995, the G-77/Greenpeace coalition prevailed, as the trade restrictive measures in the Convention were 'upgraded' to include a North-South ban.[131] If fact, it was the G-77, assisted by Greenpeace, who proposed the compromise position that eventually allowed Decision II/12 to pass by consensus in 1994. Since the question of immediately banning exports from OECD countries for recycling was proving contentious for Canada, Australia, the US, the UK, Japan and Germany, the G-77 proposed that the ban for recycling be phased in by the end of 1997. The EC environment ministers, who were meeting

[129] Clapp, "Africa, NGOs, and the International Toxic Waste Trade", p. 26.

[130] Kempel, "Transboundary Movements of Hazardous Wastes", p. 58.

[131] Numerous participants have confirmed the strong influence of this coalition. Interviews 9, 10, 26 and 34.

concurrently in Brussels, agreed to this proposal, thus taking the UK and Germany out of the group opposing the recycling ban.[132] This left Canada, Australia and Japan isolated in the COP (the US being a non-party and thus unable to have an official vote), and the decision was adopted.[133] A similar situation occurred at COP-3 when Decision III/1 was taken – despite their opposition to the recycling ban, those few countries opposing it did not want to break the consensus or face a vote that would be lost.[134]

Thus, a mostly united G-77 was a powerful actor in achieving trade restrictions, though they fell short of the total ban they wanted in 1989. Some observers have consequently suggested that the "maintenance of this coalition did not appreciably strengthen Group of 77 bargaining capabilities or their ability to wrest more favorable concessions from the advanced industrial countries".[135] However, a strong moral position against hazardous waste trading that drew public support and the ability to remain united in their demands did give the developing countries strong leverage as the Convention's trade restrictions developed after 1989. Their greater numbers – 66 of the 96 states participating in the negotiations were from the developing world – also added pressure on the few industrialised countries opposed to G-77 demands. The spokesman for the G-77 and China highlighted in 1994 that "what made the difference [between the initial negotiations of the Convention and the first ban decision] was the resolve and unanimous position of the G-77 and China".[136]

Moreover, by the time the first ban decision, Decision II/12, was reached in 1994, the group of industrialised countries opposed to the ban was splintered. Non-EC OECD countries like Sweden and Norway promoted the ban option, and the EC bloc –

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[132] C. Nullis, "UN Sponsored Conference Bans All Toxic Waste Exports", *The Associated Press*, 15 March 1994.

[133] Clapp, "Africa, NGOs, and the International Toxic Waste Trade", p. 37.

[134] Though recall the concession, proposed by Australia, to change the ban from an OECD export ban to an Annex VII export ban. Additionally, the creation of the lists of wastes subject to the Convention (Annexes VIII and IX) adopted at COP-4 in 1998 helped to at least suppress the most active opposition to the trade ban.

[135] Hampson and Hart, *Multilateral Negotiations*, p. 295.

[136] Quoted in UNEP, "Exports of Hazardous Wastes", *Environmental Policy and Law*, vol. 24, no. 4 (1994), p. 147.

previously split on the ban issue – became unanimous in favour of it when the UK and German governments agreed to a common EC position. The US, having played such a strong role in the Montreal Protocol negotiations, was less influential in the Basel case. While the US did arguably have "veto power" against initial ban efforts in 1989,[137] as a non-party to all subsequent negotiations it was much less able to stop the movement towards the OECD to non-OECD export ban even though it would have liked to. The story of the pro-ban versus the anti-ban coalition is not completely settled, however. Several industrialised countries still opposed to the recycling ban continue to promote its demise, and the entry into force of Decision III/1 is not assured.

Regarding the power of non-state actors and the trade restrictions, the G-77's non-governmental ally, Greenpeace, was a significant actor. The group used strong moral arguments against any hazardous waste trading to promote the ban – disappointed that a ban was not included at the signing of the Convention in 1989, Greenpeace delegates hung a banner outside the meeting hall stating: "Danger! Basel Convention Legalizes Toxic Terror!".[138] They also argued that trade restrictions would be an incentive to move to cleaner production – by eliminating the option of sending wastes abroad for cheaper disposal or recycling, domestic industries in industrialised countries would be forced to change their own practices to reduce hazardous waste generation. Moreover, it was Greenpeace that proposed Article 15(7) of the Basel Convention, which mandated the COP to "consider the adoption of a complete or partial ban of transboundary movements of hazardous wastes".[139] The COP eventually agreed to such a ban.

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[137] G. Porter and J. Brown, *Global Environmental Politics* (Boulder: Westview Press, 1991), p. 87.

[138] Quoted in "Thirty-four Countries Sign Convention on Transport, Disposal of Hazardous Wastes", *International Environment Reporter,* April 1989, p. 159. Thus, Greenpeace and the International Toxic Waste Action Network (ITWAN, see note 86 above) could be conceived of as what Keck and Sikkink have called an "advocacy network". M. Keck and K. Sikkink, *Activists Beyond Borders: Advocacy Networks in International Politics* (Ithaca: Cornell University Press, 1998). Such networks "carry and re-frame ideas, insert them in policy debates, pressure for regime formation, and enforce existing international norms and rules" (p. 199). The Basel case suggests that such advocacy networks can be even more influential when allied with a strong state coalition (like the G-77).

[139] See Kummer, *International Management of Hazardous Wastes*, p. 45.

Industry, on the other hand, only became a significant actor with the development of the ban decisions and concerns about their potential impact on the international trade in recyclable wastes. As long as the Convention allowed the trade to continue, albeit with a bureaucratic notification and consent procedure that businesses may find objectionable, industry did not have a reason to spend large amounts of time and resources lobbying for their interests. The Convention's initial focus on banning waste exports for final disposal, rather than for recycling and reuse, also meant that industries that trade hazardous wastes as secondary materials did not feel threatened by regulations targeted to waste. However, the progress towards an export *ban* on wastes for *recycling* meant that the Convention became of major importance for recycling and scrap industries. While some concessions were made to mitigate trade disruption – such as the phasing-in of the recycling ban, the Annex VII classification rather than the OECD grouping, and the exemption of non-hazardous wastes from the scope of the Convention – the overall analysis is that industry has not been a powerful enough actor to eliminate the trade restrictive provisions of the Convention that they oppose.[140]

Turning to the influence of individuals, the efforts of UNEP Executive Director Tolba in creating compromise between the opposing coalitions by holding informal negotiations with the key actors are often emphasised as crucial to the existence of any Convention at all in 1989.[141] Other particular personalities, such as the Swiss Chair of the negotiations Alain Clerc, are also recorded as having left their mark on the text – as they do in any negotiation – but there is little evidence that the trade restrictions *per se* were the result of any individual's efforts.[142]

Thus the correlation between the influence of a powerful actor and the trade restrictions in the Basel Convention is mixed. No *single* actor was powerful enough to impose its desire either for or against the trade restrictions upon the others. There was no hegemon. But *coalitions* of actors were important. A small but strong coalition of

[140] In fact, many industry participants argue that their interests have been completely overlooked in the development of the Convention's trade restrictions. Interviews 29 and 30.

[141] Kummer, *International Management of Hazardous Wastes*, p. 44.

[142] Hampson and Hart have referred to Tolba and Clerc as key "driving forces" who "sustained the momentum of negotiations and tried to broker compromise where possible". Hampson and Hart, *Multilateral Negotiations*, p. 297.

powerful industrialised countries was able to resist the demands of the developing countries for a trade ban in the 1989 Convention. However, the continuing solidarity and strong moral arguments put forward by the more numerous members of the G-77 and the non-state advocacy network (e.g. ITWAN), and the defections from the industrialised country coalition after 1992, resulted in the ban becoming an amendment to the original Convention. The G-77 coalition proved to be influential in the case of the development of the Convention's trade restrictions.

4.4.2 Costs and Benefits

The second factor under examination regarding regime content is costs and benefits. If parties negotiating an MEA regard the perceived benefits of incorporating trade restrictive measures as being greater than any perceived costs, is there a greater likelihood that such measures will be employed? To consider what role the calculation of costs and benefits played in the decision to include trade restrictions in the Basel Convention, it is useful to outline what potential benefits and costs might have been perceived to arise as a result of restricting the trade in hazardous wastes. It is key that the Basel Convention's primary task was considered to be trade regulation already from the outset. Thus, the primary benefit of restricting the international hazardous waste trade was that countries who were recipients of such waste would be able to reject such shipments under the notification and consent procedure and would not be subject to them at all if a ban were enacted. Additionally, actors like Greenpeace argued that preventing such trade would also lead to a decrease in the generation of hazardous waste. Perceived costs of trade restrictions relate to the loss of market and supplies in recyclable wastes, higher domestic disposal costs, and potential conflicts with the rules of the global trade regime.

The coalition of industrialised countries that did not want to restrict the trade within their own region certainly perceived any international restrictions as also being highly costly. They were concerned that the valuable and high volume intra-OECD trade could be prohibited by an international agreement. To prevent this, they first tried to have the UNEP regulations mirror already existing OECD agreements. However,

developing countries opposed this because they felt that the weak notification and consent procedure used among OECD countries would not protect them against hazardous waste dumping. Faced with continued calls for an international ban on hazardous waste trading, OECD countries in 1992 created Decision C(92)39/FINAL as an Article 11 agreement taken pursuant to the Basel Convention to maintain the valuable trade within the OECD region. This allowed industrialised countries to be less concerned about the costs of the trade restrictions in the Basel Convention.

With an increasing volume of valuable hazardous waste sent to non-OECD countries for reuse, however, industrialised countries were also concerned about the costs of banning those movements. Countries with large export markets in non-OECD countries were thus opposed to the ban. But with fewer and fewer OECD countries also party to the Basel Convention still opposed to the ban by 1995, the Convention was amended to include the export ban on hazardous wastes destined for recycling. For those countries like Canada, Australia and New Zealand not to block the ban decision in the COP because its costs were too high, the concessions regarding Annex VII and the scope of wastes covered under the Convention had to be made.

Industries within OECD countries also calculated significant costs due to the trade restrictions and procedures of the original Basel Convention, and even higher costs due to an amended Convention. The notification and consent procedure agreed to in 1989 was considered by industry to be cumbersome, expensive and uncertain.[143] With the arrival of the OECD export ban, the US Chamber of Commerce feared disruption to about $2.2 billion worth of annual trade and it argued that "a ban *(of any kind)* is contrary to that objective [of addressing trade and environmental protection] and to the goals of open world trade and Most Favored Nation treatment [of the GATT]".[144] Industry, however, was not able to prevent the ban on hazardous waste exports for recycling despite that this was against their interests.

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[143] See section 4.3.2.

[144] US Chamber of Commerce Business Recycling Coalition, "Options Following the Decision of the Basel Convention to Ban Certain Trade", 18 May 1994, reprinted in Greenpeace, "Implementing the Basel Ban: The Way Forward", Paper presented to Global Workshop on the Implementation of Decision II/12 (March 1995), Appendix 4, p. 1 (emphasis added).

There was also concern that using an export ban between parties of an MEA could set a precedent, and some actors viewed this precedent as a major political cost.[145] The US, for example, in a leaked "Discussion Draft Basel Convention Action Plan" written after the first ban decision in 1994, stated that "categorical trade bans are undesirable from an environmental as well as trade standpoint and the OECD/non-OECD ban should be modified" and that this "abuse of process...may have adverse precedential implications for other environmental fora (e.g. Biodiversity)".[146] The debate about the appropriateness of restricting trade in MEAs has become central to the wider trade and environment debate, with no resolution in sight. Chapter 6 returns to this point.

Developing countries, on the other hand, perceived banning the hazardous waste trade as being largely beneficial. Their calculation of the benefits was based not on the value of trade in recyclable hazardous wastes, but of avoiding waste dumping and achieving a moral victory for the South against the toxic imperialism of the North. The disappointment of African states with the failure of the Convention to initially include a ban on hazardous waste movements prompted Mali's president to state in 1989 that "The industrialised countries have not hesitated to use Africa as a dumping ground. We cannot sign a convention unless we are assured that our interests are safeguarded".[147]

The subsequent adoption of the ban amendment, however, achieved the developing countries' objective. Their calculation of the benefits of a hazardous waste trade ban changed little between 1989 and 1995. But some developing countries with active recycling industries in the sectors affected by the export ban subsequently expressed concern about the costs of that measure. As in the case of industrialised exporting countries, the concerns of these importing countries were addressed by

[145] Interviews 11, 13, 16, 28A and 30.

[146] R. Edwards, "Leaks Expose Plan to Sabotage Waste Treaty", *New Scientist*, 18 February 1995, p. 4. The text of the leaked document can be found in Appendix 4 of Greenpeace, "Implementing the Basel Ban: The Way Forward", Paper presented to Global Workshop on the Implementation of Decision II/12 (March 1995). The leaked document went on to state that it sure be ensured that "any language crafted to propose as a Convention amendment...is consistent with US objectives", p. 5. The eventual amendment, Decision III/1, was *not* consistent with the US position.

[147] Quoted in "Thirty-four Countries Sign Convention on Transport, Disposal of Hazardous Wastes", *International Environment Reporter*, April 1989, p. 160.

relaxing the stringency of the ban by creating Annex VII, by phasing in the ban, and by exempting non-hazardous wastes from the scope of Convention (Annex IX). Thus, as the developing countries in favour of the ban were by far more numerous than the handful of opposing industrialised countries, it is possible to state that Basel's trade restrictions were employed because the negotiating parties perceived their benefits as outweighing their costs.

4.4.3 Knowledge

Cognitive approaches in regime analysis have stressed the importance of knowledge and ideas – and the role of epistemic communities – in the process of regime formation. Can regime content also be explained by the activities of an epistemic community actively promoting the use of trade restrictive measures?

No scientific consensus was necessary to obtain a decision among diplomats and governments to start the negotiating process, nor was it necessary for the definition of framing of the issue to be negotiated. As Hilz and Radka have pointed out:

> Scientists did not play a major role in the negotiations because the dangers associated with waste disposal were well known and it was clear that this was the motivating force behind the desire to export it. In addition, OECD definitions of hazardous waste were used as the basis for negotiations, lessening the need for direct involvement by scientists in the debate.[148]

Hart and Hampson agree with this assessment, stating that "the Basel Convention is striking as a story of international regime creation insofar as scientists and epistemic communities were absent in the prenegotiation and negotiation processes".[149]

However, this analysis is concerned with regime content and should therefore take a closer look at the scientific involvement that did occur in the negotiations. The Convention's Technical Working Group was responsible for drawing up the lists of wastes that are subject to or exempt from the Convention (Annex VIII and IX), and therefore key to mitigating some actor's concerns about the potential trade costs of the

[148] Hilz and Radka, "Environmental Negotiation and Policy: the Basel Convention on Transboundary Movement of Hazardous Wastes and their Disposal", p. 62.

[149] Hampson and Hart, *Multilateral Negotiations*, p. 294.

ban on wastes destined for recycling. Much of this work required scientific and technical knowledge about the hazardous characteristics of a wide variety of materials and compounds. However, no scientific or other knowledge related to the necessity of trade restrictions was presented by this group to negotiators. Moreover, the TWG does not fulfil the conditions required for an epistemic community and did not advocate tighter or looser trade restrictions as a group.[150]

In subsequent applications of the epistemic community explanation to cases other than Haas' original study of environmental co-operation in the Mediterranean region, epistemic communities have often become equated with expert groups or panels. This is a mistake, however, as an epistemic community in Haas' view is a *spontaneous* grouping that forms on the basis of shared ideas and values.[151] The list of conditions that such groups have to fulfil to be considered an epistemic community is long and specialised, with the result that few groups meet the criteria.[152] This is particularly the case for expert groups in a UN context, put together by negotiators or international bureaucrats aiming for a diverse group representing a cross-section of views in the international scientific community.[153] Thus, the inclusion of the trade restrictive measures in the Basel Convention cannot be accredited to the activities of any epistemic community.

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[150] The requirements for forming an epistemic community are in section 2.1.2.

[151] See also P. Haas, "Introduction: Epistemic Communities and International Policy Coordination", *International Organization*, vol. 46, no. 1 (Winter 1992), pp. 1-35.

[152] As Brown notes, an epistemic community requires "the right conditions to be effective; such conditions include a near-consensus amongst the relevant-knowledge holders, and an issue that does not touch the core interests of states". C. Brown, *Understanding International Relations* (New York: St. Martin's Press, 1997), p. 234.

[153] Examinations of the influence of UN expert groups can be found in J. Lanchbery and D. Victor, "The Role of Science in the Global Climate Change Negotiations", pp. 29-40 in H. Bergesen and G. Parmann (eds), *Green Globe Yearbook of International Co-operation and Development 1995* (Oxford: Oxford University Press, 1995); and E. Corell, *The Negotiable Desert: Expert Knowledge in the Negotiations of the Convention to Combat Desertification* (Linköping, Sweden: PhD Thesis, University of Linköping, 1999).

4.4.4 Institutional Forum

The fourth factor under examination here relates to the institutional forum in which an MEA is negotiated. Are trade restrictive measures more likely to be incorporated into an MEA when that agreement is negotiated in an institutional forum, such as UNEP, sympathetic to using trade measures to achieve environmental goals?

As with the Montreal Protocol, the Basel Convention was negotiated under the auspices of UNEP at a time when its Executive Director, Mostafa Tolba, was keen to communicate that UNEP was a successful organisation that fulfilled its mandate of protecting the global environment. Tolba recalls that, "the UNEP Secretariat...once again took an active position, taking stands on the issues on behalf of the environment and of the poorer and weaker countries".[154] As the institutional forum for the Convention, UNEP did play a role in supporting the trade restrictions of the original Convention and of Decisions II/12 and III/1, as these would benefit developing countries.[155] However, UNEP did not support proposals for a global ban – at the risk of upsetting the industrialised countries that traded amongst themselves – but did, and continues, to support the North to South ban.[156] UNEP support for a North-South ban, however, was more forthcoming.[157] Being an environmental organisation, UNEP could not be seen to be promoting the hazardous waste trade – whether for final disposal or recycling.

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[154] Tolba with Rummel-Bulska, *Global Environmental Diplomacy*, p. 107. See also section 4.4.1.

[155] In fact, it is widely agreed that UNEP played a major role in getting agreement between two sides that seemed very far apart in 1989 and that UNEP has also played a crucial role in spearheading and shaping the negotiating agenda. See, Hampson and Hart, *Multilateral Negotiations*, p. 280. It is also important to recall that another institutional forum – the OECD – had been influential in how the international policy debate was framed (emphasising regulation over prohibition) in the early stages of regime formation. See section 4.3.2.

[156] As the Executive Director at the time, Mostafa Tolba, explained: "a global ban is not the answer. It would be, in fact, against the principle of global proper environmental management. It would lock hazardous wastes inside national borders." See Tolba, "The Global Agenda and the Hazardous Waste Challenge", p. 208. Some developing countries felt betrayed by the fact that UNEP, and its Egyptian Executive Director, did not support their call for a complete and global ban on hazardous waste trading. Kummer, *International Management of Hazardous Wastes*, p. 43.

[157] At COP-4, the current Executive Director Klaus Töpfer called for ratification of the ban amendment and referred to illegal hazardous waste exports as "a crime against mankind and nature...". Quoted in "HazWaste Meeting Makes Progess", *The EnviroNews Service*, 3 March 1998.

Before the Convention adopted Decision II/12, calls for a complete ban were also taken to other fora, notably the preparatory meetings for UNCED. While transboundary hazardous waste movements did not generally receive the same attention as global warming, deforestation, and biodiversity at the Earth Summit, the issue was discussed with respect to Agenda 21. Many developing countries, and even the EC supported banning hazardous waste movements, and Poland, Colombia and the African states called for an OECD to non-OECD ban on hazardous waste movements.[158] But the US argued that such movements were "a private matter between individual states" and Canada stated there was "too much emphasis on bans".[159]

The final text of Chapter 20 of Agenda 21 on hazardous wastes supports as an *objective* the language and ratification of the Basel Convention and its ban on shipments to countries that cannot manage hazardous wastes in an environmentally sound manner or have a national import ban.[160] But under the *activities* to be undertaken, no mention is made of a North-South ban or general export ban for either final disposal or recycling. Rather, governments are to:

> Promote the development of clear criteria and guidelines, within the framework of the Basel Convention and regional conventions, as appropriate, for environmentally and economically sound operation in resource recovery, recycling, reclamation, direct use or alternative uses and for determination of acceptable recovery practices, including recovery levels where feasible and appropriate, with a view to preventing abuses and false presentations in the above operations.[161]

Thus, despite the efforts of non-OECD countries, the text on hazardous waste trading resulting from UNCED made no mention of general trade bans or specific export bans beyond what was at that time (1992) already included in the Basel Convention. This

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[158] J. Bernstein et al, "UNCED PrepCom III: Second Week Synopsis", *Earth Negotiations Bulletin*, vol. 0, no. 1 (28 August 1991); J. Bernstein et al, "UNCED PrepCom IV: Highlights", *Earth Negotiations Bulletin*, vol. 1, no. 15 (19 March 1992).

[159] Bernstein et al, "UNCED PrepCom III: Second Week Synopsis"; Bernstein et al, "UNCED PrepCom IV: Highlights".

[160] United Nations, *Agenda 21*, Chapter 20, paragraph 20.33(b).

[161] United Nations, *Agenda 21*, Chapter 20, paragraph 20.34(e).

result conforms to the expectation that UNEP is a forum more likely to restrict trade for environmental purposes than are other broad-based bodies like the UNGA.

UNEP provided a forum, both as an environmental home for the negotiations and through the activities of its Executive Director, that was sympathetic to the actors advocating trade restrictions – in this case, the developing countries. And since the UNEP Governing Council had explicitly authorised the negotiation of a convention that was to tackle transboundary movements, the minimum result that could be expected was a regulated trade with the option of an outright trade ban also being likely. One UK environment department lawyer has suggested that there is little awareness of the GATT in UNEP.[162] Industry actors also argue that environmental conventions tend to ignore the trade implications of their regulations simply because they are negotiated under an environmental body.[163] While this may have been more true in the pre-UNCED period, it has certainly become less true in the post-UNCED period.[164]

The conclusion from this analysis is that the institutional forum of UNEP was an important factor in providing an atmosphere in which trade restrictions were a likely, and in the case of Basel, almost a certain outcome. But it is not a sufficient condition to explain why stricter trade measures – the ban amendment – were adopted. Other factors discussed here, such as the interests of the developing countries and the inability of the industrialised countries to block decisions they did not like, are required to explain the use of an export ban as part of the content of the Basel Convention.

4.5 Summary

An examination of the inclusion of trade restrictive measures in the Basel Convention suggests that a variety of factors account for the use of trade measures and for the form they took. In this case, the power of single actor, a hegemonic power, cannot account for the trade restrictions. Rather, a group of actors – the G-77, Greenpeace and some northern European countries – formed a powerful coalition that promoted strict trade

[162] Interview 26.

[163] Interview 25.

[164] See section 5.3 for a discussion of post-UNCED MEAs.

restrictions in the form of a North-South ban. While this coalition did not achieve its objectives immediately in 1989, due to a more powerful coalition of industrialised countries who opposed the ban and could prevent any regulations from being agreed by threatening to maintain the status quo (i.e. no convention) it did do so in 1994. By this time, the remaining industrialised countries in opposition could not prevent the ban from being added to an already existing Convention. Thus, a sole emphasis on power capabilities that would normally dictate that the interests of the 'weak' South would not overcome the 'strong' North, cannot convincingly account for the inclusion of the trade restrictions in this case.

The calculation of costs and benefits, however, highlights more specifically how the trade restrictions, and the ban in particular, came to be included in the Convention. Developing countries placed a high value on achieving a ban on international hazardous waste trading while industrialised countries were concerned about the costs of interrupting the recycling trade. For the US, these costs have been perceived to be so high that it has remained outside the regime. But under significant political pressure from the more numerous developing countries, the few industrialised countries who still opposed the ban for recycling had to be content with altering aspects of the ban decision – such as changing the ban from an OECD to non-OECD ban to one between Annex VII countries – rather than preventing the ban decision altogether. By publicising and condemning the practice of exporting hazardous wastes for final disposal to poor countries, the Basel Convention arguably put a great deal of political pressure on exporting countries to stop this practice. In this way, the creation of a Convention that changed the norms of international practice was perhaps as effective as the actual trade measures themselves.

There is no evidence that any epistemic community influenced the inclusion of trade restrictions. While the Technical Working Group provided scientific knowledge to the negotiations, this group did not fulfil the conditions stipulated for an epistemic community. Nor did it actively promote or oppose trade restrictions.

Lastly, the institutional forum of UNEP provides only a partial explanation regarding the inclusion of the trade measures. During the period in which the

Convention was negotiated – 1987 to 1989 – UNEP was certainly a strongly environmental forum in which trade considerations were not an over-riding concern. Moreover, Basel Convention negotiators seemed to pay little attention to possible conflict with the GATT, perhaps because they perceived that wastes rather than products were at issue. Having the trade restrictive decisions made in the pro-environment forum of UNEP made it more difficult to oppose the ban decision. Nevertheless, the ban on hazardous wastes traded for recycling meant that potential GATT conflict became much more important and the Convention, under UNEP's auspices, had to take trade concerns much more seriously. Subsequent discussions in other fora, such as the WTO's CTE for example, have been highly critical of the ban.[165]

[165] Interviews 13, 14, 19, 24 and 33.

Chapter Five

Explaining Regime Content: The Limits of Regime Theory and the Role of Ideas

The foregoing chapters analysed in depth the trade restrictions of two pre-UNCED MEAs, the Montreal Protocol and the Basel Convention. The inclusion of trade restrictions in those agreements was examined from the perspective of four factors that could account for regime content. The purpose of this chapter is to review the findings and determine whether the explanations provided by the four factors were adequate to explain the regime content – the inclusion of trade measures. The first section argues that while the factors of power, interests and institutional forum illuminate different aspects of the conditions under which trade measures will be used, none of these factors on their own can account for regime content. Moreover, the knowledge-based approach focussing on epistemic communities could not account for the inclusion of trade restrictions in the two cases. The second section of the chapter therefore takes a broader approach to knowledge and ideas in regime content by examining the inclusion of trade measures in the two agreements through the role of governing ideas. The third section extends that analysis to two post-UNCED MEAs – the Rotterdam Convention on chemicals and pesticides and the (proposed) Cartagena Protocol on biosafety – to further strengthen the claim that knowledge and ideas are significant determinants of regime content. The final section summarises the conclusions drawn from the analysis in this chapter.

5.1 A Review of the Findings So Far: The Explanatory Power of the Four Factors Accounting for Regime Content

The Montreal Protocol and the Basel Convention both restrict trade to achieve their environmental goals. But they do so in different ways. The Montreal Protocol prohibits trade with non-parties in controlled substances, and products containing the controlled substances, as part of a package of control measures aimed at eliminating the use of a wide group of ozone depleting substances. The Basel Convention, on the other hand,

directly regulates the trade in hazardous wastes and eliminating the generation of such wastes is not a key feature. Trade between parties is permitted using a notification and consent system and trade with non-parties is technically prohibited, but allowed through the loophole of Article 11 agreements. More recently, the Convention banned the export of hazardous wastes for disposal from countries currently in the OECD to non-OECD countries. The ban on such exports for recycling or reuse has yet to enter into force and is very controversial in the trade community.

When examining which factors influenced the use of trade restrictive measures in these two agreements, power provided some insight into the activities of the key actors regarding the inclusion of trade measures. In the Montreal Protocol, the US – a powerful actor in the negotiations – proposed the use of trade restrictions in Article 4 but was unable to impose that wish on other actors. The EC was another powerful actor in this case, and the trade restrictions were not agreed to until the Community's concerns about the stringency of the ODS reduction measures and the maintenance of export markets were addressed.

In the Basel case, no single actor was powerful enough to dictate the terms of the trade restrictions. A block of industrialised countries – the US, UK, Germany, Canada, Australia – opposed to overt restrictions on trade were initially able to block the use of trade bans in the Convention in 1989. This demonstrates the veto-power of powerful states to prevent or water down measures they disagree with.[1] However, as the unity of this block eroded, a strong and united G-77 was able to continue to press for their desired goal: a North-South trade ban. This goal was eventually achieved for hazardous wastes destined for disposal, while the future of the trade ban for recycling remains uncertain. While some powerful actors did express preferences for particular outcomes regarding the trade restrictions – such as US support for Article 4 and G-77 support for a North-South ban – these actors were not able to achieve their objectives without taking other actors' preferences into account. In sum, the examination of the two cases suggests that while an emphasis on power capabilities or hegemonic position may

[1] See the discussion on power in section 2.1.2.

illuminate the activities of various actors, it is insufficient as the sole explanation in accounting for the use of trade restrictions.

Turning to interest-based explanations, the examination of benefits and costs of the trade restrictions in the two cases provides a stronger explanation for their inclusion. In the Montreal Protocol, trade restrictions were included when the main protagonists – the Toronto Group and the EC – perceived the benefits of Article 4 to be greater than its potential costs. The trade measures provided both environmental benefits – incentives to participate in the agreement and prevention of leakage of ODS-producing industries to non-parties – as well as economic benefits – maintenance of supply-demand relationships within the agreement and assurances of markets for new substances. However, this calculation could only be made once the larger package of control measures the main protagonists were divided over was agreed to.

Developing country participation in the regime also highlights the importance of costs and benefits, though in both the Montreal Protocol and Basel Convention developing countries were calculating differently than the industrialised states. Smaller developing countries with either no domestic ODS production capacity or a large export industry for goods containing CFCs, such as refrigerators, calculated the benefits of avoiding the trade restrictions by becoming party to the Montreal Protocol to be higher than the benefits of staying outside the agreement and facing subsequent losses of supplies or markets. However, larger developing countries with domestic ODS production capacity and an internal market for CFC-based goods like air-conditioners, did not calculate the costs of trade restrictions as significant enough to warrant their participation. For this group of actors, other positive incentives, such as the Multilateral Fund, were required.

In the Basel Convention, developing countries calculated that high benefits would result from banning the North-South hazardous waste trade. They thus promoted this objective as being in line with their interests. Regarding the export of wastes destined for final disposal, almost all the parties to the Convention subsequently agreed with this calculation and such trade is now banned. Some industrialised countries, however, expressed and continue to express reservations about the high costs of banning the trade in valuable recyclable hazardous wastes. As a result, the export of hazardous

wastes destined for recycling has not formally been banned – Decision III/1 has not entered into force. The overall conclusion from both cases regarding the interest factor, however, is that calculating trade restrictions as having greater benefits than costs is important in explaining under what conditions they will be used.

The two cases examined here also highlight the role of institutional forum as a factor that can influence the decision to use trade restrictions. However, the importance of institutional forum is somewhat limited because the forum itself (e.g. UNEP), or representatives of the forum (e.g. UNEP's Executive Director and staff), cannot take decisions on regime content. Nevertheless, what both cases did suggest is that holding the negotiations in the environmental forum of UNEP created an atmosphere that was sympathetic to using trade means to achieve environmental objectives. UNEP officials were concerned with the environmental problem under negotiation, and thus the use of trade restrictions more likely.

This is not to say that trade implications, including possible conflict with the GATT, were not considered simply because UNEP is an environmental body. In the Montreal Protocol negotiations, a sub-group on trade issues was convened and in the development of the ban amendment to the Basel Convention there have been increasing concerns expressed regarding trade implications. However, it is possible to assert that had these MEAs not been negotiated under UNEP auspices, but rather in a forum such the UN General Assembly, UNCTAD or WTO, trade restrictive measures would have been less likely to be included or would not have been as strict as they were. In this way, the institutional forum can exert what Goldstein and Keohane have termed "ideational influence".[2] This occurs when the ideas invested in an organisation or institution – in this case, the primary importance of environmental protection in UNEP's mandate – influence or shape the types of decisions made. For example, the Kyoto Protocol – negotiated under UNGA auspices – does not make use of trade restrictions

[2] J. Goldstein and R. Keohane, "Ideas and Foreign Policy: An Analytical Framework", pp. 3-30 in J. Goldstein and R. Keohane (eds), *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change* (Ithaca: Cornell University Press, 1993), pp. 20-25. The importance of ideas is discussed in greater detail in section 5.2.

and is clearly written to avoid them.[3] Moreover, UNEP's influence as a forum for taking decisions that might affect non-environmental issues such as trade has declined since the late 1980s.[4] The climate change negotiations were "taken away" from UNEP and placed within the more broadly based forum of the UNGA in 1990.[5] Summing up the examination of the role of institutional forum in the two cases, it is clear that while the forum can provide a favourable environment for the consideration of trade measures, institutional forum alone cannot explain the inclusion of trade restrictions.

Knowledge and ideas, as measured by the influence of an epistemic community, was also proposed to account for regime content. The examination of the two cases did not provide any evidence that this factor could help explain the inclusion of trade restrictive measures in the agreements. Scientific consensus was not relevant in the two cases. In neither the Montreal Protocol nor in the Basel Convention was the scientific

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[3] Article 3(5) of the Protocol's parent convention, the FCCC, takes language directly from the Rio Declaration of UNCED, which took language from the GATT (see section 1.2): "The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade." United Nations, *Framework Convention on Climate Change* (New York: UN, 1992). The Kyoto Protocol itself states in its preamble that the parties are "guided by Article 3" of the FCCC and Article 2(3) states that "parties...shall strive to implement policies...in such a way as to minimize adverse affects...on international trade". "Kyoto Protocol to the United Nations Framework Convention on Climate Change", FCCC/CP/1997/7/Add.1 (18 March 1998), p. 7. However, the avoidance of trade restrictions in the Kyoto Protocol is not only because it is not a "UNEP agreement", but also because is a post-UNCED MEA. See sections 5.2 and 5.3. For speculation regarding the feasibility of using Montreal Protocol-type trade restrictions in the Kyoto Protocol, see Chapter 7 of D. Brack, with M. Grubb and C. Windram, *International Trade and Climate Change Policies* (London: Earthscan/RIIA, 1999).

[4] Interview 34.

[5] Developing countries in particular had become suspicious that UNEP was too preoccupied with the North's global environmental agenda – ozone depletion, climate change and loss of biodiversity – at the expense of their developmental concerns, including trade and market access. Thus the 1990 UN Resolution establishing the Intergovernmental Negotiating Committee (INC) for the FCCC placed it under UNGA auspices. See I. Rowlands, *The Politics of Global Atmospheric Change* (Manchester: Manchester University Press, 1995), pp. 196 and 235-36; M. Paterson, *Global Warming and Global Politics* (London: Routledge, 1996), pp. 37-49; and T. Brenton, *The Greening of Machiavelli: The Evolution of International Environmental Politics* (London: Earthscan/RIIA, 1994), p. 185. As Susskind and Ozawa have pointed out, "negotiations sponsored solely by UNEP cannot speak to the linkages between environmentally related actions and other important economic and security considerations". L. Susskind and C. Ozawa, "Negotiating More Effective International Environmental Agreements", pp. 142-65 in A. Hurrell and B. Kingsbury (eds), *The International Politics of the Environment: Actors, Interests, and Institutions* (Oxford: Clarendon Press, 1992), p. 153.

knowledge of such a character that it was directly relevant to the trade restrictions, because such control measures had economic rather than scientific consequences. Of the two traditional approaches to studying the impact of knowledge and ideas in regime formation, epistemic communities seemed most relevant for these cases. It was not possible, however, to identify any epistemic community supporting the use of trade restrictions to further the environmental objectives of the agreements. No such grouping existed in the Montreal case. The Technical Working Group in the Basel Convention – while supplying scientific information that to some extent was relevant to the calculations of the costs and benefits of trade restrictions – did not fulfil the criteria stipulated for such a community. The very specific requirements that groups have to fulfil to be considered as epistemic communities only exist under very particular circumstances and the utility of examining the influence of such groups may therefore be questioned.

The weaknesses of the epistemic community approach have been highlighted in the analysis of ozone layer depletion and climate change.[6] Not only must particular requirements be fulfilled so that a group can be considered an epistemic community, but the epistemic community approach also assumes that knowledge is separate from political power. Moreover, Litfin argues that "scientists may join together in an epistemic community to influence the course of policy, but their power is circumscribed by a host of contextual factors. Policymakers may co-opt or manipulate the scientists, or they may simply ignore what the scientists have to say".[7] And the key focus of the knowledge-based approaches on "science, scientists and networks of scientists", as Young and Osherenko formulate it, necessarily excludes examining the role of essentially non-scientific ideas, like economic concerns, on the question of regime content.[8]

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[6] K. Litfin, *Ozone Discourses: Science and Politics in Global Environmental Cooperation* (New York: Columbia University Press, 1994), p. 188; Paterson, *Global Warming and Global Politics*, pp. 140-50.

[7] Litfin, *Ozone Discourses*, p. 188.

[8] O. Young and G. Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 223-61 in O. Young and G. Osherenko (eds), *Polar Politics: Creating International Environmental Regimes* (Ithaca: Cornell University Press, 1993), p. 235.

The conclusions from the examination of the role of epistemic communities in the two cases may not seem convincing because no evidence for the influence of any epistemic communities was found – and it is difficult to prove the absence of something conclusively. However, this result points to important flaws in the knowledge-based approach to regimes as currently practised. Scientific consensus was not relevant in these cases and no epistemic communities were found. This does not mean, however, that knowledge and ideas were unimportant for the inclusion of trade restrictive measures in the two agreements. Rather, the lack of evidence for the importance of knowledge and ideas resulting from the application of traditional knowledge-based approaches in regime analysis – scientific consensus and epistemic communities – invites a deeper investigation into the role of knowledge through a different lens. Another approach to the examination of knowledge and ideas in regime content is required.

This review of the explanatory power of each of the factors accounting for regime content provides two key observations. First, factors based on power, interests and institutional forum all provided insights regarding why and how the trade restrictions came to be included in the two MEAs. However, with the possible exception of interests, none of these factors can individually account for the trade restrictions in the two cases. And a knowledge-based approach using a focus on epistemic communities failed to be of use, a problem that is addressed below. Second, the review suggests that regime content cannot be explained by single factor accounts – such as realism's hegemonic stability theory. It underscores that a variety of factors are required to construct as accurate an explanation as possible of the conditions that influence regime content. The multidimensional approach taken in this thesis is therefore justified. As Owen Greene has noted, "in spite of attempts to identify one, it now seems that there is no single type of factor or process determining when, why and how regimes develop...power and interests certainly play a key role. However, so too do several other factors".[9] This assertion also appears to hold true regarding regime content.

[9] O. Greene, "Environmental Regimes: Effectiveness and Implementation Review", pp. 196-214 in J Vogler and M. Imber (eds), *The Environment and International Relations* (London: Routledge, 1996), p. 199.

5.2 The Need to Analyse the Dominant Social Paradigm

In explaining the factors that influence regime content, a traditional knowledge-based approach examining the importance of epistemic communities proves to be insufficient. However, it seems counterintuitive that knowledge and ideas would not influence decisions regarding a regime's content, such as rules prohibiting trade. Indeed, Young and Osherenko's study of five multilateral environmental regimes found that the importance of values and ideas was confirmed more often than the importance of either scientific consensus or epistemic communities.[10] Thus, there are instances where knowledge and ideas have impacts that are left unaccounted for by the two traditional indicators of scientific consensus and epistemic communities. And Krasner proposes that while interests and power remain influential, the impact of knowledge must be considered:

> Knowledge alone is never enough to explain either the creation of the functioning of a regime. Interests and power cannot be banished. But knowledge and understanding can affect regimes. If regimes matter, then cognitive understanding can matter as well.[11]

This section draws both on the strong cognitivist literature in regime analysis as well as on sociological literature regarding belief paradigms to determine the influence of knowledge and ideas on the use of trade restrictions. In this way, the weaknesses of traditional knowledge-based approaches to regime analysis are redressed in this study with respect to regime content.

Regime analysts working in the cognitivist tradition that initiated the scientific convergence and epistemic community approaches have criticised the realist and neoliberal – or rationalist – traditions for neglecting the importance of factors beyond anarchy, power and state self-interest. They argue that "the behavior of states, as any

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[10] See Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", in Young and Osherenko (eds), *Polar Politics*, p. 243 and Table 7.3. Young and Osherenko also suggest that "contextual factors" – events unfolding outside the particular issue area – can influence regimes. On contextual factors, see Young and Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications", pp. 245-46. Rowlands also argues that a "conducive international environment" (similar to context) also has an impact, but that more systematic study of this is required. Rowlands, *The Politics of Global Atmospheric Change*, p. 251.

[11] S. Krasner, "Regimes and the Limits of Realism: Regimes as Autonomous Variables", pp. 355-68 in S. Krasner (ed), *International Regimes* (Ithaca: Cornell University Press, 1983), p. 368 (emphasis added).

social behavior, presupposes normative structures which cannot be explained from the vantage point of rational actors but have to be analyzed in their own right".[12] For many studies of international politics, the normative structures often examined are sovereignty, diplomacy or international law.[13] Others have studied the role of "discourse" – linguistic practices and rhetorical strategies – on the formation of environmental regimes.[14] Litfin points out that "the argument that discourse may be an integral factor in the policy process is related to the broader claim that ideas and other cognitive factors are important determinants of social processes".[15]

The role of economic institutions and their underlying norms have also been studied in international relations. Some scholars, working in what has been termed a "strong cognitivist" tradition, have employed a neo-Gramscian approach that "places considerable importance on the autonomous influence of ideas and institutions in the development of world orders".[16] Robert Cox, for example, uses a Gramscian conception of hegemony to explain the prevailing liberal economic order – controlled by the US and other OECD states – as a framework which "shapes social behavior [and channels] it in predefined ways such that the pre-existing power relations tend to be reproduced".[17]

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[12] A. Hasenclever, P. Mayer and V. Rittberger, *Theories of International Regimes* (Cambridge: Cambridge University Press, 1997), p. 158. See also, A. Wendt, "The Agent-Structure Problem in International Relations Theory", *International Organization*, vol. 41 (1987), pp. 335-70.

[13] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 158.

[14] Litfin, *Ozone Discourses*, p. 3; Paterson, *Global Warming and Global Politics*, pp. 151-56.

[15] Litfin, *Ozone Discourses*, p. 184.

[16] F. Gale, "*Cave 'Cave! Hic Dragones'*: a Neo-Gramscian Deconstruction and Reconstruction of International Regime Theory", *Review of International Political Economy*, vol. 5, no. 2 (Summer 1998), pp. 252-83 (p. 273). Strong cognitivists seek to "problematize the existence and nature of states as competent actors in international politics". See Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, pp. 167-210.

[17] R. Cox, "Social Forces, States and World Orders: Beyond International Relations Theory", pp. 204-55 in R. Keohane (ed), *Neorealism and Its Critics* (New York: Columbia University Press, 1986). For a more detailed discussion of Cox's approach, see Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 192-208.

Many arguments made within a cognitive approach to regime theory are inspired by sociological literature on the importance of ideas and belief paradigms.[18] As Stephen Cotgrove suggests, "paradigms are not only beliefs about what the world is like and guides to action, they also serve the function of legitimating or justifying courses of action".[19] A *dominant social paradigm* (DSP) "consists of the values, metaphysical beliefs, institutions, habits, etc., that collectively provide social lenses through which individuals and groups interpret their social world".[20] A paradigm is not dominant in the statistical sense of being held by most people, however, but "in the sense that it is the paradigm held by dominant groups in industrial societies, and in the sense that it serves to legitimate and justify the institutions and practices of a market economy".[21] Some scholars argue that "environmental problems in industrial society [have] their roots in the Dominant Social Paradigm, a set of beliefs and values that include private property rights, faith in science and technology, individualism, economic growth, and the subjection of nature and exploitation of natural resources."[22]

Applied to international politics, the dominant social paradigm provides a means of better understanding underlying norms. Young argues that "issue-specific regimes in international society are deeply embedded in overarching institutional arrangements in the sense that they assume – ordinarily without saying so explicitly – the operation of a whole suite of broader principles and practices that constitute the deep structure of international society as a whole".[23] And specific regimes are often placed within "larger systems of norms and principles, such as the liberal international economic order of the

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[18] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 154.

[19] S. Cotgrove, *Catastrophe or Cornucopia: The Environment, Politics and the Future* (Chichester: John Wiley & Sons, 1982), p. 88. On belief paradigms generally, see T. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962) and L. Milbrath, *Environmentalists: Vanguard for a New Society* (Albany NY: SUNY Press, 1984). See also, D. Pirages, *The Sustainable Society* (New York: Praeger Press, 1977).

[20] Milbrath, *Environmentalists: Vanguard for a New Society*, p. 7.

[21] S. Cotgrove, *Catastrophe or Cornucopia: The Environment, Politics and the Future*, p. 27.

[22] J. McCormick, *Reclaiming Paradise: The Global Environmental Movement* (Bloomington: Indiana University Press, 1989), p. 196.

[23] O.Young, "Institutional Linkages in International Society: Polar Perspectives", *Global Governance*, vol. 2 (1996), pp. 1-24 (p. 3).

postwar period".[24] But while scholars have identified the importance of governing ideas, it is rare that the impact of these ideas on the determination of regime properties is explicitly analysed.

The dominant social paradigm is an acceptance of the liberal economic beliefs that have prevailed, particularly in the industrialised world, since the end of the Second World War. That is, that economic growth and trade are the principal determinants of economic development, which is conceived of as "progress".[25] Thus, in the words of Ken Conca, "in a modern, sovereign, capitalist world, the ways we perceive and respond to ecological interdependence are likely to be structured along modern, sovereign, capitalist lines".[26] And as Matthew Paterson argues, "the effect of neoliberalism has been to narrow the available policy options. Discussion of environmental questions in general has been severely curtailed by its dominance".[27]

It is thus important to examine the role of governing ideas in the determination of environmental regime content. Because "ideas, which are beyond the control of any single actor and thus cannot be manipulated by even the most powerful one, heavily influence bargaining outcomes".[28] Ideas serve as "road maps ... [and] out of the universe of possible actions decision-makers select those which fit best with their normative and analytic understandings".[29] And once ideas have become embodied in institutional frameworks, they constrain public policy.[30]

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[24] M. Levy, O. Young and M. Zürn, "The Study of International Regimes", *European Journal of International Relations*, vol. 1, no. 3 (September 1995), pp. 267-330 (p. 317).

[25] As Milbrath asserts, "growth is associated with development, health, and progress...[while] nongrowth is associated with decline, illness, and lack of progress. Progress, defined as growth, is believed to be inevitable and good". L. Milbrath, *Envisioning a Sustainable Society: Learning Our Way Out* (Albany: SUNY Press, 1989), p. 9.

[26] K. Conca, "Environmental Change and the Deep Structure of World Politics", pp. 306-26 in R. Lipschutz and K. Conca (eds), *The State and Social Power in Global Environmental Politics* (New York: Columbia University Press, 1993), p. 321.

[27] Paterson, *Global Warming and Global Politics*, p. 169.

[28] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 113.

[29] Goldstein and Keohane, "Ideas and Foreign Policy: An Analytical Framework" in Goldstein and Keohane (eds), *Ideas and Foreign Policy*, pp. 12-13.

[30] Goldstein and Keohane, "Ideas and Foreign Policy: An Analytical Framework", p. 12.

For the purposes of this study, with its focus on trade and environment, I contend that the current dominant social paradigm is a liberal economic one: a belief that growth and trade are the main determinants of economic development and are the best solutions to global environmental problems.[31] Such an approach responds to the challenge made by scholars working in a strong cognitivist tradition, like Kratochwil and Ruggie, to investigate the normative arrangements in international politics.[32] Humphreys refers to this dominant paradigm as the "current hegemonic ideology of neoliberalism".[33] The three norms of neoliberalism are: (1) that states have sovereignty over their natural resources; (2) that trade should be free and open; and (3) that economic development should be pursued by modernising industrial development policies.[34] A dominant world-view among decision-makers and negotiators, that privileges notions of progress, economic growth and free trade, restricts the prospects for regime properties that conflict with this view.

A liberal economic DSP emphasises the importance of free trade and the maintenance of the institutions of the mulilateral trading system – the GATT/WTO. I argue that trade restrictive measures are unlikely to be included in an MEA if they conflict too strongly with wider assumptions and beliefs regarding the relationship between economic growth, trade and the environment. Under economic liberalism, "free

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[31] John Ruggie refers to the post-war liberal economic paradigm as "embedded liberalism" – an order that resulted in large part because of American influence. See J. Ruggie, "International Regimes, Transactions and Change: Embedded Liberalism in the Postwar Economic Order", pp. 195-231 in S. Krasner (ed), *International Regimes* (Ithaca: Cornell University Press, 1983). More specifically, embedded liberalism was both an American-led reduction of barriers to the flow of international economic transactions *and* an attempt to allow for domestic intervention (safeguards) to ensure stability, following on the lessons from the economic policies pursued in the 1930s. See J. Ruggie, "Embedded Liberalism Revisited: Institutions and Progress in International Economic Relations", pp. 210-34 in E. Adler and B. Crawford (eds), *Progress in Postwar International Relations* (New York: Columbia University Press, 1991). See also, G. Ikenberry, "Creating Yesterday's New World Order: Keynesian 'New Thinking' and the Anglo-American Postwar Settlement", pp. 57-86 in Goldstein and Keohane (eds), *Ideas and Foreign Policy.*

[32] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 163. See also F. Kratochwil and J. Ruggie, "International Organization: A State of the Art on an Art of the State", *International Organization*, vol. 40 (1986), pp. 753-75.

[33] D. Humphreys, "Hegemonic Ideology and the International Tropical Timber Organisation", pp. 215-33 in J. Vogler and M. Imber (eds), *The Environment and International Relations* (London: Routledge, 1996), p. 215. See also the discussion of the liberal economic perspective in section 2.2.1.

[34] Humphreys, "Hegemonic Ideology and the International Tropical Timber Organisation", p. 216.

trade is clearly of greater normative force than resource conservation".[35] The dominant paradigm may also have the effect of marginalising other points of view regarding the causes of global environmental problems – such as an unsustainable pattern of economic growth or a global political, economic, moral and cultural crisis – as well as what solutions are needed in an MEA to address them.[36] A shift in, or strengthening of, this dominant paradigm may also be influential regarding whether certain regime properties – such as trade measures – are seen as more or less appropriate for inclusion in an MEA.

I thus propose that the negotiations of the Montreal Protocol and the Basel Convention were affected by the dominant social paradigm of liberal economics, and that this paradigm influenced the inclusion of trade restrictive measures in those agreements. The following sections re-examine the two in-depth cases for two reasons. First, to test my claim regarding the influence of the DSP on the trade restrictions in the Montreal and Basel regimes. And second, to apply to the cases a broader conception of knowledge and ideas, to see if this can better explain regime content than did the traditional indicators of scientific consensus and epistemic communities.

5.2.1 The Dominant Social Paradigm and Trade Restrictions in the Montreal Protocol

How did knowledge and ideas, conceived of as the dominant liberal economic belief paradigm, influence the inclusion of Article 4 in the Montreal Protocol? It must first be ascertained that the beliefs of the major participants in the Montreal process correspond to the paradigm outlined above. Litfin asserts that the *scientific* debates that took place during the process of regime formation were strongly influenced by a group of "knowledge brokers with strong ecological beliefs" – mainly associated with UNEP and the US EPA.[37] However, the responses or policies of a *non-scientific* type that were acceptable to the participants were conditioned by several factors. While it was

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[35] Humphreys, "Hegemonic Ideology and the International Tropical Timber Organisation", p. 222.

[36] See, for example, T. de la Court, *Beyond Brundtland: Green Development in the 1990s* (London: Zed Books, 1990); B. Wynne, "Scientific Knowledge and the Global Environment", in M. Redclift and T. Benton (eds), *Social Theory and the Global Environment* (London: Routledge, 1994).

[37] Litfin, *Ozone Discourses*, p. 10.

governments who were in the position of deciding what controls would or would not be adopted, they were influenced by the economic concerns of industry. And as Chapter 3 showed, economic and trade competitiveness concerns were central to the debate over control measures in the Montreal Protocol.

With respect to Article 4, the US industry and US government position was to restrict trade on an *international* level to not disadvantage domestic industry faced with potential domestic (unilateral) measures.[38] The EC concern was to ensure that the trade restrictions were not so tight so as to destroy export markets and to encourage countries supplied with European ODS to sign the agreement. It is not the case that trade restrictive measures were included in the Montreal Protocol due to the influence of actors who held strong *ecological* beliefs. Rather, the *economic* concerns regarding the need to maintain industrial competitiveness and avoid trade disruption – concerns which generally correspond to the DSP suggested here – were key factors influencing the use of Article 4.

Chapter 3 also showed, however, that the governments negotiating the agreement were also subject to environmental pressure and influenced by the logic that trade restrictions would help ensure the goals of the Protocol. After all, despite the demands being made by industry, no government wished to be perceived as 'anti-environment'. Furthermore, as the scientific evidence for ozone depletion became more compelling, many governments became convinced of the need for strong control measures on ODS consumption and the value of trade restrictions to enforce these. Thus, while OECD countries in particular are supportive of international trade liberalisation, as evidenced by at least some concern with the GATT-compatibility of Article 4, they were also faced with environmental reasons to restrict free trade in ODS and ODS-based products. This tension between environmental and economic concerns,

[38] Recall that US industry believed that if there were going to be trade restrictions, then multilateral ones were preferable to unilateral ones. This reflects the contrast in dominant beliefs between different actors; whereas industry would adamantly oppose unilateral trade restrictions, environmental NGOs often work with a different set of beliefs. It was the NRDC, after all, that proposed unilateral control measures that would have put US industry at a competitive disadvantage. For a discussion regarding environmental NGOs as agents of social learning (and therefore working outside the DSP of liberal politics and economics), see M. Finger, "NGOs and Transformation: beyond social movement theory", pp. 48-66 in T. Princen and M. Finger, *Environmental NGOs in World Politics: Linking the Local and the Global* (London: Routledge Press, 1994).

which has become so central to the current trade and environment debate, is well summed up by the Canadian proposal regarding trade implications submitted to the Leesburg meeting preceding the Protocol: "Any global control strategy must avoid, to the degree possible, interfering with the international flow of goods and services. Conversely, it should not foster or encourage commercial practices which will undermine efforts to protect the ozone layer".[39]

In this regard, the debate which took place regarding the compatibility with the GATT is curious. A belief in the central importance of the global trade regime, and hence in the GATT, would normally instruct that trade restrictions should be avoided. And while the main protagonists in the Montreal process – the EC and the Toronto Group – held to a DSP which would support this proposition, the inclusion of Article 4 was nevertheless relatively unproblematic. This was the result of two inter-related considerations. First, compatibility of Article 4 with the GATT was considered to be less important than other issues with economic and trade-related implications – such as the definition of consumption and the stringency of the ODS control and reduction schedules, as detailed in Chapter 3. And Article 4(8) was seen as an adequate response to GATT concerns. Since the trade provisions were only one part of the larger regulatory package of the Protocol, they did not present a fundamental challenge to the functioning of the MTS.[40] Second, the use of trade measures for environmental purposes was not as controversial a topic in 1987 as it would subsequently become in the post-

[39] See G. Buxton et al, "A Canadian Contribution to the Consideration of Strategies for Protecting the Ozone Layer", presented at the UNEP Workshop, Leesburg, VA, September 1986, p. 2. Interestingly, while this proposal was eventually rejected, its authors claimed it to cause "no trade interference" because "global release of CFCs" was the target, such that "import or export is not a concern" (p. 7).

[40] Or as Breitmeier and Wolf put it, the trade restrictions did not "challenge the prevailing practices of the capitalist world economy in any way...". H. Breitmeier and K. Wolf, "Analysing Regime Consequences: Conceptual Outlines and Environmental Explorations", pp. 339-60 in V. Rittberger (ed), *Regime Theory and International Relations* (Oxford: Clarendon Press, 1995), p. 359. With respect to the US, Paul Harris argues that "the Reagan administration may have viewed itself as promoting a competing 'moral' philosophy, namely, the reliance on what it saw as the morally superior free-market system that has dominated post-WW II relations between Western countries. But, in the case of the ozone treaties, the issue [of relying on free-markets] *lacked sufficient salience* to garner support for a blind adherence to such a philosophy, thereby enabling other factors to have an impact on policy." See P. Harris, "Ethics, Interest and American Foreign Policy: The Case of Ozone Depletion", *International Relations*, vol. 12, no. 6 (December 1995), pp. 53-76 (emphasis added).

UNCED period.[41] It could be argued, then, that Article 4 was included without too much difficulty because the liberal economic DSP was less strong in 1986-89 than in the post-UNCED period of the 1990s.

Several developments suggest this to be the case. Fist, the Brundtland Report, which did much to publicise the need for a new era of economic growth for poor countries and an expansion of trade, was published in year that the Montreal Protocol was completed and became influential after that time and in the run-up to UNCED (1988-91).[42] Secondly, the tuna-dolphin dispute and UNCED itself, both of which heightened international concerns regarding the appropriateness of using trade instruments to pursue environmental goals, occurred in 1991 and 1992 respectively.[43] Even reports by UNCTAD, normally not averse to advocating trade protective policies for developing countries, began in the 1990s to acknowledge that changes in the global economy have left governments with few other options than to pursue market-oriented economic policies.[44] Thirdly, as highlighted in section 1.2, much of the terminology used in the 1990s in organisations like the UN and EU refer to 'sustained economic growth' rather than 'sustainable development'. The language of market economics and free trade entered – if not dominated – the realm of environment and development policy. The language in Principle 12 of the Rio Declaration – that "states should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries...trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade" – arguably reflects not only an instance of the 'internationalisation' of the DSP of liberal economics, but also the increase in its importance between the 1970s (the Stockholm

[41] See section 1.3.

[42] See section 1.2 for a discussion of the Brundtland Report. Its section on "Linking Trade, Environment and Development" focused more on increasing the participation of developing countries in the global trade regime than on the environmental effects of international trade. See WCED, *Our Common Future* (Oxford: Oxford University Press, 1997), pp. 78-84.

[43] See Chapter 1 on the tuna-dolphin case and the UNCED outputs.

[44] See G. de Jonquières, "Poorest nations urged to adopt market reform", *Financial Times*, 16 April 1996, p. 5.

Declaration had no equivalent of Principle 12) and 1992. Fourthly, and more significant still, is the creation of the WTO and the expansion of the GATT at the end of the Uruguay Round in 1994 to cover not only the trade in goods, but also services, intellectual property rights and agriculture. The WTO now has a much greater capacity than the GATT did in the pre-UNCED period to manage international trade policy and disputes between member countries. As Ruggie states, the MTS is now "the first economic regime in history to achieve virtual universality".[45] Lastly, the 1989-90 collapse of the command economies in eastern Europe and discussions regarding the "end of history" have been particularly influential in strengthening the liberal economic DSP since 1987.[46] There is no longer any alternative vision to political and economic liberalism and participation in the global market economy. As Ayres puts it, "the Cold War has ended. Almost every country has discarded central planning and adopted market economics in some form".[47]

Thus, despite the existence of a liberal economic DSP at the time of the negotiation of the Montreal Protocol, trade restrictions were included as Article 4. On one hand, the OECD countries at the centre of the negotiations were sympathetic to this DSP as shown by their efforts to address the competitiveness concerns of industry. On the other hand, the importance of other factors such as the environmental need to

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[45] J. Ruggie, *Winning the Peace: America and World Order in the New Era* (New York: Columbia University Press, 1996), p. 108.

[46] Writing about the global 'triumph' of political and economic liberalism, Fukuyama has referred to a "universal capitalist economic culture" existing at the "end of history". F. Fukuyama, *The End of History and the Last Man* (New York: The Free Press, 1992), p. 96. However, even some of those who have benefited from the free market system now express reservations. George Soros, for example, states that he "now fears the untrammelled intensification of laissez-faire capitalism and the spread of market values into all areas of life" and believes that "the main enemy of the open society...is no longer the communist but the capitalist threat". See G. Soros, "The Capitalist Threat", *The Atlantic Monthly*, vol. 279, no. 2 (February 1997), pp. 45-58.

[47] R. Ayres, *Turning Point: An End to the Growth Paradigm* (New York: St. Martin's Press, 1998), p. 27. This is not to suggest that market economics and free trade were not strong forces before 1992. In the 1980s, and in OECD countries in particular, free trade was the dominant economic force internationally. The argument here is that until around 1992, this dominance had not completely entered the sphere of international environmental policy. Only after that point, as Blowers notes, did "there appear to be a universal political rhetoric that the development of market forces is a means – indeed, the means – to ensure the ultimate protection of the environment". A. Blowers, "Environmental Policy: The Quest for Sustainable Development", *Urban Studies*, vol. 30, no. 4/5 (1993), pp. 775-96 (p. 792). See also section 6.1.2 below.

maximise participation and the general feeling that any GATT problem could be dealt with relatively easily, suggests that adherence to the DSP was less strong in 1987.[48] As a result, the trade restrictions were not viewed as being in conflict with the DSP at that time and were incorporated into the Protocol.[49] The menu of regulatory choices available for MEAs in the mid to late 1980s was arguably broader than it has subsequently become in the post-UNCED period.

By supplementing the analysis of the trade restrictive content in the Montreal Protocol with a perspective emphasising the importance of governing ideas, or DSP, this thesis therefore addresses the challenge put by Fred Gale to "tell the fascinating story of the struggle between industry, government and environmentalists over the normative content, procedures and compliance mechanisms of the Montreal Protocol...[a] story currently ignored [by] mainstream regime theory".[50] Examining the governing ideas at the time provides greater understanding of why trade restrictions were used – for both economic *and* environmental reasons – as well as the form they took – e.g. trying to ensure GATT-compatibility through the inclusion of Article 4(8). And by comparing the DSPs of 1987 and the post-UNCED period by looking at the MEAs negotiated in both circumstances, the strengthening in the paradigm can be detected. Using a knowledge-based approach in this fashion illuminates part of the story of regime content that is ignored by limiting the analysis to the importance of scientific convergence or epistemic communities.

5.2.2 The Dominant Social Paradigm and Trade Restrictions in the Basel Convention

As the Basel Convention was negotiated at about the same time as the Montreal Protocol, the assumption is made that the same DSP was in place – a pre-UNCED liberal economic DSP. However, the nature of the hazardous waste trade and the timing of the

[48] It seems reasonable, then, to suggest that a Montreal Protocol of 1997 would be much less likely to include such trade restrictive measures due to the strengthening of the DSP since 1987. The experience of post-UNCED MEAs also indicates that this may be true. See section 5.3.

[49] This assertion would be strengthened by examining the influence of the DSP on the inclusion of other elements of the regime, such as the debate regarding control measures, reduction schedules and funding.

[50] F. Gale, "*Cave 'Cave! Hic Dragones'*: a Neo-Gramscian Deconstruction and reconstruction of international regime theory", p. 279.

ban amendment suggests that the influence of the DSP on the Basel Convention's trade restrictions was somewhat different from that experienced in the Montreal Protocol.

Chapter 4 showed how the Convention originated from the developing countries' desire to stop industrialised countries from dumping hazardous wastes on their territories. Despite the fact that exporting hazardous wastes to developing countries for final disposal provided an *economic* benefit to industrialised countries – by avoiding disposal costs at home – the strong *moral* arguments made by the G-77 and the NGOs were persuasive. As in the Montreal Protocol, no OECD government wanted to appear anti-environment in supporting hazardous waste exports to poor countries. However, as the original Convention resulted only in a regulation of the trade and not its prohibition in 1989, developing countries had to press for this result into the post-UNCED period.

It is possible to conceive of the Basel Convention as what Nadelmann has referred to as a "global prohibition regime".[51] Such regimes result when international norms against certain behaviours, such as slave trading, piracy, hijacking, or hazardous waste dumping, circumscribe the conditions under which states can participate in and authorise these activities. In other words, the development of strong norms against a particular practice can result in a prohibition regime irrespective of the dominant social paradigm. Such regimes involve moral considerations more so than others, and therefore often ban rather than regulate. Slave trading or ivory trading may be economically beneficial within a liberal free-trade perspective, but other competing moral ideas against those practices have proven strong enough to virtually eliminate them.

But if the Basel Convention is the story of an evolving prohibition regime, how can it be explained that its trade restrictions became *more* stringent in the post-UNCED period – as evidenced by Decision III/1, the Basel Ban – when the trade and environment debate was more controversial and there was a stronger DSP? After all, the existence of a stronger liberal economic paradigm would suggest that using strict trade measures in MEAs would be less likely. In this case, it can be argued that the ban decision represented the culmination of the development of a global prohibition regime.

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[51] E. Nadelmann, "Global Prohibition Regimes: The Evolution of Norms in International Society", *International Organization*, vol. 44, no. 4 (Autumn 1990), pp. 479-526.

That is, the development of the Basel Convention ending in the 1995 Decision III/1 represents an increasingly strong norm that industrialised (rich) countries must not send their hazardous wastes to developing (poor) countries for any purposes.

As discussed in Chapter 4, there was a strong moral tone against hazardous waste exports taken by developing countries, especially African states and NGOs like Greenpeace, that was central to the development of the Convention. Recall that the Chair of the OAU stated in 1988 that such exports were "a crime against all of Africa and its peoples".[52] But in the face of the economic interests of some OECD countries concerned about limiting the trade in valuable wastes, the first step was one of regulation, using the notification and consent procedure, rather than prohibition. But this concession was only the beginning of developments that would eventually prohibit the practice.

By 1994, there was a consensus in the Basel process regarding the prohibition of exporting hazardous wastes for final disposal (Decision II/12). The practice of hazardous waste dumping, as with the practice of slave trading, was one that eventually succumbed to a prohibition regime despite the existence of a strong liberal economic DSP. The prohibition of waste exports for recycling, however, has proven more controversial and has arguably been much more influenced by the strengthened DSP of the post-UNCED period. While the ban on recyclable hazardous waste exports has been approved by the COP, Chapter 4 outlined the reasons why it may not receive the required ratifications to enter into force.

Thus, when the prohibition regime of the Basel Convention extended to recyclable hazardous wastes, it conflicted directly with the equally strong, or stronger, liberal economic paradigm of the post-UNCED period. An important norm of this paradigm is that trade in products (in this case, recyclable hazardous waste) should not be prohibited, even for environmental and health reasons. Thus, while on the surface it appears that the prohibition norm against hazardous waste exports – as represented by the increasing stringency of the trade restrictions in the Basel Convention between 1989 and 1995 – would cast doubt on the influence of a stronger liberal economic paradigm in the post-UNCED period, upon closer inspection it is not clear that this is in fact the case.

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[52] Quoted in M. Tolba, "The Global Agenda and the Hazardous Waste Challenge", *Marine Policy*, no. 205 (1990), p. 207.

The importance of the 'free trade' norm is evident when considering that the trade restriction on hazardous wastes exported for recycling or reuse, conceived of as products by some powerful actors like the US and the International Chamber of Commerce, may in fact never become international law.

Because of this conflict between the prohibition regime and the liberal economic paradigm, some in the Basel process have argued for a shift in focus from the trade restrictions. Bakary Kanté, a key figure in the development of the Convention and the former Director of the Environment for Senegal's Ministry of the Environment, has suggested that:

> The time has come for everyone involved in the Convention (governments, industry and non-governmental organizations) to come together, to set aside the trade restriction measures and to refocus their efforts on defining and effectively applying environmentally sound management of hazardous waste. This would make it possible for the Convention to become a credible and effective tool for cooperation, not only for preventing the illegal movements of hazardous waste, but also for managing the generation of such waste.[53]

Indeed, the Basel COP itself plans to refocus the direction of its work away from the trade restrictive aspects of the Convention and emphasise the environmentally sound management of hazardous wastes and capacity building in developing countries. The COP is expected to make a special declaration to this effect at its tenth anniversary meeting in December 1999.[54]

Unlike the trade measures of the Montreal Protocol created in the 1980s, the trade ban on hazardous waste exports for recycling – taken in the post-UNCED period – has been perceived as a challenge to the norms of the multilateral trading system and has therefore not entered into force. Moreover, the controversy regarding this trade restriction has been influential for other MEAs in the post-UNCED period that have not been able to enact exports bans or strong restrictions on trade.[55] But only by examining

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[53] B. Kanté, "The Basel Convention: Promoting Environmentally Sound Management", *ICME Newsletter*, vol. 6, no. 2 (1998), p. 3.

[54] Basel Action Network, *BAN Report on the 4th Open Ended Ad Hoc Meeting for the Implementation of the Basel Convention*, 25 June 1999, p. 9.

[55] Interviews with members of the WTO's CTE indicate that Decision III/1 was widely perceived by the trade community to have been an extremely bad precedent for MEAs that regulate potentially hazardous

the influence of governing ideas can this explanation regarding the Convention's trade restrictions be illuminated.

Thus, analysing the inclusion of trade restrictions through the lens of the governing ideas in which the regimes were embedded points to an important development in international environmental politics. There is an increasing tension between the norms of the two conflicting regimes – the international trade regime and its emphasis on free trade and the collection of international environmental agreements that would use trade restrictions to achieve their objective of environmental protection. To examine this development and conflict further, the relationship between trade and environment in post-UNCED MEAs needs to be analysed.

5.3 Extending the Analysis: Trade Restrictions in Post-UNCED MEAs

The preceding section argued that an important factor influencing the inclusion of trade restrictions in MEAs is the dominant social paradigm that frames acceptable options for achieving environmental objectives. I argue that both the Montreal Protocol and the Basel Convention were negotiated under a dominant paradigm of liberal economic norms that privilege free trade. The trade restrictions in the Montreal Protocol, however, were included with little difficulty because the paradigm was less strong in international environmental politics in the 1980s than in the post-UNCED period. There was less concern about the appropriateness of restricting trade for environmental purposes in the pre-UNCED period, and Article 4 was not perceived as challenging the norms of the DSP.

The Basel Convention, on the other hand, included only weak trade restrictions – a notification and consent mechanism – as a way to address the international hazardous waste trade in 1989. The Convention's provisions were strengthened dramatically with the ban decisions taken in 1994 and 1995, despite that a stronger post-UNCED paradigm would suggest this to be unlikely. This development can be explained by the fact that the Basel Convention, when conceived of as a global prohibition regime, was taking steps to

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products, whether recyclable wastes, chemicals or genetically modified agricultural products. Interviews 13, 19 and 24. See also section 5.3.

stop a practice that was deemed morally undesirable. However, when the trade restrictions were extended to cover the trade in hazardous wastes destined for recycling, the evolving prohibition regime came into direct conflict with a strong, post-UNCED DSP. Under this paradigm, recyclable wastes are perceived as goods that are subject to international trade rules; thus, the ban became a direct challenge to the norm of trade liberalisation and may not become part of the Convention.

This section therefore explores the influence of the DSP on regime content by briefly examining two post-UNCED MEAs that also seek to regulate trade. The reason for this is two-fold. First, analysing the debate over trade restrictive measures in two post-UNCED MEAs will allow me to further test the applicability of an approach based on governing ideas. If the debate over trade restrictions in the two post-UNCED MEAs was influenced by the DSP – as were the two pre-UNCED MEAs already examined – then the importance of examining the influence of the DSP on regime content is affirmed. In other words, examining the DSP as a factor that influences regime content would then provide a better means than the epistemic community approach in accounting for the influence of knowledge and ideas in international regimes. Second, analysing post-UNCED MEAs will also constitute a test of the claim made in the previous section that the DSP has increased in strength since 1992. That is, if the post-UNCED DSP is stronger, then MEAs negotiated in the post-1992 period will be less likely to restrict trade than pre-UNCED agreements.

In undertaking this analysis, the emphasis is no longer on the factors of power, interests and institutional forum that explain the use of trade restrictions – because in the following cases trade restrictions were *not* used – but rather on the influence of a strengthened post-UNCED liberal economic paradigm that limits the likelihood of using trade restrictions for environmental purposes in the first place. The two agreements examined are the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Cartagena Protocol – which has not yet been finalised – to the 1992 Convention on Biological Diversity.[56]

[56] These two cases are chosen because of all the post-UNCED MEAs, they are the ones most directly related to the trade and environment concerns central to this thesis. The Kyoto Protocol will also have major trade implications as it develops, but to date it does not contain any direct trade restrictions. In both

5.3.1 The 1998 Rotterdam Convention

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was signed by 61 countries in September 1998 under UNEP and FAO auspices.[57] Between March 1996 and March 1998, an Intergovernmental Negotiating Committee (INC) met five times to create the Convention. Unlike the Montreal Protocol, the Rotterdam Convention does not directly regulate the production and use of hazardous chemicals but rather regulates their export and import. It is thus more similar to the un-amended Basel Convention of 1989. The Rotterdam Convention makes legally binding a procedure that since 1991 had been operating on a voluntary basis.[58] The Convention will initially cover 22 pesticides and five industrial chemicals, but many more are expected to be added as the provisions of the Convention are implemented.[59]

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the Rotterdam and Cartagena agreements, on the other hand, trade restrictions similar to the ones used in the Montreal Protocol and Basel Convention were proposed.

[57] It will enter into force once fifty states have ratified it. As of May 1999, no country had yet ratified the Convention, but it is expected that it could enter into force in 2001. See UNEP/FAO, "Work Programme for the Interim Period", UNEP/FAO/PIC/INC.6/2 (12 May 1999), p. 3.

[58] In 1976, the United Nations Environment Programme (UNEP) established the International Register for Potentially Toxic Chemicals (IRPTC) in order to compile and circulate information on chemical hazards. In the early 1980s, discussions within UNEP and the FAO led to the development of the 1985 International Code of Conduct for the Distribution and Use of Pesticides (FAO) and the 1987 London Guidelines for the Exchange of Information on Chemicals in International Trade (UNEP). Both the Code of Conduct and the London Guidelines included procedures aimed at making information about hazardous chemicals more freely available, thereby permitting countries to assess the risks associated with chemical use. In 1989, both instruments were amended to include the Prior Informed Consent (PIC) procedure to help countries make informed decisions on the import of chemicals that have been banned or severely restricted. The PIC procedure is meant to ensure that a country does not receive a chemical unless it has received prior notification about the shipment, and then gives its consent. For an analysis of the voluntary PIC procedure, see D. Victor, "Learning by Doing in the Nonbinding International Regime to Manage Trade in Hazardous Chemicals and Pesticides", pp. 221-81 in D. Victor, K. Raustiala and E. Skolnikoff, (eds), *The Implementation and Effectiveness of International Environmental Commitments* (Cambridge, MA: MIT Press, 1998).

[59] Pesticides: 2,4,5-T, aldrin, captafol, chlorobenzilate, chlordane, chlordimeform, DDT, dieldrin, dinoseb, 1,2-dibromoethane (EDB), fluoroacetamide, HCH, heptachlor, hexachlorobenzene, lindane, mercury compounds, pentachlorophenol and certain formulations of methyl-parathion, methamidophos, monocrotophos, parathion, phosphamidon. Industrial chemicals: crocidolite, polybrominated biphenyls (PBB), polychlorinated biphenyls (PCB), polychlorinated terphenyls (PCT), tris(2,3dibromopropyl) phosphate.

The efforts to make the voluntary PIC procedure into a legally-binding one was an initiative of the developing countries. While industrialised countries have extensive regulation programs for the domestic sale and use of hazardous chemicals, they often export chemicals and pesticides that are banned domestically to developing countries. Such countries often rely on hazardous pesticides to treat cash crops or to protect human health.[60] However, overuse, misuse and inappropriate labelling of these chemicals often causes health and environmental problems. Failure to take precautions while applying pesticides is common and it is often the case that workers do not understand the risks or cannot afford to purchase protective equipment.[61] Chemicals are also often stored improperly in residential areas and manufacturers and exporters aggressively advertise, or intentionally mislabel, such chemicals as being safe.[62] However, industrialised countries began to have a greater interest in international regulation when it was found that the pesticides exported to developing countries were returning back to the place of origin as residues on imported food and agricultural products – the so-called "circle of poison".[63]

Similarly to the Basel Convention, export of a listed chemical in the Rotterdam Convention can only take place with the prior informed consent of the importing party. The aim is to promote a "shared responsibility between exporting and importing countries in protecting human health and the environment" from the harmful effects of such chemicals.[64] In addition to the PIC procedure, the Convention provides:

- that parties with more advanced programs for regulating chemicals should provide technical assistance, including training to other parties in developing their infrastructure and capacity to manage chemicals throughout their life-cycle;
- the requirement for a party to inform other parties of national bans or severe restrictions on a chemical;

[60] DDT, for example, is still used in some tropical developing countries for malaria control (to kill mosquitoes).

[61] J. Ross, "Legally Binding Prior Informed Consent", *Colorado Journal of Environmental Law and Policy*, vol. 10, no. 2 (Summer 1999), pp. 499-529.

[62] Ross, "Legally Binding Prior Informed Consent", p. 505.

[63] Ross, "Legally Binding Prior Informed Consent", p. 506.

[64] UNEP/FAO, *Prior Informed Consent: A Brief Overview of What It Is and How It Operates*, FAO/UNEP Information Circular, January 1998.

- the requirement for a party that plans to export a chemical that is banned or severely restricted for use within its territory to inform the importing party that such export will take place, before the first shipment and annually thereafter;
- the requirement that an exporting party ensure that a safety data sheet, following an internationally recognised format setting out the most up-to-date information available, is sent to the importer;
- the requirement that exports of chemicals included in the PIC procedure and other chemicals that are banned or severely restricted domestically, when exported, are subject to labelling requirements that ensure adequate availability of information with regard to risks and/or hazards to human health or the environment.

Given the emphasis of this Convention on the *trade* in hazardous chemicals, avoiding a clash with the multilateral trading system – in the form of GATT regulations and the WTO – was a key feature in the negotiations. It was agreed that actions taken by the importing party must be trade neutral. That is, if the party decides not to consent to imports of a specific chemical, it must also stop domestic production of the chemical for domestic use or imports from any non-party.[65] However, the Convention's relationship to the WTO was still a major point of debate.

A note by the Secretariat of the negotiating committee presented to the first session of the INC in March 1996 framed the problem in plain language, "as the PIC procedure itself is a measure addressing international trade in chemicals, various measures for ensuring effectiveness of the PIC instrument may have trade implications".[66] The Secretariat document, in reference to the possible control of trade with non-parties in the draft Convention, then noted that "...the relevant provisions of Agenda 21 and the GATT/WTO rules may be taken into consideration".[67] Also at the first session, the then Executive Director of UNEP, Elizabeth Dowdeswell, stated in her opening address to the INC that "a legally binding instrument on PIC should be compatible with the 1994 GATT and related WTO agreements".[68]

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[65] Article 10(9) of the Rotterdam Convention, UNEP/FAO/PIC/CONF/5 (17 September 1998).

[66] UNEP/FAO, "Trade-Related Issues", UNEP/FAO/PIC/INC.1/8 (22 December 1995), p. 4.

[67] UNEP/FAO/PIC/INC.1/8, p. 4. The document then quoted from Agenda 21 "that environmental policies should deal with the root causes of environmental degradation, thus preventing environmental measures from resulting in unnecessary restrictions to trade".

[68] UNEP/FAO, "Report of the Intergovernmental Negotiating Committee on the Work of Its First Session", UNEP/FAO/PIC/INC.1/10 (21 March 1996), p. 3.

Up until the third INC in May 1997, the draft Convention had an article entitled "control of trade with non-parties"; but this article was not a prohibition against trading in PIC chemicals but rather a statement regarding treatment of non-parties who were in compliance with Convention provisions.[69] It was similar to the Montreal Protocol's Article 4(8). But since the Convention was not concerned with phase-outs and bans on the production or consumption of chemicals, there were no trade restrictions placed on non-parties to encourage them to join the agreement.[70] The article was deleted at the third meeting.[71] These developments, however, prompted environmental NGOs to express concern "at the continuous assertion of the priority of trade rules. The need to reduce and eliminate unwanted trade in hazardous chemicals should take precedence over the principles of free trade as a matter of public policy."[72]

But with trade restrictions against non-parties no longer an issue, the negotiations turned to the question of the compatibility of the Convention's PIC procedure with WTO rules. At the fourth session in October 1997, an unusual proposal was presented:

> The Parties shall ensure that measures taken to regulate the chemicals under this Convention do not create unnecessary obstacles that would constitute a means of arbitrary or unjustifiable discrimination or disguised restriction on international trade in accordance with WTO rules.[73]

While Mexico, New Zealand and Canada supported this language, the EU immediately opposed the direct reference to measures in the Convention needing to be "in accordance

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[69] The draft article, Article 14, read as follows: "Non-parties that are in compliance with the substantive provisions of this Convention should, as far as the application of trade measures is concerned, be treated on an equal basis with parties that are in compliance". UNEP/FAO, "Report of the Intergovernmental Negotiating Committee on the Work of Its Second Session", UNEP/FAO/PIC/INC.2/7 (12 November 1996), p. 22.

[70] Though disallowing trade with non-parties in order to encourage them to participate in the PIC procedure would have had the same incentive.

[71] C. Carpenter, A. Cosbey, and J. Krueger, "Report of the Third Session of the INC for an International Legally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: 26-30 May 1997", *Earth Negotiations Bulletin*, vol. 15, no. 2 (2 June 1997).

[72] Consumers International, Pesticides Action Network Asia, and the Pesticides Trust, "Action to Support an Improved Prior Informed Consent as an Early Warning System for Trade in Hazardous Chemicals", NGO Submission to the Third INC, Geneva (26-30 May 1997), p. 3.

[73] Draft proposal presented to the Technical Working Group on 22 October 1997 (on file with the author).

with WTO rules", and noted that this language was stronger than that found in the UN Framework Convention on Climate Change.[74] Eventually, the specific reference to being "in accordance with WTO rules" was rejected on the grounds that it would set an undesirable precedent by granting primacy to trade rules over environmental regulations.

The question of what reference the Convention would make to its relationship with the MTS, however, was not resolved until the final negotiating session. Countries wanting to ensure that WTO rules would take precedence in the case of a dispute favoured placing language to this effect directly in to the body of the Convention, as exemplified above. The need to include such language was based on the fear that the Convention might be used as an excuse to take WTO-inconsistent measures or that the perception of a hierarchy between different agreements might be created.[75]

The eventual compromise was to place language in the pre-amble of the Convention. A sub-group on trade had spent the whole week discussing the issue and presented their text to the negotiators on the final day:

> *Recognizing* that trade and environmental policies should be mutually supportive with a view to achieving sustainable development; *Emphasizing* that nothing in this Convention shall be interpreted as implying in any way a change in the rights and obligations of a Party under any existing international agreement applying to chemicals in international trade or to environmental protection; *Understanding* that the above recital is not intended to create a hierarchy between this Convention and other international agreements...

The Chair of the sub-group on trade referred to this language, and its location in the pre-amble rather than the operative paragraphs of the Convention, as reflecting "significant compromise on the part of all parties".[76] Trade and environment issues, especially the compatibility of the Convention with the WTO, was the subject of considerable debate during the entire negotiations.

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[74] S. Burgiel, C. de Fontaubert, J. Krueger, and D. Pizzuto, "Report of the Fourth Session of the INC: 20-24 October 1997", *Earth Negotiations Bulletin*, vol. 15, no. 03 (27 October 1997). On the language in the FCCC, see note 3 above.

[75] L. Ivers, J. Krueger, L. Mead and T. Prather, "Report of the Fifth Session of the INC: 9-14 March 1998", *Earth Negotiations Bulletin*, vol. 15, no. 04 (16 March 1998).

[76] Ivers, Krueger, Mead and Prather, "Report of the Fifth Session of the INC: 9-14 March 1998". From a legal standpoint, language in the pre-amble does not outline specific commitments and may not be legally-binding, unlike obligations in the body of the Convention.

Indeed, different countries continued to present their version of events right up until the signing of the Convention in Rotterdam in September 1998.[77] European Environment Commissioner Ritt Bjerregaard, for example, stated that the "objectives and obligations of multilateral environmental agreements should not be hampered by other international agreements, and WTO rules...must take full account of the need to promote a high level of environmental protection". Denmark's Environment Minister also said that "MEAs should not be hampered or restricted by WTO rules". Representatives of Australia, Canada and New Zealand, on the other hand, were more supportive of the WTO. Australia's representative said that he "opposed a hierarchy between MEAs and trade agreements", but noted that WTO agreements should not be regarded as detrimental to the environment. Canada's Ambassador for the Environment "highlighted the Convention's preambular clauses relating to international trade agreements and stressed that the Convention does not affect the rights and obligations of parties under other agreements". Finally New Zealand's representative "expressed satisfaction that the Convention's preamble did recognize important principles, including the safeguarding of other conventions".

This brief review of the Rotterdam Convention emphasises how the influence of the stronger liberal economic DSP of the post-UNCED period conflicts with attempts to restrict trade for environmental purposes. This is illustrated by the deletion of the reference to restricting trade with non-parties and the heavy emphasis placed – even by UNEP's Executive Director – on ensuring that the Convention conforms to WTO rules. In the pre-UNCED period, GATT and trade concerns were evident, but they did not prevent trade restrictions being used in the Montreal Protocol; nor did they prevent the development of the Basel Convention's strict trade export ban on hazardous wastes sent for final disposal. In the post-UNCED period, however, the rise of the trade and environment debate and the controversy over restricting trade in MEAs combined with a strengthened global economic order have prevented trade restrictions from being employed in MEAs in the same manner as they were in the pre-UNCED period.

[77] All the following quotes are taken from R. Campbell and L. Mead, "Report of the Conference of the Plenipotentiaries on the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: 10-11 September 1998", *Earth Negotiations Bulletin*, vol. 15, no. 11 (14 September 1998).

5.3.2 *The Cartagena Protocol on Biosafety*

The 1992 Convention on Biological Diversity (CBD) was negotiated under UNEP's auspices and signed at UNCED. It entered into force in December 1993 and there are currently 175 parties to the Convention. The CBD is a set of legally-binding commitments aiming to ensure that the world's biological diversity is maintained in perpetuity.[78] Its obliges countries to: develop national strategies for biodiversity conservation; monitor national biodiversity; and undertake impact assessments of development projects on biodiversity. However, "the biodiversity regime is not as strong as the ozone regime...it contains more general, ambiguous language".[79]

The loss of biodiversity is occurring at an unprecedented rate and is almost exclusively caused by human activity. Eleven percent of birds, eighteen percent of mammals, five percent of fish and eight percent of plant species are threatened.[80] The consequences of biodiversity loss include: the loss of sources of valuable pharmaceutical compounds and foods, problems with flood control and water quality due to damage to healthy ecosystems, and possibly the destabilisation of ecologically and economically productive ecosystems.

Among the concerns of the Convention is the impact of organisms genetically modified by modern biotechnology on human health and the environment, or "biosafety". Article 19(3) of the CBD stated that parties should "consider the need for and modalities of a Protocol setting out procedures...in the field of the safe transfer, handling and use of any living modified organism (LMOs) resulting from biotechnology

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[78] Biological diversity generally refers to all the living resources of the planet at three levels: the genetic diversity of species, the diversity of species themselves, and the variety of eco-systems that these species exist within. To date, an estimated 1.7 million species have been identified, but the exact number of existing species remains unknown (estimates vary between 5 to 100 million). See WTO/CTE, "The Convention on Biological Diversity and its Relation to Trade: A Communication from the Executive Secretary of the CBD", WT/CTE/W/64 (29 September 1997), p. 1.

[79] See M. Miller, *The Third World in Global Environmental Politics* (Buckingham: Open University Press, 1995), p. 124.

[80] WTO/CTE, "The Convention on Biological Diversity and its Relation to Trade: A Communication from the Executive Secretary of the CBD", WT/CTE/W/64 (29 September 1997), p. 3.

that may have an adverse effect on the conservation and sustainable use of biological diversity". Thus, CBD COP-2 in November 1995 established an Ad Hoc Working Group to begin "a negotiation process to develop...a protocol on biosafety, *specifically focusing on transboundary movement* of any LMO that may have an adverse effect on biological diversity."[81] The Working Group met six times between 1996 and 1999, but was unable to arrive at an agreed text by the time the protocol was to be adopted in Cartagena, Colombia, in February 1999.[82] The two key trade related problems discussed in this section relate to the scope of the proposed biosafety protocol – whether it would cover genetically modified agricultural products – and trade with non-parties – would trade restrictions be used to encourage their participation?[83]

The different views in the trade and environment debate are particularly well illustrated in the controversy over scope of the biosafety protocol. Two very different perspectives exist with respect to whether or not the regulation of the trade in genetically modified organisms should extend to products of genetic engineering, such as agricultural commodities with a genetically engineered component such as pest-resistance, or if it should be limited to living modified organisms (LMOs), such as live bacteria used to make vaccines. The trade implications are clear: should the protocol regulate genetically modified *products*, then its scope would include regulation of the trade in a large portion of agricultural goods worth billions of dollars. If its scope were limited to LMOs, the international trade implications would be much smaller.

The debate within the protocol negotiations essentially featured three actor-groups. First, the so-called Miami Group of the United States, Canada, Australia,

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[81] C. Bai et al, "Report of the Sixth Session of the Open-Ended Ad Hoc Working Group on Biosafety and the First Extraordinary Session of the CBD Conference of the Parties", *Earth Negotiations Bulletin*, vol. 9, no. 117 Friday (26 February 1999), p. 1 (emphasis added).

[82] It was agreed, however, that the protocol – if and when adopted – would be called the Cartagena Protocol on Biosafety.

[83] While this thesis confines itself to a discussion regarding trade in goods or products, the biodiversity issue has another important trade implication not discussed here. That is, the patenting of genetic material derived from biodiversity and the extension of the WTO to cover intellectual property rights. The patenting is often done by firms from industrialised countries that may pay little or nothing for their use of materials found mainly in developing countries. The tropical forests alone, for example, hold well over half of the world's species. See M. Miller, "Sovereignty Reconfigured: Environmental Regimes and Third World States", pp. 173-92 in K. Litfin (ed), *The Greening of Sovereignty in World Politics* (Cambridge, MA: MIT Press, 1998), p. 181.

Argentina, Chile and Uruguay. These countries represented the major agricultural exporters in the negotiations and also the major sites of genetically modified crop production. The Miami Group supported a narrow protocol with as few trade restricting measures as possible. Second, the Like-Minded Group, consisting of developing countries minus Argentina, Chile and Uruguay. These countries are mainly importers of agricultural products and genetically modified products and include the world's most biodiverse regions. The Like-Minded Group sought a full notification and consent procedure – called the "advance informed agreement" (AIA) – for trade in modified organisms and products.[84] Third, the EU and supporter countries such as Switzerland and Norway. These countries are importers of agricultural products from Miami Group countries, but some also are interested in increasing exports. The EU sought to play a compromise role in the negotiations by, in the words of Germany, "ensuring mutual supportivenes with international trade rules [while] achieving a high level of environmental protection".[85] Not surprisingly, environmental NGOs supported the Like-Minded Group and the EU, while biotechnology and agriculture industry organisations supported the Miami Group.

In general, environmental NGOs, some developing countries and the EU expressed concerns over potential environmental effects of a growing, but unregulated, world market in genetically engineered products. Engineered plants or microbes could disrupt local ecologies and undermine traditional farming practices, for instance, or there could be potential health threats from eating genetically engineered grains or cereals.[86]

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[84] AIA is a prior notification and consent procedure, similar to that used in both the Basel and Rotterdam Conventions. However, the US opposed use of the term "prior informed consent" in the biosafety negotiations because it had the connotation that the substances in question were "hazardous". Their position was that LMOs (a term they preferred to the more traditional "GMO" for the same reason) of modern biotechnology were not inherently more dangerous than organisms modified by traditional methods (such as selective breeding). See A. Gupta, "Framing 'Biosafety' in an International Context: The Biosafety Protocol Negotiations", Environment and Natural Resources Program (ENRP) Discussion Paper, Belfer Center for Science and International Affairs, Harvard University (September 1999; available at http://environment.harvard.edu/gea), pp. 14-19.

[85] Bai et al, "Report of the Sixth Session of the Open-Ended Ad Hoc Working Group on Biosafety and the First Extraordinary Session of the CBD Conference of the Parties".

[86] Some observers argue that the sensitivity in European countries to food safety issues has been heightened because of the BSE issue in Britain and the dioxins found in poultry and soft drinks in

The European Environment Commissioner illustrated these concerns by arguing that the protocol advocated by the Miami Group "would exclude agricultural commodities, resulting in a liberalising of trade without the proper protection for developing countries".[87]

Exporters of genetically modified products, on the other hand, argue that because of the increasing production and trade in such products – such as genetically modified corn or soybeans[88] – and materials now contained in many products – such as vaccines or sweeteners – trade restrictions meant to target potentially harmful LMOs would in fact disrupt billions of dollars in trade. In an article published in advance of the Cartagena meeting, an industry represented wrote:

> Some have argued that the protocol scope should be expanded to include dead products of LMOs, such as pharmaceutical compounds, or materials intended for consumption or use in containment, such as commodity shipments of grain...If implemented, global trade would be massively disrupted, hope for the biodiversity convention itself would be irrevocably shattered, and all with no benefit to the environment.[89]

The US, for example, a key opponent to a broadly-designed Cartagena Protocol, argues that restrictions on genetically modified agricultural products is "the single greatest trade threat" they face.[90] Given that nearly 100 percent of US agricultural exports in the next five years will be genetically modified or combined with commodities that are

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Belgium. See, for example, "Global GM Crop Investigation Begins", *BBC News Online*, 21 June 1999 (www.bbc.co.uk; accessed 21 June 1999).

[87] Ritt Bjerregaard, quoted in "Economic Concerns Steered Cartagena Talks", *UN Wire*, 25 February 1999.

[88] These two GMO crops in fact account for more than 90 percent of GMOs presently traded; "GM Food Talks Fail", *BBC News Online*, 24 February 1999 (www.bbc.co.uk; accessed 25 February 1999).

[89] V. Giddings, "Biosafety: An Industry Perspective as the Deadline Approaches", *Linkages Journal*, vol. 4, no. 1 (February 1999), p. 7. However, industry claims to support a protocol that sets standards (rather than imposes trade restrictions) because, as in the case of the Montreal Protocol, uniform international standards are more desirable than a patchwork of national legislation and import bans. As the Head of Regulatory Affairs for the biotech company *Novartis Seeds* has pointed out, "From a business standpoint, we are interested in a clear, uniform international regulatory structure where we know what is expected of us". Willy De Greef quoted in "Trade Tensions: The Biosafety Protocol Has Been Undermined By a Clash Between the Interests of US Multinationals and European Consumers", *Financial Times*, 26 February 1999 (accessed at www.ft.com on 24 August 1999).

[90] See "European Biotech Fear Seen As Key US Trade Threat", *Reuters Environment News*, 30 June 1999.

genetically modified, US opposition to a protocol that would restrict such trade is unsurprising. Thus, even the "soft" trade regulations proposed in the Protocol – such as the advance informed agreement – are perceived as having very high costs in terms of trade disruption.

With respect to employing trade restrictions against non-parties in the Protocol, the African Group had proposed at the second negotiating session "that no party shall export or import living modified organisms or products thereof from non-parties".[91] However, a ban on trade with non-parties would prove costly for exporters like the US because it is neither a party to the CBD, nor would it likely become a party to a protocol that it found too trade restrictive.[92] Thus, in the face of opposition from the Miami Group, and the US as a non-party in particular, the African Group modified their position so that trade with non-parties would be "carried out on the basis of the protocol's substantive provisions" – that is, under the AIA procedure.[93]

However, the *Earth Negotiations Bulletin* reported that the final decision to remove any restrictions on non-parties was taken "after consideration of questions related to the practicability of a trade ban and *possible legal challenges under the WTO.*"[94] The final draft text of Article 21 simply reads that "transboundary movements of LMOs between parties and non-parties shall be consistent with the Protocol's objective and principles".[95] Moreover, trade between parties and non-parties is encouraged to be "in accordance with agreements and arrangements" under Article 11, which states that such agreements should not "result in a lower level of protection than

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[91] B. Ivars, "Observations Related to a Biosafety Protocol Under the Convention on Biological Diversity: The Use of Trade Related and Other Measures to Achieve the Objectives of the Protocol", pp. 87-96 in A. Fijalkowski and J. Cameron (eds), *Trade and Environment: Bridging the Gap* (London: Cameron May Publishers, 1998), p. 92.

[92] The parallels between the position of the US on this issue and on hazardous wastes is striking. In neither case, however, has the world's only superpower been able to completely stop movements towards increasingly trade restrictive measures. The US has, however, been able to reduce or delay the increasing stringency of both agreements.

[93] C. Bai et al, "BSWG-6 Highlights: Tuesday, 16 February 1999", *Earth Negotiations Bulletin*, vol. 9, no. 112 (17 February 1999), p. 2.

[94] Bai et al, "Report of the Sixth Session of the Open-Ended Ad Hoc Working Group on Biosafety and the First Extraordinary Session of the CBD Conference of the Parties", , p. 7 (emphasis added).

[95] Article 21 of "Draft Protocol on Biosafety", UNEP/CBD/ExCOP/1/L.2/Rev.1.

that provided for by the Protocol".[96] Similarly to the Basel Convention, the Cartagena Protocol provides for 'Article 11' agreements for trade with non-parties; however, this seems a somewhat unnecessary provision given that trade with non-parties is not prohibited in the biosafety protocol as it is in the Basel Convention. A number of developing countries have thus referred to the Cartagena Protocol "as a 'biotrade' Protocol, which would facilitate the trade of LMOs and not the conservation of biodiversity."[97]

The unfinished Protocol also contains multiple references to ensuring WTO compatibility, although it is likely that this language will be reduced or modified when the Protocol is finally agreed. Draft Article 22, for example, states that parties shall "ensure that measures to implement the Protocol do not discriminate unjustifiably between or among domestic and imported LMOs and do not create unnecessary obstacles to international trade", language taken from Article XX of the GATT.[98] Draft Article 31 states that the Protocol's provisions "shall not affect a Party's rights and obligations under any existing international agreement to which it is also a Party".[99] The article includes the qualifier "except where exercise of those rights and obligations would cause serious damage or threat to biological diversity". During the final hours of the Cartagena meeting, the EU proposed deletion of both Articles 22 and 31, to be replaced by pre-ambular language similar to that found in the Rotterdam Convention. Although this proposal was part of a wider compromise package presented to try and reach agreement on the entire Protocol, it was immediately rejected by the Miami Group due to their desire to maintain reference to consistency with WTO obligations.[100] The

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[96] Article 11 of UNEP/CBD/ExCOP/1/L.2/Rev.1.

[97] Bai et al, "Report of the Sixth Session of the Open-Ended Ad Hoc Working Group on Biosafety and the First Extraordinary Session of the CBD Conference of the Parties", p. 10.

[98] Article 22 of UNEP/CBD/ExCOP/1/L.2/Rev.1.

[99] Article 31 of UNEP/CBD/ExCOP/1/L.2/Rev.1.

[100] Bai et al, "Report of the Sixth Session of the Open-Ended Ad Hoc Working Group on Biosafety and the First Extraordinary Session of the CBD Conference of the Parties", p. 11.

negotiations were then suspended without agreement. Attempts to finalise the Protocol will continue in the hope that it can be agreed in May 2000.[101]

This review of the Cartagena Protocol, as with the Rotterdam Convention, reinforces the claim that the post-UNCED atmosphere is much more hostile to restricting trade in MEAs. This is due to a strengthened liberal economic paradigm that categorically privileges free trade concerns over environmental ones. The reasons for the failure of the Cartagena Protocol are directly linked to the trade concerns of the Miami Group that commerce in genetically modified agricultural products would be severely disrupted. This coalition successfully blocked the adoption of even "weak" trade restrictions in the form of the AIA, and a proposed trade ban against non-parties was reversed to allow trade with non-parties subject only to the Protocol's objectives and principles. After the breakdown of negotiations, even the normally pro-free market *Financial Times* suggested in an editorial that: "The Cartagena debacle is the more regrettable, because at the core of the debate lie serious issues...If the talks accomplished anything, it is to underline the need to narrow [the] divide [between trade and environmental policy-making]."[102]

5.4 Conclusions

This chapter demonstrated that by expanding the traditional knowledge-based approaches within regime theory to include consideration of the importance of governing ideas, a more comprehensive account of the use of trade restrictions in MEAs can be given. The chapter began with a review of the factors proposed to account for regime content and the trade restrictions in the two case studies in Chapters 3 and 4. I argued that neither power-based approaches, nor an analysis of the institutional forum could adequately account for the inclusion of the trade measures. Interest-based approaches, on the other hand, fare rather better. The trade restrictions in both the

[101] See, for example, S. Burgiel, "Briefing Note on the Informal Consultations Regarding the Resumed Session of the Extraordinary Meeting of the Conference of the Parties for the Adoption of the Protocol on Biosafety to the CBD", *Earth Negotiations Bulletin*, informal briefing note (20 September 1999).

[102] "Genetic Seeds of Discord", *Financial Times*, 26 February 1999 (www.ft.com; accessed 24 August 1999).

Montreal Protocol and the Basel Convention were included when almost all countries perceived the benefits of the restrictions as greater than the costs. Nevertheless, interest-based approaches remain highly state-centric and neglect the role of knowledge and ideas in accounting for regime content. They therefore do not provide a complete understanding of the conditions under which trade restrictions will be used in MEAs. And because of their preoccupation with scientific knowledge and science-based actors, traditional knowledge-based approaches – scientific consensus and epistemic communities – do not shed any light on the role that other ideas and types of knowledge might play in determining regime content.

The chapter thus went on to argue that a knowledge-based approach centered on the influence of the dominant social paradigm on regime content provided more insight. Analysing the DSP reveals the underlying norms governing behaviour in international society and how the menu of legitimate policy choices is formed. Using ideas from strong cognitivist approaches in regime theory and sociological literature, I argued that the underlying liberal economic paradigm of international relations – with its emphasis on free trade – would have an affect on regime content. I then re-visited the two pre-UNCED case studies to examine this proposal. The findings of this analysis suggested that the pre-1992 DSP was less strong than it was in the post-UNCED period. Two post-UNCED MEAs were thus examined to test this finding.

I suggested that while a liberal economic paradigm, which privileges the norms of free trade, existed at the time of the negotiations of the Montreal Protocol and Basel Convention, it was not strong enough to prevent the adoption of trade restrictions in those agreements. The DSP did, however, influence those agreements to a certain extent. After all, Article 4 was included in the Montreal Protocol only *after* negotiators believed that it did not conflict with the GATT. In the Basel Convention, the export ban on hazardous wastes for final disposal was relatively unproblematic because wastes are not goods that fall under the free trade rules of the GATT/WTO.

However, the opposition to the 1994 export ban on recyclable hazardous wastes suggested a paradigm shift. It was therefore proposed that in the post-UNCED period, the DSP has become stronger. The stronger liberal economic DSP resulted in large part from the 'victory' of economic and political liberalism after the end of the Cold War. As

Barry Buzan has remarked, "the overall cohesion of [international] society has been substantially increased by the demise of the Soviet Union, which until 1990 led a challenge to the West in almost all areas of norms, rules and institutions except those concerning state sovereignty and nuclear weapons".[103] And a key norm of this evolving international society is the importance of market-based economies, the centrality of increasing flows of international trade, and the institutionalisation of this norm in the multilateral trading system (the GATT and WTO).[104] This norm was evident at UNCED in its focus on trade liberalisation as an engine for sustainable development.[105]

The examination in this chapter of two post-UNCED MEAs supports the claim that trade restrictions are increasingly avoided due to the inherent conflict of such measures with the governing ideas of free trade. The Rotterdam Convention does not restrict trade *per se*, despite attempts by some actors to have domestically restricted pesticides banned from international commerce. Rather, trade is regulated by a PIC procedure similar to the one used in the Basel Convention; yet there is no evidence of an evolution towards export bans in the Rotterdam Convention as happened in the Basel case. Such trade bans are extremely unlikely to be used in MEAs in the post-UNCED period, less they risk the type of conflict experience by the Basel Convention's ban on recyclable hazardous wastes. The second post-UNCED MEA examined here, the Cartagena Protocol, is further evidence of the influence of a strengthened liberal economic DSP. Attempts by developing countries and NGOs to allow for import bans of GMO products were successfully resisted by the Miami Group of exporting countries. Trade restrictions against non-parties, and even a simple notification and consent procedure – the AIA – were opposed as too severe restrictions on international trade.

Counterfactually, it is plausible that if the DSP had been less strong at the time of the negotiation of the Rotterdam and Cartagena agreements, then those two MEAs

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[103] B. Buzan, "From International System to International Society: Structural Realism and Regime Theory Meet the English School", *International Organization*, vol. 47, no. 3 (Summer 1993), pp. 327-52 (p. 349).

[104] The institutionalisation of the liberal economic DSP, Ruggie's "embedded liberalism", is a key difference between the post-war (GATT) and post-UNCED (WTO) periods and previous eras, such as the late 1800s and early 1900s when devotion to free trade was undermined by the collapse of trade and financial systems in the inter-war period.

[105] See section 1.2.

would have been more trade restrictive than they turned out to be. Similarly, had the DSP been stronger in the pre-UNCED period, or had the Montreal Protocol, for example, been negotiated in the 1990s, it is likely that the trade restrictions against non-parties in that agreement would not have been included. For its part, the export ban on recyclable hazardous waste in the Basel Convention – agreed in the post-UNCED period – has encountered severe difficulties with respect to its implementation and entry into force. As would be expected under a strong liberal economic DSP, trade bans on recyclable wastes – perceived of as products – would be highly controversial. The continuing debate in the Basel process on this issue exemplifies this tension.

The analysis of the four MEAs thus supports the proposition that regime content is influenced by the DSP. Not only did the dominant liberal economic paradigm influence the inclusion of trade restrictive measures in the agreements, but the paradigm's increased strength in the post-UNCED period led to the expected result: trade restrictions were not used. By including the DSP as a factor that can help explain regime content, a better account of the role of knowledge and ideas can be given; it proved to be a better tool than traditional knowledge-based approaches within regime analysis. The use of trade measures in MEAs thus cannot be fully explained without taking account of the importance of dominant ideas. While interest-based factors are important regarding a final determination of whether or not the benefits of a given restriction outweigh its costs, governing ideas – such as avoiding barriers to free trade in the liberal economic paradigm – influence the menu of available policy choices. Interest-based approaches alone cannot explain *why* trade restrictions are or are not available as instruments to be employed in an MEA. They "do not inquire into the origins of the options that actors perceive themselves to have in a situation...but use them as their unexplained point of departure".[106]

By analysing the role of the DSP, however, it can be understood that if trade restrictions go against strong norms of free trade – as they did in the two post-UNCED MEAs outlined above – then such measures will not be seen as a legitimate course of action in international environmental politics. From a theoretical perspective, this

[106] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 216.

finding supports the assertion that "cognitivist theories may be used to fill – frequently admitted – gaps in rationalist explanations of international regimes".[107]

A final conclusion from this chapter is that while the factors of power, interests and institutional forum all provided insights regarding the inclusion of trade restrictions in MEAs, none of these factors can individually account for the trade measures. The finding that regime content cannot be explained by single factor accounts underscores that a variety of factors are required to construct as accurate an explanation as possible of the conditions that influence regime content. And the use of a knowledge-based approach employing the concept of a DSP as outlined here provides a strong addition to a multifaceted analysis of regime content.

[107] Hasenclever, Mayer and Rittberger, *Theories of International Regimes*, p. 216.

Chapter Six

Towards a Theory of Regime Content

The relationship between international trade and global environmental protection is one of the key issues for world politics in the 21st century. Increasing trade liberalisation and dangerous human interference with ecological systems will be driving political forces for the foreseeable future. This thesis contributes both to the literature regarding international environmental co-operation and to the debates regarding the apparent conflict between trade and environment. Specifically, the focus of the inquiry addressed an under-researched topic in international environmental relations: how to account for regime content. The thesis also provides an in-depth analysis of the trade restrictions in two important MEAs, as well as outlines the trade and environment linkage in two more recent environmental agreements. The aim has been to increase our knowledge about the factors that influence regime content and to shed light on the important interface between international environmental politics and the global trade regime.

This concluding chapter proceeds in four parts. The first section summarises the findings regarding the factors that account for regime content. It highlights why traditional approaches within regime analysis do not provide a comprehensive explanation regarding the use of trade restrictions in MEAs and argues that a knowledge-based approach centred on the role of governing ideas should be employed to illuminate the influential role of ideas in determining regime content. The second section returns to the issue of 'issue linkage' in international relations. Based on the findings in this research, I argue that greater attention should be paid to linkages *between* regimes and present the case for why the trade regime – and the strong DSP of liberal economics – should not take precedence over environmental concerns in international policy-making. The third section discusses some implications of this study for future MEAs that might employ trade restrictions and proposes some lessons for international environmental politics. The final section suggests some avenues for further research generated by the analysis presented here.

6.1 Factors Influencing Regime Content

Chapter 2 of the thesis presented the analytical framework applied to the case studies in Chapters 3 and 4. Drawing on existing regime analysis, as well as on the trade and environment debate, four factors were proposed as influential regarding the conditions under which trade restrictions are employed in MEAs. This section re-visits the factors and summarises how well they were able to account for the trade restrictions in the case studies.

6.1.1 The Usefulness of Traditional Regime Approaches

To date, three main approaches to regime analysis have been used: power-based, interest-based and knowledge-based approaches. The analytical framework used in this research involved elements of all these approaches. First, I investigated whether regime content could be explained by the preferences of a hegemon. However, neither the Montreal Protocol nor the Basel Convention reflected that trade restrictions were included due to the preferences of the most powerful actor. Thus, this study confirms the finding that "there is no hegemonic power in international environmental politics".[1] Power-based analyses of regime content are not to be discarded completely, however. Strong actors, or groups of actors, can prevent outcomes that they do not favour. This was the case, albeit temporarily, for the trade restrictions of the Basel Convention when OECD countries prevented a North-South trade ban in 1989. A similar dynamic occurred in the Cartagena Protocol, whose more stringent trade measures were eliminated or resisted by the Miami Group. On the whole, however, power-based approaches cannot by themselves account for regime properties.

Second, an interest-based approach – formulated in terms of calculations of costs and benefits – was applied to examine regime content. If parties negotiating an MEA regard the benefits of incorporating trade restrictive measures as being greater than their perceived costs, is there a greater likelihood that such measures will be employed? This approach had significantly more explanatory power. The trade restrictions were included

[1] K. Litfin, "Ecoregimes: Playing Tug of War with the Nation-State", pp. 94-117 in R. Lipschutz and K. Conca (eds), *The State and Social Power in Global Environmental Politics* (New York: Columbia University Press, 1993), p. 99.

in both the Basel and Montreal agreements only after a majority of parties believed that the benefits of using such restrictions outweighed potential costs – i.e. that the trade restrictions were in their interest. In both cases, the benefits of the trade restrictions in maximising the number of participants in the MEA and ensuring its environmental goals were central to their inclusion. However, potential costs – such as the elimination of markets and conflict with the WTO/GATT – also had to be considered and addressed before the trade measures were used. Yet, in the case of the Basel Convention's export ban on hazardous wastes destined for recycling, the concerns of some actors regarding its high costs may prevent it from entering into force.

The findings from the analysis of the two cases studies – that interests matter most, but that a power-based perspective also provides some insight – supports the proposition that power-based and interest-based explanations may complement each other. Thus, as Hasenclever, Rittberger and Mayer propose, neoliberals and realists should emphasise the common ground between them rather than trying to establish the "victory" of one approach over another.[2]

Nevertheless, while an interest-based approach formalised in an exploration of the benefits and costs of the trade measures is essential in accounting for their use in these cases, it also has drawbacks. Both case studies highlighted that developing countries often calculate the benefits and costs of control measures, including trade restrictions, on a different basis than do industrialised countries. This is an important point that must be recognised in the analysis. Moreover, an interest-based approach to regime content cannot account for how and why different policy measures are available as 'options' in the first place; it simply takes the existence of trade measures, for example, as a given. In other words, the interest-based approach ignores the role of knowledge and ideas in framing what types of regime properties are acceptable.

Third, a knowledge-based approach within regime analysis – based on the idea of the influence of an epistemic community – was employed to try and account for regime content. However, neither case study provided any support that trade measures could be accounted for on this basis. There were no epistemic communities promoting the use of

[2] See A. Hasenclever, P. Mayer and V. Rittberger, *Theories of International Regimes* (Cambridge: Cambridge University Press, 1997), pp. 212-16.

trade restrictions for inclusions in the two agreements. An exclusive focus on science-based actor-groups excludes the influence of other types of knowledge on regime content.[3] Therefore, since traditional knowledge-based approaches could not account for regime content, a new approach based on the influence of a dominant social paradigm was introduced. An examination of regime content from this perspective proved much more fruitful (see section 6.1.2).

Finally, I asked if the institutional forum in which an MEA is negotiated could be responsible for regime content. This factor closely relates to issue linkage between environmental regimes and the multilateral trading system, as well as to the debate about economic growth and environmental degradation. Are trade restrictive measures more likely to be incorporated into an MEA when it is negotiated in an institutional forum that is sympathetic to using trade policies to achieve the environmental goals that are its main concern? The analysis from the two main case studies suggested, however, that institutional forum – while influential – cannot alone account for the trade restrictions used in the Montreal Protocol and Basel Convention. UNEP, as the institutional forum for these agreements, did provide a sympathetic atmosphere in which environmental concerns could be seen to legitimately have more influence than trade concerns, but this explanation is not comprehensive. Both cases also showed that trade concerns were important at the time (the Montreal Protocol) or become increasingly important as the agreement developed (the Basel Convention).

In sum, the case studies examined in this thesis lend most weight to an interest-based approach to explaining regime content. Power-based approaches illuminated the activities of powerful actors but could not account for the outcome – the trade restrictions. Nor could an examination of institutional forum explain regime content. However, because knowledge and ideas are important in international environmental

[3] Another draw-back of knowledge-based approaches that focus solely on scientific actors like epistemic communities is that other groups – such as advocacy networks – are ignored. But as at least Chapter 4 showed, a non-state advocacy network – like ITWAN – may well influence regime content (see section 4.4.1). As Keck and Sikkink argue, "part of what [advocacy] networks do is to try to transform state understanding of their national interests, and alter their calculations of the costs and benefits of particular policies". M. Keck and K. Sikkink, *Activists Beyond Borders: Advocacy Networks in International Politics* (Ithaca: Cornell University Press, 1998), p. 203. An investigation of the role of advocacy networks in regime content could therefore be a potentially useful avenue for further research. See also section 6.4.

politics, and would be expected to have some impact on regime content and were not well represented by traditional regime approaches, I undertook a deeper investigation of this factor.

6.1.2 The Importance of the Dominant Social Paradigm

The analysis in Chapter 5 used strong cognitive approaches within regime analysis, as well as sociological literature regarding the importance of belief paradigms, as a broadening of the investigation of the role of knowledge and ideas in determining regime content. I proposed that the dominant social paradigm of liberal economic ideas, which privileges the norms of free trade, would condition whether different regime properties were deemed acceptable for inclusion in an MEA. In other words, regime content is framed by ideas of what is and is not possible in an MEA, and this framing is in large part the result of the dominant social paradigm.

The two in-depth case studies were then analysed from this perspective. The results showed that regime content is conditioned by much more than simple utilitarian calculations of whether or not a given regime property would advance the goals of the regime or the interests of the dominant states. Trade restrictive measures were employed in the Montreal Protocol and the Basel Convention under a relatively weak pre-UNCED DSP. Even so, the compatibility of the Montreal Protocol's Article 4 with the GATT had to be established before it was included, while the Basel Convention's export ban on hazardous wastes intended for final disposal (taken after UNCED) did not clash with the DSP because such wastes are not 'goods' governed by the MTS.

On the other hand, the controversy over the 1995 export ban for recycling in the Basel Convention shows that attempts to increase the stringency of the trade restrictions in the post-UNCED period have met stronger resistance. This is also evidenced in the discussions over trade restrictions in the two post-UNCED MEAs examined, the Rotterdam Convention and the Cartagena Protocol. This is accounted for by the strengthening of the liberal-economic DSP, with its emphasis on trade liberalisation, in the post-UNCED period. Steven Bernstein characterises this stronger DSP as the "compromise of liberal environmentalism". He argues that "by 1992, a shift in norms of environmental governance had occurred, characterized by a general acceptance of

liberalization in trade and finance consistent with, and even necessary for, international environmental protection".[4]

Thus, when regime content is analysed through the lens of governing ideas, the findings in this thesis support the claim made by Goldstein and Keohane that "ideas as well as interests have causal weight in explanations of human action".[5] A theory of regime content needs to incorporate an analysis of governing ideas to better account for how various properties come to be included, or excluded, in regimes. Moreover, illuminating the role of dominant ideas also enables us "to recognize how difficult it may be to create effective international regimes that successfully institutionalize progressive norms and principles if their implementation will have important and negative repercussions for powerful international and national commercial interests".[6] By examining the DSP, it is illuminated that trade restrictions – which are likely to have negative repercussions for some actors – are increasingly unlikely to be included as regime content.

6.2 Issue Linkage in International Regimes: Peaceful Co-existence for Trade and Environment?

In addition to making first steps towards a theory of regime content, this thesis seeks to contribute to the trade and environment debate in a practical way. Trade and environment issues are centrally placed on the international political agenda for the foreseeable future. Large sums of money are involved: the recent ruling by a WTO dispute panel against the EU's trade restrictions on US and Canadian beef treated with

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[4] S. Bernstein, *The Compromise of Liberal Environmentalism* (New York: Columbia University Press, forthcoming). This development is, unsurprisingly, strongly supported by the business community. The business 'input' into UNCED stated that "economic growth, trade expansion, and environmental protection are goals that can only be reached in conjunction.". S. Schmidheiny with the Business Council for Sustainable Development, *Changing Course: A Global Business Perspective on Development and the Environment* (Cambridge, MA: MIT Press, 1992), p. 70.

[5] J. Goldstein and R. Keohane, "Ideas and Foreign Policy: An Analytical Framework", pp. 3-30 in J. Goldstein and R. Keohane (eds), *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change* (Ithaca: Cornell University Press, 1993), p. 4.

[6] F. Gale, "*Cave 'Cave! Hic Dragones'*: a Neo-Gramscian Deconstruction and Reconstruction of International Regime Theory", *Review of International Political Economy*, vol. 5, no. 2 (Summer 1998), p. 277.

growth hormones allowed the US to retaliate with $116.8 million in trade penalties against the EU, and Canada with CAD $11.3 million.[7] The controversy over the Basel Convention's export ban on recyclable wastes is continuing and Chapter 5 highlighted the different perspectives regarding biotechnology issues, especially the trade in agricultural products that have genetically modified components. It is important, however, that such controversies do not undermine international society's attempts at ecological protection.

An analysis of the trade restrictive measures in MEAs clearly illustrates that:

> issue-specific regimes exhibit complex linkages to other institutional arrangements, and the resultant institutional interactions have significant consequences for the outcomes flowing from the operation of each of the affected regimes. What is more, institutional linkages are destined to loom larger in the future as interdependencies among functionally distinct activities rise in international society and the density of international regimes increases.[8]

It is therefore crucial that scholars, as well practitioners, pay close attention to these linkages so that regime outcomes reinforce efforts to protect human health and the environment. The cases of hazardous chemicals and genetically modified goods are instructive in this regard. The evolving agreements on these issues have so far been more influenced by trade concerns than by concerns for human health and environmental protection.

I argue here that continued conflict between the trade and environment regimes is undesirable, and more specifically that MEAs should not be brought to the WTO for an adjudication of their consistency with international trade rules.[9] If such a challenge were to take place, it would be undesirable for several reasons. First, a challenge brought

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[7] "WTO Arbitrators Set US, Canadian Beef Retaliation Levels", *BRIDGES Weekly Trade News Digest*, vol. 3, no. 28 (19 July 1999).

[8] O. Young, "Institutional Linkages in International Society: Polar Perspectives", *Global Governance*, vol. 2 (1996), pp. 1-24 (p. 1).

[9] The question of the compatibility between MEAs, like the Montreal Protocol and Basel Convention, and the WTO will only be answered if and when a dispute regarding any of the trade restrictive provisions of the Convention is actually brought to the WTO. For example, the chance of the Basel ban being ruled as incompatible with the MTS in the case of a dispute – while perhaps unlikely due to the wider political pressure *not* to challenge MEAs in the WTO (or, at least not to be the *first* to challenge an MEA in the WTO) – rests on some as yet *unresolved* issues (the entry into force of the ban decision, the composition of Annex VII, and the availability of Article 11 agreements under Decision III/1).

to the WTO because of the trade implications of an MEA would set an undesirable precedent. That is, while several MEAs restrict trade for environmental purposes, there has yet to be a challenge to the legitimacy of their trade measures in the WTO. Moreover, emerging regimes regarding climate change, forests, biosafety and hazardous chemicals regulation are also likely to have trade implications and may employ trade measures against non-parties.[10] While it is generally thought that a challenge to the trade measures in *existing* MEAs has not taken place because those measures have wide support in the international community, once a challenge would be brought to the WTO, the undesirable precedent of submitting policy decisions taken in MEAs to a trade dispute panel would be set. Moreover, even if the challenge was overturned – i.e. the WTO panel ruled against a plaintiff who challenged an MEA trade measure as discriminatory – the precedent would be set and it would be easier for MEA policies to be brought to the WTO in the future. This situation would be counter to the current understanding that there should be 'no hierarchy' between international environmental agreements and international trade agreements.

Second, the threat and actual use of a WTO challenge against a certain policy of an MEA sends a message to the negotiators of other MEAs that they should not use potentially WTO-incompatible measures in their pursuit of environmental goals. However, as the case of the Montreal Protocol demonstrates, the use of potentially WTO-incompatible trade measures can be an important part of the overall package of policies designed to solve an international environmental problem.[11] A challenge to a measure like the Basel ban in the WTO would strongly signal to negotiators that future MEAs best avoid policies that might conflict in any way with rules of the multilateral trading system. In reality, however, it is unlikely that MEA negotiators could perpetually design MEAs that had no trade implications whatsoever given the increasing scope of the MTS, the broad nature of many environmental problems and the limited number of international policy instruments available to deal with them (of which trade regulation is one).

[10] See the discussion on the negotiations for an international POPs convention is section 6.3.

[11] See section 6.3 on the use of trade restrictions as part of a 'package' of measures.

The third reason a WTO challenge is undesirable is because it would create more conflict between trade and environment spheres at the international level. This is inconsistent with the objective of making trade and environment mutually supportive. The perception that the WTO already threatens the goal of environmental sustainability – already widespread in some quarters – assists neither the growth of the WTO nor the further spread of trade liberalisation, even where this would have environmental benefits (such as the removal of environmentally harmful subsidies).[12]

6.3 Relevance for Other MEAs and International Environmental Politics

An important lesson from this research is that MEAs that restrict trade should do so as a package of policies designed to reduce an environmental threat. There are two reasons for this. First, as the examination of the Basel Convention highlighted, only addressing the transboundary movements of an environmental hazard will not reduce the generation of that hazard. This is because, as a liberal economic perspective suggests, trade is rarely the root cause of an environmental problem. Moreover, and this is the second reason, placing restrictions only on the trade of an environmentally harmful good will more likely result in those actors with economic interests in maintaining that trade arguing that international trade rules have been unnecessarily breached.

Nevertheless, trade restrictions can and do serve extremely useful purposes in environmental agreements. The Montreal Protocol is instructive in this regard. Article 4 was part of its larger package of measures designed to reduce the threat of ozone layer depletion and it is almost universally agreed that this package has been successful.[13] And

[12] See D. Brack, "Reconciling the GATT and multilateral environmental agreements with trade provisions: the latest debate", *Review of European Community and International Environmental Law*, vol. 6, no. 2 (July 1997).

[13] As an analysis by the Center for International Environmental Law stated: "The trade and positive measures create an integrated network of incentives to ratify and comply with the Protocol. On the basis of the data here presented, it is evident that the system of trade and positive measures has increased ratification of the Protocol, facilitated compliance by developing countries and countries with economies in transition, and prevented the emergence of uncontrolled [ODS] production facilities in non-party states. As a result...the overall objectives of the Protocol advanced. In short, the trade and positive measures in the Montreal Protocol have functioned as expected, and with the desired effect". D. Goldberg et al, *Effectiveness of Trade and Positive Measures in Multilateral Environmental Agreements: Lessons from*

in the case of the Basel Convention, the fundamental problem is not the trade in wastes *per se*, but the increasing generation of hazardous wastes and lack of capacity, especially in developing countries, to manage them safely. A more comprehensive convention on hazardous waste should focus on decreasing generation of the hazard and then use trade restrictions to encourage participation in the agreement. This would likely avert the WTO-compatibility questions that plague agreements like the Basel and Rotterdam Conventions, or the Cartagena Protocol.

The Montreal Protocol also established a well-endowed Multilateral Fund, instrumental for ensuring the effectiveness of the agreement and encouraging larger developing countries to sign the Protocol. In the case of the Basel Convention, while the main debate has focussed on whether or not to regulate or ban North to South movements of hazardous waste, there has not been the concomitant commitment to financial and technical assistance, especially for developing countries.[14] Without this additional incentive to encourage wide and earnest participation in implementing the rules and regulations of the Convention, the use of trade restrictions alone are likely to antagonise those actors who are exporters or importers of the material under regulation, and yet be supported by those who see no other way to protect their environment or population. As one observer has noted, "the more balanced the combination of trade [restrictive] and positive measures, the more effective the MEA. Imbalances in the combination of measures will limit the effectiveness of MEAs by subjecting them to challenges, causing and increasing incidence of cheating, distortions and defections from cooperation".[15]

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the Montreal Protocol (Washington, DC: Center for International Environmental Law, 1997), p. 51. See also D. Brack, *International Trade and the Montreal Protocol* (London: Earthscan/RIIA, 1996), p. 116.

[14] R. Vossenaar and V. Jha, "Implementation of MEAs at the National Level and the Use of Trade and Non-Trade Related Measures: Results of Developing Country Case Studies", pp. 66-86 in A. Fijalkowski and J. Cameron (eds), *Trade and Environment: Bridging the Gap* (London: Cameron May Publishers, 1998), p. 79.

[15] C. Osakwe, "Finding New Packages of Acceptable Combinations of Trade and Positive Measures to Improve the Effectiveness of MEAs: A General Framework" in Fijalkowski and Cameron (eds), *Trade and Environment: Bridging the Gap*, p. 39.

It will thus be instructive to observe the ongoing negotiations for an international convention on persistent organic pollutants (POPs).[16] Unlike the Basel, Rotterdam and Cartagena agreements, a POPs Convention will seek to reduce production and consumption of these hazardous substances and therefore could use trade restrictions against non-parties to encourage participation in the regime. In fact, the EU and several other industrialised and developing countries have called for banning the trade in prohibited POPs in the agreement, with the exception of transboundary movements for destruction of the chemicals.[17] In response, Canada, Japan, the US and New Zealand have "cautioned against giving excessive attention to trade matters".[18] The issue of trade restrictions in the POPs convention has been left for later resolution.[19]

The second and related lesson relates to the effectiveness of trade restrictive regimes in international politics. Much recent regime analysis has centered on questions of regime effectiveness.[20] That is, are target-groups – whether states or private actors – changing their behaviour because of the norms and rules of a given regime? And is this

[16] POPs are hazardous chemicals that persist in the environment, are capable of long-range transport, bioaccumulate in human and animal tissue and have significant impacts on human health and the environment even at low concentrations. The 'dirty dozen' list of POPs to be initially regulated in the UNEP convention include PCBs, DDT and dioxins. UNEP initiated negotiations for an international convention in 1998, which is likely to be complete by 2001.

[17] See "Position of the European Union" in UNEP, "Report of the INC on the Work of Its Second Session", UNEP/POPS/INC.2/6 (29 January 1999), Annex VI.

[18] R. Campbell, L. Ivers, L. Mead, and A. Wong, "Report of the Second Session of the INC for an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants: 25-29 January 1999", *Earth Negotiations Bulletin*, vol. 15, no. 18 (1 February 1999).

[19] The draft text currently has unagreed language that "each party shall prohibit the production, import, export, and use" of the listed chemicals and that a "separate provision could be included pertaining to trade with non-parties". Given the contentious nature of the trade issue, as demonstrated in the post-UNCED agreements examined here, it may remain unresolved until the final meetings. See UNEP, "Preliminary Draft Text of an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants" in UNEP, "Report of the INC on the Work of Its Second Session", UNEP/POPS/INC.2/6 (29 January 1999), Annex I. The draft convention also contains a reference that "the provisions of this Convention shall not affect the rights and obligations of any party deriving from any existing international agreements" – a so-called WTO-saving clause. The Center for International Environmental Law (CIEL) has complained of "a disturbing trend recently in the negotiation of multilateral environmental agreements...to push to include WTO 'supremacy clauses'. These clauses threaten to make international trade law automatically superior to multilateral environmental agreements". CIEL, "WTO Supremacy Clause in the POPs Convention", *CIEL Working Paper*, July 1999, p. 1.

[20] See, for example, D. Victor, K. Raustiala and E. Skolnikoff (eds), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice* (Cambridge, MA: MIT Press, 1998).

change in behaviour reducing environmental degradation? Attempts to evaluate regime effectiveness would be enhanced through an understanding of how and why various properties – which have a greater or lesser impact on the effectiveness of a regime – come to be included in a given regime. For example, the factors accounting for the use of a particular type of 'content', such as compliance review mechanisms or trade restrictions against non-parties, may give insights regarding why that regime is more or less effective. As Thomas Bernauer argues, "virtually no work has offered generalizable and empirically substantiated knowledge regarding which institutional design variables are critical to the success or failure of institutions under specific conditions".[21]

The findings regarding the factors accounting for regime content in this project could, however, lead to progress in the study of regime effectiveness. Trade restrictions used as part of a package, like in the Montreal Protocol, were successful in increasing the effectiveness of the agreement by increasing participation. Thus, as suggested above, MEAs may be more effective, and less controversial, if trade restrictions are used as part of a package of measures for managing or reducing an environmental threat. In other words, effective regimes are less likely to be structured *solely* around trade restrictions; future agreements that try to do so will become controversial, attract fewer participants, and be undermined by those opposed to such restrictions because they are increasingly perceived to go against the dominant international economic order which privileges free trade.

6.4 Suggestions for Further Research

First, the relative importance of the two factors which in this thesis accounted most comprehensively for regime content – interests (benefits and costs) and dominant social paradigm – would be confirmed by investigating other examples of regime content. That is, can interests and DSP also account for regime properties such as non-compliance mechanisms or financial and technical assistance funds? Or do power-based approaches and institutional forum become more important depending on the character of the regime property?

[21] T. Bernauer, "The Effect of International Environmental Institutions: How we might learn more", *International Organization*, vol. 49, no. 2 (Spring 1995), pp. 351-77.

Second, the relationship between regime content and regime effectiveness could be explored in greater depth. I suggest that trade restrictions, as an example of regime content, can play an important role in increasing the effectiveness of a given agreement. And MEAs employing trade restrictions as part of a package of measures, rather than relying solely on regulating transboundary movements, may be more effective still. It would be useful, however, to determine what other types of regime content are also responsible for effective regimes.

Third, the analysis regarding trade restrictions could be expanded outside of the environmental issue area. Can trade restrictions be employed, for example, in regimes dealing with human rights? If so, are the factors that influence their use the same or different than the ones examined here? Chapter 5 highlighted the idea of prohibition regimes – an interesting area of research could be to examine if prohibition regimes become less likely under a strong DSP.

Finally, the broader principles and governing ideas of international society are not immutable.[22] The ecological challenge to some of these principles – including the liberal economic paradigm and its emphasis on free trade – may yet result in major changes to the international system.[23] What role do international environmental regimes play in either reinforcing or challenging the current dominant liberal economic paradigm? The findings here that a dominant paradigm can block attempts to manage transboundary environmental problems by removing trade restrictions from the menu of available regime properties suggests that such regimes may need to find other measures – or use a package of measures – to ensure their effectiveness.

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[22] O. Young, "Institutional Linkages in International Society: Polar Perspectives", p. 3.

[23] Several authors outline the ecological challenge to the principle of state sovereignty, for example, in K. Litfin (ed), *The Greening of Sovereignty in World Politics* (Cambridge, MA: MIT Press, 1998).

Appendix I

List of Interviews

(conducted between October 1995 and October 1998)

1. Dr. Robert Van Slooten, Co-chair, Technological and Economic Assessment Panel to the Montreal Protocol, Economic Options Committee, 10 October 1995, London.

2. Dr. Michael Grubb, Energy and Environment Programme, Royal Institute of International Affairs, UK, 18 October 1995, London.

3. Duncan Brack, Energy and Environment Programme, Royal Institute of International Affairs, UK, 18 October 1995, London.

4. Ian Pickard, Global Atmosphere Division, Department of the Environment, UK, 19 October 1995, London.

5. Geoff Tierney, Global Atmosphere Division, Department of the Environment, UK, 31 October 1995, London.

6. Fiona McConnell, Former Head of UK Delegation to the Montreal Protocol, 1 November 1995, London.

7. Bridgit Campbell, Department of the Environment, UK, 16 November 1995, London.

8. James Losey, US Environmental Protection Agency (1983-87), 7 December 1995, Vienna.

9. Seamus Gillen, Waste Management Division, Department of the Environment, UK, 28 March 1996, London.

10. Graham Davis, Department of the Environment, UK, 1 April 1996, London.

11. Peter Young, Second Secretary, UK Permanent Mission to the WTO, 3 April 1996, Geneva.

12. Magda Shahin, Minister Plenipotentiary, Egyptian Mission to the UN, 10 April 1996, Geneva.

13. María Cristina Hernández, Counsellor, Mexican Permanent Mission to the WTO.
    (A) 10 April 1996, Geneva;
    (B) 27 May 1998, Geneva.

14. Scott Vaughan, Counsellor, Trade and Environment Division, WTO, 10 April 1996, Geneva.

15. Asoke Mukerji, Counsellor (WTO), Indian Permanent Mission to the UN, 12 April 1996, Geneva.

16. René Vossenaar, Chief, Trade, Environment and Development Section, UNCTAD, 12 April 1996, Geneva.

17. Antonio Ricarte, Counsellor, Brazilian Permanent Mission to the UN, 15 April 1996, Geneva.

18. Deborah Vorhies, Coordinator, Environment and Trade, UNEP, 16 April 1996, Geneva.

19. Scott D. Andersen, Attaché, Executive Office of the President, Office of the United States Trade Representative, 16 April 1996, Geneva.

20. Chakravarthi Raghavan, Third World Network, 16 April 1996, Geneva.

21. Iwona Rummel-Bulska, Executive Secretary, Secretariat of the Basel Convention, UNEP, 17 April 1996, Geneva.

22. Ahmed Fathalla, Programme Officer, Secretariat of the Basel Convention, UNEP, 17 April 1996, Geneva.

23. Seok-Young Choi, Counsellor, Permanent Mission of the Republic of Korea to the UN, 17 April 1996, Geneva.

24. Andrew Griffith, Counsellor, Canadian Permanent Mission to the UN.
(A) 18 April 1996, Geneva;
(B) 27 May 1998, Geneva.

25. Margaret Flaherty, Business Council for Sustainable Development (WBCSD), 18 April 1996, Geneva.

26. Alistair McGlone, Legal Directorate, Department of the Environment, UK, 24 April 1996, London.

27. Ulrich Hoffman, Environmental Issues Section, Commodities Division, UNCTAD, 24 February 1998, Kuching, Malaysia.

28. Julie Gourley, International and Special Projects Branch, US Environmental Protection Agency.
(A) 24 February 1998, Kuching;
(B) 6 August 1999, telephone interview.

29. John Bullock, International Precious Metals Institute, 26 February 1998, Kuching.

30. Harvey Alter, US Chamber of Commerce, 26 February 1998, Kuching.

31. Christina Lindbäck, Swedish Ministry of the Environment, 7 April 1998, Stockholm.

32. Thomas Loidl, First Secretary, Austrian Permanent Mission to the UN, 26 May 1998, Geneva.

33. Peter Lawrence, First Secretary, Australian Permanent Mission to the UN, 27 May 1998, Geneva.

34. Katarina Kummer, Head of Section, Environmental Affairs, Federal Department of Foreign Affairs, Switzerland, 28 May 1998, telephone interview.

35. Chiedu Osakwe, Trade and Development Division, WTO, 28 May 1998, Geneva.

36. Yvon Slingenberg, European Commission, DG-XI, 2 June 1998, Brussels.

37. Frances-Anne Hunter, European Commission, DG-I – External Relations, 3 June 1998, Brussels.

38. Pierre Portas, Senior Programme Officer, Secretariat of the Basel Convention, UNEP, 4 August 1998, telephone interview.

39. Roy Watkinson, UK Environment Agency, 16 October 1998, telephone interview.

40. Mike Penders, US Environmental Protection Agency, Office of Criminal Enforcement, 16 October 1998, telephone interview.

The total number of interviews is 43.

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