Abstract

Laffiteau, Charles A. "Why Have The Relatively Successful Attempts To Govern The World's Production Of Chlorofluorocarbons Not Been Duplicated in Other Areas of Global Environmental Protection?" Climate change due to global warming is but one of many issues confronting countries that they cannot successfully deal with on their own. The purpose of this paper is to ascertain why international attempts by governments and institutions to forestall climate change by regulating and reducing greenhouse gas emissions have not been successful. The question is answered through an empirical study of the international politics of regulating chemicals which lead to ozone depletion and comparing this with the politics surrounding CO₂ emissions. Part I reviews the world's growing awareness of global environmental issues and the relatively successful attempts which have been made to govern the production of chlorofluorocarbons. Part II examines the growing influence of environmental NGOs on government's response to concerns about environmental degradation and the unsuccessful attempts by states to prevent climate change by reducing their carbon gas emissions. Part III compares and contrasts the politics of ozone depletion with the political complexity of the problem of climate change brought on by global warming and analyzes alternative strategies for regulating the production of greenhouse gas emissions and reducing deforestation. The Conclusions section then offers suggestions on how greenhouse gas emissions might be regulated by governments in the near term (utilizing existing laws and treaties), and even more effectively in the future, by developing new international environmental governance and regulation regimes.

Why Have the Successful Attempts to Govern the World's Production of Chlorofluorocarbons Not Been Duplicated in Other Areas of Global Environmental Protection?

By Charles Laffiteau

Introduction

The purpose of this essay is to assess why the relatively successful attempts to govern the global production of chlorofluorocarbons (CFCs) have not been duplicated in other areas of global environmental protection. In Part I, awareness of global environmental issues and the specific problem of ozone depletion is examined as well as the relatively successful attempts which have been made to govern the production of CFCs, which are the main contributor to ozone depletion. Part II will discuss the rising influence of environmental NGOs, global climate change due to the effects of global warming as well as unsuccessful attempts to regulate green house gas emissions, which are the primary cause of this problem. The Conclusions section will then compare and contrast the global politics of ozone depletion with the political complexity of the problem of climate change due to global warming, and offer some analysis and suggestions on how to govern the problem of green house gas emissions.

Part I

The issues surrounding the need to protect our global environment have only recently come to light over the last fifty years, dating to the 1962 publication of biologist Rachel Carson's groundbreaking book, *Silent Spring*, which detailed the global environmental effects of the use of a pesticide known as DDT. As a result of the world wide publicity which resulted from the publication of this book, problems with the environment could no longer be avoided. Before, the problem was not felt, for three main reasons. First, industrial developments had not spawned pollution and

¹ Rachel Carson *Silent Spring*. Cambridge: The Riverside Press.(1962)

damage to the environment on a very large scale. Second, States still took a traditional approach to their international dealings: they looked upon them as relations between sovereign entities, each pursuing its self-interest.....and unmindful of general or community amenities. Third, public opinion was not yet sensitive to the potential dangers of industrial and military developments to a healthy (global) environment."²

Public awareness of environmental issues and our sensitivity regarding how they impact all nation states civil societies has risen dramatically since the 1960s. Environmental issues can and do have profound impacts on national and international political economy. While states officials are also aware of the problems caused by environmental degradation and abuse, they are often reluctant to take the steps needed to curb such abuses lest they offend special interest groups. The costs for businesses and multinational corporations (MNCs) of addressing the environmental problems they facilitate or of adhering to new environmental regulations, are most often seen as onerous with negative economic impacts on their current and future profitability.

This explains why many MNCs have moved their operations to other countries with lax environmental rules in an effort to avoid paying for these costs. "Likewise as governments and consumers in the (wealthier nations of the) North have restricted or banned a number of tobacco products, pharmaceuticals and pesticides, global marketing (by MNCs) has created new outlets for these goods in the (developing countries of the) South and East." To further illustrate this point; "Nearly a third of pesticides exported from the North (and West) have been outlawed, unregistered or withdrawn in the country of manufacture." But now that scientists can prove that many of products we use or consume are causing irreparable damage to our global environment, society must make difficult decisions about who will pay for this harm.

² Antonio Cassese *International Law* (Oxford UK: Oxford University Press, 2001): 375

³ Jan Aart Scholte Globalization. A critical introduction, (New York: St. Martins Press, 2000):213-214

⁴ TWG, *Third World Guide 93/94*. (Montevideo: Instituto del Tercer Mundo, 1993)

The reluctance of states to take action with respect to environmental issues has helped facilitate the formation of environmental non-governmental organizations (NGOs), which lobby consumers and public officials in nation states and international institutions around the world on behalf of policies that are environmentally sensitive. Environment NGOs have been moderately successful thus far in raising overall global public awareness and in one particular instance, pressuring most countries to sign an international agreement to deal with the environmental issue of ozone depletion. "To be sure, we have developed some potentials for global governance of environmental matters. In this respect the ozone regime established through the 1985 Vienna Convention and the 1987 Montreal Protocol has proved particularly successful."⁵

But several factors beyond the control of the government signatories to the treaties governing ozone depletion contributed to the success of negotiating them. The most important of these was that DuPont Corporation's scientists were able to develop an economically suitable replacement chemical that was a functional equivalent for ozone depleting chlorofluorocarbons (CFCs). Another aspect was that CFCs were used primarily in car, home and office building air-conditioning systems, uses which were not generally considered essential outside of certain developed countries. The other contributing factor was that since there were only limited uses for CFCs, there were only a few large MNCs, operating mainly in the developed world, that were actually producing CFCs. That made it easier to negotiate an agreement, since there were relatively few parties affected by the agreement involved in its negotiation.

Then, because existing air-conditioning systems could not use the substitute, special provisions were made to allow manufacturers to phase out the production of equipment which used CFCs while they developed new air-conditioning systems

⁵ Scholte:212

designed for the CFC substitute or developed methods to retro-fit existing products to use the new chemical. CFC producers were also given time to phase out production of CFCs while they ramped up production of the substitute. Countries in the developing world were allowed an additional 20 years to phase out their production of CFCs and were also provided with tax and monetary incentives to encourage them to do so, because they were neither the largest producers nor consumers of CFCs. The success of this international agreement to reduce CFCs shows what can be done when nations become alarmed enough to take action on a global scale. "By 1997 world production of most ozone-depleting substances had fallen to 76 percent of the 1988 level."

Part II

Unfortunately, progress on other environmental issues, such as cutting the CO₂ emissions that contribute to climate change, has been slow to non-existent in most countries. The 1997 Kyoto Protocol aimed at cutting greenhouse gas emissions world wide, did not even come into effect until 2005 because of the difficulty in getting enough states, which in total produced more than 50 percent of these gases, to ratify the agreement. In the interim, the United States (US), which was the largest producer of such greenhouse gases, decided not to ratify the Kyoto Protocol, and China, which was the 2nd largest and fastest growing producer of carbon based emissions, has thus far refused to take any steps to cut its emissions under the treaty. BBC science analyst Tracey Logan notes that many experts believe that Kyoto will be largely ineffective as the world's two biggest emitters, the US and China, will not cut their outputs.⁷

Nonetheless, the Kyoto Protocol was the most ambitious attempt yet, to address a major environmental issue on a global scale. But as is so often the case with

4

⁶ M. Edwards. Future Positive: International Co-operation in the 21st Century. (London: Earthscan, 1999): 22.

⁷ BBC News / Europe/ Russian MPs ratify Kyoto Treaty. October 22, 2004

complex agreements involving many different countries with competing agendas, Kyoto required significant political compromises on the part of nations in both the developed world and developing countries. "Whereas the Kyoto example suggests that liberal environmentalism enables international environmental agreements that otherwise might have been more difficult to achieve, the irony may be that the kind of agreement created may be vastly inadequate to significantly forestall, let alone stop or reverse, current trends in greenhouse gas emissions." In other words, the Kyoto Protocol now appears to be just another in a long line of examples of international agreements that one could categorize as being "too little, too late."

There are a number of factors which add complexity to the issue of dealing with green house gas emissions due to burning fossil fuels, like coal, gas, oil and their by products. First and foremost is the large number of producers, both in terms of countries that rely on extraction of fossil fuels for jobs and export earnings, as well as powerful MNCs that have a vested monetary interest in the continued use of coal, oil and gas as a source of fuel and energy. Growing economies also need reliable and cost efficient sources of energy to address the demands of their consumers and businesses.

Another aspect involves the many essential uses for carbon based fossil fuels. Most of the world's electricity is generated by burning coal, oil or natural gas, all of which generate green house gas emissions in the process. Natural gas and heating oil are the primary means of heating homes and businesses in colder climates and during the winter months. Automobile gasoline, jet fuel and diesel fuel, which are all refined from oil, power almost all means of transportation in the world. The world's many agricultural fertilizers, chemicals, synthetic fibres used in rugs, drapes, clothing and shoes, as well as detergents, candles, vitamins, cosmetics and all kinds of plastics are

⁸ Richard Stubbs and Geoffrey R. D. Underhill, (eds.) *Political economy and the changing world order*, (New York: Oxford University Press, 2006): 250

made from oil or oil by products. As a result, beyond their essential uses for energy, electricity and transportation, thousands of businesses and millions of jobs depend either directly or indirectly on the consumption of coal, oil, gas and their by-products. The world's economy, quite literally, runs on green house gas emitting fossil fuels.

This leads to the other major complicating factor, which is finding economical substitutes to meet the world's essential needs for heating, energy, transportation and all other products dependent on coal, oil and natural gas. In the classical economics model, the search for and development of economical substitutes for any product is driven by a need or a desire for lower cost alternatives. But in the case of fossil fuels, the accompanying chart in **Figure 1** of the 'real' inflation adjusted price of oil, shows that the cost of oil had dropped to historically low levels as recently as ten years ago in **1998.** It was in March 2008 that oil at \$96.85 per barrel finally surpassed **1981's** historic peak price of \$94.97, topping out at \$124.40 in July before falling to \$36.98.

Figure 1: Inflation adjusted price of imported oil for past ten years vs. 1981 peak

ī	Nominal / Inflation Ad	
1981 (peak)	38.85	94.97
Annual December Averages of		
Imported Crude Oil Prices		
1998-2008		
	Average Price	
	(in \$/bbl.)	
		2008
	Nominal	Inflation Adjusted
Year	Price	Price
1998	9.39	12.18
1999	24.35	30.73
2000	25.19	30.74
2001	15.95	19.15
2002	26.68	31.26
2003	28.63	32.90
2004	34.17	37.98
2005	50.85	54.48
2006	54.99	57.85
2007	83.21	83.94
2008 July	127.77	124.40
2008 December	37.00	36.98

Source-US Department of Energy

Figure 2: Inflation adjusted real vs. nominal price of imported oil past 30 years

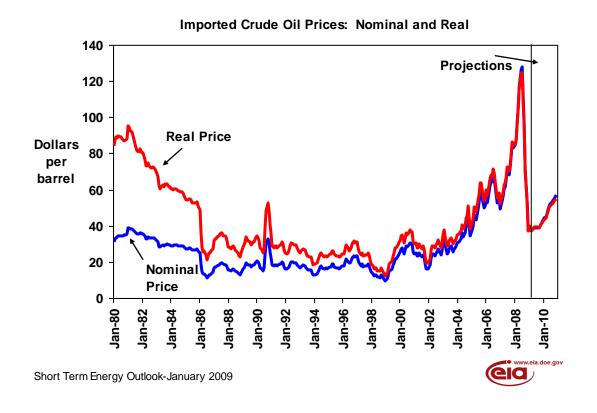
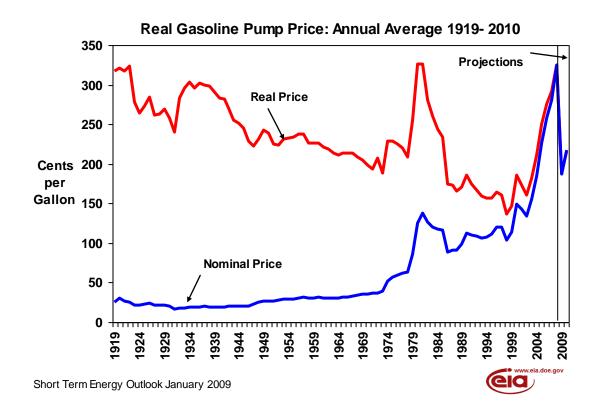


Figure 3: Inflation adjusted real vs. nominal price of gasoline for past 90 years



Figures 2 & 3 show how cheap oil and gasoline actually are, which hinders the search for and development of alternative fuels. This also explains why so few economically viable substitutes currently exist, which in turn makes it much more difficult for many nations to reach a consensus on how to reduce the world's green house gas emissions.

The reality of the international situation surrounding climate change is that any real progress on cutting CO₂ emissions has been virtually non-existent. "Half a dozen United Nations (UN) conferences through the 1990s on climate change have yielded limited concrete results. Nor has general backing yet developed for a World Environment Organization (WEO) that would work on a par with the WTO and other global governance organizations." The "Earth Summit" convened by the UN General Assembly and commonly referred to as the 1992 Rio Conference, was widely viewed as a success by those concerned about the environment. But it only established a "framework" for future negotiations on the environment among member states of the UN. "Non-governmental organizations had their own parallel conference in Rio, but (for the first time) were also entitled to attend the intergovernmental meetings. The Rio Declaration (27 general principles to guide action on environment and development), Article 21 (promoting sustainable development), and the Declaration of Forest Principles were all agreed, and the conventions on climate change and biodiversity were respectively signed by 154 and 150 governments. The Convention on Desertification was not ready in time and was not agreed to until June 1994."¹⁰

Environmental NGOs also came away from the 1992 Rio Conference with an enhanced international standing, which they began using as leverage in pushing individual nation states to ratify both the Declaration and the Rio conventions as well

⁹ Scholte:213

¹⁰ Owen Greene in John Baylis and Steve Smith (eds), *The Globalization of World Politics: An Introduction to International Relations*, (Oxford, Oxford University Press, 2001):404-406

as to begin implementing new environmental reforms and regulations. The more developed Western countries in Europe and North America, also known as "states in advanced capitalist societies" (SIACS), were particularly sensitive to this pressure from the NGOs, many of them founded and based in these SIACS. Owen Greene observes that; "Among SIACS the unpalatable implications of many environmental policies for key groups of producers and consumers, and the enmeshment of problematic environmental practice with the basic routines of everyday life, are such that few governments, if any, have shown themselves willing to accept the political costs of policies, coercive or catalytic, which might bring economic and social practices into line with the requirements of global environmental sustainability." In other words, persuading individual nations to adopt environmental reforms is usually as slow and tedious a process as it is getting nations to agree to international accords governing environmental practices (or human and labour rights for that matter).

Many SAICS in Europe which have signed and ratified the Kyoto Protocol have actually made less progress cutting their rate of growth in green house gas emissions than the oft-criticized United States, which has thus far refused to ratify Kyoto. "Total EU emissions of six gases widely considered to be contributing to global climate change are estimated to have stood 1.0% higher in 2001, the latest year for which data are available, than a year earlier, the annual emissions inventory compiled by the European Environment Agency shows. The latest figures show that 10 of the 15 Member States are heading towards overshooting their agreed share of the EU GHG emissions target by a wide margin. This is the case for Austria, Belgium, Denmark, Finland, Greece, Ireland, Italy, the Netherlands, Portugal and Spain. In fact Ireland's emissions in 2001 stood 31% higher than in 1990, well over double the 13%

¹¹ David Held and Anthony McGrew, David Goldblatt and Jonathan Perraton, *Global Transformations: Politics, Economics and Culture.* (Oxford UK: Polity Press 1999): 410

increase it is allowed between 1990 and 2008 - 2012."¹² The following EU chart illustrates its lack of progress cutting green house gases to meet its Kyoto obligations.

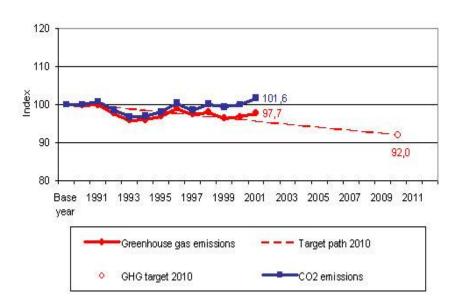


Figure 4: Total EU greenhouse gas emissions in relation to the Kyoto target

While the United States (US) has made some progress in slowing its rate of growth in green house gas emissions, that progress was slowed markedly due to the change in political leadership that occurred in 2001. The new Republican presidential administration of George W. Bush, backed by a Republican majority in Congress, steadfastly refused to implement regulations governing green house gas CO₂ emissions despite its obligations to do so under the US Clean Air Act. In its legal filings before the US Supreme Court, the Bush administration argued it did not have the right to regulate carbon dioxide and other heat-trapping gases under the Clean Air Act, and that even if it did, it would not use the authority. However, "In one of its most important environmental decisions in years, the Supreme Court ruled that the Environmental Protection Agency has the authority to regulate heat-trapping gases in

¹² European Union "EU greenhouse gas emissions rise for second year running" *European Environment Agency news release* (Copenhagen, 6 May 2003)

automobile emissions. The court further ruled that the agency could not sidestep its authority to regulate the greenhouse gases that contribute to global climate change.

The 5-to-4 decision (April 2, 2007) was a strong rebuke to the Bush administration."

13

President Bush also announced his intention to rescind the previous

Democratic President's agreement to abide by the Kyoto Protocol shortly after he took office in 2001. He justified his decision by citing his concern that China was not obligated to cut its emissions under Kyoto and that the emissions cuts the US was obligated to make under the protocol would cause serious damage to the US economy. In fact China has recently surpassed the US as the world's largest polluter and source of green house gas emissions, but as a developing country in 1997 when Kyoto was approved, it is not obligated to cut its CO₂ emissions. But it should also be noted that the largest developing countries, such as China and India, are expected to have some obligations to cut emissions after the Kyoto Protocol agreement expires in 2012.

Conclusions and Alternatives

There are significant differences between the international community achieving governance agreements which regulate the production of ozone depleting substances and making similar agreements governing greenhouse gases or other environmental concerns. Regarding the successful international ozone protocol "The successive negotiations and protocols of the 1970s and 1980s enabled a common international framework for negotiations to emerge, and aided the establishment of a scientific consensus in the face of uncertainty. On the basis of this it proved politically possible to transform the production and consumption of CFCs, first in the West (and Europe), and then, through new financial mechanisms, in the South (and Asia). However, the speed of negotiations, when measured against the pace of

¹³ Greenhouse, Linda "Justices Rule against Bush Administration on Emissions" *The New York Times* (New York 2 April 2007): 1

environmental degradation, looks alarmingly sluggish and the simplicity of the politics of ozone depletion (few producers, possible [economical] substitutes, many non-essential uses) is unlikely to be replicated in other environmental contexts."¹⁴

The political complexity of the problem involving greenhouse gases (i.e. numerous producers, few economical substitutes and many essential uses) is such that it is hard to envision any international agreement on this issue being as achievable or successful as the agreement on ozone depletion. Because of the difficulty in achieving and implementing national policies and international environmental agreements in a timely manner during the years following the 1992 Rio conference, some environmental NGOs have come to the conclusion that a more expeditious way to address their environmental concerns might be through the use of existing international agreements and public international law.

International courts and arbitration tribunals have traditionally taken a very narrow view when ruling on attempts by countries to regulate the environmental practices of neighbouring states which have an adverse impact on their own population and environment. It wasn't until a pre-WTO ruling in 1957, that an international court first recognized the need to address the 'common interests of everybody'. "Thus, in the *Lac Lanoux* case (1957) the Arbitral Tribunal, while (still) taking a traditional view of international law regulating relations between neighbouring states, alluded to the possibility of natural resources such as the water of a lake being exploited 'in the common interests of everybody'." Today, it is WTO arbitration panel rulings which are recognized as being the most significant contributor to the public international law which governs relations between states.

¹⁴ Held: 411

¹⁵ Cassese: 377

Thus, international trade agreements under the auspices of the WTO appear to be one of the best avenues for NGOs to pursue because of the economic consequences countries are likely to suffer should they decide to ignore WTO decisions. In the past the difficulty for NGOs in pursuing this course of action has been persuading the WTO to agree to link environmental issues with trade disputes pursuant to Article XX (g), which permits states to embargo goods "as a measure related to the conservation of exhaustible natural resources." Prior to 1998, environmental NGOs had also been stymied by previous arbitration panels' refusal to accept their "third party" briefs in trade disputes involving environmental issues.

In the *Shrimp–Turtles dispute*, the WTO Appellate Body not only agreed to accept NGO briefs, but went even further in its decision to overturn portions of the arbitration panels ruling against the US. The arbitral panel in the *Shrimp–Turtles dispute* had interpreted Article XX in the same way as previous panels in *Tuna–Dolphin* cases. "By selecting a limited "object and purpose," the Panel predetermined that measures having an environmental object and purpose could not be justified under art. XX. The Panel concluded that derogations from other provisions of GATT are permissible under art. XX only so long as they 'do not undermine the multilateral trading system." ¹⁷

The WTO Appellate Body firmly rejected this line of reasoning and in so doing effectively rejected the reasoning used in the previous *Tuna-Dolphin cases* as well. The Appellate Body rejected the panel's decision to interpret the *chapeau* of Article XX so narrowly that it was effectively rendered useless by virtue of the

¹⁶ Gregory Shafer "United States-Import Prohibition of Certain Shrimp and Shrimp Products" *The American Journal of International Law*, Vol. 93 No. 2 (April 1999): 510

¹⁷ Joel P. Trachtman. "Decisions of the Appellate Body of the World Trade Organization, United States—Import Prohibition of Certain Shrimp and Shrimp Products". *The European Journal of International Law*, Vol. 10 No. 1 (1999): 193

panel's decision that the US import ban was "not within the scope of measures permitted under the *chapeau* of Article XX." The Appellate Body interpreted and viewed the *chapeau* of Article XX in a completely different context than the panel by "finding that it is intended to prevent abuse of the exceptions listed in art. XX," The *Shrimp-Turtle* panel had interpreted the *chapeau* from a much different perspective, reasoning that it was meant to severely limit the use of Article XX's exceptions.

"The Appellate Body further criticized the panel for examining compliance with the *chapeau* prior to determining compliance with any of the following exceptions. It is not possible to determine whether an exception is being abused without first determining whether the exception is otherwise available. In fact, the Appellate Body completely rejected the panel's line of reasoning stating that: "conditioning access to a Member's domestic market on whether exporting Members comply with, or adopt, a policy or policies unilaterally prescribed by the importing Member may, to some degree, be a common aspect of measures falling within the scope of one or another of the exceptions (a) to (j) of Article XX."²⁰ With these rulings the WTO Appellate Body significantly modified existing international trade law (as well as the public international law it is a part of) by establishing a new interpretation of Article XX for the purpose of guiding future arbitration panels' reasoning in trade disputes involving environmental issues.

Thanks to the Appellate Body decision; "Article XX (g) has been interpreted broadly. The *Shrimp-Turtle* appellate decision strengthens the right of the state to adopt conservation measures (sympathetic to environmental NGO concerns) by a

¹⁸ WTO Panel Report, *United States--Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/R (98-1710), 15 May 1998 paragraph 7.62

¹⁹ Trachtman.: 192

²⁰ Trachtman.:194

liberal interpretation of 'exhaustible natural resources'"²¹ In the absence of any other world body, such as the oft suggested World Environment Organization (WEO), the only existing international institution within the framework of public international law that is in a position to mediate and adjudicate environmental issues and global trade disputes, is the WTO. However, "The WTO must strike a balance between two extremes. Cracking down too hard on the use of environmental trade restrictions invites environmental damage. But excessive leniency in imposing sanctions invites two other abuses; pressure on poorer countries to adopt standards that are ill suited to their strained economies; and suppression of trade that will lead to higher prices and stunted growth."²² Environmental NGOs should also become sensitive to this issue.

This analysis confirms the idea held by some environmentalists, that the best allies for NGOs would be sympathetic WTO member states that are willing to implement environmentally friendly trade policies and also apply them fairly. Had the US applied its shrimp import ban fairly in *Shrimp-Turtle*, the Appellate Body would have likely overturned the arbitration panel's ruling against the US's trade related environmental protection measures. As such, the WTO could also become a strong potential ally in regulating green house gas emissions. But environmental NGOs will have to be pragmatic when proposing to use trade policies to protect the environment since "Global trade/eco-pragmatism recognizes that treaties dealing with trade and the environment, as well as interpretation and implementation of these treaties are human creations; therefore, results will be complex, uncertain and sometimes inconsistent."²³

²¹Tanyarat Mungkalarungsi "The Trade and Environment Debate" *Tulane Journal of International and Comparative Law*, Vol. 10 (2002): 381

²² Michael M.Weinstein and Steve Charnovitz. "The Greening of the WTO" *Foreign Affairs*, Vol. 80 No. 6 (2001): 148

²³ Robert F. Blomquist "Against Sustainable Development Grand Theory: A Plea for Pragmatism in Resolving Disputes Involving International Trade and the Environment" *Vermont Law Review* Vol. 29 (2004-2005): 755

Should the US and the EU ever be able to get on the same page regarding the reduction of green house gas emissions, their combined economic power could be brought to bear on other states which are not taking appropriate steps to regulate green house gas and CO₂ emissions. Trade related restrictions such as carbon taxes or tariffs on offending countries' imports would likely be supported by WTO arbitration panels, provided that such trade restrictions were applied fairly with respect to all WTO member states. This is by no means the ideal solution to deal with climate change or global warming; it's just a practical suggestion for using existing laws and treaties.

So how exactly should environmental NGOs and climate scientists go about persuading governments to be more sympathetic to their environmental concerns and to implement trade related environmental restrictions? While the approach used by former US Vice President Al Gore of appealing to mass audiences is not without its merits, there is another approach which might be far more effective.

In addition to using the news media to publicize their concerns and the need for more concrete actions on the part of both consumers and businesses, environmentalists should also concentrate on developing relationships with their native country's business and social elites. If local and national business and social elites can be convinced that there is an urgent need for action, they will ensure that elected government officials and un-elected bureaucrats or policymakers cooperate.

But soliciting the active support of business and social elites requires the use of what is referred to by marketing professionals as "consultative selling skills." "Consultative selling translates to promoting goal congruence and providing solutions to problems encountered for the mutual benefit of both parties involved"²⁴ More specifically, it entails taking the time to conduct one on one interviews with the party

24 Kevin W. Westbrook and Robert M. Peterson. "Business-to-Business Selling Determinants of Quality." Industrial Marketing Management Vol. 27, Issue 1 (1998): 54

one wishes to forge an alliance with and then actively listening to their concerns without discussing one's own agenda.

In order to succeed in promulgating workable climate change solutions, environmentalists must first come to an understanding of what it is like to be in the shoes of those whose support you are seeking. For instance, businesspeople concerned about current and future profitability, need to be assured that making their business practices more environmentally friendly won't adversely affect their profitability. To that end, environmental NGOs and climate scientists must be able to make use of risk analysis skills and utilize business case tactics in order to convince reluctant business owners and corporate executives. They must also employ relationship skills and consultative sales tactics to find out what issues are of the utmost personal importance to influential business and social elites, so that they can craft environmental proposals in such a way that these concerns are also addressed in the process.

. But what is ultimately needed is either a trans-national state (TNS) or more international institutions such as a World Environment Organization (WEO), with enough regulatory and governance powers to protect society and the environment from the negative impacts of climate change. As William I. Robinson noted some years ago, in this way "the nation-state is neither retaining its (former) primacy nor disappearing but becoming transformed and absorbed into this larger structure of a TNS." Only the emergence of NGOs and the TNS, or an international environmental institution similar to the WTO (i.e. WEO) can address the negative effects of climate change on society. A TNS, or a WEO with strong regulatory powers, might also be capable of more effectively regulating markets and protecting the human, labour and environmental rights of all societies in an increasingly globalized economic world.

²⁵ William I. Robinson "Social theory and globalization: The rise of a transnational state." *Theory and Society*, Vol. 30 No. 2 (April, 2001): 158

Bibliography

- Figure 1-"Inflation adjusted price of imported oil for past 10 years vs.1981 peak"
- **Figure 2-**"Inflation adjusted real vs. nominal price of imported oil past 30 years"
- Figure 3-"Inflation adjusted real vs. nominal price of gasoline for past 90 years" US
- Dept. of Energy http://www.eia.doe.gov/emeu/steo/pub/fsheets/real_prices.html
- **Figure 4** "EU greenhouse gas emissions rise for second year running" *European Environment Agency news release* (Copenhagen, 6 May 2003)
- BBC News / Europe/ Russian MPs ratify Kyoto Treaty. October 22, 2004
- Blomquist, Robert F. "Against Sustainable Development Grand Theory: A Plea for Pragmatism in Resolving Disputes Involving International Trade and the Environment." *Vermont Law Review* Vol. 29 (2004-2005): 733-755
- Carson, Rachel. Silent Spring. Cambridge: The Riverside Press, 1962
- Cassese, Antonio. International Law. Oxford UK: Oxford University Press, 2001
- Cone, Sydney M. "The Environment and the World Trade Organization." *New York Law School Law Review* Vol. 46 (2002-2003): 615-627
- Devetak, Richard, and Higgott, Richard "Justice Unbound? Globalization, States and the Transformation of the Social Bond." *International Affairs* Vol. 75 (July 1999): 483-498
- Edwards, M. Future Positive: International Co-operation in the 21st Century.

 London: Earthscan, 1999
- European Union "EU greenhouse gas emissions rise for second year running"

 European Environment Agency news release (Copenhagen, 6 May 2003)
- Greene, Owen in John Baylis and Steve Smith. (eds) *The Globalization of World Politics: An Introduction to International Relations*. Oxford, Oxford

 University Press, 2001

- Greenhouse, Linda. "Justices Rule against Bush Administration on Emissions." *The*New York Times (New York, 2 April 2007)
- Held, David, Anthony McGrew, David Goldblatt and Jonathan Perraton. *Global Transformations: Politics, Economics and Culture*. Oxford UK: Polity Press, 1999
- Higgott, Richard, Geoffrey R. D. Underhill and Andreas Bieler. *Non-State Actors and Authority in the Global System.* New York: Routledge, 2000
- Jenkins, Leesteffy. "Trade Sanctions: An Effective Enforcement Tool." Review of

 European Community and International Environmental Law

 Vol. 2, Issue 4 (December 1993): 221-228
- Karns, Margaret P. and Karen A. Mingst. *International Organisations: the politics* and processes of global governance. Boulder. Lynne Rienner, 2004
- Keohane, R.O. and Joseph S. Nye. *Governance in a Globalising World*. Washington:

 Brookings Institute, 2000
- King, Roger and Gavin Kendall. *The State, Democracy and Globalization*. New York: Palgrave Macmillan, 2004.
- Litfin, K. Ozone Discourses: Science and Politics in Global Environmental

 Cooperation. New York: Columbia University Press, 1994
- Mungkalarungsi, Tanyarat. "The Trade and Environment Debate." *Tulane Journal of International and Comparative Law* Vol. 10 (2002): 361-385
- Robinson, William I. "Social theory and globalization: The rise of a transnational state." *Theory and Society* Vol. 30, No. 2 (April, 2001): 157-200
- Safrin, Sabrina "Treaties in Collision? The Biosafety Protocol and the World Trade Organization Agreements." *The American Journal of International Law* Vol. 96, No. 3 (July, 2002): 606-628

- Scholte, Jan Aart. *Globalization*. A critical introduction. New York: St. Martins Press, 2000
- Scott, Joanne. "International Trade and Environmental Governance: Relating Rules (and Standards) in the EU and the WTO." *European Journal of International Law* Vol. 15 No. 2 (2004): 307-354
- Shafer, Gregory. "United States-Import Prohibition of Certain Shrimp and Shrimp Products." *The American Journal of International Law* Vol. 93, No. 2 (April 1999): 507-514
- Shaw, Sabrina and Risa Schwartz. "Trade and Environment in the WTO State of Play." *Journal of World Trade* Vol. 36, Issue 1 (February 2002): 129-154
- Trachtman, Joel P. "Decisions of the Appellate Body of the World Trade

 Organization, United States—Import Prohibition of Certain Shrimp and

 Shrimp Products." *The European Journal of International Law* Vol. 10, No. 1

 (1999): 192-194
- TWG. Third World Guide 93/94. Montevideo: Instituto del Tercer Mundo, 1993
- Weinstein, Michael M. and Steve Charnovitz. "The Greening of the WTO." *Foreign*Affairs Vol. 80, No. 6 (2001): 147-156
- Westbrook, Kevin W. and Robert M. Peterson. "Business-to-Business Selling

 Determinants of Quality." *Industrial Marketing Management* Vol. 27, Issue 1

 (1998): 51-62
- WTO Panel Report. *United States--Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/R (98-1710), 15 May 1998