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IMPLEMENTING ENVIRONMENTAL POLICY IN CANADA

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Summary

This paper examines the tools and strategies available to governments for the purpose of implementing environmental policy in Canada. The main types of policy instruments available to governments are described including substantive, procedural and institutional mechanisms. The factors influencing government decision-making when choosing implementation tools, such as considerations of effectiveness, efficiency, fairness and political and policy acceptability, are explored as well. Political and policy factors are generally found to outweigh substantive considerations in decision-making. The paper examines the recent changes that have occurred in Canadian governments' approaches to environmental policy implementation, particularly since the 2008 economic downturn and the 2011 arrival of a Conservative federal government led by Prime Minister Stephen Harper. The paper highlights major shifts in direction with respect to procedural and institutional mechanisms away from strengthening consideration of the environment and public input in decision-making towards facilitating natural resources extraction and development. The incidence of outright withdrawals of substantive requirements regarding protection of the environment is noted, and as a longer-term shift towards of 'smart' regulation implementation models for substantive policy instruments. The long-term implications of these shifts in approaches to policy implementation are discussed in terms of the legitimacy and public acceptance of public policy decisions, and the potential risks to public safety, health and the environment resulting from both the loss of governmental policy development and implementation capacity, and the increasing reliance on 'smart' regulation implementation models.

Introduction

Policy implementation is the stage in the policy cycle[1] where governments move from the identification of problems, the assessment of potential responses, and the establishment of desired outcomes, to actually trying to change the behavior of individuals, companies and institutions to achieve these results. It is the stage at which policy is, in theory, translated into reality. Policy instruments are the tools employed by governments to implement policy. The following chapter examines the different types of policy instruments available to governments for environmental policy purposes and the

considerations governments may take into account in choosing implementation tools. In addition, the chapter examines the recent changes that have occurred in Canadian governments' approaches to environmental policy implementation, particularly since the 2008 economic downturn and the 2011 arrival of a majority Conservative federal government led by Prime Minister Stephen Harper. The discussion highlights the ways in which austerity has been used to weaken a policy regime whose commitment to environmental sustainability was already ambivalent.

Types of Implementation Tools

The types of tools or policy instruments used by governments to implement environmental policy decisions can be broadly organized into three categories. Substantive policy instruments are intended to directly change behavior on the part of individuals, households, communities and corporations. Substantive instruments can include: the use of law and regulation to prohibit or control certain activities; the application of taxes, charges and incentives to activities that governments wish to discourage or encourage; the creation of markets for ecological services like the sequestration and storage of greenhouse gas (GHG) emissions; the dissemination of information about pollutant emissions and other environmental impacts of human activity; public information and education campaigns intended to motivate action at the individual, household or classroom level; and encouraging voluntary action by companies, communities, and individuals to manage or reduce the environmental impact of their activities.

The second type of tool is procedural. Procedural instruments are focused on modifying decision-making processes with respect to policies and projects that may affect the environment, rather than directly changing the behaviour of individuals or firms. [2] Environmental assessment (EA) processes have been among the most prominent procedural environmental policy instruments used in Canada. Environmental assessment processes were intended to inject environmental considerations into decision-making process where they would not normally have been present. Public participation requirements can work in a similar way, providing opportunities for

members of the public to have input into decision-making in ways that would not otherwise be the case.

The third type of implementation tool is institutional. These strategies focus on the creation or use of specific agencies inside or outside of government to act as focal points for policy development, implementation and evaluation or to provide specific services, such as the regulation of activities that pose risks to public safety and the environment, or to manage natural resources.

Substantive Policy Instruments

The principal types of substantive policy instruments and their key features are summarized in Table 1 below.

Table 1: Substantive policy Iinstruments and their key features.

Instrument	**Means of influence on behaviour**	**Decision-maker regarding behaviour**	**Effectiveness in achieving behaviour change**	**Political and policy considerations**
Regulation	Coercion; penalties for non-compliance.	Government	High when applied and enforced (e.g. acid rain control; pulp and paper water pollution, vehicle fuel economy).	Strong ideological opposition among some governments; although strong public support where important public goods at stake.
Economic Instruments	Price/costs of different behaviours.	Market; consumers; resource users.	Uncertain: marginal costs needed to change behaviour must to be discovered.	Acceptance if revenue neutral or revenue dedication (e.g. BC, Quebec), but have been controversial (federal carbon pricing proposals, Ontario “eco-fees”).
Informational instruments	Information provision.	Consumers.	Uncertain: effective in some cases	Moderate but weakening as governmental

			especially in conjunction with other instruments (e.g. NPRI; in home displays for energy efficiency)	awareness of impacts of information increases. Support for use in except in specific applications (e.g. household energy efficiency).
Education and Outreach	Information; moral suasion.	Consumers.	Uncertain: some cases of significant impacts (e.g. Blue Box)	Can provide appearance of action without coercion or cost
Voluntary	Moral suasion; pre-emption of more coercive measures	Industry/resource user.	Low: poor outcomes from flagship initiatives (VCR, ARET).	Declining in light of weak performance. Re-emerging in modified form through 'smart' regulation models.

Regulatory Instruments

Regulatory instruments have been the traditional tool of choice in Canadian environmental policy, particularly the prevention and control of pollution, but also for the purposes of managing access to natural resources and land-use planning. Regulatory tools rely on the establishment of obligations, based in legislation, prohibiting certain types of behaviour, or requiring the explicit permission of government to engage in specified activities. Where such permission is given it typically may be subject to whatever conditions, such as the installation of equipment to limit emissions of pollutants, or limits on the height of buildings that can be built at a given location, which the government may choose to impose. In effect, the state acts as a trustee of environmental resources, controlling access to them and making decisions about who should be allowed to use the environment for what purposes.

This regulatory model was strongly reflected in the initial round of environmental legislation adopted in the late 1960s and early 1970s, particularly at the provincial level. Provincial environmental protection statutes, for example, typically prohibited engaging in activities that would result in pollution,[3] unless approvals have been obtained from the

provincial environment ministry, and the activity was carried out in accordance with the terms and conditions of those approvals.[4] In addition, regulations could be adopted under environmental legislation that set specific rules in relation to particular activities. Regulations might be employed to prohibit the use or release into the environment of certain toxic substances or limit emissions of particular pollutants from specific industrial facilities or sectors.

Under environmental legislation, penalties are usually attached for engaging in prohibited activities without appropriate approvals, or carrying out activities that violate rules and conditions imposed by government. These penalties typically take the form of fines or imprisonment on conviction for an offence. Fines for environmental offences grew significantly in Canada from the mid-1980s onwards. Maximum fines under the initial round of environmental legislation adopted in Canada the early 1970s, were in the range of $5,000- $10,000 per offence. In practice the actual fines imposed for environmental offences were usually far below even these modest maximums, with the result that violators simply regarded the penalties they received as the 'cost of doing business.' Major offences under the federal *Canadian Environmental Protection Act*, enacted in its current form in 1999 for example, can now be subject to penalties of up to $1 million dollars and up to five years imprisonment.[5] In practice, the application of maximum fines remains rare. More broadly, the vigour with which Canadian governments have been willing to actually enforce environmental laws has been a longstanding issue in Canadian environmental policy.[6]

Economic Instruments

Regulatory approaches, when they have been applied vigorously, have been highly effective in Canada in reducing pollution from specific industrial sources. The implementation of regulations by the governments of Ontario and Québec in the mid-1980s to control emissions of the pollutants that caused acid rain resulted in reductions in emissions of sulphur dioxide from the targeted sources, largely base metal smelting and coal-fired electricity generation facilities, by more than 50 per cent relative to a 1980 baseline by the mid-1990s. The emission reduction goals of the federal-provincial Eastern Canada Acid Rain Control program were achieved as a result. [7] Similarly,

regulations have been used to successfully phase out the manufacturing and import of highly toxic or otherwise problematic substances, like polychlorinated biphenyls (PCBs) or substances that deplete the ozone layer. New federal and provincial requirements resulted in major reductions in water pollution from the pulp and paper sector in the1990s.[8]

Despite these successes, regulatory tools have been subject to criticism since the 1970s for being inefficient, inconsistently applied, and likely less effective in stimulating the kinds of deeper systemic changes in economic activities, like dramatically reducing the use of fossil fuels, that seem likely to be necessary to ensure the sustainability of the global biosphere. As a result, economic policy instruments have been widely proposed as a complement or even alternative to regulatory strategies for achieving environmental policy goals. Rather than governments trying to prescribe the behaviour of individuals and companies through regulation, economic instruments rely on the responses of these actors to price signals in the marketplace to achieve policy goals. [9]

Economic instruments can take a number of different forms. Taxes or charges can be imposed on activities that governments wish to discourage or phase out. Such charges have the effect of raising the costs of these activities relative to alternative paths. Carbon taxes, based on the carbon content of fuels, and by implication the amounts of GHGs likely to be generated through their use, for example, have been widely proposed as a means of achieving economy wide reductions in the use of fossil fuels, like coal and oil, to combat global climate change. Sweden was among the most prominent early users of environmental taxes, imposing substantial taxes on the carbon and sulphur content of fossil fuels in the early 1990s.[10]

Governments can also pursue strategies of providing economic incentives to encourage behaviour or the development and adaptation of technologies that are seen to be more environmentally sustainable. Feed-in-Tariffs (FITs), which pay renewable energy (e.g. wind, solar photovoltaic, biogas, small scale hydro) developers a fixed long-term price for the electricity they produce, have been widely and successfully employed in Europe over the past two decades to promote the large scale deployment of renewable energy resources. [11] The Government of Ontario initiated a similar FIT program under its 2009 *Green Energy and Green Economy Act*.[12]

Federal and provincial subsidies were central in the near universal installation of sewage treatment systems by Ontario municipalities in the Great Lakes Basin, a development that has been fundamental to the recovery of the water quality in the lakes over the past four decades.[13] Subsidies can also be employed as complements to regulatory initiatives to assist affected business in dealing with the capital costs of installing new pollution prevention or control technologies. Federal regulations on water pollution from the pulp and paper sector, first introduced in the 1970s, were accompanied by substantial subsidies for the 'modernization' of pulp and paper mills.[14]

Integrated strategies of environmental taxation and broader tax reform are sometimes referred to as ecological fiscal reform (EFR).[15] Under EFR strategies, the funds raised through environmental taxes and charges are recycled into subsidies for more environmentally sustainable behaviour or technologies, and even into broader reductions in employment and income taxes. The revenue from Sweden's carbon and sulphur taxes, for example, was used to reduce personal income taxes. Such strategies are generally seen to enhance the political acceptability of environmental taxes by ensuring no increase in the overall tax burden on households and businesses.

There was extensive discussion in Canada of the potential roles of environmental taxes and charges in environmental policy from the time of the 1992 World Conference on Environment and Development onwards, but until very recently, almost no significant application of these tools. The introduction of, first, a modest carbon tax in Québec in the fall of 2007, and then a much more substantial and comprehensive carbon tax regime in British Columbia in July 2008,[16] seemed to indicate a potential shift in the willingness of Canadian governments to employ environmental taxes and charges. However, the defeat of the federal Liberal Party, which had put forward a major ecological fiscal reform initiative, including a comprehensive carbon pricing regime, a central element of its election platform[17] in the October 2008 federal election, has caused other Canadian governments to hesitate to pursue such initiatives. Ontario, for example, explicitly ruled out a carbon tax as part of its GHG emission reduction strategy at the beginning of 2013. [18]

A second form of economic instrument involves the creation of markets for certain types of activities, like the emission of pollutants or the harvesting of natural resources.

The underlying theory is that by creating a limited number of permits to engage in a targeted activity, and then allowing market participants to decide whether to purchase the number of permits required to continue their existing activities (like emitting greenhouse gases) or to change their behaviour to reduce the number of permits they need, the resulting markets will establish economic values for the permitted activities. Companies will then make the most economically rational decisions, from their perspectives, about what strategy to pursue. Many economists argue that these types of trading systems are more economically efficient than traditional regulatory models.[19]

Numerous attempts have been made to establish trading systems, with mixed results. The trading system for sulphur dioxide emissions established under amendments to the US federal *Clean Air Act* in 1990 is generally regarded as an environmental and economic success.[20] The European Union's efforts to create a cap-and-trade system for industrial emitters of greenhouse gases, on the other hand, have produced much less positive results. In the EU system the price of carbon emission permits has repeatedly collapsed as a result of the granting of permits to industrial GHG emitters well in excess of actual emission levels at the time of the establishment of the system.[21] Discussions of cap-and-trade systems for large final emitters of GHGs were central to the first twenty years of debates on climate change policy in Canada.[22] However, from 2009 onwards the Harper government has stated that it intends to follow the lead of the US Obama administration which, faced with an inability to pass GHG emission trading legislation through the US Congress, has adopted a sector by sector regulatory approach to dealing with industrial emissions GHGs. The first such regulations, regarding emissions of GHGs from coal-fired electricity plants, were adopted in Canada in 2012.[23]

Informational Instruments

Although governments have collected environmental data and information from the beginnings of the establishment of government agencies concerned with the management of natural resources and the environment, the gathering and dissemination of environmental information really only came into its own as an instrument for achieving specific policy outcomes in the 1990s. The first pollutant release and transfer registry

(PRTR), the United State's Toxic Release Inventory (TRI),[24] was established in 1987 in the aftermath of the Bophal chemical plant disaster in India. Under these systems, facilities are required to report annually on their releases and off-site disposal of specified lists of pollutants. The information is then made available to the public. The emerging World Wide Web and developments in web server technologies offered enormously enhanced public access to the information collected through pollutant release inventory systems, and opened major new possibilities for the use of this information. Customized user designed data searches and the combination of pollutant release data with geographic, demographic and economic information became possible.[25] Canada was the second country in the world to establish a pollutant release inventory, the National Pollutant Release Inventory (NPRI), in 1992.[26] However, after an initial period of expansion, including the addition of criteria air pollutants and the lowering of reporting thresholds for priority toxic substances in the early part of the last decade, development of the NPRI stalled. Part of the explanation for this outcome may have been the growing recognition on the part of industry and governments of the potential public impact of assessments of their environmental performance based on the information made available through the inventory.

Public Outreach and Education

Environmental education and awareness initiatives have generally been regarded as the "softest" or least coercive of the substantive environmental policy instruments available to governments. Education and awareness programs only encourage rather than require action and do not provide direct economic incentives for changes in behaviour. In practice, education and awareness initiatives can provide a number of important functions as parts of overall strategies for environmental sustainability. Formal (i.e. school classroom) and informal educational initiatives are central to building constituencies for policy action both in the present and future.

Education and awareness strategies have also been effective in motivating and sustaining behavioral changes at the individual and household level. In Canada, such strategies have been used to achieve widespread participation of households in increasingly ambitious waste diversion activities. In some communities this has involved

major transitions in household behavior. Household waste management in the City of Toronto, for example, has been transformed from a simple process of taking bags of mixed waste to the curb twice a week, to sorting household wastes into six or seven streams, which are then collected according to complex weekly schedules.[27] The result has been, in the case of single family dwellings, waste diversion rates from disposal exceeding sixty five per cent.[28] The achievement of such outcomes with little or no direct economic incentive or regulatory enforcement, highlights the potential impacts of education and awareness initiatives.

Voluntary Instruments

Voluntary initiatives became a highly prevalent approach to environmental policy implementation in Canada in the 1990s. For public policy purposes, these instruments were typically characterized by public challenges to industry by governments to reduce their emissions of pollutants in exchange for public recognition of their performance or, alternatively, avoidance of future regulatory requirements. Two such programs, the Accelerated Reduction and Elimination of Toxics (ARET) launched in 1994 and the Voluntary Climate Registry (VCR) initiated in 1995, constituted the federal government's principal initiatives on industrial sources of toxic substances and GHG emissions respectively. By the early years of the new millennium, however, the empirical evidence of the failures of these high profile voluntary initiatives, [29] reinforced by the roles of 'voluntary' compliance regimes in the 2000 Walkerton, Ontario and 2001 North Battleford, Saskatchewan drinking water contamination disasters[30] became increasingly obvious. In the context of the reemergence of high levels of concern over environmental issues in the middle of the last decade, proposals by governments for voluntary action by industry in response to major environmental problems came to be seen as indications of a lack of seriousness about taking action.

Other forms of 'voluntary' action by industry that emerged in the 1980s and 1990s were more complex and have evolved more complicated relationships with regulatory regimes. During this period industrial sectors began to formulate and formalize safety and quality management systems independently of government. These developments were epitomized by the chemical industry's 'Responsible Care" initiative, where

membership in chemical industry associations became subject to meeting industry formulated standards for safety practices. Independently verified quality and environmental management systems (ISO 9000 and 14000 respectively) also came to be widely adopted within industry. Although outside of government-established regulatory requirements, and in some cases formulated to pre-empt the imposition of formal and potentially more stringent regulatory requirements by governments,[31] governments began to regard these systems as complements and even potential substitutes for such requirements. The consequences of this development are discussed later in the chapter.

Integrated use of policy instruments and regimes

Traditional academic discussions of policy instruments tended to make sharp distinctions between regulatory, economic, voluntary and other types of instruments. In practice, it is rare for any type of instrument to be used in isolation. In fact, the most effective environmental policy strategies have used combinations of instruments to achieve their goals. The successful strategies pursued by Canadian governments with respect to acid rain control in the 1980s and water pollution from the pulp and paper sector in the early 1990s, for example, employed a combination of regulatory requirements to reduce emissions and discharges, and substantial subsidies to the effected industries to assist them with the installation of new equipment to meet the new requirements.[32]

Strategies that rely on single instruments, or simple combinations of instruments, like regulation and subsidy, can be adequate where the policy goals being sought are relatively limited, such as the reduction of emissions of a specific pollutant from a specific industrial sector. The achievement of deeper structural, economy wide changes in behaviour is more likely to require the use of an integrated regime that uses a combination of different instruments. Examples of such strategies have been seen among US states - California's approach to energy efficiency, employing a combination of regulatory, economic and informational tools is particularly noteworthy in this regard.[33] Similar strategies have been seen within the European Union with respect to waste management and climate change. However, consistent with the much more limited

environmental policy goals pursued by Canadian governments, these types of integrated strategies or regimes have been rarely employed in Canada.[34]

California's approach to energy efficiency: The US State of California has achieved major progress on energy efficiency over the past 35 years through the use of a combination of policy instruments. Aggressive use of standards and codes (i.e., regulatory instruments) has pushed low energy efficiency products like older models of air conditioners and refrigerators out of the marketplace. In addition, energy is priced to ensure that it reflects the real costs of energy production, financial incentives are provided for the adoption of energy efficient technologies and practices, and investments are made in research on energy efficient technology design and program evaluation. At the same time, aggressive outreach and education programs on energy efficiency are carefully targeted at specific audiences and markets, and sophisticated monitoring and information systems, including in-home displays that allow consumers to monitor their own energy use, are used to provide feedback on program effectiveness .

Procedural Instruments

Procedural instruments reflect a less direct, but more structural and systemic approach to dealing with environmental issues. Procedural instruments focus on modifying decision-making processes with respect to all policies and projects that may affect the environment, rather than directly changing the behaviour of individuals or firms. Two prominent examples of procedural environmental policy instruments that have emerged in Canada are environmental impact assessment processes, and mechanisms for public participation in decision-making.

Environmental Assessment

Environmental impact assessment processes, which first emerged in the late 1960s and early 1970s, represent the most prominent and widely adopted procedural policy instruments with respect to environmental issues. Assessment processes have been established through legislation at the federal level, and among all of the provinces and territories. [35] Environmental assessment processes were designed ensure the

evaluation of the potential overall environmental effects of projects and plans. In some cases, their rationale and the availability of alternative ways of meeting identified needs were subject to assessment as well. The process was designed to introduce consideration of environmental effects into decision-making processes, particularly with respect to large infrastructure and resource development projects, where typically there had been little or no thought of such consequences before. Assessment processes also became important mechanisms for managing social conflicts over major development projects, and fulfilling governments' 'duty to consult' with aboriginal peoples prior to making decisions that may affect their rights or interests. [36]

Public Participation

Public participation mechanisms, such as opportunities for members of the public to receive notice of pending decisions, file comments with decision-makers and participate in public hearings with respect to major projects and plans represent a second major example of the use of procedural instruments in environmental policy making. As with the consideration of the environmental effects of major decisions, prior to the mid-1970s it was rare for members of the public to have any input into decisions affecting the environment or their communities, particularly at the federal and provincial levels. However, public participation provisions were widely incorporated into environmental assessment and land-use and resource planning and management legislation between the early 1970s and early 1990s.

Ontario's *Environmental Bill of Rights*, adopted in 1994, represents the most systemic effort to date to establish opportunities for members of the public to contribute to decision-making. The bill established rights to notice and comment on pending decisions via and electronic registry, rights of appeal of decisions for third parties where such rights existed for proponents, and rights to petition for the enforcement of environmental laws and or for the establishment of new laws, regulation and policies, with a requirement that government respond to such petitions within set timeframes, and provide a rationale for rejecting requests.[37] Similar requirements for public participation have been established at the international level through the 1998 United Nations Economic Commission for Europe (UNECE) Convention on Access to Information,

Public Participation in Decision-Making and Access to Justice in Environmental Matters, although Canada has declined to sign the convention.

Institutions as Policy Implementation Tools

The creation of specific agencies and institutions inside and outside of government has been an essential element of the environmental policy implementation process in Canada. At the most basic level, the creation of ministries and departments of the environment at the federal and province levels from the early 1970s onwards, usually through the consolidation of pre-existing agencies and functions scattered among multiple agencies,[38] was a watershed event in the emergence of the environment as a public policy issue. The creation of such agencies provided the means to advance and defend environmental interests in governmental decision-making processes at the political and bureaucratic levels. Ministers of the Environment had seats at the cabinet table, the centre of the political decision-making process, and became institutional focal points for environmental concerns on the part of the public, media, interest groups and legislative opposition parties. The integration of public service functions related to the environment provided the institutional capacity to support ministers at the political level with information and analysis, administer the then newly-adopted environmental legislation, and engage in discussion and negotiation with other government departments, whose conventional views on economic development had hitherto gone unchallenged.

The second modern wave of public concern for the environment, which ran from the mid-1980s to the early 1990s brought with it a round of significant institutional innovation with respect to the environment in Canada. Environmental commissioner's offices were created in the mid-1990s at the federal level and in Ontario. The federal Commissioner for Environment and Sustainable Development (CESD)[39] and the Environmental Commissioner of Ontario,[40] were mandated to report publicly to Parliament and the Ontario Legislature respectively, on the effectiveness of environmental policies and the overall environmental performance of federal and Ontario governments. The commissioners' offices were intended to strengthen the overall level

of effort put into addressing environmental issues on the part of governments by establishing permanent independent public evaluation and reporting mechanisms. These mechanisms would be relatively immune to the shifts in levels of public concerns for environmental issues - effectively providing a form of institutional 'automatic stabilizer' through their regular evaluation and reporting functions. In addition, round tables on the environment and economy were created at the federal level and in each of the provinces, mandated to consider the implications of the World Commission on Environment and Development's (a.k.a. the Brundtland Commission) sustainable development concept for their economies and societies.[41] The creation of the round tables, which included representation from government, industry, non-governmental organizations and academics, reflected a conscious decision to move these discussions outside of traditional governmental structures, which tended to be dominated by institutions committed to conventional models of resource development and economic growth. An International Institute for Sustainable Development[42] was created by the federal government to investigate similar questions at the international level.

Choosing implementation strategies

Given the range of potential options available to them to address a given problem or goal, the question arises as to how governments make decisions about what approaches to employ. Typically, either implicitly or explicitly, a number of criteria are taken into consideration.

Effectiveness

Perhaps the most basic criteria is the question of whether a particular instrument will be effective in achieving the desired policy outcome. Certainty of the results is particularly important where human health and safety are directly at risk. The timeliness of the result can also be an important consideration. Economic instruments, such as environmental taxes and charges, may result in the required changes in behaviour, but the timeframes within which consumer responses to the higher prices that result from such strategies will occur may be uncertain. Regulatory instruments, when backed with a credible expectation of enforcement, are generally seen to offer relatively high

certainty of outcomes,[43] and generally set the timelines within which these results need to be achieved. The importance of effectiveness as a criteria in selecting policy implementation tools is also a function of how seriously the government is question is committed to achieving a specific outcome.

Efficiency

A second factor likely to be considered by policymakers is the potential efficiency of different options. In the context of competing demands on the resources of government and society, governments will generally seek to achieve their policy goals at the lowest possible cost, with the intent of maximizing the resources available to address other problems. Efficiency can be defined in terms of a number of different dimensions. These aspects include the achievement of the desired result at minimum cost to society as a whole, to the government agencies that will have to implement and administer the chosen instruments, and to the individuals and organizations whose behaviour will be affected. Governments facing significant resource or financial constraints, for example, have tended towards the use of what they perceive as lower-cost instruments like voluntary initiatives, despite the fact that they may be less effective than options like regulation, as the latter are seen to be associated with higher administrative costs.[44]

Distributional Fairness

A third consideration is the likely distribution of the costs and benefits of a given strategy. In general, it is seen to be difficult to use relatively more coercive (and potentially effective) tools, such as regulatory and economic instruments, where the resulting costs will be concentrated among a small number firms or sectors, and the benefits widely spread. Those who would suffer the costs of such strategies have strong incentives to resist them strongly, while the benefits may be so widely distributed that no specific constituency emerges to argue for action.[45]

The fairness of the distribution of the costs and benefits of a given choice of instruments within society must also be considered. Is the strategy consistent, for example, with the widely accepted polluter pays principle[46] that those who generate the

pollution should internalize the resulting environmental costs? Does the strategy impose disproportionate costs on vulnerable sectors of society, or conversely offer disproportionate benefits for other members of society? The problem of free riders was central to critiques of the use of voluntary instruments in Canadian environmental policy.[47] The option of free riding is typically much more difficult where economic or regulatory instruments are employed.

Political and Policy Factors

In addition to these considerations inherent to a particular instrument and in relation to a specific environmental problem, a number of other factors are likely to enter into the decision-making process. In addition to being effective, efficient and fair, implementation strategies must be seen to be politically acceptable by decision-makers. These considerations can have a major impact on decisions about policy implementation.

Since the mid-1980s, neo-conservative, or more appropriately neo-liberal, ideas about the role of governments have dominated at the federal and provincial levels. These models emphasize the reduction of governmental interference in private sector economic activity. Instead, the role of markets as the most efficient mechanisms for allocating access to resources, including environmental resources, has been highlighted, with the state's role being focused on the facilitation of the efficient functioning of markets.[48]

One of the practical manifestations of the prevalence of these ideas has been the establishment at the federal level and in many provinces of increasingly elaborate "regulatory management" systems. In most cases these systems incorporate explicit biases against the use of regulatory instruments, and typically establish extensive analytical and procedural tests, such as requirements of cost-benefit analyses demonstrating that there would be "net" economic benefits from environmental, health or safety initiatives, applied when government agencies propose the use of regulatory tools. The effect of these requirements, reflected, for example, in the succession of regulatory policies and cabinet directives on regulatory management adopted under the Mulroney, Chretien and Harper governments[49] and some provinces[50] was to make the

use of regulatory instruments in environmental policy extremely difficult under normal circumstances.

In a democratic society, the public acceptability of different options is also a key consideration. There is, for example, strong evidence that a carbon tax could be a highly effective policy instrument for combating climate change.[51] However, even in the context of the adoption of a substantive carbon tax in British Columbia in 2008 and subsequent electoral successes of the BC Liberal government that brought in the tax, the threat of the adoption of such a tax by a federal Liberal or New Democratic government has been employed aggressively as a political weapon at the national level by Stephen Harper's Conservative federal government.[52]

Other factors may also enter the equation. International trade agreements, like the North American Free Trade Agreement (NAFTA) and the World Trade Organization Agreements (WTO) to which Canada is party, impose important restrictions on strategies that may be employed to address environmental problems that might also affect international trade. The investor-state provisions contained in Chapter 11 of the NAFTA may further increase the reluctance of government agencies to pursue the use of regulatory instruments.[53] Similar provisions are included in the proposed Canada-European Union Trade Agreement.[54]

Federal-provincial relations may be an additional consideration in implementation choices, particularly at the federal level. Traditionally, provincial governments have strongly opposed substantive interventions by the federal government in the environmental field. Rather, provinces have preferred that they be the primary regulator of industrial sources of pollution and assessor of proposed resource development projects. They have preferred that the federal government restrict itself to a supporting role, such as through the provision of subsidies to assist firms in installing additional pollution prevention and control technologies and research and information services.[55]

Environmental Policy Implementation in the Harper Era

Prime Minister Steven Harper's personal hostility to major interventions around environmental issues, particularly climate change, was already well known at the time of his government's arrival in 2006.[56] The new government's preferred focus, reflecting

both its overtly neo-liberal ideological orientation and its Western Canadian base, was on natural resources development and export. The Harper Conservatives would go through, in the context of the high levels of public concern over the climate change issue which it encountered upon arrival in office, a brief flirtation with the possibility of significant federal regulatory interventions on air pollution and GHG emissions.[57] However, these directions were abandoned as levels of public concern fell in the context of the 2008 economic crisis and the Harper government's defeat of the federal Liberals, running on their 'Green Shift' ecological fiscal reform platform, in the October 2008 election. The government's one significant actual regulatory intervention was to require, for the first time in Canada, vehicle fuel economy standards. That move was compelled by the need to match the standards adopted by the Obama administration in the United States in order to maintain access to the North American automobile market for Canadian manufacturers.[58] In the past, Canadian vehicle fuel economy standards had been established through voluntary agreements with automobile manufacturers.

Procedural and Institutional Strategies

The Harper government has taken an explicit and dramatic approach shifting the institutional and procedural dimensions of environmental policy away from an emphasis on embedding environmental considerations and public input into decision-making and towards facilitating natural resources development and export. The long (2006-2011) period of Conservative minority government period witnessed a steady incremental erosion of the federal environmental assessment process through a succession of amendments to the *Canadian Environmental Assessment Act* and related legislation.[59] These moves were accompanied by a gradual wearing down of institution capacity, particularly at Environment Canada, through budgetary reductions.

Two events in 2011 would produce a much more fundamental shift in the federal government's approach to the procedural and institutional dimensions of environmental policy implementation. The Harper government's achievement of a majority government in the May 2011 federal election removed the constraints imposed by minority government status. Secondly, the Obama administration's fall 2011 decision to decision delay approval of the proposed Alberta to US Gulf Coast Keystone XL Pipeline

prompted major concerns on the part of the Harper government about market access for the products of expanded production from Alberta's oil sands. Oil sands expansion had by then emerged as the centrepiece of the government's overall economic strategy. The government placed a dramatic new emphasis on the need to access non-US markets, and the removal of any obstacles to the construction of the transportation infrastructure, principally pipelines from Alberta to the British Columbia coast, in order to move oil sands products to those markets. Under a banner of "Responsible Resource Development" environmental assessment and approval processes were specifically targeted as such obstacles. These were seen, in the eyes of the government, to be being used by opponents of oil sands expansion to block and delay important projects.[60]

Accordingly, the government's 2012 Budget implementation legislation, Bill C-38, repealed the existing CEAA and replaced it with new legislation. The new CEAA dramatically reduced the types of projects for which environmental assessments would be required and made the application of the process to those projects to which it might apply discretionary. Even where assessments are required they will only examine a very narrow range of issues, typically where federal regulatory approvals will be required. Considerations of the need and rational for projects, their overall environmental impacts, cumulative effects, social and economic consequences (except narrowly in relation to aboriginal peoples), contributions to sustainability and the availability of alternatives were eliminated from the process. Other provisions of the revised statute were specifically designed to limit public participation in the process to those determined to have a direct "interest" in designated projects.[61] C-38 made similar amendments with respect to public participation to the *National Energy Board Act*. These amendments resulted in the introduction of requirements that members of the public fill in a ten page form establishing their "interest" in projects before even being able to file a letter of comment with the board. [62]

Institutionally, a Major Projects Management Office, housed within Natural Resources Canada was established in 2007 with a mandate to coordinate and expedite federal regulatory approvals for "major resource projects." The 2012 budget incorporated major reductions (20%+) in the budgets and staff of Environment Canada, the Department of Fisheries and Oceans, Health Canada and the Parks Canada

Agency, representing major losses in institutional capacity, particularly in relation to climate change and air quality, toxic substances and ecosystem management, including the closure of the Experimental Lakes Area in Northern Ontario.[63] Bill C-38 also dissolved the National Round Table on the Environment and Economy,[64]one of the major institutional legacies of the second modern wave of public concern for the environment. Over the twenty-five years of its existence, the round table had undertaken research and consultations and published reports and recommendations on a wide range of major federal and national environmental policy issues and had come to be highly regarded for the quality of its work.[65]

Less dramatic, but significant movement in the same direction has been occurring at the provincial level as well. Ontario's environmental assessment process, for example, has gradually been 'streamlined' to focus very narrowly on the mitigation of the direct impacts of proposed projects, and to reduce opportunities for public input.[66]

Substantive Policy Instruments

While the approaches of the federal government and the provinces to the procedural and institutional dimensions of environmental policy implementation have been readily apparent, their approach to the question of the application of substantive policy instruments to the protection of public goods, like the environment, has been more complicated and subtle. The approaches at both levels have reflected governmental sensitivity to public concerns about the role of government in the protection of public safety and health, particularly in the aftermath of the Walkerton and North Battleford drinking water disasters, and more recent events affecting public safety, like the July 2013 Lac-Megantic rail disaster.

In some cases governments have engaged in outright withdrawals of regulatory requirements related to the environment. Among the most significant examples have been the major weakening of the fish habitat protection provisions of the federal *Fisheries Act* through Bill C-38.[67] In a similar vein, the second 2012 budget implementation bill (C-45) repealed the *Navigable Waters Protection Act*. The legislation had required the approval of the federal Minister of Transport for any activity that might

interfere with navigation, such as the construction of dams and bridges and was regarded as an important mechanism for protecting the integrity of waterways. [68]

Such behaviour has not been limited to the federal level. In the spring of 2013 Ontario granted a series of outright exemptions from the requirements of its *Endangered Species Act*, adopted in 2007, to the province's major resource industries, including mining and forestry. [69] British Columbia has been reported to be considering major revisions to the rules regarding its Agricultural Land Reserve (ALR), to permit oil and gas and other forms of development on ALR lands. The ALR was established in 1973 to protect prime agricultural land from development.[70]

New implementation models

More generally, over the past two decades Canadian governments have approached the question of their substantive regulatory functions with respect to the protection of public goods like public health, safety and the environment in a manner that has emphasized the theme of building 'partnerships' with regulated entities. These approaches have reflected international trends related to the concepts of 'New Public Management,'[71] particularly as it applies to the regulation of public goods. These principles, generally advanced under the concept of 'smart regulation'[72] are grounded in arguments that it has become impossible for governments to carry out the required levels of standards development, inspection and oversight themselves, particularly in periods of fiscal restraint, and that the non-state actors, including the regulated firms themselves need to be enlisted as 'partners' in the implementation of regulatory systems. In practice in Canada, these models have taken three major forms: Delegated Administrative Authorities; permit-by-rule systems; and self-inspection and safety management systems. Each is discussed in detail below.

Delegated Administrative Authorities

Delegated Administrative Authorities (DAAs) are not-for-profit corporations, usually created by statute, for the purpose of assuming the technical, safety or economic regulatory responsibilities of a previously existing government agency relation to a specific set of activities or sector. The boards of directors of DAAs are typically made up

of representatives of the sectors whose activities they are to oversee, with some (a minority) members appointed by government. DAAs first emerged in the early 1990s during the Klein era in Alberta, but the model was subsequently adopted in Ontario (Technical Safety and Standards Authority and Electrical Safety Authority) and British Columbia (BC Safety Authority). DAAs have been assigned responsibility for regulating a wide range of activities with significant health, safety and environmental implications, including boilers and pressure vessels, petroleum and natural gas handling and storage facilities.[73] Variations on the model have also been employed for the implementation of municipal waste diversion strategies in Ontario[74] and Alberta.[75] In Ontario, the model has been proposed repeatedly as a potential mechanism for carrying out the approval functions of the Ministry of the Environment, and most recently to carry out regulatory inspection and enforcement functions with respect to municipal waste diversion and stewardship.[76]

The DAA model has been controversial. Proponents of the model argue that it offers a more efficient mechanism for the regulatory oversight of 'mature' industries.[77] Critics of the model point out that it embeds fundamental conflicts of interest in terms of the roles of the regulator and regulated sector, that as private corporations DAAs initially escaped most of the oversight mechanisms, such as audits by Auditor-Generals and the application of freedom of information that would normally apply to government agencies, and blurred lines of oversight, control, accountability and responsibility.[78] The performance of DAAs as regulators has been the subject of considerable criticism as well, particularly in the after a major propane explosion and fire at a TSSA regulated facility in Toronto in 2008.[79] In the aftermath of that event, the Ontario government adopted legislation significantly strengthening its oversight and control of DAAs.[80] At the same time, the province has remained an enthusiastic supporter of the model for any significant new provincial regulatory functions.[81]

Permit by Rule

A second model for the implementation of environmental regulatory systems that has been widely adopted in Canada over the past two decades is 'registration' or 'permit-by-rule.' The model was first adopted in Alberta during the Klein period, following

approaches adopted in some US states. Under the registration model the relevant government departments and agencies no longer actively review most applications for approvals to release pollutants into the environment, or handle and dispose of waste materials under the legislation they administer. Rather, proponents simply affirm their compliance with a set of required practices and procedures by "registering" with the regulating agency before proceeding with their proposed activities. Under the model, the responsibility (and cost) of assessing compliance with the relevant regulatory requirements is transferred from government officials to proponents. The model has been at the core of modernizations of the environmental and natural resource management approvals processes in Alberta,[82] Saskatchewan[83] and Ontario.[84]

The permit-by-rule model has been subject to considerable criticism from environmental non-governmental organizations. The loss of proactive assessment of potentially harmful activities, the inability of the process to address the cumulative effects of these activities, and loss opportunities for the public to comment on proposals before they are approved and appeal the resulting decisions have been important points of concern.[85]

Self-Inspection/Management Systems

While DAAs and 'registration' systems have dominated provincial efforts at the 'reform' of their environmental regulatory systems over the past two decades, the federal government has taken a different approach. In situations where the federal government is the front-line safety regulator, as is the case with foods, drug and rail, air and marine transportation, it has adopted a model of 'safety management systems.'[86] Under this model, regulated entities are required to develop their own strategies for protecting public safety and health in their operations and products. These strategies are then subject to approval by the relevant federal regulator. Once the plans are approved, the federal government largely relies on the regulated firms to conduct internal inspections of their own operations for compliance with their approved plans. Federal regulatory oversight and inspection is then focussed on reports generated by these internal processes rather than the actual observation of the regulated firms' activities in the

field.[87] The many provincial natural resources agencies have adopted similar models related to forestry and other resources.[88]

The model has been the subject of extensive criticism from public safety advocates,[89] organized labour[90] in the affected sectors and the Auditor-General of Canada. These criticisms have focussed on the loss of first-hand knowledge of operational practices on the part of federal regulators, reliance on the regulated firms themselves to establish appropriate levels safety and risk,[91] conduct inspections and report on their own compliance to regulators, the lack of transparency with respect to the safety management plans that are developed,[92] lack of adequate oversight capacity on the part of federal regulators,[93] poor monitoring of outcomes,[94] failures on the part of the regulatory agencies to adequately train their own staff on implementation of the new systems or to identify companies and facilities where risks of problems are high.[95] These criticisms have been heightened by a number of significant incidents where such systems have been in place, including the Maple Leaf Foods *Listeria* contamination incident in 2008 which resulted in 23 deaths,[96] the XL Foods meat contamination episode which led to a massive meat recall in 2012,[97] and the Lac-Megantic Rail disaster in July 2013 (See Box)

The Lac-Megantic Rail Disaster: In the early hours of July 6th 2013 an unattended train of 73 car-loads of crude oil from the Bakken shale formation in North Dakota ran away and then derailed, exploded and burned in the heart of the small Quebec town of Lac-Megantic, killing 47 residents. The disaster stands as the deadliest rail accident in Canada in the past century. The tragedy has focused attention on consequences of the development of 'unconventional' fossil fuel sources, like the Bakken shale and Canada's oil sands, at a pace that has far outstripped the capacity of regulatory agencies on both sides of the Canada-US border to protect public safety, health and the environment. The disaster also raised serious questions about Transport Canada's 'safety management system' approach to overseeing the safe movement of dangerous goods on Canada's railway systems and about the federal government's reliance on these types of industry self-regulatory models.

Safety Management Systems:
"We've replaced a culture of safety with a culture of risk. We've replaced proactive regulation with industrial self-regulation. We've replaced active inspections with paper inspections"

Mike McBane
Canadian Health Coalition
Globe and Mail January 25, 2010.

Conclusions

Implementation models in Canadian environmental policy have shifted significantly over the past forty years, with major periods of innovation coinciding with high levels of public concern for the environment. The initial phase, lasting from the mid-1960s through to the mid-1970s was focused on the formation of the basic institutional tools for policy implementation, in the form of departments and ministries of the environment, and legislative frameworks for the employment of substantive and procedural policy tools. Law and regulation, supplemented by subsides to sectors and industries affected by new environmental requirements, provided the primary substantive instruments employed, while the introduction of environmental impact assessment processes constituted the principle procedural element.

The second phase of public concern, from the mid-1980s to the early 1990s saw maturation in the use of procedural instruments, particularly environmental assessment and public participation mechanisms, and the introduction of new substantive informational instruments like pollutant release inventories. In Canada, the need for more fundamental shifts in the relationship between economic development and environmental sustainability identified by the World Commission on Environment and Development led to serious consideration, although not use, of economic policy instruments, and a number of important institutional innovations. These included the creation of environmental commissioners' offices at the federal and provincial levels, and of federal and provincial round tables on the environment and economy as well as an International Institute for Sustainable Development to consider the long-term implications of the sustainable development concept.

The third (2004-2008) phase of public concern was marked by the first serious efforts at the use of economic instruments, in the form of carbon taxes in BC and Quebec, to achieve structural changes in economic activity in the direction of environmental sustainability. There were also important renewals of the institutional mandates of the environmental commissioners' offices and of the NRTEE.

The period following the 2008 economic downturn and federal election has, in contrast, been one of profound retrenchment, particularly at the federal level. In the context of an overriding emphasis on resource extraction and export, the focus of institutional innovation shifted to mechanisms to facilitate those directions, such as the establishment of the Major Projects Management Office, and on the elimination of those, such as the NRTEE, which were potential sources of criticism of such a course. The policy and operational capacity of federal environmental agencies has been significantly eroded through substantial budgetary reductions. Procedural mechanisms are now being employed to establish barriers to public participation in decision-making rather than facilitate it, and the application and scope environmental assessment processes has been radically narrowed.

The long-term impact of these procedural and institutional strategies is unknown. However, they may carry with them the possibility of creating at least as many problems for project proponents as they solve. The 'reform' of environmental assessment processes and the curtailment of opportunities for public participation have a strong potential to undermine the legitimacy of decision-making processes and therefore public acceptance of their outcomes. Such results can lead to additional political conflict, which can produce to further delays or even block project approvals. The saga of the Northern Gateway pipeline project,[98] recent events regarding the Line 9 pipeline proposal in Ontario[99] and shale gas development in New Brunswick,[100] and the 'Idle No More' movement all speak to these possibilities. The loss of institutional capacity increases the risk for governments of being blindsided by emerging issues, and of being unable to formulate effective or credible responses. More importantly the loss of capacity weakens governments' ability to identify and address emerging problems before they manifest themselves as crises or disasters. Such an outcome implies significantly increased risks for the health, safety and environment of Canadians.

Although law and regulation has remained the tool of choice where governments have felt compelled to demonstrate a willingness to act on environmental matters, outright withdrawals from substantive regulation, particularly where it is seen to be a barrier to resource development, have become common at the federal and provincial levels. More broadly, 'smart' regulatory models, such as delegated administrative

authorities, permit-by-rule systems and 'safety management systems,' emphasizing 'partnerships' with regulated firms, have become increasingly prevalent in the implementation of substantive regulatory requirements over the past two decades. Again the long-term consequences of these directions are uncertain. The recent high profile failures and disasters, like the Lac-Megantic tragedy, involving facilities and activities regulated under these models have raised serious questions about their effectiveness. The result may led to demands for a more active re-engagement by Canadian governments in implementing regulatory regimes to protect public goods, including the environment. So far, however, the responses have reflected the minimum level of intervention needed to deflect criticism, as opposed any fundamental change in direction with respect to the protection of the environment and public safety.

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