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Governance for Sustainable Development: Meeting the Challenge Ahead

Research Paper



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PRI Project
Sustainable Development

Canada

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A scoping paper prepared for the Policy Research Initiative

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Acknowledgement

This paper draws on theoretical literature and practical experience to explore the challenges that sustainable development poses for established governance practices. It suggests a series of possible avenues for further research and collaborative investigation that could be pursued by the federal government. A roundtable with officials from a number of federal departments as well as other interested parties reviewed a draft of this paper in December 2008. Key elements from this discussion are included in the final section of this paper.

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1. Introduction

Over the past two decades sustainable development has increasingly become accepted as an important objective for governments and societies. At the heart of this project is a concern that the current global development trajectory is undermining the environmental preconditions for human flourishing and failing to address adequately the urgent development needs of the world's poor. Sustainable development is above all a governance challenge. It is about reforming institutions and social practices to ensure a more environmentally sound and equitable development trajectory.

This scoping paper will review the challenges of governance for sustainable development. It will map out the difficulties that sustainable development presents to established governance structures and mechanisms. It will consider the experiences of governments in developed countries in engaging with these challenges, and present several examples of innovative governance practices. Finally, it will propose possible directions for further enquiry that could strengthen the capacity of the Government of Canada to promote sustainable development.

It is important to clarify three issues at the outset.

First, as its title indicates, the focus of this paper is “governance for sustainable development.” For the purposes of this discussion, “sustainable development” is anchored in the classic definition provided by the Report of the World Commission on Environment and Development. It is understood as “development that meets the needs of the present generation without compromising the ability of future generations to meet their needs” (WCED, 1987). “Governance” is conceptualized as the set of processes through which societies are governed: it includes the actions of government but also those of other societal actors in so far as they contribute to ordering social interactions (Pierre and Peters, 2000; Kooiman, 2003). Governance *for* sustainable development is taken to imply a deliberate effort to adjust governance structures and processes in order to promote a more sustainable development trajectory (Lafferty, 2004a; Meadowcroft, 2007b).

Second, the discussion will not cover everything. Many issues and initiatives could be organized under the broad heading of governance for sustainable development, including changes to policy in specific sectors (forestry, energy, transport, and so on); measures to address specific environmental problems (water management, climate change, biodiversity loss, etc.); interactions among governance mechanisms at different scales (local, regional, national, international, and global); and shifts in the use of policy instruments (emissions trading, ecological fiscal reform, and so on). In this paper, however, the issue is circumscribed in two important ways: first, attention is primarily directed to process and institutional reforms (rather than to specific policy areas, environmental problems, or policy instruments); and second, the concern is largely with the competencies of the federal government. Even here, a choice has been made to privilege a number of important issues and trends. For example, regional and local initiatives (such as long-term land use planning, exercises in guiding urban growth, and regional development planning) are not examined here. Nor are ecosystem-based

approaches that relate to particular geographical locales (such as a biosphere reserve or a national park) or the management of specific resource systems.

Third, the focus of the analysis is practical. Reference will be made to theoretical literatures and academic reflection, but the central concern is actual practices of governance – with the way societal processes and governmental activities can be oriented to promote sustainable development. Moreover, the goal of the discussion is to formulate a set of concrete research directions that may be of interest across the federal government. The intention is to provide a list of promising topics that can serve as a starting point from which interactions with interested departmental stakeholders can identify priorities and refine a small number of projects to carry forward. In this sense the paper is not seen as an end point, but rather as part of a process to define a research agenda for the future.

2. The Challenge of Governance for Sustainable Development

Sustainable development is best understood as an emergent international norm that denotes a specific kind of development trajectory. It is associated with important values such as the promotion of human welfare, the preservation of ecosystems, inter- and intra-generational equity, and public participation in development decision making. Like other political terms (such as justice, freedom, and democracy), it is subject to continuing debate and re-interpretation, but also provides an essential foundation for contemporary political and policy debate (Lafferty, 1996; Meadowcroft, 2000).

It is worth keeping in mind several central features of sustainable development:

First, sustainable development emerged because of concern that existing development pathways are not sustainable. Western patterns of consumption could not be replicated worldwide without posing catastrophic strain on global ecosystems. Sustainable development is about moving away from development trajectories that erode critical life-support systems and natural capital. It is about societal change. It is about winding down some practices and starting up others. It is about doing things in new ways. Just how much change will be required over the coming decades has been revealed by a series of recent scientific assessments (Intergovernmental Panel on Climate Change 2007; Millennium Ecological Assessment 2005) that indicate that, despite the policy measures taken in developed states over the past four decades, the overall human burden on the global environment continues to grow. There is, for example, an emerging consensus that avoiding dangerous climate change implies a reduction of greenhouse gas emissions in developed states by at least 80 percent over the next four decades. And unsustainable patterns persist in many other areas including water management, the nitrogen cycle, chemical releases, land use, and the harvesting of biological resources. Change on this scale implies a dramatic transformation of existing systems of production and consumption in key societal areas such as agriculture, transportation, construction, and energy.

Second, sustainable development implies change in practices of societal governance. Sustainable development is not a spontaneous societal product. It requires goal-directed

intervention by governments and other social actors. The objective is to reduce unsustainable activities and to shift the overall development trajectory onto more environmentally benign lines. Governance for sustainable development does not imply an effort to achieve an imagined state of social perfection, a specific distribution of income, or even the conservation of this or that particular part of nature. It can accept that the future is largely unknown and unknowable, and admit that the extent to which we can determine future outcomes is strictly limited. Nevertheless, it does assume that we can influence the future course of societal advance, avoiding many undesirable conditions, and realizing specific goals (Meadowcroft, 1999).

Third, sustainable development requires a measure of “societal self-steering.” That is to say, society as a collectivity considers what types of a future are more desirable, and what pathways are to be avoided. In other words, citizens are to be involved in defining the sort of community in which they want to live. As Meadowcroft (2007b) has written previously:

Value choices – about the kind of society in which we want to live, about the kind of world we want to leave to posterity – lie at the heart of governance for sustainable development. At base, it is not a technical project, although technical expertise is essential, but a *political* project. For while the concept indicates issues that should be of concern, *its practical bearing cannot be established independent of the concrete life circumstances of a particular society* and the needs, interests, values, and aspirations of its members. Thus, governance for sustainable development is “interactive,” not just in the instrumental sense that societal inputs can facilitate progress towards known objectives, but also in the deeper sense that the objectives themselves must be collectively defined, refined, and re-defined.

Fourth, in developed countries such as Canada the environmental dimension of sustainable development is particularly critical. This is because it is with respect to the environment that governance practices have most clearly failed to deliver. Indeed, much of the economic and social progress of the past half-century has been achieved at the cost of degrading the local and global environment. Moreover, developed states continue to consume a disproportionate share of the world’s resources. The environmental dimension of sustainable development is therefore placed on centre stage throughout this scoping paper.

Finally, sustainable development requires active governments. Although business, civil society organizations, and individuals (in their capacities as consumers and as citizens) all have important roles to play in orienting this societal transformation, the contribution of governments is central. Governments can mobilize resources to achieve desired goals and pass laws that establish the frameworks within which societal activity occurs. Moreover, the democratic processes through which governments are formed provide a context for adopting collective goals. In short, the state furnishes both a mechanism to advance collective goals and a context within which they can be defined.

Yet there is little doubt that sustainable development poses serious challenges to existing modes of governance. The governance institutions and mechanisms we know today

result from protracted processes of societal innovation and adaptation. The familiar governmental forms (with responsible government, elected representatives, party competition, and the horizontal division of responsibility among ministries, federal structures, and so on) grew up over many centuries. Established practices have resulted from years of experience, countless cycles of reform, acute struggles, and complex compromises. The religious wars of the 17th century, struggles against European absolutism, the quest for responsible and representative government, the transition to universal suffrage, the consolidation of human rights, and so on, helped shape the governance institutions we know today. Over the course of the 20th century, government activities focused largely on security (the maintenance of order, the administration of justice), economy (promoting economic growth, monetary stability, competition, and consumer protection), and welfare (welfare state, public provision, and “social safety net”). From the late 1960s modern institutions of environmental governance came into being across the developed world. But they remain comparatively weak and under-developed.

It is hardly surprising that institutions and practices that were developed to address problems of previous generations are not well adjusted to confront modern dilemmas raised by sustainability. Of course, the “old” issues have not gone away. So the real challenge is to address new issues of sustainability while continuing to deal with more established preoccupations.

Features of sustainable development which are particularly problematic for established governance mechanisms are now well established. They include:

- *protracted time scales.* Environmental impacts must often be tracked over decades. The long time frame of issues such as climate change and biodiversity loss fit poorly with the four-year electoral cycle, the two- or three-year tenure of ministers and senior officials, quarterly corporate earnings reports, and the daily or weekly rhythms of “politics as usual.”
- *cutting across established jurisdictional boundaries.* Many sustainability issues cut across established frontiers or link remote regions. Some problems (such as climate change) are truly global, while others tie together different constellations of regional actors. Managing the Great Lakes watershed, for example, involves hundreds of jurisdictions including national, state and provincial, and municipal bodies, as well as First Nations groups, the administrations of protected areas, and so on. Organizing co-operation on these scales is a real challenge.
- *cutting across established functional specializations.* Governments have typically got things done by dividing responsibilities among different agencies and ministries. The modern system of environmental governance was created when a need for dedicated environmental authorities was recognized and national air and water pollution legislation was adopted. But environmental ministries are a comparatively recent creation and are typically weaker than more established branches of government. Above all, sustainable development issues cut across traditional lines of responsibility. Environmental, social, and economic dimensions must be considered in a joined-up way if sustainability is to be promoted. But inter-agency co-ordination of this kind is hard to secure.

- *scientific complexities and uncertainties.* Sustainable development involves making decisions about complex technical and scientific issues. This implies the communication of complex scientific findings to decision makers and to the public. Particularly problematic is the understanding of uncertainties and the assessment of unknowns. Public officials must make decisions in light of pervasive uncertainties, balancing risks and opportunities.
- *disturbance of established interests.* Sustainable development requires movement away from established ways of doing things, and this inevitably provokes resistance from groups that worry that their interests will be harmed. Particularly in the economic field, practices that were once acceptable (such as freely releasing into the atmosphere carbon dioxide from fossil fuel combustion) are now viewed as problematic. Techniques for mediating conflicts, buying off opposition, and building coalitions for reform are therefore necessary.
- *the need to engage many societal actors.* Decision making for sustainable development requires the activation of complex networks of social actors. On their own, governments do not possess the relevant information about social resources, preferences, and problems. But the mobilization of these actors and the management of the change processes in which they are involved are far from straightforward.
- *the ambitious character of the desired changes.* Sustainable development aims to shift significantly the existing development trajectory. It requires the large-scale transformation of societal subsystems over periods of many decades. Societies have limited experience guiding such far-reaching, long-term changes.
- *the need to adapt general goals to particular circumstances.* Sustainable development provides a normative frame for decision making. But it offers no detailed blueprint for the future and limited operational guidance for making individual decisions. The advisability of specific courses of action must be reasoned through in each case. Figuring out what sustainability entails in concrete circumstances is a challenge that confronts decision makers in every concrete governance context.

Governance for sustainable development implies dealing with these sorts of difficulties. It is therefore possible to formulate five general elements, which should be kept in mind when considering governance reforms intended to promote sustainable development:

Innovation – If we are to move towards sustainable development, we need change. In particular we require technological and social innovations that allow individuals, families, and communities to flourish without imposing undue stress on the global environment. The innovation agenda is often related to technological progress, to the creation of new jobs and markets, to the growth of competitive businesses, and general prosperity. This is true. But technological innovation is also critical to allow us to do “more with less” – to reduce the environmental burden we impose on the planet, while increasing the quality of life. And it is not just technological innovation, but also *social* innovation (in business practices, financing mechanisms, consumption practices, community activism, and so on) that is required. How can governance practices accelerate innovation, encourage experimentation, orient inventiveness in desired directions, and speed up the processes of diffusing beneficial societal advances?

Integration – Sustainable development requires the simultaneous pursuit of multiple goals and the management of issues that cut across established administrative responsibilities. Environmental values need to be taken into account at every level of societal decision making. Moreover, economic, social, and environmental concerns should not just be balanced and traded off against each other; instead, lines of advance should be favoured that allow gains across multiple domains (Gibson, et al 2005). But such “integration” is notoriously difficult to achieve, as existing administrative structures and procedures tend to encourage a partial vision of problems. Ann Dale has referred to the “solitudes,” “silos,” and “stovepipes” that isolate officials and departments (2001). Moreover, the strength of established economic and social constituencies and short-term political and policy imperatives frequently preclude longer-term and integrated thinking. How can governance approaches encourage such integration?

Measurement – It is now recognized that the economic metrics most widely used in decision making provide an incomplete measure either of a country’s wealth or its income. The costs of resource depletion or environmental degradation, for example, are not well reflected in our national accounts. Environmental amenities, or social capital, are typically excluded from such accounts, even though their importance to sustainable development is not in dispute. Gross national product (GNP) growth is a rather poor proxy for social welfare enhancement. But if one cannot integrate environmental, social, and economic values into a common set of metrics, it is much more difficult to do policy analysis and determine trade-offs. Without measurable targets or objectives, it will be more difficult to mobilize public support or evaluate performance. While a number of attempts have been made to develop metrics to measure both wealth and income that are more comprehensive, none have yet been fully satisfactory. How can society incorporate environmental and social values into metrics that provide a more accurate picture of welfare?

Societal engagement – Sustainable development cannot be achieved by governments alone. It cannot be engineered by visionary politicians and efficient bureaucrats “behind the backs” of the voters. To achieve such far-reaching changes requires strong and consistent public support and understanding, self-directed change in many domains of society, and collaboration among diverse social actors. “Multi-stakeholder” processes have been a distinctive feature of sustainable development-related initiatives since the beginning. Information and understanding from many actors is required to make sense of issues, plot appropriate reform trajectories, and implement solutions. Partnerships can take many different forms. How can the engagement of societal forces be encouraged and structured? And how can the quality of debate in the public sphere be raised regarding complex issues related to sustainability?

Learning/reflexivity – Societies have to learn how to promote sustainable development. Learning is a constant feature of social interaction. Individuals and groups continuously draw lessons from their experiences, but there is no guarantee these lessons will advance particular social goals (Sabatier, 1993). They may also be about “gaming the system” and blocking change. Many scholars have suggested governments have difficulty learning – and institutional and ideational factors hamper the drawing of

appropriate lessons and the subsequent adjustments of goals, programs, and policies. A perception of “crisis” is sometimes cited as a key underpinning of learning, but other conditions also contribute – notably clear formulation of objectives, transparency, established lines of accountability, measurement, and the monitoring of performance. In other words, feedback is necessary if learning is to occur; and open and transparent decision making provides a foundation for accountability and critical appraisal. In other words, we require “adaptive management” that adjusts to new understandings. Such an approach is ambitious, but also displays humility in the face of complex and interdependent problems. Over the past decade scholars concerned with governance and sustainability have increasingly pointed to the importance of *reflexivity* as a systemic property for governance for sustainable development (Grin, 2006; Voss and Kemp, 2006). Reflexivity implies the capacity to stand back from existing societal experience and to assess it critically, reconsidering both ends and means, and exploring avenues for future conduct. This is more than the “sum-up and adjust” associated with the policy cycle, because it involves deeper reflection on the goals of action and wider societal participation. How can fruitful social learning and the reflexivity of systems of governance for sustainable development be enhanced?

Having briefly reviewed some of the challenges associated with governance for sustainable development, let us now turn to the practical experience of governments in navigating this complex terrain.

3. Governmental Experience and Some Recent Innovative Approaches

Over the past two decades, governments in developed countries have formally adopted sustainable development as an important policy meta-objective, and they have undertaken many initiatives to integrate the consideration of environmental issues into development decision making. There have been reforms to structures and processes of environmental governance, and the range of policy instruments applied to promote sustainable development has grown. International collaboration has also risen sharply. Detailed analysis of the relative success of these policies can be found in the literature (Anderson and Liefferink, 1997; Hanf and Jansen, 1998; Tatenhove, Arts, and Leroy 2001; Tews, Busch, and Jorgens, 2003; Nilsson and Eckerberg, 2007). Suffice it to say here that despite considerable efforts, underlying trends remain worrying on a series of fronts. Above all, the continued growth in societal consumption and human numbers is increasing stress placed on the global environment. This is not just the judgment of environmental campaigners, but also that made by expert assessments and leading international agencies such as the European Environment Agency (EEA) and the Organisation for Economic Co-operation and Development (OECD, 2008).

Measures adopted by governments in the developed countries include a tightening of controls over conventional air and water pollutants, reform to chemicals management systems, the elimination of ozone-depleting substances, and the extension of protected areas. Some countries have stabilized or begun to reduce greenhouse gas emissions. In policy terms the introduction of carbon taxes in several European states and the establishment of the European Emissions Trading System hold considerable promise. Initiatives to mobilize societal groups (such as business organizations) around

sustainable development have been widespread. So, too, have policies designed to encourage public information (disclosure and labelling requirements) and public participation. Agencies responsible for assessment, measuring, and monitoring of the environment and sustainable development have developed (for example, the expanded role of independent audit bodies). Parliamentary committees on the environment and sustainable development have been established or become more active in many countries.

The formal governance innovation that has most obviously been related to sustainable development is the introduction in most developed countries of sustainable development “strategies.” Such strategies are not operational plans, but have in some countries played a communicative and educational role related to the prioritization and integration of sustainability goals. Elsewhere their importance has been almost entirely cosmetic and lacking in political salience (Meadowcroft 2007a). There is some suggestion in the academic literature that sustainable development strategies, particularly when coupled with systematic review and subsequent adjustment, could over time contribute to the reflexivity of governance for sustainable development (Steurer and Martinuzzi, 2005).

In Canada, there has been a system of departmental strategies reviewed periodically by the Parliamentary Commissioner of the Environment and Sustainable Development. The weaknesses of this system, which include the failure to establish “whole of government” objectives in the sustainable development domain, a focus on procedural rather than substantive goals, a lack of measurable targets, interim goals and schedules, and the divorce between the “strategies” and the real work of the departments, are well documented (Bregha, 2006; 2008). These weaknesses were major motivations for the adoption of a *Federal Sustainable Development Act* by the last Parliament. The Act instructs the Minister of the Environment to co-ordinate the preparation of a single government-wide sustainable development strategy within two years with goals, targets, an implementation strategy, and the identification of the ministers responsible for meeting each target. Departments will then have one year to develop their own action plans in light of the federal strategy. This Act could lead in time to a more coherent strategy, similar in intent, if not in nature, to national strategies developed in other jurisdictions.

Since there is already substantial literature on national sustainable development strategies, this issue will not be explored further here. Instead we will cite several examples of promising governance innovations related to sustainable development. They have been selected to illustrate a range of novel practices.

a) Transition Management in the Netherlands

“Transition management” is an approach to orienting long-term change for sustainability pioneered by the Dutch government. It focuses on identifying promising pathways for the evolution of key societal sectors (the energy system, agriculture, health care, and so on), and developing a portfolio of “transition experiments” to accelerate innovation and explore potential avenues for change. These activities are carried out in collaboration with key societal stakeholders.

Transition management was first adopted by the Netherlands government in its Fourth National Environmental Policy Plan (NEPP4) in 2002. The Plan pointed to the need for large-scale transitions in key societal sectors in order to address persistent environmental problems. For example, the transport system requires a fundamental transformation – because of its current dependence on oil – if society is to avoid the risk of dangerous climate change caused by greenhouse gas emissions. Similar changes were required in other areas. But such deep change might take one or more generations to achieve. And the idea of transition management was introduced as a technique for orienting and managing such long-term change.

On the theoretical side, transition management has been elaborated by a number of researchers in the Netherlands who specialized in innovation policy (Rotmans, Kemp, and van Asselt, 2001; Kemp and Rotmans, 2005). Historical studies of transitions in earlier “socio-technical systems” (for example, the emergence of gas for domestic heating, the birth of modern urban sanitation, the rise of the industrial plant, and so on) have informed the approach (Schot, 1998; Geels, 2005). A core insight is that while innovations that optimize existing systems can achieve a great deal, sometimes more profound system innovations are required. But system innovations are difficult to achieve, and economic and policy barriers hamper the development and deployment of such alternatives. Transition management deploys a variety of techniques to accelerate innovation of all kinds – optimizing where possible, and encouraging more fundamental change where necessary.

Key elements developed by transition theorists include the definition of: “transition goals,” which establish the orientation for desired social advance in relation to a particular societal domain; “transition visions,” which present inspiring images of the future and can draw different actors into the transition process; “transition pathways,” which present alternative technological and social pathways to realize the “visions”; and “interim objectives,” which provide a foundation for assessing progress. A “transition arena” is a forum where different societal actors concerned with a particular sector can be drawn together to explore issues and develop activities. “Transition experiments” are the central practical focus for engaged stakeholders, because it is here that they can work with others to implement innovative projects. Experiments may involve novel technologies, processes, networks, and practices; and they may be located at different points in production/consumption cycles. By developing a broad portfolio of experiments, steps along alternative transition pathways can be explored, and new connections and opportunities for change opened up to society.

In the Netherlands the approach was taken up with particular enthusiasm by the Ministry for Economic Affairs, which has responsibility for energy policy. Initial steps involved consultation with stakeholders, the development of long-range energy scenarios, and the selection of key themes (robust across all scenarios) to ensure a “clean, affordable, and secure” energy supply. Transition platforms were established to elaborate more detailed visions around six themes (chain efficiency, green resources, new gas, sustainable mobility, sustainable electricity, and the built environment) and to identify transition pathways to realize these visions. Funding has been provided for dozens of transition

experiments, proposed by different combinations of stakeholders, to try out novel practices in the energy field. Other developments have included the establishment of a “Trendsetters’ Desk” to assist innovative firms. In 2005 governance of the whole process was formalized through a top steering committee (Taskforce on the Energy Transition, led by the chairman of Shell), and an interdepartmental co-ordinating committee that included representatives from six implicated ministries.

Examples of transition experiments developed in the energy sector include:

- energy efficiency in paper and cardboard production. The intention is to reduce dramatically energy use in the paper and board sector in order to improve environmental performance and enhance the international competitiveness of the industry. Attention was paid to life-cycle analysis of energy inputs, not just the incremental improvement of existing processes. This project included a contest between two teams (one led by an industry insider and another by a leading academic) to see who could reduce energy inputs more significantly.
- energy-producing greenhouses. The intention is to develop new generations of glasshouses that will ultimately contribute to the country’s energy infrastructure. Ground-source heat pumps combined with photovoltaics can help to dramatically reduce energy requirements as well as water and chemical use.

Across the Netherlands, transition experiments now number in the hundreds. For example, the approach has recently been applied in the health care sector. A steering committee judges the proposals submitted by stakeholders in the sector, and support is provided for the most promising approaches to improving patient care.

The practical implementation of transition management has not turned out exactly as the theoreticians had planned: stages were skipped; more emphasis is being placed on short-term results; and established industry players (as opposed to innovative outsiders) have taken a more active role than anticipated (Kemp, Rotmans, and Loorbach 2007). And some researchers complain that transition management has not broken through to impact the main lines of Dutch energy policy (Kern and Smith, 2008). Yet as an approach to stimulate innovation for sustainability it remains impressive.

One thing to note is that adoption of an experimental approach implies a willingness to accept that not all experiments will prove successful. But a well selected portfolio of experiments should provide a selection of winners (much like the portfolio of a venture capital fund). Moreover, important lessons can be gleaned from the less successful initiatives – lessons that can prove critical in designing more successful innovations in the future.

While the conditions under which transition management was adopted as official policy in the Netherlands are specific (relating to the close relations between officials and particular teams of academic researchers, and the consensual political culture of the Netherlands), a number of features of the approach are of wider interest. These include the collaborative visioning exercises and the systematic use of “experiments” to encourage innovation policy.

b) Swedish Environmental Objectives

The Swedish system of environmental objectives represents a comprehensive approach to orienting efforts and monitoring performance in the environmental domain. Adopted by the Swedish Parliament after extensive consultation with stakeholders, the objectives include all major environmental issues and have been operationalized through quantitative targets and indicators. The initiative is overseen by an Environmental Objectives Council (composed of key government agencies and important societal stakeholders), which is supported by a secretariat based in the Swedish Environmental Protection Agency.

Sweden has long been a front-runner in governance for the environment and sustainable development. By the end of the 1990s the government decided a more comprehensive approach was required to manage the total burden imposed on the Swedish environment. In 1999 Parliament adopted 15 broad environmental objectives, which were seen as integral to the ambitious goal of resolving all major existing environmental problems within one generation (2020 for all objectives except climate change, which was 2050). In the following years these general objectives were elaborated and 72 interim targets were specified. The 15 objectives are: reduced climate impact; clean air; natural acidification only; a non-toxic environment; a protective ozone layer; a safe radiation environment; zero eutrophication; flourishing lakes and streams; good quality groundwater; a balanced marine environment; thriving wetlands; sustainable forests; a varied agricultural landscape; a magnificent mountain landscape; and a good built environment. In 2005, a 16th objective was added: a rich diversity of plant and animal life.

Although these objectives sound rather vague, they have been carefully operationalized, and concrete goals and standards have been specified under each general heading. Several years were taken to elaborate the detailed content of the goals, to develop feasible time lines for their attainment, to fix interim targets, select appropriate indicators, and devise implementation approaches. All relevant stakeholders, including central ministries and agencies, other layers of governments, business, and civil society actors, were consulted and actively involved in developing the objectives and the plans for their attainment.

In 2002 the national Environmental Objectives Council (EOC) was created to monitor the effort. It is composed of representatives from central government agencies, county administrative boards, local authorities, non-governmental organizations and business. Its principal responsibilities are to: monitor and evaluate progress towards the environmental objectives; report to the government on how efforts to achieve the objectives are advancing and what further action is required; co-ordinate the information efforts of responsible authorities; ensure co-ordination of the regional application of the objectives; and allocate funding for monitoring of progress towards the objectives, environmental monitoring, and reporting at international level (EOC 2008). The EOC publishes annual reports tracking progress towards the attainment of the objectives. Every four years it publishes more detailed studies, which assess the overall status of the initiative and make recommendations to the government.

The most important instrument for realizing the environmental objectives is the national Environmental Code, which harmonizes environmental law in Sweden. The county administrative boards and the municipalities are responsible for regional goals. At the national level, responsibility for each objective has been assigned to a lead agency. This entails “proposing and implementing measures as well as monitoring, evaluating, and reporting progress.” For example, the Swedish Forestry Agency is responsible for “sustainable forests,” the Swedish Chemical Agency is responsible for “a non-toxic environment,” and the Swedish Geological Survey is responsible for “good quality groundwater.”

The objectives have been linked to three broader issues: land use planning and wise management of land, water and buildings; the cultural environment; and human health. With respect to health, for example, three issues are flagged: “preventing environment-related ill health arising, preventing disease symptoms being made worse by pollutants in the environment, and creating better basic conditions for health through land use planning.” And in order to deal with cross-cutting pressures that generate multiple environmental effects, Sweden has adopted three overall strategies to facilitate realization of the objectives:

- a strategy for more efficient energy use and transport – to reduce emissions from the energy and transport sectors;
- a strategy for non-toxic and resource-efficient cyclical systems, including an integrated product policy – to create energy- and material-efficient cyclical systems and reduce diffuse emissions of toxic pollutants; and
- a strategy for the management of land, water, and the built environment – to meet the need for greater consideration for biological diversity, the cultural environment and human health, wise management of land and water, environmentally sound land use planning, and a sustainable built environment (EOC, 2008).

Although Sweden has some of the most stringent environmental regulations in the world, recent work by the Environmental Objectives Council suggests that the objectives are proving hard to attain. The four-year detailed assessment issued in 2008 suggests that in some cases it is already clear that interim targets will not be attained by 2010 and the objective will prove almost impossible to reach by 2020 (for example, clean air, natural acidification only, and a non-toxic environment). In other cases, additional policy measures could bring the goals within reach (thriving wetlands or good quality groundwater). In a few cases the objectives will be met by 2020 (for example, a protective ozone layer). The EOC points to the continued acceleration of global environmental pressures and the relatively long time it takes ecosystems to rebound even when pressures are eased.

An interesting feature of the EOC’s work is the increasing attention to the costs of environmental protection. Cost estimates for the additional policy measures recommended in this report were included. Overall, the EOC estimates Sweden will need

to spend about 2 percent of gross domestic product (GDP) to move towards the attainment of these objectives.

Several observations can be made about the Swedish system of environmental objectives.

First, it represents a comprehensive and integrated approach to managing environmental burdens. Although it employs widespread collaboration and consultation, and a variety of policy instruments (including economic instruments), it rests on a strong regulatory role for central government. It relies on the strengths of the Swedish planning approach and the administrative competence of the bureaucracy. Lundqvist has described this as sustainability through “management by objectives” (2004). Note that through this initiative, the government and public service have not hesitated to take a leadership role in helping to articulate clear long-term societal goals.

Second, the original goal to resolve all (domestic) environmental problems within 20 years was hopelessly optimistic, but reflected a strong political commitment to leave a better world to the next generation by cleaning up environmental pollution and moving towards sustainable use of the biosphere.

Third, while such a system is well adapted to a relatively centralized and homogeneous state with a strong tradition of governmental steering, there are elements of the approach that could be adapted to other political circumstances. Of particular interest are: the establishment of an independent multi-stakeholder body to conduct assessments and provide advice; the setting of general goals with quantifiable targets, indicators, and interim objectives; the assignment of clear responsibility within government for the attainment of each objective; the publication of regular assessments; the active role of Parliament in setting the parameters of the initiative; and the comprehensive approach to managing environmental burdens.

c) Climate Change Governance in the United Kingdom

Over the past decade the United Kingdom has developed a set of innovative approaches for climate change governance. This has included the creation of new organizations and detailed policy frameworks. The most recent additions to the system are included in the *Climate Change Act 2008*. Key provisions of this Act include the creation of periodic “carbon budgets” and the establishment of a statutory Climate Change Committee to advise government on its emissions reductions strategies.

The United Kingdom engaged early with the climate change issue. Through a combination of factors – including a firm commitment at the prime ministerial level, a strong and influential scientific input, and fortuitous circumstances that resulted in significant emissions reductions (the switch from coal to gas) – it has emerged as an international leader in this area. An important feature of the U.K. effort on climate change has been the emphasis on processes that establish government responsibility in this area, and institution building – the creation of publicly supported bodies with explicit remits linked to climate change.

Such institutions include:

- *the Carbon Trust*, set up in 2001 to encourage innovation for a low carbon economy. The Trust operates as an independent company, carrying out educational work and providing loans and grants. It operates a venture capital fund and technology incubator. It has also launched a Carbon Trust Standard and Carbon Label. A typical example of its work is the recent announcement of The Offshore Wind Accelerator: a five-year, £30-million research and demonstration project to reduce the cost of offshore wind in the near- and mid-term future. The project focuses on issues such as deep sea foundations, reduction of wake effects, and electrical control systems. Industrial partners include some of the largest players in wind and offshore development, such as Scottish Power and Norwegian StatoilHydro.
- *the Tyndall Centre for Climate Change Research*, set up to co-ordinate interdisciplinary research around climate change mitigation and adaptation. A consortium established by six major research institutions and involving dozens of other partners, it has been financed by three U.K. research councils.
- *the Hadley Centre for Climate Prediction and Research*, the official centre for scientific research around climate in the U.K. It is based in the U.K. Met office (the national weather service) and partly funded by the Department for the Environment, Food and Rural Affairs. The centre has been involved in the development of long-term climate models, but also has programs for outreach and education around climate change.

Recent governmental reorganization in the U.K. includes the establishment of a new Department of Energy and Climate Change. It merges the energy division from the Department of Business, Enterprise and Regulatory Reform (BERR) and the climate change section from the Department for the Environment, Food and Rural Affairs (DEFRA). The new ministry is responsible for energy security and climate change. It is led by a secretary of state and includes two ministers of state and a parliamentary under-secretary of state. The purpose of the change is to integrate more closely energy and climate initiatives.

However, the most interesting recent innovations are in the *2008 Climate Change Act*. Key provisions of this legislation include:

- providing a statutory foundation for the official U.K. carbon-dioxide emissions targets of at least a 26-percent reduction by 2020, and an 80-percent reduction by 2050 (based on 1990 levels), “through action in the U.K. and abroad”;
- establishing a system of five-year carbon budgets that set annual levels for permissible emissions. Three budgets spanning a 15-year time horizon will be active at any given time, presenting a medium-term perspective for the evolution of carbon emissions over the economy as a whole. The first budgets relate to the years 2008 to 2012, 2013 to 2017, and 2018 to 2022;

- establishing a Committee on Climate Change, as an independent expert advisory body that can make recommendations to government concerning the “pathway to the 2050 target and to advise specifically on: the level of carbon budgets, reduction effort needed by sectors of the economy covered by trading schemes and other sectors, and on the optimum balance between domestic action and international trading in carbon allowances” (DEFRA 2008). The committee will report annually to Parliament, and the government will be required to formally reply to its reports. Every five years the committee will offer a more comprehensive assessment of the country’s overall progress towards the long-term targets;
- a series of other measures to address climate change, including enabling powers to bring in new emissions trading systems including one relating to non-energy intensive public-sector bodies (schools, hospitals, local government, and so on), and potentially individual carbon allowances.

While it is far too early to tell how this system will work out in practice, it contains a number of promising features. First, the notion of carbon budgets emphasizes to all societal actors the idea of a carbon constrained world: that the economy must function within limits defined by ecosystem functions. Just as a family must live within its financial budget so must the nation live within its carbon budget. Second, it places the emissions reduction effort within a long-term perspective, but also links the short term, medium term and long term. The annual accounting, five-year budget, 15-year budgeted period and 40-year goals are connected so that the link between current behaviour and long-term objectives remains present. Third, the establishment of an independent expert group at arm’s length from government emphasizes that scientific knowledge must orient action, and that decisions must not be driven by everyday political concerns. It should be noted that the government has appointed individuals with world-class reputations to the committee. Fourth, the regular reporting mechanisms and the direct involvement of Parliament emphasize the significance of the issue, and they open possibilities for continuous policy adjustment and lesson drawing.

Considering these examples of innovative governance practices for sustainable development, it is clear that each displays several of the desirable features identified in Section 2. Transition management is focused on accelerating and orienting *innovation* (through visioning and experiments), but it also encourages *societal engagement* (through interactions with sectoral actors) and *learning/reflexivity* (visioning and experiments). The Swedish environmental objectives contribute to *learning/reflexivity* (establishing clear goals, monitoring performance, adjusting policy), but they also promote *societal engagement* (in defining the goals and implementation), *measurement* (quantified targets), and *integration* (through cross-cutting strategies). The U.K. climate governance institutions promote *learning/reflexivity* (by establishing goals and regular monitoring and assessment), but also *integration* (carbon budgets take account of economic and social goals) and *measurement* (quantified budgets). Moreover, each of these initiatives links short-term and long-term concerns: transition management by considering system optimization and system reform; Swedish environmental objectives through interim and long-term targets; and U.K. climate governance through carbon budgets, reporting cycles, and long-term targets.

4. Research Options

So far the discussion has considered the challenges of governance for sustainable development and referred to some examples of innovative approaches to meet these challenges that have emerged in recent years.

We will now present a series of options for further research on governance for sustainability that could be pursued fruitfully in the coming period. We have formulated six potential areas where work could strengthen the capacities of federal departments and agencies for governance for sustainable development. An attempt has been made to propose options:

- that are of general interest (i.e. that concern more than one specific department or policy area);
- that have clear mid-term practical significance;
- where the Policy Research Initiative (PRI) could make a meaningful contribution (considering its position among federal bodies, available resources, avoiding duplication of effort, and so on); and
- where substantial progress could be achieved on an 18-to-24-month time scale.

As for this paper as a whole, the focus for the project areas is governance processes, rather than specific instruments or policies.

These proposals are intended as a basis for discussion. Each could be recast in slightly different terms depending on the concerns of the specific PRI research partners. Elements of these proposals could also be combined. All will need further elaboration to develop detailed project specifications.

Project Area 1:

Transition Management: Visions, Experiments, and Innovation for Sustainability

This project area is concerned with recent theoretical and practical developments in transition management, and would explore which elements of the approach could be applied in Canada. Transition management is a novel perspective on innovation policy that involves stakeholders in developing a portfolio of experiments to explore options for the future and accelerate the emergence and diffusion of more sustainable practices. The effort here would be focused on transferring international experience around managing transitions, and applying this knowledge to a Canadian context.

Reference has been made in Section 3 to the genesis of transition management in the Netherlands and to the growth of transition theory. The approach focuses upon innovation in key sectors, and employs a series of mechanisms to encourage ambitious visions for positive transformation and an array of innovative experiments. It is a technique to encourage technological and social innovation and to strengthen the competitiveness of green “front-runner” firms.

This project area would involve three inter-related dimensions. The first would be a systematic examination of the literature around transition management, and a review of practical experience with the approach. Although the Netherlands forms the starting point for this study, the academic literature has now received contributions from the United Kingdom and other European countries, Canada, and the United States. In practical terms there are also experimental orientations in other countries that have parallels to the (formal) transition management approach. The second dimension would be an examination of the extent to which ideas drawn from transition management might be useful in a Canadian context. What concepts and practices would “travel?” How should these issues be framed in a Canadian context – considering the nature of our political system, administrative traditions, the level of preoccupation with sustainability, and so on? The final dimension would involve a collaborative project with one or more departments to develop proposals for a modest portfolio of “transition” experiments in one or more sectors.

Variants: This area could be defined and developed in various ways: for example, more or less emphasis could be placed on the visioning and experimental dimension of transition management. And emphasis could be placed more on the technological innovation/business development angle or on the innovations in social (health, education, welfare) policy domains.

This project area is particularly relevant to the themes of *innovation* and *learning/reflexivity* identified in the discussion of governance in Section 2. It also has some relevance for *societal engagement* and *integration*.

Project Area 2:

Environmental Policy Integration

This project area engages with the problem of environmental policy integration. It would focus on synthesizing the international and Canadian experience with policy integration of the past decade, to assess the techniques and approaches that have proven most successful, and then seek to apply these lessons in some particular cases and practices.

Since the 1987 WCED report (*Our Common Future*, or the *Brundtland Report*), the notion of environmental policy integration has been understood as an essential element of sustainable development. Particularly since the mid-1990s, OECD-member governments have experimented with a series of approaches to bring this about. These go beyond strategic environmental assessment (SEA) to include an array of policy instruments and institutional mechanisms such as green procurement, green taxation, organizational operating procedures, performance incentives, planning processes, and so on. The critical issue is how packages of such approaches and instruments are integrated in a given governance context (sector, department, themes, etc). Over the past few years a substantial amount of academic literature has emerged assessing various approaches to environmental policy integration (Lenschow, 2002; Lafferty 2004b; Nilsson and

Eckerberg, 2007). Recently, for example, the Environmental Policy Integration and Multi-level Governance (EPIGOV) project, which was financed by the European Union, drew together the efforts of many scholars working in this area.

This project area would involve two key elements. First, there would be an effort to examine international and domestic experiences with environmental policy integration over the past decade. This work would draw on substantial existing literature, and would aim to synthesize general lessons and summarize “state of the art” in this area. Some conceptual and theoretical work would be required, but the thrust of the effort would be on practical techniques and outcomes. The second element would be focused on existing governance practices in Canada in one or more contexts, where the research would be focused on applying the lessons learned to develop proposals to increase the effectiveness of environmental policy integration in the selected domain.

Variants: This work could be circumscribed in various ways: for example, focusing from the outset on problems encountered in a specific sector or a specific range of practices.

This project area is particularly relevant to the themes of *integration* and *measurement* identified in the discussion of governance in Section 2. It also has relevance for *societal engagement*.

Project Area 3

Integrating Sustainable Development into the Expenditure Management System

This project area focuses on the federal government’s new Expenditure Management System and the potential for integrating sustainable development concerns into this process. It would consider relevant experience from other jurisdictions (inside and outside Canada), and then would explore how the periodic review of existing expenditure (Strategic Review) could be adapted to include a sustainability dimension.

The management of expenditure constitutes a central mechanism through which governments establish priorities and deliver on commitments. Yet at present sustainable development is only loosely integrated into departmental budget routines. As part of the Strategic Review process, federal departments review their program spending every four years to assess how these programs are aligned with priorities and core federal roles, whether they provide value for money, whether they are still relevant to meeting the needs of Canadians, and whether they are achieving intended results. The implementation of these reviews, however, currently makes no explicit reference to sustainable development. While guidelines for the preparation of Treasury Board submissions refer to sustainable development, the guidance provided is vague.

The Strategic Review process may offer an excellent opportunity to assess ongoing programs with respect to their contribution to sustainable development. By integrating sustainable development into this process it would in principle be possible to continuously monitor departmental efforts with regard to sustainable development and,

over time, to continuously improve performance by weeding out unsatisfactory efforts (and associated expenditure), and encouraging successful and promising initiatives.

Incorporating sustainable development into government spending is difficult. However, the federal government's various planning tools based on the Management, Resources and Results Policy, which includes the preparation of program activity architectures and related performance measures, provide a robust framework to incorporate emerging societal goals such as sustainable development.

Research questions in this project area would include:

- What are the barriers to incorporating sustainable development into the federal government's Expenditure Management System?
- What are other jurisdictions doing to integrate sustainable development into their own expenditure management systems?
- What practices could Canada adopt to reflect sustainable development objectives into its Expenditure Management System?

This project area is particularly relevant to the themes of *integration*, *measurement*, and *learning/reflexivity* identified in the discussion of governance in Section 2.

Project Area 4

Sustainability Objectives for Canada

This project area would be concerned with articulation of long-term national sustainability objectives for Canada, which could guide government priority-setting, resource allocation and program design. Canada has already set some medium- to long-term social and environmental goals (e.g. related to health, child poverty, and greenhouse gas emissions) but not in a systematic way. Often, goals are implicit and there have been instances where they conflict (e.g. policies to support clean air that increase energy consumption and undermine efforts to reduce greenhouse gas emissions). The 2008 *Sustainable Development Act* mandates the federal government to develop a federal strategy with goals and targets by 2010 and departments to table their own strategies a year later with objectives and plans to support the federal strategy.

Management theory has long emphasized the value of managing by objectives and developing the needed supporting information ("you can't manage what you can't measure"). Over the years, the Treasury Board Secretariat has reinforced this message (*viz.* the Management, Resources and Results Structure Policy) by underlining the need to develop government-wide approaches to reporting on performance information. The development of long-term sustainability objectives would be consistent with this existing management framework.

Assessments of the world's environment (e.g. Intergovernmental Panel on Climate Change, Millennium Ecosystem Assessment) indicate that current incremental policy approaches will not lead to sustainability. A more concerted effort to redirect government spending and programs, public attitudes, and industry investment will be

required. The articulation of long-term objectives with interim targets would help guide such an effort.

Several jurisdictions have already developed sustainability goals to guide policy (e.g. Sweden, the U.K., Oregon state, Alberta), some for many years. These jurisdictions also have well-established reporting systems against these goals. They provide a growing body of experience on which to draw to determine:

- how the goals were developed: What consultative and analytical processes are required? How should long-term goals be framed? How can social support for these goals be built?
- what impact they have had in informing policy: How do such goals affect government program design, priority setting, and budgeting? Do they change the nature of political discourse? How are they integrated into accountability and performance measurement frameworks? Have governments taken corrective measures when targets were not met?
- the advantages and disadvantages of different reporting approaches: How is performance reported? How is it communicated to the public? What impact does it have on public debate?

The development of national sustainability goals raises particular challenges for a federal state such as Canada, and the experience of these jurisdictions could not therefore be imported whole. One of the objectives of such a research study should therefore be to determine how to adapt the experience of various jurisdictional models to the Canadian situation (see discussion of the Swedish experience with environmental objectives above).

This project area is particularly relevant to the themes of *learning/reflexivity*, *measurement*, and *societal engagement* in governance approaches identified in Section 2. It also has some relevance for *integration*.

Project Area 5:

New Kinds of Partnership for Sustainable Development

This project area deals with long-term engagement with key societal stakeholders in order to move forward the sustainability agenda. It would examine experience with partnerships in Canada and internationally, and explore the circumstances that favour positive and productive long-term multi-stakeholder co-operation to promote sustainable development.

Partnerships are now recognized as critical to the development of governance for sustainable development. Although Canada was a pioneer in developing multi-stakeholder consultations, many attempts to develop successful processes for sustainable development have been less than outstanding successes. The ultimate fate of the *Projet de Société*, the climate change roundtables, and the “sector sustainability tables” initiatives are examples of processes that absorbed substantial resources but

produced little lasting positive legacy. In contrast, there are many examples of thriving collaborative interactions to promote sustainable development, both in Canada and abroad. A number of major research efforts are currently under way examining international partnerships (Glasbergen, Biermann, and Mol 2007; Huijstee, Francken, and Leroy, 2007).

This project area would draw on ongoing international work to develop a greater understanding of the conditions under which partnerships can be most successful and provide maximum added value. It would develop an assessment of key Canadian experiences. And drawing from the national and international experiences it would develop systematic knowledge about the potentials and limitations of partnership approaches. Questions to be considered would include: What contexts are most favourable to successful partnerships? How should ventures be framed? What is the most fruitful way to select partners, manage interactions, and define responsibilities? How are long-term relationships developed? How can conflicting lines of accountability be managed?

Sustainable development requires co-operation across established boundaries, but jurisdictional tangles and a complex political history frequently hamper efforts to develop a coherent response to environmental challenges. This project would examine the ways in which actors in complex multi-level governance systems seek to transcend such obstacles to build effective collaboration across established frontiers. Thus federal/provincial collaboration could be one focus of attention.

If there are departments or agencies that are currently participating in partnership arrangements or anticipate developing them in the coming period, the project could contribute to these exercises and provide feedback on their progress. Whether or not this turned out to be the case, one output of this work might be the development of concrete guidelines on partnership for government departments.

Variants: Work in this area could be focused on particular kinds of partnerships or be related more explicitly to the needs and intentions of partnerships in particular sectors, fields, or regions.

This project area is particularly relevant to the theme of *societal engagement* identified in the discussion of governance in Section 2.

Project Area 6:

Promoting Sustainable Development in Tough Economic Times

This project will examine innovative ways to promote sustainability in the context of a serious economic downturn. When private-sector companies are feeling the pinch and governments are reconsidering expenditures, projects related to the environmental and social dimensions of sustainability may be set on the back burner. But there are many ways in which green innovations can be combined successfully with economic and social policies designed to deal with a serious economic downturn.

This project will examine innovative practices being developed in Canada and abroad to do just that, and will attempt to formulate general lessons and provide practical examples that will be useful across Canada. There are already historical examples of countries that used earlier economic downturns to accelerate green reforms. Sweden is a case in point: in the 1990s the country faced serious economic difficulties that threatened its established welfare state model. But the government placed sustainable development at the core of its political program calling for efforts to build a “green welfare state.” Economic stimulus and job creation programs were combined with structural reforms and green investment to push forward the greening of the economy as a whole. The state of Oregon in the U.S. provides another example.

Areas that can be explored include: greening infrastructure projects that will be funded as part of a fiscal stimulus package; investment, and market and job creation in the green tech sector; the green dimension to regional redevelopment planning; community-based initiatives around quality of life; sustainable consumption; and sustainable energy. The project could involve the selection of four or five pilot projects to see how sustainability objectives could be integrated with the rejuvenation of aging infrastructure, or the re-energization of distressed communities.

Crisis often provides an opportunity for organizations and individuals to change their ways of doing things. Financial retrenchment can encourage us to reconsider established practices, and to reassess what we really value and what we really want to achieve. But change can go in many directions. The idea of this project would be to identify points of leverage that would help drive *production and consumption* patterns in a more sustainable direction. Progress should not just be about making, selling, and buying more “stuff.” It should be about combining social, economic, and environmental benefits as we chart a new development trajectory for our communities.

This project area is particularly relevant to the theme of *integration* identified in the discussion of governance in Section 2. But it links also to *innovation*, *learning/reflexivity*, and *societal engagement*.

5. Roundtable Discussion

Participants at a workshop organized in December 2008 by the PRI noted a number of challenges in setting and implementing a research agenda on sustainable development. One of the most important is Canada’s very nature, characterized by a federal system and strong regional differences. Then there is the complexity of sustainable development itself. Its intricate dynamics (complex concept, multiple stakeholders, cross-cutting implications, lack of public education, etc.) necessitate a detailed approach without losing sight of the bigger picture. Leadership is also a critical dimension. A number of participants emphasized that senior-level champions can have a powerful influence, but also that leadership can be exercised at all levels within an organization, and argued that those who are conscious of the need for change have a responsibility to initiate action within their own sphere of influence. Another challenge is horizontal co-ordination across the federal government: sustainable development is inherently horizontal in

nature and requires cross-cutting approaches, but the government has historically had difficulty managing these. Related challenges identified by participants included the importance of ongoing communications and the need to improve performance in implementation.

Additional observations that emerged from the discussion included the following:

- Legislation is beginning to incorporate sustainable development, but in many circumstances it is still treated as an isolated concept. Integrating sustainable development into government requires a shift in the institutional culture.
- It is important to link the short, the medium and the long term when addressing sustainability issues.
- To further the practice of sustainable development the federal government can look to improve capacity building through education and the creation and maintenance of relations with other groups, including those outside of government and with the general public. It is important to ask: “What is the appropriate role for government in encouraging greater public understanding of key sustainability problems?”
- It is essential to put sustainable development principles into the mainstream of everyday work practices and to develop a strong sustainable development policy narrative.

One specific suggestion that received general support was the idea of creating mechanisms within the federal system for sharing sustainable development policy-related research and experience. There was a belief that knowledge and innovative practices were being developed, but typically remained isolated from the mainstream. A regular series of seminars and/or practitioners’ workshops, as well as an electronic link or newsletter, were suggested as ways to enhance exchange and institutional learning.

With respect to international experience, participants noted that it is very important to understand differences in the concrete circumstances in each country, and not to try to reproduce practices mechanically. Participants were interested in the experience of other jurisdictions in (i) promoting more sustainable forms of production and consumption (e.g. marketplace rules that incorporate environmental values; public debate over appropriate consumption); (ii) the British experience with Public Service Agreements as a model of an accountability mechanism for integrating sustainable development goals in planning processes; (iii) developing projects that could inform the upcoming review of the *Canadian Environmental Assessment Act*; and (iv) any techniques that measure the effectiveness of sustainable development projects. They encouraged the PRI not to limit itself to environmental examples when reviewing sustainable development governance challenges, stressed the possibility of focusing projects at the local or regional level, and saw opportunities to influence the long-term implementation of the *Federal Sustainable Development Act*.

Participants expressed general support for all the projects proposed but also recognized that the PRI would need to focus its research agenda. For its part, the PRI committed to pursuing discussions with its federal partners to develop a forward-looking research

agenda that best serves the horizontal and medium-term policy needs of the federal government.

References

Anderson, M., and D. Liefferink. 1997. *European Environmental Policy: The Pioneers*. Manchester, U.K.: Manchester University Press.

Barg, S., and M. Anielski, and J. Waddell. 2006. *Using Performance Information in Government Budgeting and Reporting*. Winnipeg: International Institute for Sustainable Development.

Bregha, F. 2006. "The Federal Sustainable Development Strategy Process: Why Incrementalism is not Enough," in G. B. Doern (ed.), *Innovation, Science, Environment: Canadian Policies and Performance 2006–2007*. Montreal: McGill-Queen's University Press.

Bregha, F. 2008. "Missing the Opportunity: A Decade of Sustainable Development Strategies," in G. Toner (ed.), *Innovation, Science, Environment: Canadian Policies and Performance 2008–2009*. Montreal: McGill-Queen's University Press.

Dale, A. 2001. *At the Edge*. Vancouver: University of British Columbia Press.

Department for Environment, Food and Rural Affairs (United Kingdom). 2008. *Climate Change Act*. On 15 February 2009, Available at: <http://www.defra.gov.uk/environment/climatechange/uk/legislation/>.

Environmental Objectives Council (Sweden). 2008. Environmental Objectives Portal. Swedish Environmental Protection Agency. On 15 February 2009, available at: <http://www.miljomal.nu/english/english.php>.

Geels, F. 2005. *Technological Transitions and System Innovations: A Co-evolutionary and Socio-technical Analysis*. Cheltenham, U.K.: Edward Elgar.

Gibson, R., S. Hassan, S. Holtz, J. Tansey, and G. Whitelaw. 2005. *Sustainability Assessment*. London, U.K.: Earthscan.

Glasbergen, P., F. Biermann, and A. Mol (eds.). 2007. *Partnerships, Governance and Sustainable Development: Reflections on Theory and Practice*. Cheltenham, U.K.: Edward Elgar.

Grin, J. 2006. "Reflexive Modernization as a Governance Issue, or Designing and Shaping Restructuration," in J. Voss, D. Bauknecht, R. Kemp, (eds.), *Reflexive Governance for Sustainable Development*. Cheltenham, U.K.: Edward Elgar, pp. 54–81.

Hanf, K., and A. Jansen (eds.). 1998. *Governance and Environment in Western Europe: Politics, Policy and Administration*, Harlow, U.K.: Longman.

Huijstee, M.M. van, M. Francken, and P. Leroy. 2007. "Partnerships for Sustainable Development: a Review of Current Literature." *Environmental Sciences*, 4:2, 75–89.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: Synthesis Report*. Geneva, Switzerland: IPCC.

Kemp, R., and J. Rotmans. 2005. "The Management of the Co-evolution of Technical, Environmental and Social Systems," in Matthias Weber and Jens Hemmelskamp (eds.), *Towards Environmental Innovation Systems*. Berlin: Springer.

Kemp, R., D. Loorbach, and J. Rotmans. 2007. "Transition Management as a Model for Managing Processes of Co-evolution Towards Sustainable Development." *International Journal of Sustainable Development and World Ecology*, 14: 78–91.

Kemp, R., J. Rotmans, and D. Loorbach 2007. "Assessing the Dutch Energy Transition Policy: How Does It Deal With Dilemmas of Managing Transitions?," *Journal of Environmental Policy and Planning* 9: 315-331.

Kemp, R., and D. Loorbach. 2006. "Transition Management: a Reflexive Governance Approach." in Voss J-P., D. Bauknecht, and R. Kemo (eds.) *Reflexive Governance for Sustainable Development*, Edward Elgar, 104-130

Kern, F., and A. Smith. 2008. "Restructuring Energy Systems for Sustainability? Energy Transition Policy in the Netherlands." *Energy Policy* 36: 4093-4103.

Kooiman, J. 2003. *Governing and Governance*. London, U.K.: Sage.

Lafferty, W. 1996. "The Politics of Sustainable Development: Global Norms for National Implementation." *Environmental Politics*, 5: 185–208.

Lafferty, W. 2004a. *Governance for Sustainable Development: the Challenge of Adapting Form to Function*. Cheltenham, U.K.: Edward Elgar.

Lafferty, W. 2004b. "From Environmental Protection to Sustainable Development: the Challenge of Decoupling Through Sectoral Integration," in W. Lafferty (ed.), *Governance for Sustainable Development*. Cheltenham, U.K.: Edward Elgar.

Lenschow, A. 2002. *Environmental Policy Integration: Greening Sectoral Policies in Europe*. London, U.K.: Earthscan.

Lundqvist, L. 2004. *Sweden and Ecological Governance: Straddling the Fence*. Manchester, U.K.: Manchester University Press.

- Meadowcroft, J. 1997. "Planning for Sustainable Development: Insights From the Literatures of Political Science." *European Journal of Political Research*, 31: 427–454.
- Meadowcroft, J. 1999. "Planning for Sustainable Development: What Can Be Learned From the Critics?" in M. Kenny and J. Meadowcroft (eds.) *Planning for Sustainability*. London, U.K.: Routledge, pp. 12–38.
- Meadowcroft, J. 2000. "Sustainable Development: A New(ish) Idea for a New Century?" *Political Studies*, 48: 370–387.
- Meadowcroft, J. 2005. "Environmental Political Economy, Technological Transitions and the State." *New Political Economy*, 10: 479–498.
- Meadowcroft, J. 2007a. "National Sustainable Development Strategies: a Contribution to Reflexive Governance?" *European Environment*, 17: 152–163.
- Meadowcroft, J. 2007b. "Who Is In Charge Here? Governance for Sustainable Development in a Complex World." *Journal of Environment Policy and Planning*, 9: 299–314.
- Millennium Ecosystem Assessment. 2005. *Ecosystem and Human Well-being: Synthesis*. Washington, D.C.: Island Press.
- Millennium Ecosystem Assessment. 2006. *Millennium Ecosystem Assessment*. Washington, D.C.: Island Press.
- Netherlands Fourth National Environmental Policy Plan (NEPP4). 2002. *Where There's a Will There's a World*. The Hague, Netherlands: Ministry of Housing, Spatial Planning and the Environment.
- Nilsson, M., and K. Eckerberg. 2007. *Environmental Policy Integration in Practice: Shaping Institutions for Learning*, London, U.K.: Earthscan.
- Osborne, D., and P. Hutchinson. 2004. *The Price Of Government: Getting the Results We Need in an Age of Permanent Fiscal Crisis*. New York: Basic Books.
- Organisation for Economic Co-operation and Development. 2008. *OECD Environmental Outlook to 2030*. Paris: OECD.
- Pierre, J., and Peters, G. 2000. *Governance, Politics and the State*. London, U.K.: Macmillian.
- Rotmans, J., R. Kemp, and M. van Asselt. 2001. "More Evolution Than Revolution: Transition Management in Public Policy." *Foresight* 3: 15–31.

Sabatier, P. 1993. *Policy change and Learning: an Advocacy Coalition Approach*. Boulder, Colo.: Westview Press.

Schot, J. 1998. "The Usefulness of Evolutionary Models for Explaining Innovation, The Case of the Netherlands in the Nineteenth Century." *History and Technology*, 14: 173–200.

Smith, A., A. Stirling, and F. Berkhout. 2005. "The Governance of Sustainable Socio-technical Transitions." *Research Policy*, 34: 1491–1510.

Steurer, R., and A. Martinuzzi. 2005. "Towards a New Pattern of Strategy Formation in the Public Sector: First Experiences With National Strategies for Sustainable Development in Europe." *Environment and Planning C: Government and Policy*, 23: 455–472.

Tatenhove, J. van, B. Arts, and P. Leroy (eds.). 2001. *Political Modernisation and the Environment: the Renewal of Environmental Policy Arrangements*. Dordrecht, Netherlands: Kluwer Academic.

Tews, K., P. Busch, and H. Jorgens. 2003. "The Diffusion of New Environmental Policy Instruments." *European Journal of Political Research*, 42: 569–600.

Voss, J.-P., and Kemp, R. 2006. "Sustainability and Reflexive Governance: introduction," in J.-P. Voss, D. Bauknecht, R. Kemp, (eds.), *Reflexive Governance for Sustainable Development*. Cheltenham, U.K.: Edward Elgar, pp. 3–28.

World Commission on Environment and Development. 1987. *Our Common Future* (also called *Brundtland Report*). WCED. Oxford, U.K.: Oxford University Press.

Appendix 1

Terms of Reference

Governance for sustainable development

This contract involves preparation of a 20-to-25-page scoping paper examining the issue of governance for sustainable development and assessing the opportunities and challenges this presents for Canada's federal government. The PRI will use this paper to identify possible research avenues, in consultation with the interdepartmental community and researchers outside government. The paper will draw on theoretical literature and practical experience to explore the implications of sustainable development for governance and examine the challenges this presents for established governance practices. It will analyze innovative approaches that have been developed in Canada and other industrialized countries that show promise in meeting these challenges (for example, "network governance" or "transition management"). The paper will consider these in relation to implications for the federal government in Canada, including identifying strengths and weaknesses with governance for sustainable development in recent years. And it will suggest a number of possible avenues for further research and collaborative investigation with other members of the federal family, which could be pursued by the PRI. The study will be based on a review of published literature.

Appendix 2

Participants in the Roundtable Discussion

David Boisclair, Research Director, Institute for Research on Public Policy
Stefanie Bowles, Analyst, Regulatory Affairs Division, Treasury Board of Canada Secretariat
Suzan Bowser, Director General, Sustainability Policy, Environment Canada
François Bregha, Senior Associate, Stratos Inc., Strategies to Sustainability
Catherine Brown, Deputy Director, Environment and Energy Division, Foreign Affairs and International Trade Canada
Bernard Cantin, Director, Policy Research Initiative
Nadia Ferrera, Senior Policy Manager, Environment and Renewable Resources Directorate, Northern Affairs, Indian and Northern Affairs Canada
Dana Geber, Policy Analyst, Strategic Policy and Research Branch, Human Resources and Skills Development Canada
Murielle Gagnon, Director, Strategic Programs and Joint Initiatives, Partnerships Directorate, Social Sciences and Humanities Research Council of Canada
Ken Huffman, Senior Policy Advisor, Regional Oceans Operations Branch, Fisheries and Oceans Canada
Luc Juillet, Associate Professor and Director of the School of Political Studies, University of Ottawa
Suzie Lemyre, Senior Policy Advisor, Sustainable Development Division, Foreign Affairs and International Trade Canada
Glenn MacDonell, Director, Environmental Industries Directorate, Industry Canada
Lisa Moreau, Advisor, International Development Projects, Accountable Public Institutions, Canadian International Development Agency
Kerry Newkirk, Director, Oil and Gas Management Directorate, Indian and Northern Affairs Canada
Michel Ouellet, Research Analyst, Policy and Communications Branch, Infrastructure Canada
Joanne Pereira-Ekstrom, Senior Policy Analyst, Horizontal Policy and Science Coordination, Natural Resources Canada
Cathy Sandiford, Director, Strategic Planning, Fisheries and Oceans Canada
Thomas Shenstone, Director General, Director General, Policy, Planning and Integration, Agriculture and Agri-Food Canada
Robert W. Slater, Adjunct Professor, School of Public Policy and Administration, Carleton University
Ruth Waldick, Habitat Conservation Policy Specialist, Habitat Landscape Conservation and Biodiversity Standards, Environment Canada
Georgina Wainwright-Kemdrim, Senior Policy Analyst, Economic Framework Policies, Industry Canada
Judy Watling, Director General, Policy Research Initiative
Greg Wilburn, Director, Sustainable Development Strategies, Environment Canada