



June 10, 2016

The Honourable Catherine McKenna, P.C.
Minister of Environment and Climate Change
House of Commons
Ottawa, Ontario K1A 0A6

Re: Submission on Federal Sustainable Development Strategy 2016-2019

Dear Minister McKenna:

It is with great pleasure that I offer this submission on the document entitled *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016-2019* on behalf of the Forum for Leadership on Water (FLOW).

FLOW is an independent group of policy experts from across Canada that encourages and supports government action to protect our fresh water. FLOW members have conducted numerous policy analyses and contributed to the resolution of many water-related issues over the past decade since publication of its first major report *Changing the Flow: A blueprint for federal action on fresh water* more than a decade ago. Our membership includes former senior officials with federal and provincial governments, former political leaders, global experts on water and climate, and leaders of respected research institutes and non-governmental organizations. Brief biographies of FLOW members are appended to this submission.

We look forward to the final version of the Strategy, and to engaging the Government of Canada in any way we can to support its implementation. Should you have any questions or concerns about the content of our submission, please do not hesitate to contact me at tony@flowcanada.org or by phone at 519-572-9972.

Best regards,

Tony Maas
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Introduction

The Forum for Leadership on Water (FLOW) is pleased to have the opportunity to comment on the consultation draft of *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016 – 2019*. For simplicity and space, we refer to the document as the “Draft Strategy” for the remainder of our submission.

Our comments draw on the substantial experience of FLOW members as it relates to public policies that impact the health and sustainability of Canada’s fresh water, and the people, economies and ecosystems that depend on it. Our submission begins with some general commentary on the Draft Strategy and its vision and goals. We then offer a dozen major opportunities that we believe would substantially strengthen the final strategy. The opportunities are organized into three broad categories: 1) legal and institutional opportunities; 2) water management opportunities; and 3) policy research opportunities.

General comments

Generally speaking, we find the Draft Strategy to be comprehensive and well organized, and we appreciate the significant effort that has gone into drafting the document in the short time available since the formation of Canada’s new federal government. The Draft Strategy reflects much of what we have observed in the publicly accessible mandate letters issued by the Prime Minister to his Cabinet and is thus well aligned with the government’s policy agenda. We particularly appreciate efforts to align the Draft Strategy with the Sustainable Development Goals of the United Nations’ 2030 Agenda. This sends a strong signal that Canada has ambitions to once again play a strong role in global efforts to advance sustainable development, and to find synergies between domestic planning and global goals.

We would like to point out two overarching criticisms of the Draft Strategy. First, it is very repetitive and offers little substance on the legal reforms needed to move towards sustainability. It refers to laws, regulation and policy as a key to implementation in almost every section, but does so in boiler-plate language and doesn't specify which are important, how effective they are, or how they will be used to achieve the goals and objectives in the Strategy.

Second, the importance of Indigenous governments to achieving the Draft Strategy's goals and targets has been uniformly missed. This is a significant oversight, particularly given the prominence of commitments made to Indigenous peoples by the current government, including building nation-to-nation relationships and implementing the United Nation's Declaration on



the Rights of Indigenous peoples (UNDRIP). We have sought in our submission to address what we see is a widespread failure to seize the opportunity to build collaborative solutions with Indigenous governments on many of the matters raised under each of the Draft Strategy's goals.

More broadly, our view is that the path to a sustainable future will ultimately require that governments and societies move beyond business as usual approaches that tend to focus on strategies for "growing our way out of social and ecological challenges". We believe that more of the same is unlikely to deliver the policies, strategies and programs – and indeed the action – needed to realize a sustainable future nationally and globally. For example, while it is true that most developed countries, including Canada, have contained the worst excesses of local water and air pollution from their past, as a U.N. team recently concluded, that is not true of health-threatening pollutants with invisible or long-term impacts, global emissions of greenhouse gases, or the ongoing decline in biodiversity. Those have been, and are continuing to get worse even as incomes and economies grow, and are precisely the issues that are in urgent need of national and international leadership. Given this government's openness to external ideas and the wealth of knowledge and experience with sustainable development housed in academic institutions, think tanks, NGOs and other institutions across the country, we expect the final strategy to be even more comprehensive, thoughtful, and actionable.

Vision

We believe that the **vision** for a sustainable Canada proposed in the Draft Strategy, while reflective of many common definitions of sustainable development, is lacking in at least two respects. First, it lacks inspiration and a tenor and substance that are uniquely Canadian. We would urge the government to paint a more inspiring picture of the what a sustainable Canada can look like – one that reflects our unique ecological, cultural and economic diversity.

Second, the current vision reflects increasingly dated perspectives on sustainable development framed around the "three pillars" of social, ecological and economic considerations. Dr. Robert Gibson, one of Canada's leading scholars in sustainability has noted that the pillar categories often reproduce deeply entrenched divisions of policy mandates that have long frustrated more integrated thinking. Pillars-based approaches to sustainability planning tend to encourage a focus on conflicts, especially between economic and ecological pillars, and can concentrate

attention on competing objectives rather than on opportunities for positive synergies among interrelated human and ecological interests.¹

We propose that the final version of the strategy include a more elaborate and contemporary view on sustainable development – one guided by the following sustainability requirements (or principles) articulated by Dr. Gibson and his colleagues:

- **Socio-ecological system integrity** – Build human-ecological relations that establish and maintain the long-term integrity of socio-biophysical systems and protect the irreplaceable life support functions upon which human as well as ecological well-being depends.
- **Livelihood sufficiency and opportunity** – Ensure that everyone and every community have enough for a decent life and opportunities to seek improvements in ways that do not compromise future generations' possibilities for sufficiency and opportunity.
- **Intragenerational equity** – Ensure that sufficiency and effective choices for all are pursued in ways that reduce dangerous gaps in opportunity (and health, security, social recognition, political influence, etc.) between the rich and the poor.
- **Intergenerational equity** – Favour present options and actions most likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably.
- **Efficiency** – Provide a larger base for ensuring sustainable livelihoods for all while minimizing threats to the long-term integrity of socio-ecological systems by reducing extractive damage, avoiding waste and cutting overall material and energy use.
- **Socio-ecological civility and democratic governance** – Build the capacity and motivation of collective decision-making bodies to apply sustainability principles through more open and better informed deliberations, greater attention to fostering collective responsibility, and more integrated use of administrative, market, customary, collective and personal decision-making practices.
- **Precaution and adaptation** – Respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, plan to learn, design for surprise and manage for adaptation.

¹ See: Gibson, R. B., Hassan, S., Holtz, S., Tansey, J. and Whitelaw, G. (2005). *Sustainability Assessment: Criteria, Processes and Applications*. London: Earthscan.



- **Immediate- and long-term integration** – Attempt to meet all requirements for sustainability together as a set of interdependent parts, seeking mutually supportive benefits.

This approach to defining a vision of sustainability through core principles is consistent with the strategies developed by other leading nations, including Sweden and Germany.

Goals

We believe that the format of the **goals** contained in the Draft Strategy would benefit from some refinement. In their current format, many lack an action orientation and thus read more as a set of thematic areas or topics than goals. For example, Goal 2: Technology, Jobs and Innovation could be articulated as: Building a sustainable economy based on clean technology, jobs and innovation. Refinement of the goals in this way may be as simple as including some of the language currently in the short statement following each into the actual goal statements.

To the extent possible, goals should also be time bound, and consider both medium and long-term perspective. This is important because it has always been a real challenge for governments to think and act beyond four-year political cycles. International experience suggests that institutions focused specifically on the longer term can exert a significant influence in addressing this challenge.

Legal and Institutional Opportunities

Opportunity #1: Strengthening the federal *Sustainable Development Act*

We are pleased to note that the Standing Committee on Environment and Sustainable Development will be assessing and making recommendations regarding improvements to the *Federal Sustainable Development Act* during the 42nd Parliament. This is an excellent opportunity to make the Act more comprehensive, more inspirational, and for the first time to codify Canada's intention to preserve the essence of our life-sustaining renewable resources for the use and enjoyment of all, now and into the foreseeable future.

Many other industrialized countries have similar Acts which are further advanced than ours, giving us an opportunity to build upon successful examples and experience from abroad. At the same time, we can use an upgraded Act to improve on, and measure how well we are contributing to achievement of the United Nations' 2030 Sustainable Development Goals.



We endorse many of the recommendations put forward by Dr. David Boyd, Adjunct Professor at Simon Fraser University and former FLOW member, in his testimony before the Standing Committee on April 14, 2016.² We agree that the Act should include aspirational goals, including Canada's new greenhouse reduction target once it has been finalized later this year. We also agree with Boyd's other recommendations to include additional principles, especially the polluter pays principle; giving the Act and Strategy a higher profile within government; and, institutional changes such as appointing an advocate for future generations and a Parliamentary Committee for the future.

Specific to fresh water, we suggesting including in the final strategy an aspirational goal of all surface waters maintained in or restored to a "good" condition by some predetermined date, as was done in the European Union's Water Framework Directive.³ This framework, which is widely recognized as one of the world's most ambitious and comprehensive water policies, has served as an inspiration for FLOW's work, and for a growing movement in Canada's water community known as [Our Living Waters](#).⁴ Establishing such an aspirational goal for freshwater health would be consistent with other elements of the Draft Strategy, such as target 2.4 dealing with Sustainable Fisheries.

Finally, FLOW believes that explicit recognition of the potential role of Indigenous governments to work in collaborative, nation-to-nation partnerships with Canada to implement the Act would help build real support and opportunity for Indigenous peoples, and could be one mechanism by which to give legal expression to Canada's commitment to UNDRIP.

Opportunity #2: Repairing federal environmental legislation

We are encouraged by the new government's commitment to review, restore and modernize Canada's environmental laws. Over the past decade, changes made to Canada's *Fisheries Act*, the *Navigable Waters Protection Act* (now the *Navigation Protection Act*) and the *Canadian*

² Dr. Boyd's testimony is available at:

<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=8190008&Language=E&Mode=1>

³ For background on the EU Water Framework Directive see: http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm. For FLOW's analysis of what Canada can learn from the EU on water governance, see *Shared Water, One Framework* (by Emilie Lagace) here:

http://www.flowcanada.org/sites/default/files/documents/SharedWater_OneFramework_email_0.pdf

⁴ Our Living Waters is an initiative that aims to amplify the influence and impact of organizations working to protect Canada's fresh water by working together under a common agenda for change. For more on the initiative see: www.ourlivingwater.ca. See also, the call to action for federal leadership on fresh water issued during the 2015 federal election, which was endorsed by over 50 business, social justice and environmental organizations: http://www.ourlivingwaters.ca/federal_leadership.



Environmental Assessment Act have posed increased risks to the health of Canada's fresh water. We now have the opportunity to restore and modernize provisions within these Acts to realize more sustainable long-term outcomes for fresh water and related resources.

The *Fisheries Act*, arguably Canada's strongest piece of environmental legislation, was subject to significant weakening under the previous government. In that regard, we refer you to a recent analysis by Linda Nowlan, Staff Counsel at West Coast Environmental Law (WCEL) and FLOW member, entitled *Scaling up the Fisheries Act: Restoring Lost Protections and Incorporating Modern Safeguards*. Nowlan recommends a two-step process to repairing the Act: 1) immediately restoring habitat protection and prohibitions against the killing of fish (i.e. HADD provisions) as an urgent short-term priority; and, 2) through a robust public consultation process, modernizing the Act to, among other things, reform fishing practices, benefit coastal communities, regulate aquaculture, and protect the marine environment from existing and new pollution sources, in line with scientific principles and international commitment, and in recognition of declining fisheries and diminishing marine biodiversity.

The Draft Strategy makes no mention of changes to the *Navigable Waters Protection Act* (now the *Navigation Protection Act*), which significantly limited the scope of the legislation to only a very few water bodies. We recommend that the final strategy include restoration and modernization of this Act, to, at the very least, bring back protections for all navigable waters afforded by the Act prior to its alteration by the previous government.

Indigenous fishing rights, and the opportunity to work collaboratively in partnership with Indigenous governments to both protect those rights and to meet broader fisheries protection goals, is an element of the Strategy's Sustainable Fisheries target that is overlooked in the current draft.

Regarding the Canadian Environmental Assessment Act, much of the necessary strengthening will no doubt be on making the processes themselves more substantive, accessible, and transparent. But one aspect that has received little attention of late is the 2012 decision to move responsibility for reviewing large energy projects from the Canadian Environmental Assessment Agency to the National Energy Board, an agency more attuned by culture, history and mandate to assisting industry. We do not believe it is entirely coincidental that public trust regarding pipelines and other new energy projects plummeted at about that time. Indeed, risks to freshwater resources and ecosystems were a significant factor in the erosion of public trust. We believe that the new government should consider reversing that decision.



Opportunity #3: Implementing nation-to-nation relationships with Indigenous peoples

The Draft Strategy recognizes that Indigenous people have a unique understanding and connection to Canada's lands and waters and that their involvement in environmental policy development is essential. Yet, as noted in the introductory section of our submission, we believe it fails to reflect the importance of working in partnership with Indigenous governments to achieve its goals and targets.

While the Draft Strategy includes the laudable goal of eliminating long-term drinking water advisories on federally funded First Nation drinking water systems within five years, there is little indication of how that will happen beyond additional funding and a long-standing strategy of engaging skills and resources from outside the federal government. This is a clear example of where the final Strategy can and must move beyond "more of the same" to incorporate the new thinking, innovation and nation-to-nation approach that will be critical to realizing a lasting solution to this persistent problem.

More broadly, Indigenous waters and related traditional lifestyles are being permanently altered by upwind and upstream actions that are largely beyond their direct decision-making or control. Not surprisingly, Indigenous peoples have been fighting back through political activism and through the courts, where they have been winning with striking regularity. Perhaps the most far-reaching court judgement was the landmark Tsilhqot'in decision in 2014. For the first time in Canadian history, a court declared Aboriginal title to lands outside of a reserve. Despite advancing need for and attention to creation of new true co-governance and co-management resource management institutions, confrontation and the courts are not the best long-term solution to addressing conflicts between Canada and Indigenous governments.

The new federal government has committed to establishing a new relationship with Indigenous governments and peoples; translating these words into meaningful action will require creative new institutional arrangements. Opportunities include, for example, a First Nations Water Commission to oversee the resolution of water and wastewater problems, and co-managed water management agencies in areas with significant Indigenous populations. Also, a new First Nation Safe Drinking Water Act that sets drinking water standards, mandates adequate financial resources, addresses accountability, and allows for Indigenous governments to manage waters based on their own laws and authorities. Such a law could be developed through a nation-to-nation co-drafting process with Indigenous governments.



Water security is greatly impacted by climate change, and the nexus of these two issues is often felt most significantly by Indigenous communities that have very limited resources for adaptation. While the Strategy commits to take extensive action to meet the Paris Agreement commitments, it does not include an approach to doing so in partnership with Indigenous governments, nor does it specifically address Indigenous community needs. A nation-to-nation approach to achieving the Paris Agreement commitments – one that builds on the strengths and addresses the needs of Indigenous peoples – will be critical to ensuring that carbon pricing does not disproportionately impact Indigenous communities, that Indigenous communities can leapfrog over current infrastructure inadequacies by accessing appropriate green technology and infrastructure, and that adaptation efforts meaningfully and effectively address Indigenous community needs.

Finally, few if any of the tables in the Draft Strategy that outline the responsibilities of "Key Departments, Agencies and Organizations" include Indigenous and Northern Affairs Canada (INAC). This, in our view, is a significant oversight given that most of the strategies and actions, applied to Indigenous communities, would have to involve INAC in some way. INAC should be responsible – in partnership with Indigenous governments – for delivering many of the targets vis-à-vis Indigenous communities.

Opportunity #4: Strengthened federal water institutions

While we are encouraged by the significant focus on freshwater issues and opportunities in the draft Strategy, we believe the final strategy should include a greater focus on addressing long-standing capacity and institutional weaknesses related to fresh water science and policy at the federal level. Over the past quarter century, federal capacity to contribute to sustainable water solutions has been diminished by at least a half. The decline began in earnest during the Program Reviews of the early 1990s, and was justified with the adoption of a new environmental vision of "Canadians making responsible decisions..." with the federal government doing "more steering and less rowing". The theory may have had some validity, but the ability to "steer" was immediately diminished with the disbanding of the Inland Waters Directorate of Environment Canada in 1993.

At least partly due to federal neglect of growing water and water-related climate issues, Canada is now facing a water crisis, with potential for serious negative impacts on the health and wealth of Canadians. It is well established that governance, including weakened capacity and institutions, are at the heart of this crisis. For direction, Canada should look to leading examples, including the European Union, which is enjoying huge benefits from improved



coordination through their Water Framework Directive. Similarly, the United States recently invested massively in a National Water Centre, and Australia has instituted science-based river basin management. It is time Canada joined the rest of the developed world by better measuring, forecasting and managing its water to promote prosperity, environmental and human health and quality of life, and to address threats posed by climate change.

Our new government could gain substantial credibility by building institutions and capacity to confront the growing national water crisis. This could be accomplished through the establishment of a Canada Water Agency or some other coordinating federal body that would “steer” through sound science and policy, providing opportunities for other water governance actors to more effectively “row”. Aside from meeting direct federal responsibilities (i.e. fisheries, shipping and navigation, and First Nations peoples and reserve lands), most water management does, and will always take place from the bottom up in industry, agriculture, river basin organizations, and local, Indigenous, provincial and territorial governments. But that management, and as a result the health and wealth of Canadians, can be greatly enhanced by better top-down leadership at the national and international levels by our federal government.

Water Management Opportunities

Opportunity #5: Advancing freshwater strategies

FLOW believes that there is significant opportunity for the federal government to take a much more comprehensive and visionary approach to dealing with fresh water in the draft Strategy. Much of what is presented in the section dealing with fresh water (Goal 4) is a description of ongoing activities in the Great-Lakes–St. Lawrence, Lake Simcoe–Georgian Bay and Lake Winnipeg Basins, and initiatives related to wastewater and industrial effluent and expanding monitoring programs. These, along with other freshwater-related initiatives dispersed throughout the draft are important and clearly need attention. However, in our experience, effectively dealing with these issues and the many others on the horizon, while also seizing opportunities like building Canada’s clean water technology and services industry, demands a more comprehensive approach.

The last formal federal water policy, which was authored by FLOW member Ralph Pentland when he served as Director of Water Planning and Management in the Canadian Department of the Environment, was tabled in 1987. Few of its over 100 commitments were ever fully implemented. Despite this lack of progress at the federal level, nearly every province and territory has introduced new water initiatives, strategies and regulatory reforms over the past



decade. This presents a unique opportunity for the federal government to heed the calls of Canadian water experts to lead the development of a comprehensive national water policy, strategy or framework that involves all levels of government (i.e. federal, Indigenous, provincial, territorial, local). At the very least, as water strategies advance across the country, it will be very important that the federal government both promote the ideas nationally, and fully support such initiatives by sustaining and growing federal monitoring and research capabilities.

In recent years, several FLOW members have been involved in negotiating bilateral water management agreements between territorial and provincial jurisdictions in the Mackenzie River Basin. These are by far the most comprehensive agreements of their type in Canadian history, covering water quantity, water quality, groundwater, and biology. Some of their unique features include protection of environmental flows, and a risk-based management approach to enable adaptation to climate change and other future developments. Once all of these bilateral agreements are in place (two have already been signed), we will have buy-in on consistent and progressive water strategies by jurisdictions, which cover over 60% of Canada's area. Further, the agreements were negotiated with the full engagement of numerous Indigenous governments in NWT and represent a unique nation-to-nation approach to implementing negotiations. These agreements – both from content and process perspectives – could easily inform the development of a comprehensive and visionary national water policy for Canada.

Opportunity #6: Upgrading boundary waters management

Existing interjurisdictional agreements of long-standing, like the Boundary Waters Treaty, the Columbia River Treaty and the Prairie Provinces Water Board Agreement, were created at a time when the range and scale of environmental and climate change concerns were very different than today, and were developed with little or no public involvement and in almost total ignorance of Indigenous peoples consultation and accommodation requirements. The agreements and the institutions that administer them must adapt and evolve to meet these new circumstances. Public involvement and wide recognition of Indigenous rights and traditional knowledge has to feature prominently in this transition.

We offer comments on two immediate opportunities that will require much greater federal attention to bi-national water management: eutrophication in Lake Winnipeg and Lake Erie, and the Columbia River Treaty. Since about 1970, land-use impacts and climate change have increased to the point that they now overshadow natural forces affecting the Lake Winnipeg basin. As a result there has been a 70 % increase in nutrient loading to the lake. Algal blooms of up to 15,000 square kilometres are no longer uncommon, and algal toxins are a known danger



to humans and animals. The situation is very much the same in Lake Erie where a massive 2014 algal bloom and resulting algal toxins forced the city of Toledo, Ohio and the community of Point Pelee, Ontario to warn citizens not to drink or bathe in municipal and well-water supplies for multiple days. The extreme eutrophication of these major lakes is fast becoming an issue of urgent national concern – one that will require sustained bi-national engagement and diplomacy with our neighbours to the south to effectively resolve.

The Draft Strategy appears to recognize that the problems in Lake Winnipeg cannot be solved with only a domestic focus. Indeed, with half of the total phosphorous loading from the Red River, the single largest source, originating in the United States, it is clear that a bi-national approach is needed. Yet implementation strategies for Lake Winnipeg in the Draft Strategy are limited to domestic collaboration and some in-kind support and funding. FLOW sponsored a Lake Winnipeg panel at the 2013 Canadian Water Resources Conference in Saskatoon and has been working closely with provincial officials ever since. We are of the view that the federal government needs to place a very high priority on initiating an International Joint Commission Reference on this topic to get all relevant jurisdictions in both countries working together towards a sustainable outcome. Lessons from Lake Erie, where bi-national engagement between Canada and the US under the Great Lakes Water Quality Agreement has led to joint nutrient reduction targets and coordinated domestic action plans, could provide useful lessons to the Lake Winnipeg situation. The need in Lake Erie is for sustained commitment of funding and capacity to ensure effective implementation of Canada's domestic action plan, currently under development by federal and provincial (Ontario) agencies, over the next decade.

Regarding the Columbia River Treaty, we were pleased to learn from media reports that the Prime Minister has committed to renegotiating this 50-year-old Treaty. We are of the view that a modern Treaty of this kind needs to be founded on a more ecological perspective, including the restoration of anadromous salmon and their habitat, and should reflect the need for improved capacity to adapt to the impacts of climate change. In terms of process, full recognition and respect for the role of indigenous governments in negotiating and implementing a revised Treaty will be critical, as will be the engagement of local governments and interests.

Both the Canadian Water Resources Association and FLOW have written to the Foreign Affairs Minister suggesting that Canada is not yet well positioned to begin these negotiations from a science perspective. Accordingly, we have suggested the immediate appointment of a Canadian Science Panel to be followed or complimented by appointment of a bilateral scientific advisory body, perhaps under the aegis of the International joint Commission.



Opportunity #7: Making the federation work for water

In general, the Draft Strategy places little emphasis on the potential for cooperative federal-provincial/territorial initiatives. We assume that is because it is founded to a large extent on pre-election policies. We hope and expect that the final Strategy will be more fulsome in reflecting the need and opportunity for federal-provincial/territorial collaboration and cooperation to achieve its goals. There is certainly indications of momentum in cooperation, with the new government already working more closely with provinces and territories in areas such as climate change and flood damage reduction.

Due to overlapping jurisdiction on most water matters, Canada has a history of some very successful federal-provincial cooperation. After passage of the *Canada Water Act (1970)*, literally hundreds of agreements were signed and successfully implemented in areas such as river basin planning and implementation, interjurisdictional water management, flood risk mapping, flood mitigation and flood forecasting, and water quantity and quality monitoring. Those agreements contributed in no small way to the building of a water management capacity throughout the country at both levels of government.

There have also been some *unsuccessful* attempts at cooperative federalism. Most notable have been the many attempts to coordinate pollution control through accords based on equivalency. In the end, provinces seldom met federal standards and the federal government seldom followed up on shared commitments. The lessons here are that cooperative federalism works best when it facilitates working together, not when it facilitates working apart.

With climate change beginning to impact people and their homes and communities in very real ways, and with newer forms of invisible but highly dangerous pollutants emerging, there is an increasingly great need for the federal, provincial and territorial governments – and indeed, Indigenous and local governments – to work together closer than ever, heeding both successful and unsuccessful lessons from the past.

A critical, and mostly forgotten element of cooperative federalism is the involvement of Indigenous governments. Canada's recent commitments to UNDRIP and to building a nation-to-nation relationships with Indigenous peoples suggest that Indigenous governments should have seats at tables that have previously only involved federal, territorial, and provincial governments. These tables, which include First Ministers meetings, CCME and others, are key national public policy and program setting forums that deal with many of the elements of the Draft Strategy including: climate change (all of goal 1); sustainable energy (target 1.3); water



resource management (target 4.10); mineral resource development (target 2.8); and environmental emergencies (target 5.5).

Opportunity #8: Sustainable infrastructure and clean technology

The Draft Strategy includes some discussion of green infrastructure and clean technology, but the recent 2016 federal budget is in many ways more explicit and more encouraging in these areas. In the budget, the government infrastructure plan includes \$5 billion for investments in water, wastewater and green infrastructure projects to support Canada’s “ongoing transition to a clean growth economy”. We urge the government to ensure the two documents (i.e. 2016 budget and Sustainable Development Strategy) are brought into full alignment. In doing so, it would be useful for the federal government to clarify its definition of green infrastructure, which is more commonly associated with restoring natural systems and implementing decentralized solutions such as green roofs and constructed wetlands than with traditional wastewater systems (i.e. gray infrastructure), as it is applied current federal policy documents.

The framing of the federal government’s recent funding commitments is important. The budget notes that there is “an urgent need in many Canadian communities to modernize water and wastewater infrastructure” and it commits the government to “seek out new partnerships and innovative projects and capacity-building programs”. We agree with this framing and believe that the final Strategy should include additional detail on implementation strategies in the clean water technology and services sector.

Other countries are moving quickly to set modern expectations for water efficiency and reuse, net zero energy use and enhanced resource recovery. Canada must move quickly too. At present we have a miniscule portion of this \$625 billion per year global industry. By designing a progressive water innovation agenda, this government has the opportunity to lead improved water management and realize the huge potential economic benefits of a successful water technology and services sector. This can be accomplished by setting more aggressive regulatory requirements and including conditions on infrastructure funding. Such investments for the future must be designed to accommodate ever-changing climatic conditions and encourage more sustainable, resilient and cost-effective approaches and technologies. Indeed, the government should work to mainstream climate adaptation into infrastructure support programs by including criteria that new and improved infrastructure be designed to withstand and be efficient under climate conditions expected in 2040 to 2050 timeframe.

A critical opportunity absent in the draft Strategy relates to ensuring Indigenous communities can leapfrog over current infrastructure inadequacies by accessing appropriate green



technology and new, innovative and appropriately scaled solutions. The final Strategy should target this opportunity directly, and recognize the potential for solutions developed for small and remote Indigenous communities to find markets in developing nations and in other applications.

Policy Research Opportunities

Opportunity #9: Chemicals management research

We are pleased to note that the Standing Committee on Environment and Sustainable Development is undertaking a study of the *Canadian Environmental Protection Act (1999)* during the 42nd Parliament. In the short term, we would expect that review to result in some fine-tuning of the wording in the Act; over the longer term, we hope it will lead to further policy research and eventually to more fundamental changes, because we are not convinced that the policies underlying the current Act will lead to a sustainable future.

It is difficult and in many cases impossible to definitively prove a direct cause and effect relationship between a chemical and a specific human health or environmental impact. What becomes of thousands of man-made chemicals as they mingle and at times combine in the aquatic environment is largely unknown. While the Draft Strategy concludes that some chemicals “can cause serious illnesses such as cancer with exposure over to high levels over a long period of time”, it does not mention the serious reproductive and developmental issues increasingly associated with exposure to very low levels of some newer chemicals.

There are several concerns related to Canada’s chemical management system including:

- The Council of Canadian Academies concluded that toxicity data are lacking for 87 percent of chemicals on the market. One reason for this has been the paring down of governmental scientific capacity.
- Most of the “facts” on which determinations are made come from research paid for by the company seeking approval, which raises concerns about transparency and accountability.
- Conventional testing methods are likely inadequate to detect the remarkably common effects of some endocrine disrupting chemicals on susceptible hormone systems.
- High toxicity alone is not enough to keep a potentially dangerous product off the market under the current system; a second judgment considers other factors such as the

economic and social values of its use, which can influence decisions despite risks to human health and the environment.

- According to the Sustainable Development Commissioner, nearly half of CPA's regulations (41 percent) are so poorly written that they are probably unenforceable.

The policy research needed to address these and other issues will take some time, will be difficult, and is likely to be met with considerable opposition from both within and outside government. It will also require questioning a somewhat parallel system south of the border, because of the highly integrated nature of the North American chemicals industry. But, the probability of success is reasonably high, based on experience in other parts of the world. For example, a new approach to chemicals management was introduced in Europe about a decade ago, which despite some growing pains suggests that making simultaneous health, environmental and economic gains is definitely possible. The critical, fundamental difference is that in the European system a chemical is considered guilty until proven guilty, while in the North American system a chemical is considered innocent until proven guilty.

Opportunity #10: Flood damage reduction research

The rapidly increasing magnitude and frequency of floods due to climate change is one of the most urgent issues facing the country. Although flooding is only mentioned in passing in the Draft Strategy, we are encouraged that the new government is taking some initiative in this area, including beginning discussions towards a new generation of flood damage reduction agreements with the provinces. Given this progress, we suggest that this topic be covered more comprehensively in the final Strategy.

FLOW members Jim Bruce and Ralph Pentland actively promoted and then managed the first generation of flood damage reduction agreements between the mid 1970s and the early 1990s. That program resulted in the mapping and designation for limited use of hundreds of flood risk areas, and improved flood forecasting. It was also designed to arrest spiralling federal disaster assistance payments by restricting new development in high-risk areas. Unfortunately, many of the benefits of that program dissipated as federal-provincial agreements were terminated.

Now, under a fixed disaster assistance formula, senior governments, mostly the federal government, are providing massive and what is essentially free flood insurance with no strings attached. Free insurance of any kind creates a moral hazard that encourages unwarranted risk-taking. No matter how effective more local flood policies may be, there is a tendency for local governments, developers and individuals to make more and more exceptions to those local



policies, knowing they are being backed up by “free insurance” at higher levels of government. As more development proceeds on flood plains, and as the frequency and magnitude of flooding increases with climate change, Canadian taxpayers will pay an ever-escalating price under existing, inappropriate senior government policy.

Opportunity #11: Research on well-designed regulation

This broad topic is not covered in the Draft Strategy, but we believe does deserve attention when considering advances in sustainable development. Most politicians, industrial leaders, and for that matter most Canadians, operate under the instinctive but incorrect assumption that environmental regulation is harmful to the economy and to business profits because it creates cumbersome and unnecessary “red tape”.

What do we mean by “well-designed regulation”? There are basically three types of regulation: 1) technology-based regulation such as requiring best practicable technology; 2) performance-based regulation where the regulator defines the desired outcome and those regulated seek out the least cost way of meeting that outcome; and, 3) incentive-based regulation such as pollution taxes or other types of financial incentives and disincentives. A well-designed regulatory regime will include a mix of all three, but will rely on performance and incentive based approaches as much as possible. What that does is begin to internalize external costs and operationalize the polluter pay principle, while at the same time minimizing remediation costs.

We know from the work of Michael Porter and many others that followed him that, under the right circumstances, and with the right kind of regulatory design, stricter environmental regulation can improve innovation. There are also indications that, after an appropriate time lag, productivity and profitability may also be improved, especially in sectors highly exposed to outside competition. In a sustainable development context, there is a pressing need for more research in this area because the potential benefits of further defining and capitalizing on these relationships are enormous.

Opportunity #12: Research related to environmental rights

Again, this opportunity is not addressed in the Draft Strategy, but it seems to us is fundamental to advancing sustainable development. Many countries have enshrined a “right to the environment” in their constitutions, and several Canadian scholars have suggested that Canada do likewise. In his recent submission to the Standing Committee on Environment and Sustainable Development, Dr. David Boyd called for inclusion of a similar principle in the Federal Sustainable Development Act – a recommendation that FLOW supports.



Over time, Canadian citizens have been demanding an ever more binding contract with their governments – a contract with more transparency and accountability, and one that imposes on our governments a legislated duty to take appropriate actions to preserve the life-sustaining attributes of water, air and oceans. And governments have been gradually responding. For example, the federal government recently joined the international community in formally declared “a human right to water”. Ontario has an Environmental Bill of Rights, which acknowledges that Ontarians “have a right to a healthy environment”. And the federal government has signed several land claims agreements with Indigenous governments guaranteeing waters that are “substantially unaltered in quality, quantity and rate of flow”.

It seems to us this evolution will inevitably continue as the movement to realize a right to a health environment in Canada builds. Governments would likely be wise to do the necessary research ahead of time on all of the options and all of their ramifications. If not, the evolution may simply take place through the courts with unpredictable consequences. For example, how will the various “rights” that are gradually permeating our legal fabric be operationalized? Will Canadian governments voluntarily move in the direction of public trust law, or will it happen through the courts as has happened south of the border?

Concluding remarks

FLOW greatly appreciates the opportunity to offer our perspective, ideas and recommendations on the Draft Federal Sustainable Development Strategy. Given its fundamental importance to human, economic and ecological health, we believe that a greater, more strategic and focus on fresh water holds promise for advancing sustainability in Canada and globally. We recognize that many of our observations and recommendations stretch beyond what is included in the Draft Strategy; but we believe this – and likely so much more – is what will be needed over the long term to realize a sustainable future for Canada.

As noted in the introduction to this submission, FLOW aims to support governments by developing and proposing public policy solutions to advance water sustainability. To that end, we offer our experience and expertise to further inform the Federal Sustainable Development Strategy, and to support the government in its implementation.



Appendix 1: FLOW member biographies

Tony Maas (Director) has been working to protect the health of Canada’s fresh water for over 15 years. He divides his time between roles as Director of the Forum for Leadership on Water (FLOW) and Manager of Strategy with Freshwater Future, a bi-national Great Lakes organization. In both roles, he provides strategic direction and policy expertise, and builds partnerships among diverse interests to benefit people, the environment and the economy. Prior to his current roles, Tony spent 6 years at WWF-Canada where he developed and managed the organization’s national freshwater program. He chairs the External Advisory Board of the Water Institute at the University of Waterloo and the Steering Committee of the Canadian Freshwater Alliance.

Oliver M. Brandes (Co-chair), an economist and lawyer by training, serves as co-director of the POLIS Project on Ecological Governance at the University of Victoria’s Centre for Global Studies, and leads the POLIS Water Sustainability Project. His work focuses on water sustainability, sound resource management, public policy development, and ecologically based legal and institutional reform. Oliver is an adjunct professor at the University of Victoria Faculty of Law and School of Public Administration. In 2012, he co-developed and delivered B.C.’s first Water Law course at the University of Victoria Faculty of Law. In 2009, he helped lead the writing of the book *Making the Most of the Water We Have: The Soft Path Approach to Water Management*.

Norm Brandson (Co-chair) is a Professional Engineer and a practicing environmental consultant. He is past member of the Manitoba Clean Environment Commission and Board of Trustees for the Fort Whyte Environmental Education Centre in Winnipeg. During his 32-year career in the Manitoba public service, the last 15 of which he served as Deputy Minister of the departments of Environment, Conservation and Water Stewardship, Norm was involved in water issues from a number of different perspectives. He represented Manitoba in inter-provincial and international water negotiations, has been involved in the activities of the Prairie Provinces Water Board, watershed boards under the International Joint Commission, and in the development and administration of provincial water legislation. Norm was the founding Deputy Minister for the first all-water department of government in Canada.

Jim Bruce is a consultant on climate change adaptation, water issues and natural disaster loss mitigation. Jim was the first Director of the Canada Centre for Inland Waters, Burlington and has co-chaired several Canada-US Boards for the International Joint Commission. He served for 8 years as Assistant Deputy Minister at Environment Canada responsible for water and climate



programs. From 1986 to 1989 he was Director of Technical Cooperation and Acting Deputy Secretary General of the World Meteorological Organization (WMO), Geneva, and led for the WMO on establishment of the Intergovernmental Panel on Climate Change. Jim is an Officer of the Order of Canada and a Fellow of the Royal Society of Canada. He has been awarded the Massy Medal of the Canadian Geographical Society and Honorary Doctorates from the University of Waterloo and McMaster University.

Murray Clamen has been at the forefront of transboundary water resource management for 30 years, working in a multidisciplinary environment with engineers, scientists, lawyers, academics, administrators, and environmentalists at the Canada-U.S. International Joint Commission. He has lead and participated in numerous Canada-U.S. water resource studies and assessments. For 12 years he was Secretary of the Canadian Section of the IJC, responsible for the administration of the Canadian Secretariat and providing policy advice to the presidential and prime ministerial-appointed commissioners. Dr. Clamen holds an Adjunct Professorship at McGill University, where he assists with the Integrated Water Resources Management (IWRM) Masters Program and teaches a graduate-level course on Water Law and Policy.

Marc Hudon is self-employed, advising industries on community relation and environmental compliance. Marc has been involved for over 20 years on the Great Lakes and St. Lawrence ensuring community and stakeholder involvement in decision-making. He is senior advisor on St. Lawrence River-Great Lakes transboundary water issues at Nature Québec. He is President of the Priority Intervention Zone Committee (Comité ZIP Saguenay-Charlevoix) within the Federal-Provincial St. Lawrence Plan, President of the Quebec Regional Advisory Council on Marine Oil Spills, and is a Canadian member of the International Lake Ontario Board of Control under the International Joint Commission. Marc retired from the Canadian Armed Forces in 1994, where he was active in the environmental sector for 21 years, working on, among other things, hazardous material safety, fuel tank farms, contaminated soils, and water and wastewater treatment plants.

Brenda Lucas is Executive Director of the Southern Ontario Water Consortium (SOWC). The SOWC is a platform built in partnership with eight universities that includes unique facilities for research, testing, and demonstration of water and wastewater services and technologies. Brenda previously served as Senior Policy Advisor to two Ontario Ministers of Environment, with responsibility for water and renewable energy. In that capacity, she played a key role in the introduction and passage of the *Water Opportunities Act* and the *Water Conservation Act*. Before that, she spent eight years with the Walter and Duncan Gordon Foundation, creating



and managing its Freshwater Program. Brenda received her M.Sc. in Biology from Queen's University and B.Sc. from the University of Guelph.

Michael Miltenberger served in the NWT Legislature from 1995-2015, 14 of those years as a Cabinet Minister. His roles have been diverse, reflecting his broad interest in improving the effectiveness of the Government of the NWT in bettering the lives of northerners. He has served as Deputy Premier, Government House Leader, Minister of Health and Social Services, Minister of Education, Minister of Finance, Minister of Environment and Natural Resources, and the Minister Responsible for the NWT Power Corporation. He has worked extensively in the areas of water, the environment and working collaboratively with Aboriginal governments. Michael is Métis and lives in Fort Smith, NWT.

Linda Nowlan, Staff Counsel with West Coast Environmental Law, has over 20 years experience in the private, government, intergovernmental, non-governmental, and philanthropic sectors. She was previously at the Program on Water Governance at the University of British Columbia and, before that, was the Executive Director of West Coast Environmental Law. She was a member of the Canadian Council of Academies' Expert Panel on Groundwater and has also served on the B.C. Independent Drinking Water Review Panel, the Vancouver Foundation's Environment Committee, and the Board of Directors of Smart Growth B.C. She is the author of numerous reports, including *Practising Shared Water Governance in Canada: A Primer* and *The Legal Regime for Arctic Environmental Protection*.

Merrell-Ann Phare is a lawyer, writer and the founding Executive Director of the Centre for Indigenous Environmental Resources, a national First Nation charitable environmental organization. She is author of the books *Denying the Source: the Crisis of First Nations Water Rights* and *Ethical Water*. Merrell-Ann is Chief Negotiator on behalf of the Government of the Northwest Territories in their negotiation of transboundary water agreements in the Mackenzie River Basin and for the creation of Thaidene Nene, a national and territorial park in the east arm of Great Slave Lake. She is legal counsel and advisor to a number of First Nation and other governments and organizations and regularly speaks on water issues and First Nations.

Ralph Pentland served as Director of the Water Planning and Management Branch in Environment Canada for 13 years, from 1978 to 1991. In that capacity, he negotiated and administered numerous Canada-U.S. and federal-provincial water Agreements, and was the primary author of the 1987 Federal Water Policy. Since 1991, he has served as a water and environmental policy consultant in many countries, and has collaborated with numerous non-governmental and academic institutions. Over the years, Ralph has co-chaired five International



Joint Commission Boards and Committees. Most recently he was a member of the Government of the Northwest Territories Team negotiating bilateral water agreements in the multi-jurisdictional Mackenzie River Basin.

Bob Sandford is the EPCOR Chair of the Canadian Partnership Initiative at the United Nations Institute for Water, Environment and Health. He is the co-author of the UN *Water in the World we Want* report on post-2015 global sustainable development goals relating to water. Bob is committed to translating scientific research outcomes into language decision-makers can use to craft timely and meaningful public policy and to bringing international examples to bear on local water issues. He is Senior Advisor on water issues for the InterAction Council, a global public policy forum composed of more than thirty former Heads of State. He has published a number of high-profile books on water, including *Cold Matters: The State & Fate of Canada's Snow and Ice*, *Saving Lake Winnipeg*, and *Flood Forecast: Climate Risk and Resiliency in Canada*.