

CANADIAN WATER NETWORK

Submission to the House of Commons Standing
Committee on Finance
2014 Pre-Budget Consultations





Executive Summary

Canadian Water Network (CWN) is proposing the Government of Canada invest \$60 million over ten years to allow CWN to expand its unique model and generate over \$180 million in economic activity through co-investment from the private sector and other levels of government. This investment will support government priorities (such as responsible resource development), strengthen Canada's economy, and will lead to self-sustainability for CWN beyond 2024. CWN requests to appear before the House of Commons Standing Committee on Finance in Toronto or Ottawa to show how CWN's proven approach can deliver value for the government and for Canada.

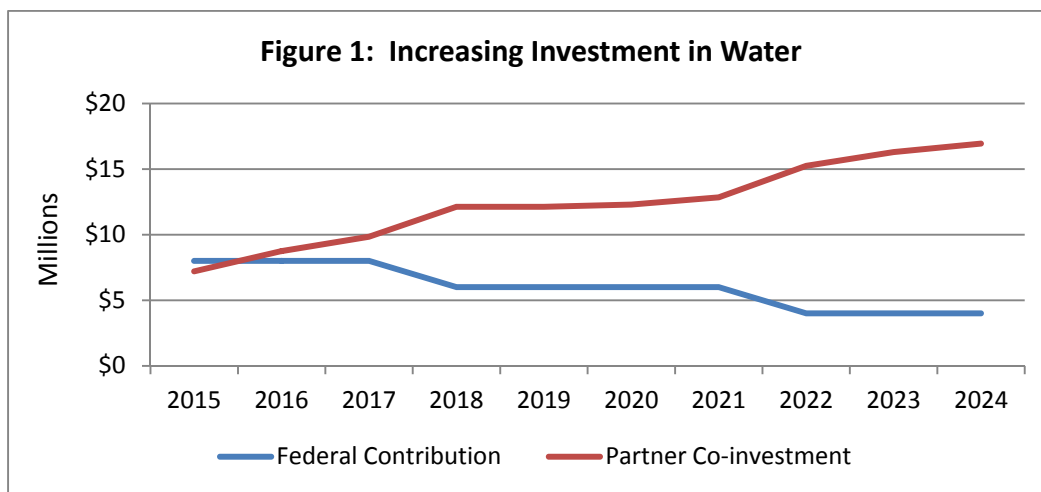
Delivering Value for Canada

Water is Canada's competitive advantage, and effective water management is a major determinant of success for Canada's people and economy.

Canadian Water Network (CWN) has earned a reputation as a trusted national source of science for decision-making by converting credible, leading water research into practical results.

CWN is unmatched in national scope and international reach, and since 2001 has attracted \$45 million investments from over 500 partners including all levels of government and business.

CWN is seeking federal support of **\$60 Million over 10 years** to expand its new consortium-based approach to research and its proven training and development program, by applying them to government priorities. This support will be used to generate co-investment by business and provincial and local government partners to **generate economic activity of over \$180 million**, as shown in **Figure 1**.



Over 10 years, the investment will lead to improved regulation, business competitiveness through research, innovation and training, health and security of Canadians and the economy, enhanced environmental quality, and CWN's self-sustainability.

CWN requests to present to the House of Commons Standing Committee on Finance on how supporting the application of CWN's approach can deliver value for Canada.

This proposal touches on the committee's key themes of increasing the competitiveness of Canadian businesses through research, development, innovation and commercialization; ensuring prosperous and secure communities, including through support for infrastructure; and, supporting families and helping vulnerable Canadians by focusing on health, education and training.

Protecting and Enhancing Canada's Competitive Advantage

The health and prosperity of Canada's people and communities, and the engines of our economy, including resource development, agriculture, and our cities, rely heavily on reliable access to clean water. An investment by the federal government in CWN will ensure that research and training improves decision-making, and that investment and risk management for water will have significant and lasting socio-economic value.

The investment will allow for expansion of CWN's research and training approaches so that they can be applied to critical government priorities of *responsible resource development*, *water management in Canada's Aboriginal and remote communities*, and *sustainable municipal water management and infrastructure*. The results will:

- **Strengthen Canada's economy, while improving environmental and social health**
- **Expand Canada's leadership and competitiveness in growing global sectors**
- **Increase investment by business and provincial and local governments in research and innovation**

Healthy People and Cities

Good water management is vital to the health and security of Canadians. This includes protecting the most vulnerable, including Aboriginal and remote communities. Communities across Canada are struggling with realities of changing climate, demographics and socio-economic conditions, and need to increase their resiliency and develop strategies to adapt. Innovation is also needed to address the tens of billions in costs for water infrastructure renewal. The risks of failing to adapt and innovate will cost Canada billions of dollars in economic impacts.

The federal government makes significant investments in infrastructure through the New Building Canada Fund and Green Municipal Fund. Prioritizing this funding and making efficient investments to ensure our cities, socio-economic fabric, and natural assets are protected requires a strong science basis. CWN has the proven ability to support the government in this area.

Social and Economic Impacts of Water

2000 Walkerton – 7 Canadians killed, thousands ill, estimated economic impact of \$64.5 million

2013 Alberta Floods – 4 deaths, \$5 billion in economic impact

2013 Toronto Rain Storm – Infrastructure damage to City of Toronto of \$65.2 million, Insurance claims of over \$850 million

Canada's Water Infrastructure Deficit – calculated at \$80 billion and rising

Responsible Resource Development

Sustainable water management is critical to the success of Canada's water-reliant resource sectors, including agriculture, and the multi-billion dollar natural resource sectors, particularly oil & gas and mining. Addressing issues of water availability and security to support extraction,

processing and transport, while protecting environmental and public health, are fundamental to the success and competitiveness of resource development.

Securing public support for responsible development of resources requires that evolving regulations and practice clearly reflect leading science to achieve protection of people and watersheds. This will ensure that Canada's resource economy will grow, and is sustainable and globally competitive. Application of CWN's expertise can help the government move this priority and these sectors forward.

Economic Insights: Water-Dependent Resource Industries

Alberta Oil Sands – \$350 billion in royalties, \$122 billion in tax revenue over the next 25 years (Canadian Energy Research Institute)

Alberta Energy Sector – 22% percent of provincial GDP in 2012 (Government of Alberta)

Canadian Natural Gas Sector – \$386 billion to be invested by 2035 (Conference Board of Canada)

Canadian Mining Sector – \$92 billion in mineral exports in 2012 (NRCan and Statistics Canada)

Canadian Agriculture and Food – \$103.5 billion, 6.7% of Canada's GDP in 2012 (Agriculture Canada)

Ontario Agri-Food sales – \$37 billion, 2nd largest manufacturing sector in Ontario (Bloom 2012)

Canada's Role in a Growing Global Water Economy

The stresses of a growing and economically maturing world have made water a prominent global issue. The World Economic Forum lists water supply as a top global risk, making water increasingly Canada's durable competitive advantage. Effective management of this vital resource is a major determinant of the success of our economy.

Addressing challenges using data and information that is grounded in leading research creates an opportunity to showcase Canada's abilities globally and for Canadian businesses to grow and help solve global water issues. Already, 1.7 million Canadian jobs include work in environmental management. Growth in Canadian expertise will support increasing global demand.

The Growing Global Water Sector

\$316 billion – size of Global market for water goods and services (Global Water Intelligence)

\$3.9 billion – sales of environmental goods and services from Canadian businesses in 2010 (StatsCan)

10.3% of Canadian labour force – involved in environmental activities in their jobs (ECO Canada)

Who We Are and What We Do

CWN is a success story for Canada's government. CWN is a national, apolitical organization created through a very successful 14-year tenure as a federally-supported Network of Centres of Excellence (NCE). It has developed expertise to deliver increasing value from Canada's

collective national research capacity by converting research into policy and practice for Canada's public and private sectors.

CWN addresses Canada's major water management challenges by ensuring that research leads to practical solutions and real-life applications. The organization provides its government and business sector partners with focused insight to better manage risks and achieve more effective investments and policies.

CWN's Impact

Over 14 years, CWN research and activities have created lasting impact in Canada, including:

- Over **50 changes in policies and practices** that resulted in reduced public health risks, improved investment and operational strategies, and significant cost savings.
- **Advancements and commercialization opportunities in water treatment and analytical technology** through targeted investment with private sector partners.
- **Improved water quality** through collaboration with public and private sectors in agriculture, mining, oil and gas, and forestry.
- **Training of 1,500 highly-skilled researchers and professionals**, many of whom are now leaders for Canada in public and private sector water management.

Some specific examples of benefits that relate directly to government priorities include:

- CWN's \$1.5 million investment in cutting-edge research in lead contamination of municipal drinking water **led to over \$100 million in savings and cost deferrals** for the City of Toronto and other communities.
- A 10 year and \$1.8 million investment by CWN in research to advance **water management and treatment capacity for Canada's Oil Sands** has **garnered \$4.8 million in partner co-investment**, resulted in technology and process demonstration, and helped shape environmental monitoring for the Athabasca.
- CWN is **advancing technology** through validation of microbial testing technologies, in partnership with Public Health Agency of Canada, Health Canada, and Genome Canada that will reduce costs, leading to more secure drinking water for Canadians.
- CWN's work on **developing a drinking-water safety plan approach** to risk management is enabling Canada to adopt the strategy recommended by the World Health Organization, including its integration into Alberta legislation where it has become a pivotal mechanism to better protect communities, including remote and Aboriginal.

Applying CWN's Consortium Approach for Value

CWN completes its successful tenure as an NCE in 2015. CWN's approach has evolved and improved over 14 years. It is now well-positioned to apply its expertise through a new multi-funder model. CWN's unique "consortium-based" approach includes:

- Identification of issues requiring involvement of overlapping jurisdictions where no single agency or actor has the mandate, access to sufficient knowledge, or the ability to advance them individually.
- Bringing often divergent actors together as a consortium and rallying them around shared priority research needs.
- Applying CWN seed funding to catalyze co-investment by business and government in research and its management and mobilization.
- Accessing Canadian and international research capacity through CWN's network and rigorous processes to find the best, leading science, and converting it into solutions that drive progress for industry and government.

CWN has already launched one multi-funder consortium – the **Canadian Municipal Water Consortium** – with annual investment from cities that together serve 14 million Canadians. These initial partners have contributed over \$700,000 in 2014.

CWN is using the same approach to develop a national consortium on **water and hydraulic fracturing** – a critical area requiring credible science to support decision-making, where federal investment will catalyze co-investment and generate value for the Canadian energy sector.

Further application of this approach using this new federal investment will advance government priorities while strengthening Canada's businesses and communities through innovation, security, and improved health and training.

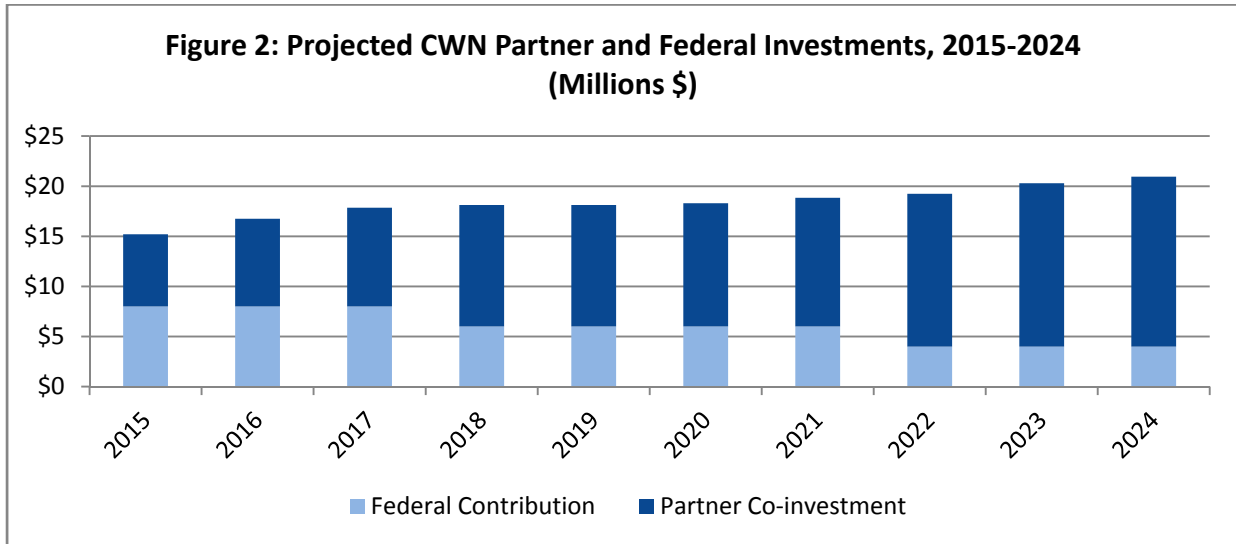
Importance of the Federal Investment

CWN's experience confirms the critical role of seed funding to spark partner co-investment. Federal support will provide this essential capacity, and provide the stability and flexibility that will allow CWN to interact with different sectors and partners to address evolving issues.

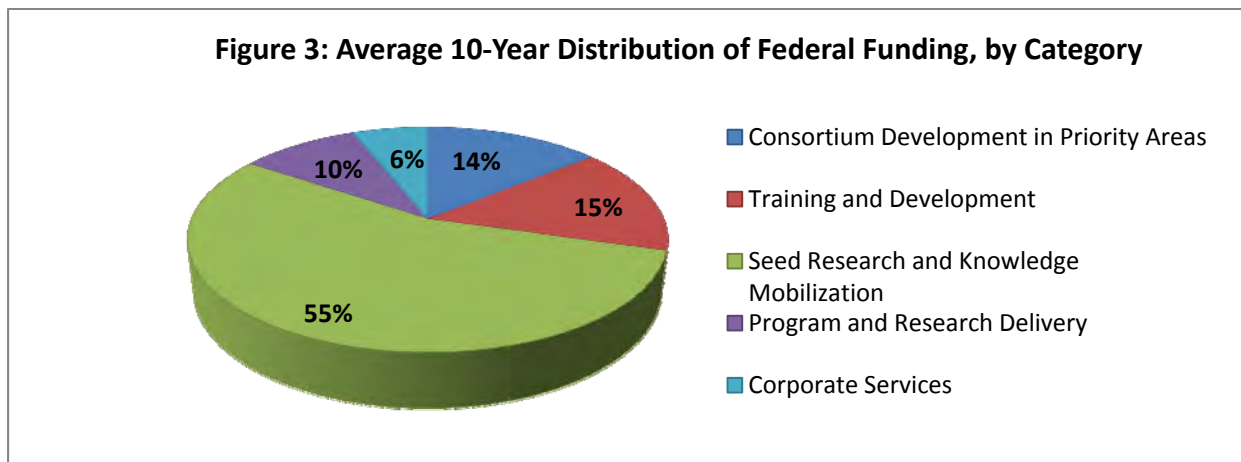
Federal funding will also support the development of highly skilled professionals and researchers through continuation of CWN's reputable training program. Over 1,500 students and young professionals have benefitted from CWN's training, and many are now in leadership roles in water management in Canada and internationally.

CWN's Proposed Partnership and Return on Investment

CWN is seeking co-investment from the federal government of **\$60 million over 10 years**, with stable federal investment for the first three years followed by declining amounts thereafter, as indicated in **Figure 2**. This allows CWN to expand from two research consortia in 2015 to five by 2020, with the expectation that significant economies of scale will lead to self-sustainability.



The financial model is based on our experience in developing consortia and delivering programs to date. It reflects our understanding of the resourcing necessary to successfully catalyze and launch consortia to attract partner co-investments that will support them going forward. **Figure 3** indicates the proposed use of federal investment.

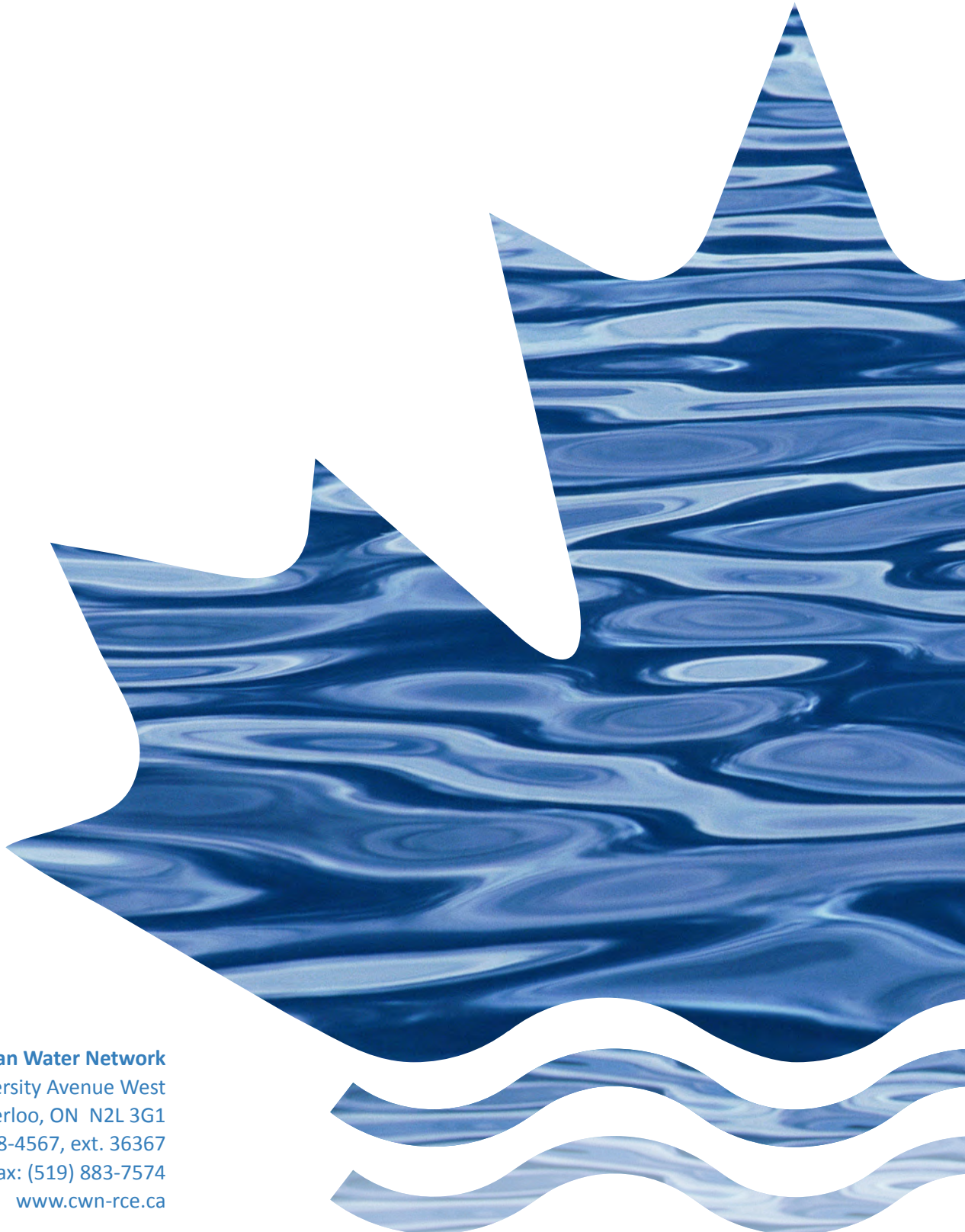


We expect federal support to **generate over \$120 million in private and public sector co-investment** over 10 years. This equates to a return on investment of 200% for the federal government. The returns are much greater if the significant impact on Canada's economy, environment and society achieved by effective water management is included.

While other models of accessing research exist, none match CWN's ability to harness national and international expertise and shared investment in strategic areas to achieve real impact.

We thank the Committee for the opportunity to submit this proposal.

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