

## Canada - Open science country note

### Open science and the national context

As part of a government-wide initiative to broaden the breadth and depth of information available on line through the Action Plan on Open Government, the revised science, technology and innovation (ST&I) strategy (*Seizing Canada's Moment: Moving Forward in Science and Innovation*, launched on 4 December 2014) commits to open science policies and practices for publicly funded research by increasing public access to the results of government-funded research.

This will showcase the work of Canada's scientific community and at the same time deliver on the digital government pillar in the strategy Digital Canada 150. An implementation plan will be developed to promote open science – including both open access and open data initiatives – within science-based departments and agencies; the plan will also cover the activities of granting councils and the International Development Research Centre.

Specifically, the government of Canada will:

- Implement a *Tri-Agency Open Access Policy* in the three federal research granting agencies – the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), and Canadian Institutes for Health Research (CIHR) – requiring that the results of federally funded research be made available within 12 months of publication.
- Make available on line consolidated lists of recently published research authored by federal scientists, and develop and implement policies to promote open access to federal science through open.canada.ca.
- Implement open data initiatives in the granting councils and in science-based departments and agencies, to promote broad-based access to federally funded data and research results in a timely manner.
- Invest USD 3 million over three years in the Canadian Digital Media Network to create the Open Data Exchange (ODX). The ODX will play a pivotal role in aggregating large datasets; promoting the development of interoperability standards; and stimulating the commercialisation of new data-driven apps.

Open science commitments found in the federal ST&I Strategy (released 4 December 2014) are based on the government of Canada Action Plan on Open Government 2.0 (launched 6 November 2014). The new Action Plan specifies ways the federal government is working towards creating a more open and transparent government and maximising the sharing of government information and data. The Action Plan on Open Government 2.0 consists of 12 commitments, including the Directive on Open Government (launched 9 October 2014), which will set the direction for all activities over the next two years and beyond.

Links:

[Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation 2014](#) [1]

[Canada's Action Plan on Open Government 2014-16](#) [2]

[Directive on Open Government](#) [3]

### Open science research and innovation actors

The Directive on Open Government and the Action Plan on Open Government 2.0 were developed through the collaboration of federal science-based departments and agencies and the Treasury Board Secretariat. The Directive ensures the consistent approach of over 100 departments and agencies in releasing their information and data in standardised open formats, free of charge and without any restrictions on reuse. The Treasury Board is responsible for monitoring and reporting on the Directive's implementation.

Each commitment under the Action Plan on Open Government 2.0 is supervised by a specific government department. The following are leads responsible for commitments related to open science and open data:

- Environment Canada and Industry Canada (open science)
- Treasury Board (open data within the government of Canada and collaboratively with other levels of government)
- International Development Research Centre (open data for international development)
- Federal Economic Development Agency for Southern Ontario (Canadian Open Data Exchange, the Open Data Institute)

Employment and Social Development Canada (digital literacy).

### **Open science and business sector actors**

Canada developed its new national Action Plan on Open Government 2.0 in consultation with citizens, civil society organisations and the private sector. Its multi-phase consultation approach has served to increase public awareness of Canada's open government initiatives, specific consultation activities, and the Open Government Partnership (OGP), which Canada joined in April 2012. More importantly, these consultations have enabled Canada to tap into the views of Canadians on how best to advance open government priorities over the next two years.

Major consultation activities included the following:

- Public Consultation Planning (April 2014): Citizens and civil society organisations were able to review a proposed draft consultation plan posted on [data.gc.ca](http://data.gc.ca), as well as receive advance notice of all planned on-line and in-person opportunities to participate in the development of the Action Plan. During this first phase of consultations, the government asked Canadians to provide ideas on how to strengthen its consultation plan in order to maximise public input into the development of Action Plan 2.0.
- Generating Ideas (May to August 2014): During this second phase of consultations, a variety of mechanisms were used to support public generation of ideas, new and old, for potential inclusion in the Action Plan. Citizens and civil society organisations were invited to participate in a series of public workshops and discussion panels in cities across the country, to brainstorm on new open government commitments. Online consultations sought additional ideas from the public.
- Proposing Activities (August to September 2014): During this critical phase of consultations, proposed activities for the new Action Plan that were informed by ideas generated by the public were posted on line for review and comments. A series of in-person events during this phase provided a public forum for discussion of these activities and initiatives, and sought feedback on what could be accomplished within the time frame of the new Action Plan.
- Full Review of Action Plan 2.0 (October 2014): As a final phase of consultations prior to finalising the commitments, the government posted a full draft of Action Plan 2.0 on [data.gc.ca](http://data.gc.ca) for public review and comments.

Canadians and civil society were thus engaged at each stage of the development of the new Action Plan, with feedback sought from the public, open government experts from civil society organisations, academia, and the private sector.

In October 2013, the government of Canada published its report on the implementation of Canada's first Action Plan. Progress was also assessed under the OGP's independent reporting process in 2014. As with all public consultations, the feedback and recommendations obtained through these reviews helped guide the development of the second Action Plan on Open Government. In particular, the OGP's independent review highlighted the need to improve how citizens and civil society organisations were consulted on the development and implementation of open government commitments.

## Policy design - Open data

Canada's first Action Plan on Open Government was launched at the 2012 OGP Annual Summit in Brazil. Significant progress has been made over the past two years on a broad range of initiatives to increase access to open data, open information, and open dialogue. This has established a strong foundation on which future open government activities can be built; these will include new government-wide policy on the release of open data and information, and modern, state-of-the-art platforms to enable public access to government information and engagement opportunities.

Through its commitment to the G8 Open Data Charter in June 2013, Canada adheres to the principles for open data that are implemented through Canada's G8 Open Data Charter Action Plan.

Key accomplishments include the following:

- Next-Generation Open Data – The government of Canada's next-generation open data portal (<http://open.canada.ca/en/open-data> [4]) was launched in March 2011. This discovery portal was built following broad public consultations with users to define new capabilities; enhancements were made to expand the availability of high-value data, improve data integrity, enrich the usability of the site, facilitate intuitive discovery of data, and increase user engagement.
- Open Government Licence (OGL) – In 2013 a new open government licence was issued for all levels of government in order to remove barriers to the reuse of published data and information, regardless of origin. This licence has been adopted not only by the national government of Canada, but also by several provincial governments and municipalities across the country.
- Canadian Open Data Experience (CODE) – In February 2014, the government held the largest competitive open data appathon in Canadian history, bringing together more than 900 developers, students, and open data enthusiasts from across Canada to develop over 100 innovative applications using federal data. There will be another CODE in 2015 as the government of Canada is teaming up with XMG Studio of Toronto to hold the second national Canadian Open Data Experience appathon.

The Action Plan on Open Government 2.0 includes four specific commitments to unlock the economic potential of open data:

- 1) *Open Data Canada* – Establish common open data principles for adoption by governments across Canada; facilitate the adoption of a common or compatible open government licence by all Canadian governments to enable the release and reuse of open data and information; establish or identify common open data standards (e.g. metadata, data formats) that align with existing international standards for adoption by governments across Canada; develop a federated open data search service with provinces and municipalities to provide users with a "no wrong door" approach to accessing open data, so that data can be easily found and downloaded regardless of which government open data portal is used; expand and deliver a national appathon event, the Canadian Open Data Experience (CODE), to promote access to, and reuse of, multi-jurisdictional data to

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develop new and innovative tools and services for Canadians.

2) *Open Data Exchange (ODX)* – Establish an open data institute in Canada (the Canadian Open Data Exchange, or ODX) as a national marketplace that includes an online community for those engaged in the commercialisation of open data. ODX will undertake the following in collaboration with governments, civil society organisations, and private industry: development of new tools and applications that access and re-use government data establishment of a framework for open data standards, including the articulation of industry standards for presenting and providing access to open data for key sectors; consultation with industry champions on the development of demonstration projects for the commercialisation of open data in priority sectors; the launch of a national outreach programme, including events, workshops, appathons, and student contest opportunities nationwide; and incubation of new data-driven companies.

3) *Open Data for Development (OD4D)* – Build the capacity of the open data initiatives in Latin America, the Caribbean, Africa and Asia, and establish important partnerships between these countries and the open data movement in Canada. That is to say, support developing countries in their efforts to plan and execute national open data initiatives; develop international data standards and solution-driven networks that can help bring about social and economic innovation; measure and evaluate the relationship between open data initiatives and socio-economic development, so as to inform the quality and reach of future open data initiatives; and host an International Open Data Conference in 2015 to bring together experts from around the world to share knowledge and experience, and so strengthen international collaboration on open government issues.

4) *Open Data Core Commitment:*

- Continue to prioritise and expand the release of open data from federal departments and agencies under a single open government licence.
- Complete public consultations with Canadians and civil society organisations in support of the prioritisation of open data releases.
- Launch a new government-wide open government portal ([open.canada.ca](http://open.canada.ca)) with expanded open data services. These include the establishment of interactive, thematic open data communities (e.g. health and safety); enhanced consultation functionality and online forums; a directory of open data services across Canada; expanded developers' tools to support reuse of federal data; enhanced data discovery; and standardised release procedures, formats, and metadata.
- Expand and deliver the Canadian Open Data Experience (CODE) as the premier national open data competition to drive innovation in Canada – i.e. increase promotion of CODE activities and events; expand the use of regional hubs to increase participation in all areas of Canada; and create sub-themes to focus application development on everyday challenges facing Canadians.
- Consolidate the management of federal geospatial data across the government of Canada, to make this information more accessible and reusable via federal open government websites.
- Broaden adoption of the International Aid Transparency Initiative (IATI) standard in the government of Canada, and encourage other Canadian actors to publish their own data – in particular, civil society organisations.

In addition, under the federal ST&I strategy, the government of Canada will advance open science policies and practices for publicly funded research by increasing public access to the results of research.

### **Policy design - Open/increasing access to scientific publications**

Under the Action Plan 2.0, the government of Canada will maximise access to federally funded

scientific research, to encourage greater collaboration and engagement among the scientific community, the private sector, and the public.

Deliverables to be completed in the next two years:

- Develop and publish a government-wide open science Implementation Plan with specific activities and milestones, including the following:
  - public consultations on the implementation of open science
  - launch of open access to publications and data resulting from federally funded scientific activities
  - development and adoption of policies, guidelines and tools to support effective stewardship of scientific data
  - promotion of the adoption of open science standards in Canada.
- Establish an online service providing a one-stop-shop for publications and data resulting from federal scientific activities.
- Develop inventories of federal scientific data and initiate the public release of data.

Publish and maintain a consolidated online list of peer-reviewed articles by scientists dating back to 2012.

### **Skills for open science and open data**

Under Action Plan 2.0, the government of Canada will support the development of tools, training resources and other initiatives to help Canadians acquire the essential skills needed to access, understand and use digital information and new technologies.

Deliverables to be completed in 2014-16:

- Sponsor projects to increase understanding of the relationship between digital skills and relevant labour market and social outcomes, including building a profile of Canadians' digital skill competencies by region and demographic group.
- Develop online tools, training materials and other resources to enable individual Canadians to assess and improve their digital skills.

Fund private sector and civil society initiatives aimed at improving the digital skills of Canadians (e.g. digital skills those in rural small business, Northern youth; business technology management accreditation).

### **Open science and international co-operation**

Canada joined the Open Government Partnership (OGP) in April 2012, and remains committed to the principles of the OGP's Open Government Declaration. Canada's membership in the OGP provides key opportunities to advance its open government agenda, share and learn from international best practices, and collaborate with its OGP colleagues on solutions that benefit citizens globally. As co-chair of the OGP's Open Data Working Group, Canada works with governments and civil society organisations on defining shared principles for open data, including the use of common standards that will help align open data services offered around the world.

International leadership on open government is a priority for the government of Canada. In June 2013, the Prime Minister and the other G8 leaders adopted the G8 Open Data Charter, which established open data principles for all member countries, and called for specific commitments to release core public sector data. The Sunlight Foundation, a key non-profit organisation that advocates open government globally, has ranked Canada's plan for implementing the G8 Open Data Charter highest among those of the G8 countries.

The government of Canada also believes that open data holds an enormous potential to enhance development efforts around the world. As co-chair for the OGP Open Data Working Group, Canada is committed to strengthening a truly global open data movement, and exploring ways to employ collaboration and technology to strengthen democracy and build prosperity. As noted in the OGP's Four-Year Strategy (2015-18), national action plans are meant to provide an organising framework for international networking. The OGP is in many ways a global platform for connecting, empowering, and supporting open government reform across member countries.

In recent years, Canada's International Development Research Centre (IDRC) has supported initiatives in developing countries to employ open data for development more effectively open data for development, establishing a global network of partners around the Open Data for Development (OD4D) initiative. The OD4D initiative aims to support the global and regional efforts of governments, civil society organisations and entrepreneurs harnessing open data to achieve development outcomes, and enrich the international sharing of open data solutions and best practices. Through the IDRC, Canada also participates in the Open Data Research Network, which is open to all researchers interested in open data.

The 2015 Open Data Research Symposium and the 3rd International Open Data Conference will both be hosted in Ottawa, Canada in May 2015.

#### Links:

- [G8 Open Data Charter – Canada's Action Plan](#) [5]
- [Open Data for Development](#) [6]
- [Open Data Research Network](#) [7]
- [2015 Open Data Research Symposium](#) [8]
- [3rd International Open Data Conference](#) [9]

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#### Links

- [1] [http://www.ic.gc.ca/eic/site/icgc.nsf/eng/h\\_07472.html](http://www.ic.gc.ca/eic/site/icgc.nsf/eng/h_07472.html)
- [2] <http://open.canada.ca/en/content/canadas-action-plan-open-government-2014-16>
- [3] <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?section=text&id=28108>
- [4] <http://open.canada.ca/en/open-data>
- [5] <http://open.canada.ca/en/g8-open-data-charter-canadas-action-plan>
- [6] <http://www.od4d.net/>
- [7] <http://www.opendataresearch.org/>
- [8] <http://www.opendataresearch.org/project/2015/symposium>
- [9] <http://opendatacon.org/>