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# Canada: Energy RD&D Data Collection Process Knowledge Sharing

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# Objective

- Canada's experience collecting energy RD&D data
  - Background: reporting coordination
  - IEA survey: process and timeline
  - Lessons learned: take aways



# Canada

- Location: Northern part of North America
- Governance: One federal, ten provincial and three territorial governments
- Fiscal year: April 1 – March 31
- Capital city: Ottawa
- Official languages: English and French



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# Energy: Jurisdictional Responsibility

FEDERAL RESPONSIBILITY	SHARED	PROVINCIAL RESPONSIBILITY
<ul style="list-style-type: none"> <li>• International energy</li> <li>• Interprovincial energy</li> <li>• Trade and investment</li> <li>• Nuclear energy and uranium</li> <li>• Energy resources on federal Crown land, offshore, and North of 60°</li> <li>• Regulations and standards relating to energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental regulation of new energy projects (including Indigenous consultation)</li> <li>• Scientific research &amp; development</li> <li>• Offshore petroleum in Atlantic Accord Areas</li> <li>• Infrastructure security and resiliency</li> <li>• Energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Regulation of natural resources development on provincial lands</li> <li>• Land-use and project planning</li> <li>• Royalty design and collection</li> <li>• Intra-provincial energy resources infrastructure, distribution, storage</li> <li>• Electricity generation</li> </ul>



**Indigenous rights** under the Constitution and the UN Declaration on the Rights of Indigenous Peoples **must be respected by all levels of government**



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# Reporting: Lead Coordinator

- Natural Resources Canada (NRCan) is the coordinator of all federal, provincial and territorial (FPT) IEA reporting efforts.
  - NRCan's mandate includes energy
  - Data collection is done by means of a survey; full cycle of the survey takes one year from preparation to sharing of the results
  - Approx. 30 federal departments/agencies plus 13 provincial & territorial (PT) governments respond to the survey



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# Reporting: Contributors

- Contacts were first established through existing groups of federal, provincial and territorial departments and agencies related to energy files.
  - Important to keep the contacts updated to ensure the appropriate group is taking on the lead of collection of data for their respective organization
  - Often, provincial & territorial (PT) departments/agencies with a core energy mandate (e.g. Ministry of energy) responsible for data collection, on behalf of their PT
  - Identification of federal participants often based on annual federal budget announcements
- **Recommendation: Identify appropriate groups at government organizations that oversee programs or have a reporting role (e.g. corporate reporting/performance reporting) to complete the survey.**

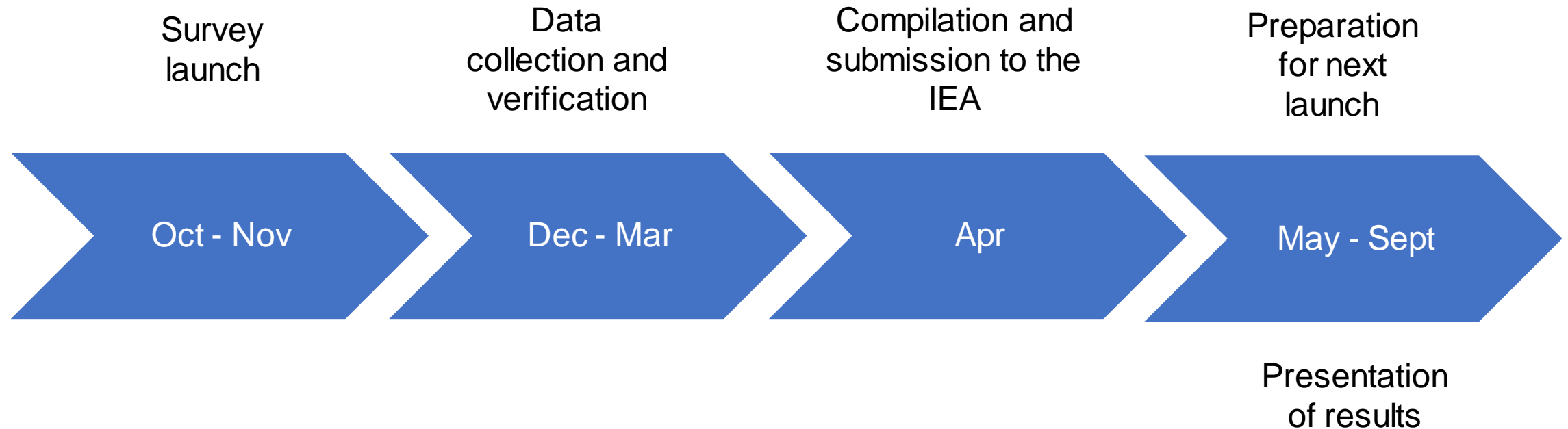


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# Survey Process and Timeline



- *Note:* Mission Innovation (MI) survey tracks federal clean energy RD&D and accompanies the IEA survey. MI survey is reported by program, rather than by technology category.



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# Survey Launch

- Two separate survey launches take place (via email): Federal in October, Provinces/Territories in November.
- Survey launch package includes:
  - Task letter
  - Supplemental guidance
  - IEA (FPT respondents) and MI (federal respondents only) survey templates
  - Frequently Asked Questions (FAQ) document
- Package material is updated each year.



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# Data Collection and Verification: Support to Survey Respondents

- After the survey launch, information sessions are held by NRCan to provide guidance to survey respondents.
  - There is no central database across federal, provincial & territorial (FPT) governments.
  - Each department has its own way to track spending according to their context. For some respondents:
    - energy projects are easy to report, while others have a hard time picking out energy projects in their vast array of supported sectors
    - there are too many projects (i.e. thousands of projects) that cannot be evaluated and reported individually
    - they have a challenge of too many projects funded in many different industry sectors where energy is not identified as a sector
- **Solution: Working closely with each department to evaluate the projects/programs to determine whether spending is within the scope of the IEA guide definitions.**



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# Data Collection and Verification: Preventing Double Counting

- In order to minimize double counting and enhance accuracy/consistency, we report our funds in the following way:
  - *Do include* funds by the entire department/agency and not just by the unit (e.g. division, sector, etc..) that receives the survey package
  - *Do not include* funds the department transferred to another department (Those are to be reported by the recipient)
  - *Do include* funds that the department received from other department



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# Data Collection and Verification: Reliance on Respondents

- Each department/agency collects the data as they see fit, as the department/agency is better placed to navigate how to coordinate their internal reporting, however, we provide assistance in terms of how best to collect the data.
  - Often times, NRCan evaluates projects/programs across many departments (i.e. big spenders) to ensure the spending is within the scope of the IEA reporting definitions.
- **Without the cooperation of the survey respondents, data collection cannot be conducted nor verified.**



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# Data Collection and Verification: Back and Forth Communication

- Completing the survey template goes through an iterative process with each respondent by:
  - Comparing with the previous year's submission (e.g. trends)
  - Comparing actual vs. previously budgeted expenditures for the same year
  - Checking/verifying current and forecasted amounts through budget announcements and consultation with working level contacts
  - Providing assistance to the survey respondents with the scope of data collection, types of expenditures under consideration, technology categories/definitions



# Data Collection and Verification: Focus of Efforts

Most of our efforts are focused on verifying the data & information to ensure accuracy and consistency.



We work very closely with all of our working level contacts to complete the federal, provincial & territorial survey submissions.



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# Compilation and Submission: Consolidation and Verification

- Once each survey template is completed, all of the templates are linked and results are consolidated.
- This stage is the last stop to check the completeness of the individual survey templates.
- The consolidated results are reported in millions of Canadian dollars with a three-decimal point accuracy for submission to the IEA.
- We also provide any written responses to the IEA along with the data submission.



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# Presentation of Results

- Each year, we share our consolidated results. Such as:

- Country ranking
- Results by technology



- Sharing the results provides an opportunity to remind the respondents of the next survey cycle and to bring forward any questions/concerns they may have.



# Preparation for Next Launch

- Preparation often starts with contact updates and follow-ups:
  - Major changes in contacts through re-organization
  - New respondents
  - New programs/projects to seek new funding amounts
- Preparation helps us forecast the following years' spending trend as well as establishing contacts.



# Lessons Learned

- ***For Canada, this is a collaborative effort.***
- Establishing and maintaining working level contacts are important to transition from year to year reporting.
- Preparation helps NRCan and the survey respondents with the upcoming survey cycle.
  - Improve the collection process each year
  - Address any questions/concerns



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# Questions

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