Emerging Canada-EU Cooperation Themes: Climate Change

ERA-Can+ Success and Future Endeavors in
EU-Canada Cooperation
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Climate Change - Canada's Approach

Prime Minister Justin Trudeau at COP21

- "Our government is making climate change a top priority, and our actions will be based on five principles. First, we will act based on the best scientific evidence and advice."

Some Commitments in Mandate for Minister of Environment & Climate Change

- "In partnership with provinces and territories, develop a plan to combat climate change and reduce greenhouse gas emissions, consistent with our international obligations and our commitment to sustainable economic growth."
- "Ensure that decisions are based on science, facts, and evidence, and serve the public's interest;"
- "…examine the implications of climate change on Arctic marine ecosystems."

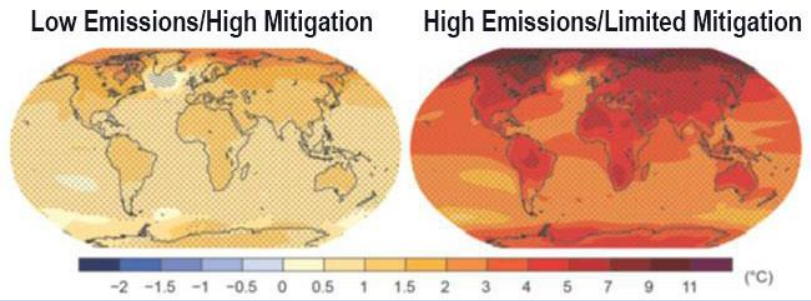
Engaging Canadians

- On April 22nd the Minister of Environment and Climate Change launched the online public consultation:

letstalkclimateaction.ca / parlonsactionpourleclimat.ca

Excerpt from Climate science briefing to Prime Minister Justin Trudeau, Cabinet Ministers, and provincial and territorial Premiers, November 2015:

- Warming over 20th century is unequivocal and largely due to human activities.
- Canada's rate of warming is about twice the global rate, and has warmed about 1.6ºC since 1950.
- Effects are global and will persist for many centuries because GHGs like CO2 are well mixed and long-lived.
- GHG emissions need to become net zero in order to stabilize climate at any temperature



(Source: IPCC AR5, WGI, Summary for Policymakers, Fig. SPM.8)

Environment and Climate Change Canada

- Environment and Climate Change Canada (ECCC) is a national focal point for Canadian research on the climate system and the science of climate change.

- ECCC's climate change science activities are lead by the Science and Technology Branch and its five directorates
  - **Atmospheric Science and Technology Directorate** develops climate models and scenarios; data analysis on extremes and trends; cryosphere and terrestrial climate process studies; operates the national GHG and aerosols atmospheric monitoring network; and develops the seasonal forecast system.
  - **Science and Risk Assessment Directorate** produces Canada's National GHG Inventory for the UNFCCC and an Inventory of Black Carbon Emissions (new) as per commitments to Arctic Council and UN ECE LRTAP.
  - **Water Science and Technology Directorate** works on climate change impacts on fresh water resources, hydrology modelling, water quality and aquatic ecological health.
  - **Wildlife and Landscape Science Directorate** works on climate change effects on species at risk, avian ecology, ecosystems.
  - **Science and Technology Strategies Directorate** coordinates Canada's participation in the IPCC; contributes to Green Infrastructure (the Green Municipal Fund), and Clean Technology.

Climate Change Implications for Canada, (Consistent with Global Implications)

- Sustainable use of land and natural resources
  - Changes to growing season and food security
  - Changes to precipitation, drought, and heat wave patterns
- Risks to Infrastructure
  - Flooding & rising sea levels
  - Frequency and intensity of extreme weather events
- Water Management
  - Frequency and intensity of extreme hydrological events
  - Water availability and distribution
- Impacts to Arctic region
  - Decreased Arctic sea ice and thawing permafrost
  - Adaptation and community resilience to a changing environment (traditional ways of life)

Climate Change Action in Canada

- Government of Canada providing national leadership working together with provinces and territories towards a pan-Canadian framework for combatting climate change
- Four working groups established to develop options for:
  - Climate Change Mitigation
  - Clean Technology, Innovation, and Jobs
  - Carbon Pricing Mechanisms
  - Adaptation and Climate Resilience.
- Budget 2016: commitments on clean technology, resilient infrastructure, addressing climate change and air pollution and establishing a Low-Carbon Economy Fund.

Moving Forward: Expectations for climate change science are high and diverse

- Climate program landscape in the Canadian federation is complex and evolving
- A wide range of national programs require foundational climate science to inform societal-economic resilience to climate change. These include:

Green Infrastructure – ensuring Canada's infrastructure is resilient to the effects of climate change and generates lower greenhouse gas emissions; codes and standards to reflect the latest climate science

Public Safety Emergency Management Action Plan – to understand and prepare for the risks and vulnerabilities due to increasing intensity and occurrence of severe weather

National Disaster Mitigation Program – to prepare for increasing occurrences of droughts, floods and wildfires

Canada's Conservation Agenda – science to support the next generation of conservation decisions

Collaboration Opportunities with EU

- Following areas for exploring further Canada-EU bilateral cooperation were identified at the Canada-EU JSTCC Meeting in June 2016.

1. Canada-EU coordination through existing multilateral fora
   - i.e. World Meteorological Organization, World Climate Research Programme, IPCC
2. Science to implement Post-COP 21 commitments
3. Development of Climate Services
4. Specific bilateral science initiatives, such as Earth Observations and climate/air quality monitoring and modelling

Future Directions

- Developing **National Climate Data Products** to bridge the gap between climate science and the sector-specific information required for decision making (e.g., agricultural and forestry-related indices)

- Enhancing **emissions regulations** from improved source quantification (i.e. methane) and climate response research, and from improved national reporting of black carbon emissions.

- Strengthening the integration of information related to greenhouse gas emissions and climate resiliency/risk projections into **environmental assessment** processes.

- Informing the development of a federal policy on **climate engineering** to guide federal positions domestically and at international fora.

- Increasing expectations and opportunities for the **Federal Geospatial Platform** to disseminate climate and climate change data records.