Acting on Climate change

Catherine Potvin
McGill University
Sustainable Canada Dialogues
The Largest Emitters (2013)

- China
- United States
- EU28
- India
- Russian Federation
- Japan
- Korea, Republic of
- Canada
- Brazil
- Indonesia
- Saudi Arabia
- Mexico
- Iran, Islamic Republic of
- Australia

U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation

- New target for the USA: -26-28% of 2005 in 2025
- USA ratified the Paris agreement on September 6th 2016
- China: Peak in CO₂ emissions ~2030 and increase in renewable energy use by 20% for 2030
For my ally is the Force, and a powerful ally it is. Life creates it, makes it grow. Its energy surrounds us and binds us. Luminous beings are we, not this crude matter...
Paris Agreement: Signed 22 April 2016
Pan-Canadian framework for combatting climate change: Developing

CONTEXT

COPENHAGEN
17% total reduction by 2020 compared to 2005 (621.67)

KYOTO
6% total reduction by 2012 compared to 1990 (555.54)

New target
13% of 1990 by 2030

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New Brunswick
Nova Scotia
ACTING ON CLIMATE CHANGE

Solutions from Canadian Scholars
Global average surface temperature change

- Historical
- RCP2.6
- RCP8.5

Mean over 2081–2100

(a)
Climate change scenarios over the next 100 years according to 2 IPCC scenarios

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1. Put a price on carbon
2. Include aggressive goals for low-carbon electricity production in the federal and provincial climate action plans
3. Integrate the oil and gas production sector in climate policies
4. Adopt a multi-level energy policy with energy efficiency and cooperation in electrification at its core
5. Throughout Canada, rapidly adopt low-carbon transportation strategies
6. Integrate landscape planning with land use, transportation and energy infrastructure planning policies at multiple scales (building, neighbourhood and region) to ensure climate change mitigation
7. Support evolution of the building sector toward a carbon neutral or carbon positive sector
8. Safeguard biodiversity and water quality during Canada’s transition to a low-carbon society, while aiming for net positive approaches when possible
9. Support sustainable fisheries, forestry and agricultural practices that offer opportunities to not only limit GHG emissions but also, where possible, enhance carbon sequestration while protecting biological diversity and water quality
10. Facilitate the transition to a low-carbon sustainable society through the implementation of more participatory and open governance institutions
Canada’s vast renewable energy potential
Climate policy

- Predictive environment
- Strong price
- Equity issues
- Diversity in approaches
- Revenues for climate initiatives

To allow for increased ambition
Energy Production

Low-carbon Electricity
- Flexible grids with feed-in tariff

National Energy Strategy
- Support low-income households
- Energy management

Oil & Gas
- Stop subsidies
- Lower pace of extraction
- Protect and re-train workers

FPIC and benefit-sharing with Indigenous peoples

Life Cycle Analysis
Energy Consumption

**Land Use Planning**
- Planning to reduce travel
- Incorporate affordable housing

**Built Environment**
- Energy efficient buildings
- Separate units in low-occupancy homes

**Mobility**
- Diversify, increase transit offers

**Sustainable Canada Dialogues**
Transition to a low carbon economy
Canada's place in global cleantech markets

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Market Clean Technology</th>
<th>Canadian Global Market Share</th>
<th>Canadian's Ranking</th>
<th>Canada's Exports</th>
<th>Cumulative Loss in Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>$550 Billion</td>
<td>2.20%</td>
<td>14th</td>
<td>$11 Billion</td>
<td>$124 Billion</td>
</tr>
<tr>
<td>2013</td>
<td>$1 Trillion</td>
<td>1.30%</td>
<td>19th</td>
<td>$12 Billion</td>
<td></td>
</tr>
</tbody>
</table>


Sustainable Canada Dialogues

Trottier ISPP
McGill
Out of the box thinking

- Wind energy Institute of Canada
- PEI Hydrogen Village project

http://www.innovationpei.com/renewableenergy
Pour Adèle (2 mois), Alice (4 ans), Arthur (17 mois), Avery (2 ans), Brookelyn (7 ans), Camille (3 ans), Elias (5 ans), Emma (1 semaine), Evan (8 ans), Gabriel (2 jours), Hanah (9 ans), Isis (3 ans), Jai (10 ans), Josh (10 ans), Jules (2 semaines), Keestin (5 ans), Louve (11 ans), Maggie (13 ans), Megan (13 ans), Manami (2 ans), Matthew (6 ans), Mireille (13 ans), Naomi (13 ans), Penelope (7 ans), Samantha (18 mois), Tal (16 mois), Wilson (12 ans), Wusko (9 ans), et tous les autres.

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