

# **Bioenergy's Position in the Regional and National Energy Policies of Canada IEA Task 29 Meeting**

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**Canadian Forest Service**

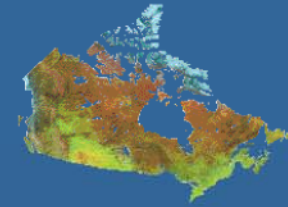
**Hadeland, Norway June 18, 2010**



Natural Resources  
Canada

Ressources naturelles  
Canada

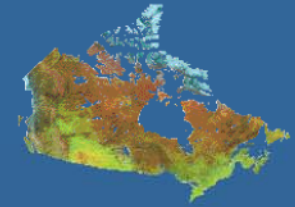
Canada



## Canadian situation

- Energy use by source
  - Petroleum 39%
  - Natural Gas 28%
  - Coal 13%
  - Hydro 11%
  - Biomass 6%
  - Nuclear 3%

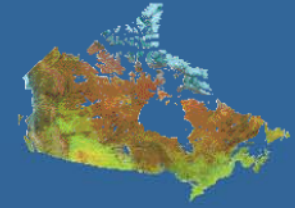




## Renewables

- Hydro 68 %
  - Biomass 28%
  - Wind 2%
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- National Incentives
    - 8.3 Eurocents/l for ethanol in gasoline
    - 16.6 Eurocents/l for biodiesel
  - 5% ethanol requirement in gasoline for 2010

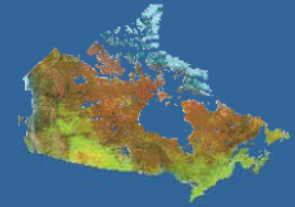




## Renewables (cont.)

- Also Provincial incentives
  - 3 provinces mandating ethanol use, a fourth is considering same
  - Primarily tax reductions
  - Some producer incentives

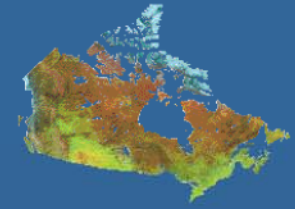




## Biomass support

- Less support to biomass heat and power
  - “lean and ineffective”
  - Basic research, applied R&D, demonstration, pre-commercialisation
  - Provinces doing more to encourage projects
    - BC- 10 Community energy projects by 2020
      - Invitation for proposals to supply power to the grid
      - Supporting forest industry

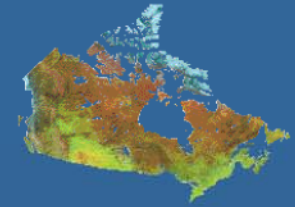




## Regional Picture

- In Canada, the provinces have the constitutional authority to manage natural resources and are the largest landowners.
  - Over 90% ownership in most provinces
  - Could look at 10 regions but we will focus on two provinces that have taken diverse approaches and are considered leaders in bioenergy





## Ontario

- Generous feed-in tariffs
  - Biomass 11-16 eurocents/kwh
    - Varies with size of project, on-farm etc.
  - Solar 35-65 eurocents/kwh
  - Wind 10-16 eurocents/kwh
  - Ontario Hydro sells to the public at 7.2 eurocents/kwh
- Goal of the program is to increase the amount of clean energy on the grid.

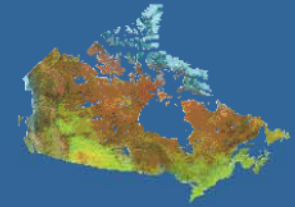




## Ontario

- Given the current feed-in rates and sales price what two things would you expect to happen?
  - High program uptake
    - 6.4 billion Euros in new projects
    - Thousands of applications under review
  - Higher rates for consumers
    - 25% increase expected
  - Critics argue the feed-in tariffs are too generous and will result in a sub-optimal energy mix

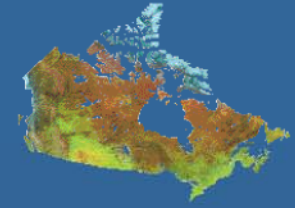




## British Columbia

- The BC Bioenergy Strategy includes:
- \$25 million in funding to establish a Bioenergy Network.
- Up to \$10 million over three years for biodiesel production.
- A goal of meeting 50 per cent or more of B.C.'s renewable fuel requirements by 2020 with biofuels produced in B.C.

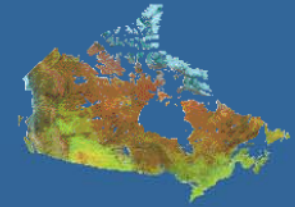




## British Columbia

- A goal of establishing at least 10 community energy projects that convert local biomass into energy by 2020.
- The establishment of one of Canada's most comprehensive provincial biomass inventories that creates waste-to-energy opportunities.

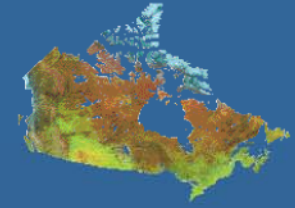




## British Columbia

- Issuing a two-part Bioenergy Call for Power focusing on existing biomass inventory in the forest industry and offering opportunities for smaller energy producers with projects that are immediately viable
- Unspecified feed-in tariffs for emerging technologies such as energy from the ocean

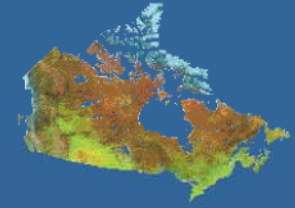




## Assessment

- Analysts believe Ontario has the advantage in moving forward with green energy because of the generous feed-in tariffs.
  - Many believe these are overly generous

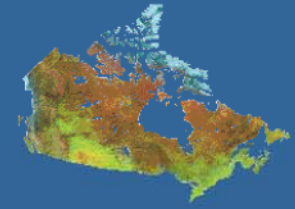




## Outlook for Bioenergy Use in Canada

- There is a lot of interest. Provinces in particular are encouraging increased use.
- Barriers
  - Extraction of fossil fuels is a huge industry in Canada.
    - Key export industry
  - Essentially fossil fuel self-sufficient. Security of supply not an issue
  - Significant low-cost hydro electric generation.
    - Difficult to build large new dams.

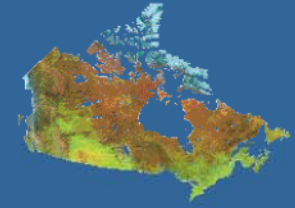




## Outlook

- District heating, pellet stoves etc. are a new technology and therefore not a common choice.





## “Perfect Bioenergy Politician”

- Local politicians have the greatest opportunity for influence. The perfect one would:
  - Set an example
  - Push for local projects
  - Be source of information
  - “On the ground” not at a place distant from where projects take place
- National and provincial/regional politicians can create frameworks that encourage local uptake of bioenergy.



