



Canadian Renewable Energy  
Corporation  
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“Renewable Energy  
in Canada a perspective”

Commission for Environmental Cooperation

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# Overview

Renewable Energy Economics

Canadian Market...

Lessons to be learned...

Some final thoughts...

# Renewable Energy Economics

## Uneven Playing Field:

- Myth: renewable more expensive...just not subsidized.
- Fossil emissions: (acid precipitation & smog) health, infrastructure, tourism.....
- Nuclear: mine decommissioning, nuclear fuel preparation, capital costs, waste fuel disposal, decommissioning.
- Government funding for both nuclear (CANDU program) and fossil fuel...much larger than to renewable energy.

# Renewable Energy Economics

## Advantages seldom considered:

1. Local generation reduces transmission costs and ensures local supply.
2. Approximately 50% of construction costs are spent locally:
  - Can be sustained over a long period if construction is staggered by issuing power agreements in stages.
3. Long-term source of municipal tax revenues.
4. Can be integrated in other municipal issues:
  - Landfill & sewage (biomass & biogas); dam safety.



# Renewable “Green” Electricity

Green electricity is sold as two separate products:

1. Standard Supply: which is the electricity component.
2. Green Attributes: which is all the environmental benefits sometimes referred to as Green Tags or TRECs.

Certification:

- In Canada it is EcoLogo.

# Canadian Market

- Market demand exists in Canada.
- 1% - 5% possible demand shift depending on marketing and price.
- Studies show **Supply #1** and **Environmental Impact #2** in consumers minds.
- Willingness to pay varies...key to expansion is marketing.

# Canadian Renewable Energy Market

## Market:

- 10 provinces...7 public monopolies...1 private monopoly and 2 private markets...Alberta and Ontario.
- Alberta has a good renewable program:
  - Enmax...discount card;
  - Building of wind.
- Public utilities have recently accessed government funds...varying levels of renewable development.
- Ontario is behind the rest...largest most industrialized province.

# Canadian Renewable Energy Market

## Potential Canadian Market:

- Sales to:
  - Wholesale (i.e., industry; commercial);
  - Government; and
  - Households.
- Overall very little demand or supply developed...maybe 1%.



# Canadian Renewable Energy Market

## Why is market development slow:

- Canadian governments only addressing issue now...USA and European jurisdictions much farther along.
- Canada reluctant to acknowledge they are lagging behind...reality versus perception...no political pressure.
- Very few incentives and they do not work.

Why:

- Insufficient.
- Too stringent.

# Canadian Renewable Energy Market

## Why is market development slow:

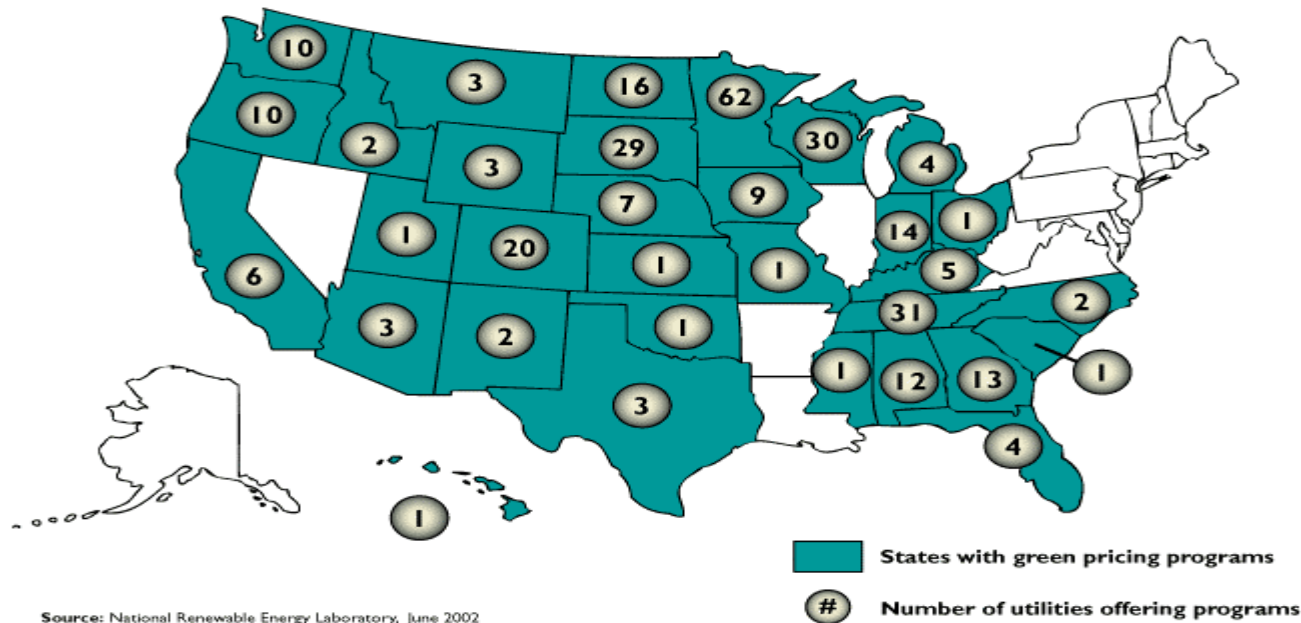
- No focused market development other than Alberta...no Green Mountain.
- Cap & Trade not used to stimulate industry...TREC.
- Lack of Balance on regulatory issues.
  - Electricity Sales.
  - Certification.

# US Renewable Market

- 1% - 8% market demand.
- Price premium ranges from \$0.01 per kWh - \$0.04 per kWh.
- Green-E predominate certification system...Canada has Ecologo.
- Willingness to pay ranges...marketing the key to success to the programs.
- US incentives...tax credits; Tradable Renewable Energy Credits; and Renewable Portfolio Standards.

# US Market

## Utility Green Pricing Activities



Source: National Renewable Energy Laboratory, June 2002



# Lessons to be learned?

1. The true costs need to be considered...renewable energy may actually be cheaper.
2. Public markets require a commitment and private need support...
3. Create the market:
  - Balanced regulations...tendency to over-compensate.
  - Concise certification;
  - Workable incentives; and
  - Marketing...

Talk to industry...

# Canada, Mexico and the United States...some final thoughts

What do we need to do to make this market work between each country:

- Certification.
- TREC...cap & trade.

What are the benefits?

- Trade...e.g., wind towers.
- Environment.
- Treating this as a Tran boundary issue.

Energy Security.