

Forging North American Energy Security Conference

Greening North American Energy Security

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iisd International Institute for Sustainable Development
Institut international du développement durable

Outline

- **About the International Institute for Sustainable Development (IISD)**
- **Sustainable Development and the Canadian Oil Sands**
- **Experience with Renewable Energy in Alberta**
- **Observations**

International Institute for Sustainable Development

- **Located in Winnipeg, Manitoba, Canada**
- ***Our vision:* Better living for all—sustainably.**
- ***Our mission:* To champion innovation, enabling societies to live sustainably.**
- ***Our role:* IISD promotes the transition toward a sustainable future.**
- ***A Priority:* Linking Energy, Climate Change and Sustainable Development**

Canada's Oil Exports and the Alberta Oil Sands Deposits

- **Canada is a major supplier of oil imports to the US**
- **Production of conventional crude oil in Canada is in decline**
- **Largest potential for increased oil production is from very large oil sand deposits in Alberta**
- **Major challenges for developing the oil sands ;**
 - **Cumulative environmental impacts from air emissions, water use and land disturbance**
 - **GHG emissions and climate change**
 - **Social impacts**
 - **Economics, large investments, oil prices**

Greening Opportunity: Sustainable Development in Action

Sustainable Development in Action in the Alberta Oil Sands

- **Energy efficiency, conservation and climate change:**
 - Continuous reduction in emissions intensity
 - New on site natural gas fired co-gen facilities
 - One company, voluntary commitment to reduce GHG emission to 50% below base design case
- **RDD&D:**
 - CO2 capture and use for ECBM and EOR
 - Clean carbon, potential for very low emissions
- **Land impacts from open pit mining:**
 - Stake holder involvement to determine future land uses and goals
 - Reclamation plans emerging to achieve objectives

Sustainable Development in Action in the Alberta Oil Sands

■ **Aboriginal relations:**

- **Formal consultation process and agreements with first nations**
- **Income generation through, capacity building, contracts (\$150 million+) and employment opportunities (700)**
- **Support for maintaining culture and identity**

■ **Environment:**

- **Support stakeholder involvement:**
 - **Air and water quality monitoring, reporting and mitigation**
 - **On going studies for impacts on ecology**
- **Minimize use of fresh water, maximize use of recycled water in new facility**

■ **Economic:**

- **\$30 billion forecast over next 10 years**

Renewable Energy in Alberta

Developing the Market

■ Voluntary initiatives:

- Promoting voluntary purchases of green energy by the public**
- Sale of green certificates to the public by respected ENGO**
- Government purchases of green energy; federal (departmental), provincial (set purchase target) and city (Calgary, ride the wind).**
- Individual company purchases of green energy**
- AUMA (250 municipalities) 2004, voluntary requirement for 20% green power component in competitive bid for electricity supply**

Renewable Energy in Alberta

Developing the Market

Incentives:

- **Through the efforts of the CARE coalition, ENGO's and energy companies, a 1cent per KWhr incentives for ten years for 1,000 MW of wind energy projects is available from the federal government from 2002 to 2007.**

Regulation:

- **1988 SPR&D Act, qualifying renewable energy generation access to guaranteed favourable long term contracts at set prices from electricity supplier for 110 MW**

Compared to many jurisdictions, there has been limited market penetration by renewables to date.

Observations

- **Required: an approach to the NA Energy security strategy which integrates:**
 - **Energy policy objectives, supply and demand**
 - **Environment and climate change goals**
 - **Technology RDD&D requirements**
 - **Capital markets access**
 - **Societal/public understanding and support**

A Sustainable Development approach

Observations (cont'd)

- **Building demand for competitive low emission, low impact sources of energy:**
 - Define requirements for energy sources to qualify
 - Remove barriers, value environmental and social benefits
 - Energy sources that meet the low emission, low impact requirements qualify
- **Longer term technology option:**
 - Put emissions free energy in the hands of the consumer
 - Demand will be affected by the efficiency of user technology and cost of energy
 - Note: grid electricity supply is zero emission in the hands of the consumer