

IGUA INTERROGATORY #1

INTERROGATORY

**Reference: Paragraph 10.**

Please file a complete copy of the January 11, 2010 NRCAN press release

RESPONSE

Please find attached the January 11, 2010 NRCAN press release and related Backgrounder.

Witnesses: P. Hoey  
A. Mandyam

Natural Resources  
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Canada

[Home](#) > [The NewsRoom](#) > [News Releases](#) > 2010/01

## The NewsRoom

**Natural Resources Canada****2010/01****January 11, 2010**

### Canada's Economic Action Plan: Investing in Clean Energy Projects

**TORONTO** - Through the Government of Canada's Economic Action Plan, an investment in renewable energy projects was announced today, which will create jobs, improve the environment and stimulate the economy. The Honourable Lisa Raitt, Canada's Minister of Natural Resources, announced support for 19 projects under the Clean Energy Fund. Funding of up to \$146 million will support the demonstration of renewable and clean energy across the country, including integrated community energy solutions, smart grid technology, and renewable applications with solar, wind, tidal and geothermal energy.

Minister Raitt was joined by Janet Holder, President, Enbridge Gas Distribution Inc. at the company's North York facility.

"Investments in clean energy technologies are a key part of our approach to reducing greenhouse gas emissions and improving the environment," said Minister Raitt. "Canada's Economic Action Plan is investing in 19 innovative projects that will help bring Canada to the forefront of clean energy technology, while creating high-quality jobs for Canadians."

"The Government of Canada and Natural Resources Canada's ongoing commitment to clean energy continues to advance tangible projects across the country," said Ms. Holder. "Projects such as our global first hybrid fuel cell project would not have been possible without this kind of support."

The Clean Energy Fund is investing nearly \$1 billion in technology development and demonstration. Total investments under the Clean Energy Fund for large and small demonstration projects are benefiting Canada's economy by leveraging nearly \$3.5 billion in further investments by industry and other levels of government.

Part of the Government of Canada's Economic Action Plan, the Clean Energy Fund is generating new economic activity in the short term, while strengthening the foundation for sustainable prosperity in the future. The Economic Action Plan includes new measures totalling almost \$2.4 billion to support a cleaner and more sustainable environment and help meet Canada's climate change objectives.

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#### FOR BROADCAST USE:

Canada's Economic Action Plan is investing in more clean energy projects. Natural Resources Minister Lisa Raitt today announced support for 19 projects under the Action Plan's Clean Energy Fund. Funding of up to \$146 million will support the demonstration of renewable energy and clean energy across the country.

Date Modified: 2010-01-11

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**The following media backgrounder is available at [www.nrcan.gc.ca/media](http://www.nrcan.gc.ca/media).**

- a. Clean Energy Fund — Renewable Energy and Clean Energy Systems Demonstration Projects

**NRCan's news releases and backgrounders are available at [www.nrcan.gc.ca/media](http://www.nrcan.gc.ca/media).**





## The NewsRoom

2010/01 (a)

Background

### Clean Energy Fund Renewable Energy and Clean Energy Systems Demonstration Projects

The Clean Energy Fund, part of the Government of Canada's Economic Action Plan (Budget 2009), will invest almost \$1 billion over five years in research, development and demonstration projects to advance Canadian leadership in clean energy technologies.

This includes large-scale carbon capture and storage demonstration projects as well as these smaller-scale demonstration projects of renewable and alternative energy technologies. Three carbon capture and storage projects have already been announced, totalling \$466 million from the fund.

Nineteen successful projects have been selected in response to a call for proposals under the Renewable and Clean Energy portion of the Clean Energy Fund. Up to \$146 million will be invested over five years in these projects to support renewable, clean energy and smart grid demonstrations with evidence of collaboration among partners and the potential to reduce barriers to technology implementation.

The Government of Canada will now invite the project proponents to begin negotiations toward formal contribution agreements to set the conditions under which funding will be delivered. The funding amounts are expected to range from \$2.5 million to \$20 million for each project. However, until a written contribution agreement is signed by both parties, no commitment or obligation exists on the part of the Government of Canada to make a financial contribution to these projects.

### Successful Project Descriptions

#### Projects expected to receive \$2.5-\$5 million:

##### **1. Biomass-based Urban Central Heating Demonstration** **Lead proponent: SSQ, Société immobilière Inc.**

**Strategic Area:** Buildings/Community Energy Systems  
**Location:** Québec, Québec

**Purpose:** La Cité Verte is an innovative real estate project, which combines various initiatives related to sustainable development such as renewable energy utilization, energy efficient design, the management of water consumption, energy and waste management. The funding will support the installation of a biomass and wood-based district heating system. This project combines many technologies and partners.

##### **2. Utility-scale Electricity Storage Demonstration using New and Re-purposed Lithium Ion Automotive Batteries**



**Lead proponent: CEATI International Inc.**

**Strategic Area:** Electricity Storage

**Location:** Toronto and Cornwall, Ontario, and Manitoba

**Purpose:** This project will address electricity storage for renewable and high-density urban applications. The project will demonstrate utility-scale electricity storage systems using new and re-purposed automotive batteries. This concept will reduce cost for electric vehicle batteries providing a future market to meet urban electricity demand using automotive batteries.

### **3. Energy Management Business Intelligence Platform Development and Demonstration**

**Lead proponent: Power Measurement Ltd.**

**Strategic Area:** Smart Grid

**Location:** Commercial buildings in Calgary, Alberta, Ontario and BCIT in Burnaby, British Columbia

**Purpose:** This project will develop and demonstrate smart grid technology, voluntary load curtailment and peak shaving in a commercial building setting. Most projects of this type to date have focused on residences. This technology will also enable tenants to voluntarily reduce their demand based on real-time price signals.

### **4. Wind and Storage Demonstration in a First Nations Community**

**Lead proponent: Cowessess First Nation**

**Strategic Area:** Wind/Storage

**Location:** Cowessess, Saskatchewan

**Purpose:** This project aims to demonstrate a combined wind and storage energy system in a First Nation community. The successful demonstration would prove this system as a model for other First Nation's communities across Canada.

### **5. Bioenergy Optimization Program Demonstration**

**Lead proponent: Manitoba Hydro**

**Strategic Area:** Bioenergy

**Location:** Five locations in Manitoba

**Purpose:** This project is comprised of five different bioenergy systems at five different project sites. The project demonstrates collaboration between utility companies and customers. It is anticipated that the project will help to remove the perceived barrier of technical and operational risk and will promote the wide-scale adoption of bioenergy systems in Canada.

### **6. Offshore Wave Energy Demonstration**

**Lead proponent: SyncWave Systems Inc.**

**Strategic Area:** Marine/Hydro

**Location:** Offshore Central Vancouver Island near Tofino, British Columbia

**Purpose:** This project will demonstrate the performance, operations and life cycle of a pre-commercial 100-kW wave energy device in ocean conditions typical of British Columbia's open coast. Canada has potentially significant wave energy resources, and it is important for Canada to participate in demonstrations to further the technology, understanding of ocean conditions and the regulatory environment.

### **7. Demonstration of Waste-heat Recovery at Compressor Stations**

**Lead proponent: Great Northern Power Corp.**

Date Modified: 2010-01-12



**Strategic Area:** Hybrid Systems/Northern

**Location:** Compressor Stations in Alberta and British Columbia

**Purpose:** This project plans to demonstrate waste-heat recovery systems on a variety of stationary, reciprocating engines greater than 1,000 hp. A successful demonstration has the opportunity to lead to commercialization and wide-scale adoption of this technology at compressor stations and other industrial applications across Canada.

#### **8. Residential Implementation of Solar-thermal Heating Systems**

**Lead proponent:** Enbridge Gas Distribution Inc.

**Strategic Area:** Buildings/Solar

**Location:** Greater Toronto Area, Ontario

**Purpose:** The project will use different types of solar collectors and storage technologies to verify and compare their costs, performance and technical qualities. The project has the ability to validate the technology and provide integrated systems at a lower cost to consumers, thereby allowing greater market penetration.

#### **9. Food and Yard Waste Anaerobic Digestion to Electricity Demonstration**

**Lead proponent:** Harvest Power Canada Ltd.

**Strategic Area:** Bioenergy

**Location:** Fraser Richmond Soil and Fibre, British Columbia

**Purpose:** This project would be Canada's first high-efficiency system for producing up to 1 MW of renewable energy from food and yard waste. If successful, this technology has the potential to be rapidly deployed across Canada as a mechanism to divert food wastes from landfills and produce renewable energy.

#### **Projects expected to receive \$5-\$10 million:**

#### **10. Demonstration of Heat and Power from Biomass Gasification**

**Lead proponent:** Nexterra Systems Corp.

**Strategic Area:** Bioenergy

**Location:** UBC Point Grey Campus, Vancouver, British Columbia

**Purpose:** This project will showcase biomass gasification integrated with an internal combustion engine generator in a novel, small-scale combined heat and power demonstration suited for on-site applications at public institutions, industrial facilities, and northern and remote Canadian communities. The project has the potential to overcome the difficulty of gas clean up and opens up the possibility of significant replication in Canada and overseas.

#### **11. Energy Storage and Demand Response for Near-capacity Substation**

**Lead proponent:** BC Hydro

**Strategic Area:** Smart Grid/Electricity Storage

**Location:** Golden and Field, British Columbia

**Purpose:** This project demonstrates the integration of energy storage as a mechanism for reducing electricity demand at near-peak capacity substations. This type of solution has the ability to be used in other remote communities where the grid reliability is low and the cost of the transmission line upgrade is uneconomical.

#### **12. Interactive Smart Zone Demonstration in Québec**

**Lead proponent:** Hydro-Québec – Institut de recherche

**Strategic Area:** Smart Grid



**Location:** Boucherville, Québec

**Purpose:** This project will ensure the installation of an interactive network area in a neighbourhood of Boucherville. This will demonstrate different technologies and concepts related to modernization of electrical networks, in particular the deployment of infrastructure for charging electric and hybrid rechargeable vehicles.

### **13. Biomass and Coal Co-firing Demonstration in Coal Plants**

**Lead proponent:** Nova Scotia Power

**Strategic Area:** Bioenergy

**Location:** Coal Plants in Nova Scotia

**Purpose:** This demonstration project aims to determine optimum fuel blends for the potential co-firing of wood-based biomass with coal as a mechanism to partially replace fossil fuels with sustainable energy sources in coal plants. If successful, there is potential for wide-scale implementation across Canada and the United States.

### **Projects expected to receive \$10–\$20 million:**

#### **14. Tidal Energy Project in the Bay of Fundy**

**Lead proponent:** Fundy Ocean Research Centre for Energy (FORCE)

**Strategic Area:** Marine/Hydro

**Location:** Minas Passage, Bay of Fundy, Nova Scotia

**Purpose:** The project plans to validate the performance and resilience of tidal current turbines in the Minas Passage of the Bay of Fundy. This will be the first Canadian deployment of commercial-scale tidal turbines. The project has the potential to advance tidal energy in Canada, provide economic impacts in the Atlantic region and place Canada as a world leader in marine renewable energy.

#### **15. Northern Application of a Geothermal District Heating System**

**Lead proponent:** City of Yellowknife

**Strategic Area:** Northern/Community Energy System

**Location:** Yellowknife, Northwest Territories

**Purpose:** The City of Yellowknife is in advanced stages of project engineering and plans to install a district heating system by extracting heat from the abandoned Con Mine. This project has the potential to provide a cost effective and a more environmentally friendly alternative to fossil fuel based heat. The information that will come out of this project on the effect of extracting ground-source heat from an existing aquifer and its associated long-term heat capacity will help determine if this technology could be replicated in other northern communities.

#### **16. Electricity Load Control Demonstration**

**Lead proponent:** New Brunswick Power Corporation

**Strategic Area:** Smart Grid

**Location:** Four maritime communities in New Brunswick, Nova Scotia and Prince Edward Island

**Purpose:** Traditionally, to accommodate the intermittent nature of wind power, other generation sources are required to follow the net effect of variation in load and wind power production. This project focuses on the integration between smart grid technologies, customer loads and intermittent renewables in a region with potentially significant renewable electricity capacity. It will allow utilities to better understand how customers will react to smart grid and which loads can be controlled by real-time demand balancing in up to 750 buildings, thereby assisting these utilities to capitalize on renewable resources in the region.

Date Modified: 2010-01-12

**17. A 9-MW Wind Technology Research and Development Park**  
**Lead proponent: Wind Energy Institute of Canada**

**Strategic Area:** Wind/Storage  
**Location:** Prince Edward Island

**Purpose:** The 9-MW wind park proposed will be the first wind/storage combination in Prince Edward Island. The project's research base has a strong focus on information dissemination and would be a good base for supporting additional wind research.

**18. Demonstration of Fish-friendly and VLH Turbines in Existing Low-head Water-control Dams**

**Lead proponent: Eco Joule Inc.**

**Strategic Area:** Marine/Hydro  
**Location:** Mississippi River System, Ontario

**Purpose:** This project will demonstrate three in-stream hydro technologies including fish-friendly, low-head hydro turbines along an existing water-controlled river system in Ontario. It has the opportunity to prove the technology concept, demonstrate cooperation with a conservation organization, and reduce the barriers to commercialization.

**19. Community-based Geothermal Demonstration in a Remote First Nations Community**  
**Lead proponent: Borealis GeoPower Inc./Aco Dene Koe First Nation**

**Strategic Area:** Hybrid Systems/Northern  
**Location:** Fort Liard, Northwest Territories

**Purpose:** This project will demonstrate how a northern community can use a geothermal resource to generate electricity and heat, thereby reducing the entire community's fossil fuel demand and energy costs. A successful demonstration will provide a model for other northern and First Nations communities with available geothermal resources.

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IGUA INTERROGATORY #2

INTERROGATORY

**Reference: Paragraph 12.**

Please provide information on the state of development/commercialization of each of the technologies listed (flat panel, evacuated tube and concentrating collectors; tank, geothermal and mass storage). Please include in response the number of suppliers/manufacturers and identify the major suppliers/manufacturers, the state of development of current retail channels for these products, and any information that EGD has regarding current sales/installations in Ontario.

RESPONSE

Solar thermal collectors have been commercialized in various jurisdictions worldwide. Domestically, the market presence is still in the very early stages of commercialization. The sales, distribution, installation and support network are not well established. Functionally, the technologies are at the "cottage-industry" stage, despite the advanced state elsewhere.

In surveying the market, there are in excess of 1,000 manufacturers of solar thermal collectors, due in large part to China coming on-line. With regards to manufacturers with sales presence in Ontario, the number is lower, with fewer than a dozen certified products available, due to the nascent solar thermal industry in the province. Some of the manufacturers are:

1. Apricus
2. Enerworks
3. Shuco
4. Menova
5. PTC
6. Viessman

Witnesses: P. Hoey  
A. Mandyam

IGUA INTERROGATORY #3

INTERROGATORY

**Reference: Paragraph 22.**

Please indicate which rate classes EGD anticipates allocating the costs of the solar thermal pilot program to, and in what rough amounts. (For the purposes of this response, please assume that the entire \$4.5 million of "participant and others" costs listed in the table at paragraph 26 of the evidence is to be recovered from distribution customers.)

RESPONSE

At present, the partners and pilot sites have not been finalized. As such, Enbridge can not provide a plan on how costs will be allocated. However it is foreseen that, as with other DSM programs, the rate class that enjoys the benefit of the program will incur the costs. This is aligned with the principles found in EB-2006-0021.

Witnesses: P. Hoey  
A. Mandyam



IGUA INTERROGATORY #4

INTERROGATORY

**Reference: Paragraph 30.**

Please confirm that EGD is seeking establishment of the requested deferral accounts and a finding that, subject to prudence, the amounts to be recorded therein will be recoverable from ratepayers.

RESPONSE

EGD is seeking establishment of the requested deferral accounts. EGD fully expects that a prudence review will be part of the process for clearance of any the deferral account amounts to ratepayers. This is the same prudence review process as applied to any other deferral account.

Witnesses: P. Hoey  
A. Mandyam

IGUA INTERROGATORY #5

INTERROGATORY

**Reference: Paragraph 32.**

Please explain why the costs for the thermal storage pilot program would not be included in DSM budgets beyond the 2010 budget currently approved? What concern would EGD have if the costs of this pilot program were included in the DSM budgets to be brought forward in future years?

RESPONSE

This initiative is a stand alone initiative and the deferral account, although under the DSM umbrella, will have its own review and approval process. Any DSM programs that are developed as a result of this initiative will have budgets included in future DSM plans.

The current DSM framework which has been extended and the DSM Budget approved for 2010 did not contemplate nor anticipate a one-time opportunity to secure government funding such as that made available under the CEF.

Witnesses: P. Hoey  
A. Mandyam



IGUA INTERROGATORY #6

INTERROGATORY

**Reference: Paragraph 38.**

Please confirm that the establishment of the deferral accounts requested is not a precondition for NRCan for execution of the Contribution Agreement.

RESPONSE

The establishment of the deferral accounts requested is not a precondition of NRCan for execution of the Contribution Agreement.

Witnesses: P. Hoey  
A. Mandyam

IGUA INTERROGATORY #7

INTERROGATORY

Please confirm that EGD Evaluation and Audit Committee (EAC) has not been consulted in respect of the solar thermal program that is the subject of this application. Please explain why.

RESPONSE

The EAC was first introduced to this program on February 4<sup>th</sup>, 2010, at one of the Enbridge/EAC regularly scheduled meetings. The program was then further presented and discussed at the February 17<sup>th</sup>, 2010 Consultative meeting. It was never the intent to keep this initiative from the EAC or consultative. It has been common in the past to share and explore DSM programs with the consultative and EAC that Enbridge believed had a high probability of execution and implementation. This initiative required NRCan to review, accept, and approve the program. As NRCan gave Enbridge no indication of our chances for award, Enbridge could not estimate the probability of successfully being awarded a contribution from NRCan or the probability of execution and implementation of the program. Enbridge also saw a risk of setting unrealistic expectations if this program was shared with the consultative and EAC prior to learning the results of the bidding and selection process conducted by NRCan.

Witnesses: P. Hoey  
A. Mandyam