

Innovative Clean Energy Fund

developing clean energy solutions



2014 update



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**MESSAGE FROM THE MINISTER OF ENERGY AND MINES
AND MINISTER RESPONSIBLE FOR CORE REVIEW**

Since 2008, the Province's Innovative Clean Energy Fund has helped position British Columbia at the leading edge of the global low-carbon economy.

The Province has approved ICE Fund contributions of more than \$48 million to 38 clean energy technology projects across British Columbia. These projects represent a total value of over \$191 million in total project investments and showcase a variety of clean energy technologies including solar, wind, tidal, geothermal, ocean wave and bioenergy.

This summary report highlights the past seven years of efforts under the ICE Fund, as well as the benefits associated with the ICE Fund Special Accounts legislation which will help the Province meet its energy and environmental priorities, while creating significant socio-economic benefits for all British Columbians.



Honourable Bill Bennett

About the ICE Fund

The Province of British Columbia established the Innovative Clean Energy Fund in 2007 to support development of clean energy, to accelerate the development of new technologies with the potential to solve everyday energy and environmental issues, and to create socio-economic benefits for British Columbians.

The ICE Fund has been designed to advance the development and deployment of clean energy technologies in the electricity, alternative energy, transportation, and oil and gas sectors. The program is administered through the Ministry of Energy and Mines and, under its current mandate, aims to:

- Address specific energy and environmental priorities identified by government;
- Showcases BC technologies that have a strong potential for international market demand because they solve problems that exist both in BC and other jurisdictions;
- Support pre-commercial energy technology that is new, or commercial technologies not currently used in British Columbia; and,
- Demonstrate the commercial viability of new energy technologies

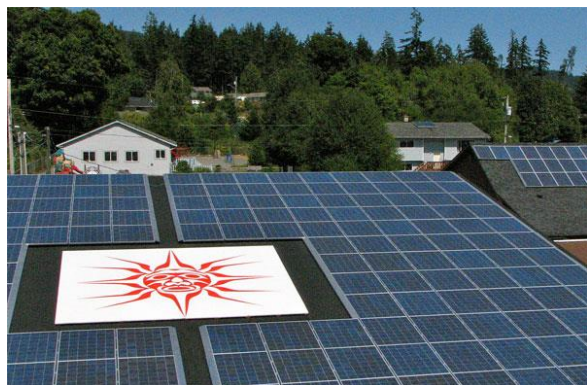
The program has provided an important source of bridging and “patient” capital to assist early stage companies to fully develop their projects and maximize their chances of success.

Since 2008, four rounds of funding have resulted in the approval of 62 projects and culminated in ICE Fund contributions of more than \$48 million to 38 projects in communities across British Columbia. These projects have a total value of over \$191 million and showcase a broad range of clean energy technologies including solar, wind, tidal, geothermal, ocean wave and bioenergy.

All ICE Fund projects are approved “in-principle” pending proponents meeting the criteria for entering into a contractual funding agreement with the Province. These criteria include:

- All project funding is secured;
- All required permitting and consultations are completed; and,
- All required supply and/or sales agreements necessary for project viability are secured.

Funds are generally disbursed to projects through the reimbursement of eligible incurred costs and reflect completion of agreed upon project milestones.



Source: T'Sou-Ke Nation, First Call 2008 Project

QUICK FACT:

The Ministry of Energy and Mines was identified by the Premier as being critical to the economic development of British Columbia.

Source: 2013 Mandate Letter from the Premier

Challenges - Why Some Projects Don't Proceed

Of the 62 projects approved “in principle” by the Province over the past seven years, 43 have resulted in viable projects, with 38 receiving contribution agreements and 5 not started yet.

Emerging technologies and early stage start-up companies face many challenges and represent a high risk investment. All project endeavors will encounter challenges that may cause delays or termination of the project. The portfolio of projects carried by the ICE Fund is no different and approved projects have not proceeded for various reasons. These include:



- Economic or technical failure.
- The proponent was unable to secure required project funding.
- The proponent did not receive the required permitting.
- The required consultations were not completed or were unsuccessful.
- The proponent voluntarily terminated the project.
- The Province intervened due to lack of progress in initiating the project.

The attrition rate for approved projects is around 30 percent, which is consistent with other, much larger, government programs targeting emerging energy and environmental technologies.

Due diligence demonstrated by the program delivery team ensures that safeguards are put in place which minimize taxpayers' risk. As a result, risk of failure once commencement of funding is approved is low. Since 2007, 31 projects have successfully completed, two projects failed after the commencement of ICE funding and only one has resulted in a lost provincial investment. When a project does not proceed, the funding that is rescinded (had been approved in principle) remains in the ICE Fund Special Account to be made available for other clean energy projects or programs.

QUICK FACT:

Pre-commercial projects approved by the ICE Fund often still face significant economic, technical and regulatory barriers that can result in significant project delays.

ICE Fund Special Account Legislation

The ICE Fund Special Account was established under section 9.5 of the *Special Accounts Appropriation and Control Act*. The legislation enables a broad range of activities designed to address Government's energy, economic and environmental priorities and that can advance British Columbia's clean energy sector.



An Effective and Powerful Tool



The Minister of Energy and Mines has legislated spending authority over the ICE Fund Special Account for projects, programs or initiatives that will assist the Province in meeting its energy, economic and environmental priorities.

The legislation underpinning the ICE Fund Special Account and availability of a predictable level of annual funding affords the Ministry the opportunity to undertake longer-term planning for key undertakings that:

- ✓ Provide Government with innovative options for energy and environmental challenges associated with its resource and economic development policies;
- ✓ Allow the formation of funding partnerships that leverage and extend the Province's financial participation;
- ✓ Require dedicated resourcing to achieve Service Plan goals; and
- ✓ May extend beyond one fiscal period.

To date, the ICE Fund has been used primarily to bridge capital funding gaps in the deployment of pre-commercial clean energy technology projects in communities throughout British Columbia.

Key provincial programs and initiatives were also included within the ICE Fund Special Account expenditure framework from 2011 to 2013. These included: the LiveSmart Residential program delivery; reporting, compliance and enforcement framework for the Renewable and Low Carbon Fuel Requirements Regulation; Uniform Building Code Initiative; Remote Community Electrification Program; and the proposed Hartley Bay Micro-Hydro Project.

QUICK FACT:

If used to its maximum potential, the ICE Fund Special Account legislation can be an effective and versatile tool that can assist the Province in achieving its energy, economic and environmental priorities.

Funding

From September 1, 2007 to June 30, 2010, the ICE Fund received approximately \$25 million per year through a 0.4 percent levy on all final sales of electricity, natural gas, fuel oil and grid-delivered propane, excluding fuels taxed or exempted from tax under the *Motor Fuel Tax Act*. The levy was discontinued following the implementation of the Harmonized Sales Tax and no further funding sources were made available to the ICE Fund. The ICE Fund levy was re-instated April 1, 2013, with the return of the Provincial Sales Tax. The levy remains in its original form, but with the exemption of electricity sales, and is still assessed on residential, commercial and industrial customers. At current energy prices, the levy is estimated to generate between \$6.5 - \$7 million per year.

The levy is assessed under the *Provincial Sales Tax Act* to take advantage of well-established registration, collection and remittance provisions, and to qualify the levy for exemption from the federal Goods and Services Tax. Contributions are capped at \$100,000 per year per customer. The levy is remitted monthly with the Provincial Sales Tax and funds are credited quarterly to the ICE Fund Special Account based upon an annual estimate provided to the Minister of Finance.

QUICK FACT:

The ICE Fund originally received \$25 million a year through a 0.4% levy on final sales of specified energy products. It now generates between \$6.5 – 7 million per year.

T'SOU-KE NATION

First Call 2008 Project

A Photovoltaic Innovation and Demonstration Project

CASE STUDY

T'Sou-ke Nation, a small Aboriginal community on Vancouver Island's west coast, has created the largest grid-connected photovoltaic solar energy system operating in British Columbia.

With help from a \$400,000 grant from the ICE Fund in 2008, T'Sou-ke Nation has successfully brought on-line a 75 kilowatt photovoltaic power generation capacity. T'Sou-ke Nation uses solar energy to provide electricity for the band office, a fisheries building and sale of clean energy to BC Hydro grid. Ten band members trained to become solar panel installers.

Along with the photovoltaic installation, which creates electricity from the sun, T'Sou-ke Nation has fitted solar hot water panels for 40 homes and several administrative buildings on the reserve.

This project became the first ICE Fund proponent to complete its project in the summer of 2009. T'Sou-ke Nation invited all levels of government and First Nations to a weekend gathering with dancing and drumming, solar tours and workshops. To date, T'Sou-ke has had 32 schools, 54 municipalities and tourists from all over the world come for tours and workshops.

Total Projects Value:
\$900,000

ICE Fund Contributions:
\$400,000

Highlights

- Job Creation
 - 20 construction
 - 10 ongoing

Accomplishments

- Canada's First Aboriginal solar community



www.tsoukenation.com

ICE Fund Timeline

Since establishing the Innovative Clean Energy Fund in 2007, B.C. has met its mandate to support and accelerate the commercialization of new clean energy technologies.



2010 ICE Fund Report

* Initially, \$77.2M in contributions was approved in principle between 2008 and 2010 for 62 projects with a project value of \$442.9M; however, 19 projects did not proceed and were not funded.

2007

- B.C. established the ICE Fund to support the development of new clean energy technologies in the electricity, alternative energy, transportation and oil and gas sectors

2008

- The Province announced 15 First Call projects on July 8, 2008.
 - \$24.2M – ICE Fund Investment
 - \$78.7M – Total Project Value

2009

- The Province announced 19 Second ‘Rural’ Call Projects on April 3, 2009.
 - \$22.6M – ICE Fund Investment
 - \$96.4M – Total Project Value
- A one-time Liquid Fuels from Biomass Call for Applications secured 8 projects to develop cellulose ethanol, biodiesel and biofuels technology.
 - \$10M – ICE Fund Investment
 - \$100.6M – Total Project Value

2010 - 2012

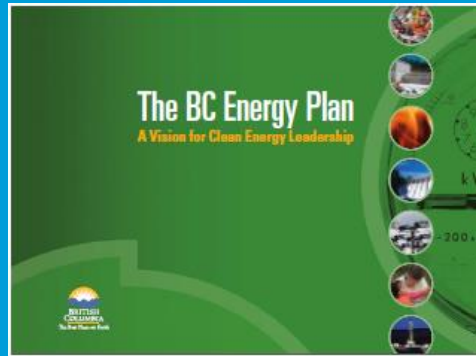
- Third Call: 2010 Showcase
 - 1st Intake – 2 projects
 - 2nd Intake – 12 projects
 - 3rd Intake – 6 projects
 - \$20.7M-ICE Fund Investment
 - \$167.2M-Total Project Value

2013

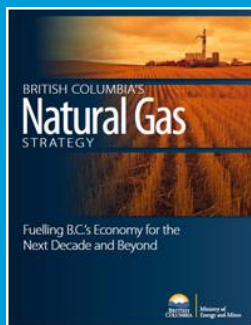
- Ministry Initiatives funded by the ICE Fund:
 - \$6.0M – Hartley Bay Micro-Hydro Project
 - \$1.0M – LiveSmart BC Residential Program
 - \$0.2M – Renewable and Low Carbon Fuel Requirements Regulation
 - \$0.53M – Uniform BC Building Code

Government and Ministry Priorities

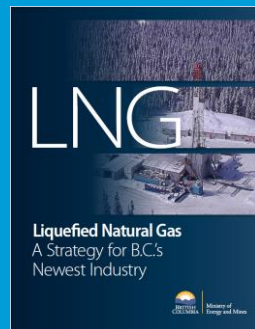
The Ministry of Energy and Mines plays an integral and ongoing role in achieving Government's energy, economic and environmental priorities such as:



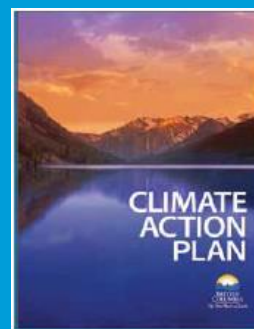
[The BC Energy Plan](#)



[Natural Gas Strategy](#)



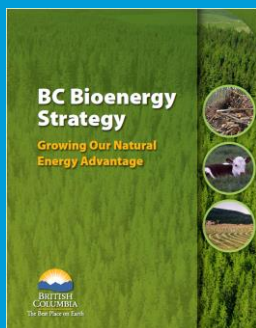
[Liquefied Natural Gas Strategy](#)



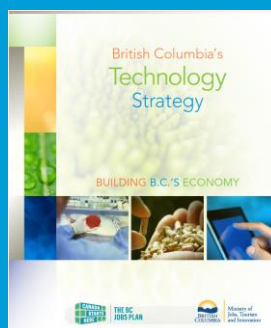
[Climate Action Plan](#)



[The BC Jobs Plan](#)



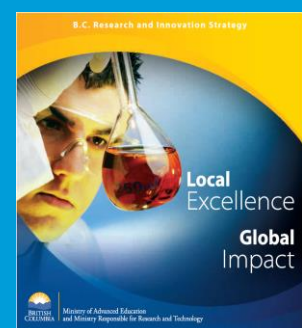
[BC Bioenergy Strategy](#)



[BC Technology Strategy](#)



[Green Economy Strategy](#)



[Research & Innovation Strategy](#)

Government and Ministry Priorities



The ICE Fund legislation enables direct support for the energy and environmental priorities identified in government's Canada Starts Here: the BC Jobs Plan which drives province-wide job creation and opportunities in the natural gas, transportation, clean tech and green economy sectors. This includes ICE Fund pre-commercial energy technology demonstrations, in addition to priority areas identified in the Ministry's Service Plan. These priority areas address several BC Jobs Plan objectives through the *Clean Energy Act*, BC Energy Plan and the Natural Gas and LNG Strategies, respectively.

2014 Mandate Letter from the Premier

Premier Christy Clark's mandate letter to the Minister of Energy and Mines and Minister Responsible for Core Review directs the Minister, "...to ensure development opportunities are seized in the province where they make economic and environmental sense" and "...to ensure private sector investments are welcomed and encouraged..." Specific directions relevant to the ICE Fund are:

"6. Implement the 10-year electricity plan that will continue to find efficiencies at BC Hydro, build required infrastructure and keep rates affordable for British Columbians reporting these outcomes to Cabinet.

7. Work with the Clean Energy Sector to ensure that there remains cost-effective opportunities for renewable energy companies to provide power in British Columbia. "

Ministry of Energy and Mines Service Plan (2014/15 to 2016/17)

Ministry strategies support the BC Jobs Plan and the Ministry continues to implement the *Clean Energy Act*, and the BC Energy Plan. The Ministry's performance measures and targets are designed to support its goals and to facilitate job creation, economic development and the well-being of communities throughout B.C.

The Government's strategic priority of a strong economy and the BC Jobs Plan are directly supported by the Ministry's goal one and its associated objectives, strategies and measures.

QUICK FACT:

The ICE Fund enables direct support for the energy and environmental priorities identified in government's Canada Starts Here: the BC Jobs Plan.

Goal 1: Globally competitive energy and mining sectors that create jobs and grow the economy.

The Government's strategic priority of a secure tomorrow, and in particular, environmentally and social responsible energy development and use, is supported by the Ministry's goal two, objective 2.2 and performance measure six, as follows:

Goal 2: Safe, environmentally and socially responsible energy and mineral resource development and use.

Objective 2.2: Clean energy resources, fuels and related technologies complemented by energy efficiency and conservation efforts across all sectors of the economy.

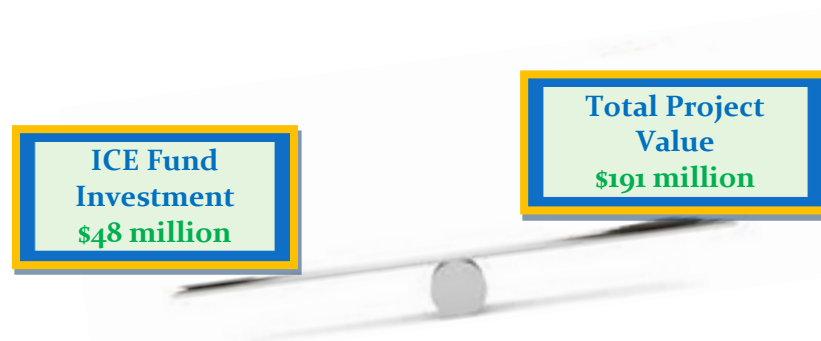
Strategy*: Through the Innovative Clean Energy Fund, support projects that solve real, everyday energy and environmental issues and create economic benefits for all British Columbians.

Performance Measure 6: Total energy savings achieved each year through utility and provincial conservation policies, programs, and regulations.

*One of eight strategies noted under Objective 2.2. To read the Ministry's Service Plan in full, please visit: http://www.bcbudget.gov.bc.ca/2014/sp/pdf/ministry/mem.pdf?pl=mo-mpr-min_service_plan

Approved Government Priorities for the ICE Fund

- ✓ Energy Production: The ICE Fund helps increase British Columbia's production of clean or renewable energy
- ✓ Energy Transmission: The ICE Fund helps improve the way energy moves from producers to British Columbia users
- ✓ Energy Use: The ICE Fund helps improve the ways energy is used in British Columbia's communities and across all sectors of the provincial economy



LEVERAGING OUR INVESTMENT

Projects supported by the ICE Fund provide province-wide benefits by creating jobs and helping local communities save energy, build economic diversity, and reduce their environmental footprint. Environmental benefits may include greenhouse gas (GHG) emissions reduced, GHGs offset, amount of renewable energy produced, waste reduced, and gallons of water saved.

Environmental Benefits

Benefits from the ICE Fund include a reduction in GHG emissions of over 135,000 tonnes - equivalent to removing 28,105 passenger vehicles from the road.

Economic Benefits

The jobs associated with these projects served communities such as: Abbotsford; Burnaby; Delta; Nanaimo; Prince George; Revelstoke; and Richmond. Out of the 43 approved projects, 31 projects are complete and have created 587 construction jobs and 240 ongoing jobs.

QUICK FACT:

Reduction in greenhouse gas emissions is calculated at over 135,000 tonnes. That's equivalent to removing 28,105 passenger vehicles off the road!

Source: BC Ministry of Energy and Mines & U.S. Environmental Protection Agency

Energy Management Software in Rural and Remote BC Communities

CASE STUDY

Pulse Energy, a B.C. company, has created an energy software system designed to improve the management of energy use in buildings and communities.

With a \$2.4 million investment from the Province's Innovative Clean Energy (ICE) Fund, the company has gained recognition as a leader in the fast-growing market of building-performance improvement and optimization.

The project installed dozens of energy monitoring points in the remote communities' highest energy use buildings (including three off-grid First Nations communities of Hartley Bay, Hesquiaht, and Haida Gwaii). Proprietary software analysed and archived the data. This allowed building operators, owners and occupants to track their energy usage, make energy usage adjustments, and to become aware of any energy anomalies as they happened. The information also enables them to anticipate future energy demands.

"The global utility industry is going through a period of rapid change, and we're honoured to have been chosen by so many of the world's leading utilities to better understand and engage with their commercial customers," said Pulse Energy CEO David Helliwell. "Having such meaningful government support for our R&D has allowed us to quickly become a leading player in our industry, and we're looking forward to accomplishing great things with British Gas as we help their nearly one million business customers to run their businesses better."

Total Projects Value:

\$7.25 million

ICE Fund Contributions:

\$2.42 million

Highlights

- Job Creation
 - 25 construction
 - 22 ongoing

Accomplishments

- Technology Green 15™ Deloitte 2012 award recipient for green technology.
- 2013 Ready to Rocket Cleantech list – one of the most promising cleantech companies in British Columbia.
- 2014 – three year, multi-million dollar contract signed with British Gas.



The Technology Portfolio

Many ICE Fund projects have achieved notable success; advancing their technologies to commercial readiness and creating global market opportunities. Through the ICE Fund, the Province supports a broad range of technological applications, including: ocean tidal and wave; solar PV; geoechange; micro-hydro; wind; bioenergy; waste utilization; and energy efficiency and conservation. Since 2008, a total of 19 bioenergy projects have received 63 percent of the ICE Fund's approved contributions.



Distribution by Technology (2008 – 2014)

Technology	# of Projects	ICE Fund Investment	Project Value
Bioenergy	17	\$ 28,957,000	\$ 125,932,834
Energy Conservation	4	\$ 5,589,163	\$ 20,628,957
Energy Management	4	\$ 7,300,858	\$ 22,460,929
Energy Storage	1	\$ 203,775	\$ 617,500
Geoexchange	2	\$ 1,075,115	\$ 3,993,969
Hydro	1	\$ 44,000	\$ 200,000
Ocean - Wave/Tidal	2	\$ 2,469,622	\$ 7,804,900
Solar	6	\$ 2,052,321	\$ 8,142,273
Waste to Energy	1	\$ 666,666	\$ 2,000,000
TOTAL	38	\$ 48,358,519	\$ 191,781,362



QUICK FACT:

The Innovative Clean Energy Fund supports the development of clean power and energy efficiency technologies in the electricity, alternative energy, transportation and oil and gas sectors.

Source: The BC Energy Plan: A Vision for Clean Energy Leadership

Showcasing Load Demand Management and Next Generation Electric Vehicle Charging

CASE STUDY

Delta-Q Technologies provides power management and power conversion solutions that improve the performance and durability of electric drive vehicles and industrial equipment.

A test/demonstration platform consisting of the key charging, energy storage, control and communications elements incorporated in next generation electric vehicles will be developed and integrated by Delta-Q. This will enable key elements of next generation battery charging systems to be validated and showcased.

This project leveraged Delta-Q technologies' twelve years of experience with on-board vehicle charging technologies as well as the BC Government's and BC Hydro's plug-in electric vehicle working group plans to deploy an extensive charging infrastructure and power management demonstration project.

Testimonial

'A lot of [our] growth is coming from the exports that are going to Asia and Southeast Asia, as opposed to the exports going back to the U.S. or Europe,' said Evan Sanders, vice-president of sales for the Burnaby, B.C., company.

Total Projects Value:
\$4.6 million

ICE Fund Contributions:
\$1 million

Highlights

- Job Creation
 - 20 construction
 - 11 ongoing

Accomplishments

- 2010 Supplier of the Year by Tomberlin Automotive Group (TAG)
- 2013 finalist for the B.C. Export Award in the Advancing Technology and Innovation category



www.delta-q.com

SunMine Project

CASE STUDY

EcoSmart foundations Inc. (EcoSmart) is a not-for-profit Canadian corporation based in Vancouver, British Columbia. It was one of the successful applicants in the Innovative Clean Energy (ICE) Funds Third Call, and was approved to receive funding of \$1 million for the SunMine Project.

Partnering with the City of Kimberley and Teck Resources Ltd., EcoSmart's SunMine Project will be the first BC installation of grid-connected solar power on a brownfield mine site (i.e., former Cominco Sullivan Mine). It will also be used to demonstrate how solar tracking technology can be adapted for northern climates.

SunMine will have over 4,000 solar-cell modules, mounted on 96 solar trackers which follow the sun's movement, maximizing solar exposure. It will be the first solar project in B.C. to sell power to the BC Hydro grid.

Testimonial

"Kimberley citizens directly endorsed this project and we're proud to deliver on a bold and innovative initiative," says Kimberley's Mayor, Ron McRae. "SunMine aligns with the community's values associated with environment, community and a history of innovation and resilience. We're creating the future, not awaiting it, and this project shows we mean business."

Total Projects Value:
\$4.6 million

ICE Fund Contributions:
\$1 million

Highlights

- Job Creation
 - 36 construction
 - 2 ongoing

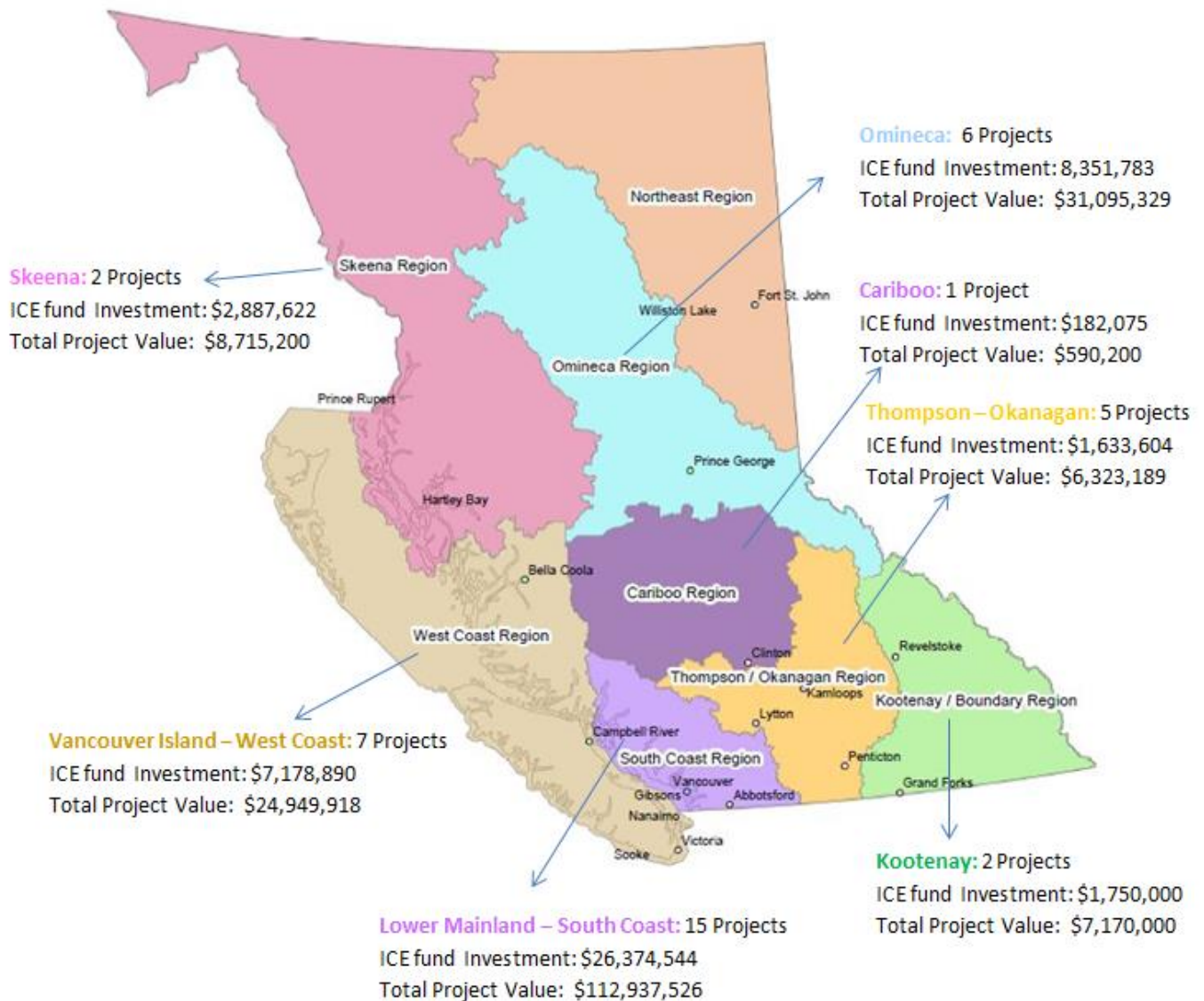
Accomplishments

- EcoSmart has successfully managed several large multi-stakeholder demonstration projects related to green power and greenhouse gas reduction.

www.ecosmart.ca

www.sunmine.ca

Project Distribution by Natural Resource Operations Regions in BC





Cariboo Region

70 Mile House



Siwash Lake Ranch

The Project: Demonstration & Deployment of Innovative Clean energy technology in Remote B.C.

Technology: Solar PV and Thermal

ICE Fund: \$182,075

Status: Completed October 2012

Project Value: \$590,200

Jobs: Construction 10 – Ongoing 2



Kootenay Region

Kimberley



EcoSmart Foundation Inc.

The Project: SunMine Project – B.C.’s first installation of grid-connected solar power on a brownfield mine site.

Technology: Solar PV

ICE Fund: \$1,000,000

Status: In Progress

Project Value: \$4,600,000

Jobs: Construction 36 – Ongoing 2

Revelstoke



SBC Firemaster Ltd.

The Project: Modular Pellet Plant - Bioenergy Creation

Technology: Bioenergy

ICE Fund: \$750,000

Status: Completed October 2009

Project Value: \$2,570,000

Jobs: Construction 16 – Ongoing 18



Lower Mainland – South Coast

Abbotsford



Catalyst Power Inc.

The Project: Advanced (High Yield) Biogas System

The Technology: Bioenergy

ICE Fund: \$1,500,000

Status: Completed July 2010

Project Value: \$5,500,000

Jobs: Construction 5 – Ongoing 10

Burnaby



BC Institute of Technology

The Project: Development of an intelligent Micro (Smart) Grid

Technology: Energy Management

ICE Fund: ICE Fund: \$2,702,772

Status: Completed March 2011

Project Value: \$6,540,166

Jobs: Construction 11 – Ongoing 9



Lower Mainland – South Coast

Burnaby



Delta-Q Technologies Corp.

The Project: Showcasing Load Demand Management and Next Generation Electric Vehicle Charging.

Technology: Energy Management

ICE Fund: \$1,000,000

Status: Completed December 2013

Project Value: \$4,792,213

Jobs: Construction 20 – Ongoing 11



Lignol Innovations Ltd.

The Project: Cellulosic Ethanol Produced using Lignol Biorefinery Technology and BC Feedstocks – Phase 1

Technology: Bioenergy

ICE Fund: \$1,955,929

Status: Completed March 2010

Project Value: \$5,883,849

Jobs: Construction 31 – Ongoing 31



Lower Mainland – South Coast

Burnaby



Lignol Innovations Ltd.

The Project: Ethanol Production using BC Feedstocks – Phase 2

Technology: Bioenergy

ICE Fund: \$3,405,000

Status: Completed December 2011

Project Value: \$12,106,963

Jobs: Construction 25 – Ongoing 25



SunCentral Inc.

The Project: Solar Canopy illumination System Demonstration

Technology: Solar

ICE Fund: \$2,000,000

Status: Completed June 2013

Project Value: \$8,129,451

Jobs: Construction 12 – Ongoing 12



Lower Mainland – South Coast

Delta



Consolidated Biofuels Ltd.

The Project: Biodiesel Build-out

Technology: Bioenergy

ICE Fund: \$150,000

Status: Completed June 2010

Project Value: \$690,000

Jobs: Construction 4 – Ongoing 10



Quadrogen Power Systems Inc.

The Project: Quad-generation from landfill gas at Village Farms

Technology: Waste to Energy

ICE Fund: \$1,000,000

Status: In Progress

Project Value: \$7,910,145

Jobs: Construction 2 – Ongoing 3



S2G Biochemicals Inc.

The Project: S2G Bio-Glycol Pre-Commercial Demonstration Plant

Technology: Bioenergy

ICE Fund: \$1,000,000

Status: Completed December 2013

Project Value: \$4,611,233

Jobs: Construction 7 – Ongoing 13



Lower Mainland – South Coast

Delta



SunSelect Produce (Delta) Inc.

The Project: Wood Fired Heat & CO2 Recovery Plant for Use in Greenhouse Applications

Technology: Bioenergy

ICE Fund: \$2,240,000

Status: Completed June 2010

Project Value: \$6,690,000

Jobs: Construction 2 – Ongoing 3

Langley



MSR Innovations Inc.

The Project: Sol-Trak Solar Roofing System

Technology: Solar

ICE Fund: \$335,589

Status: Completed March 2013

Project Value: \$1,570,000

Jobs: Construction 5 – Ongoing 1

New Westminster



Nexterra Energy Corp.

The Project: Direct-Fired Boiler (Biomass) Gasification Demonstration Project

Technology: Bioenergy

ICE Fund: \$1,500,000

Status: Completed February 2010

Project Value: \$9,000,000

Jobs: Construction 20 – ongoing 5



Lower Mainland – South Coast

Vancouver



Saltworks Technologies Inc.

The Project: Energy Efficient Desalination & Wastewater Treatment with Made-in-BC Advanced Materials

Technology: Energy Conservation

ICE Fund: \$977,790

Project Value: \$4,478,506

Status: Completed December 2013

Jobs: Construction 17 – Ongoing 17



Switch Materials Inc.

The Project: Hybrid Photochromic-Electrochromic Smart Windows

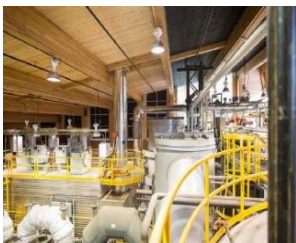
Technology: Energy Conservation

ICE Fund: \$2,170,463

Project Value: \$6,435,000

Status: Completed July 2012

Jobs: Construction 14 – Ongoing 14



UBC/GE/Nexterra

The Project: Small-Scale Biomass CHP: Demonstration of Syngas Technology with a High Efficiency Gas Engine

Technology: Bioenergy

ICE Fund: \$4,500,000

Project Value: \$28,600,000

Status: Completed June 2013

Jobs: Construction 107 – Ongoing 8



Omineca Regions

Prince George



Alterna Energy

The Project: Enviro-Carbonizers – Scale –up to Production Plant

Technology: Bioenergy

ICE Fund: \$2,693,867

Status: In Progress

Project Value: \$8,301,741

Jobs: Construction 12 – Ongoing 13



New Hope Society

The Project: Biomass District Heating at Baldy Hughes Rehabilitation Centre

Technology: Energy Management

ICE Fund: \$460,635

Status: Completed November 2009

Project Value: \$1,316,100

Jobs: Construction 10 – Ongoing 1



University of Northern British Columbia

The Project: Northern British Columbia Bioenergy Hub and Teaching / Learning Living Laboratory

Technology: Bioenergy

ICE Fund: \$3,500,000

Status: Completed January 2011

Project Value: \$15,750,000

Jobs: Construction 139 – Ongoing 9



Omineca Regions

Prince George



Pacific Regeneration Technologies

The Project: SRIC Woody Biomass Greenhouse Heating System

Technology: Bioenergy

ICE Fund: \$435,568

Status: Completed March 2012

Project Value: \$1,634,354

Jobs: Construction 7.5 – Ongoing 1

Prince George, Prince Rupert, Kamloops and Castlegar



Pacific Green Energy Initiative

The Project: North/Central BC "Smart" Street Light

Technology: Energy Conservation

ICE Fund: \$1,180,085

Status: Completed September 2013

Project Value: \$3,848,250

Jobs: Construction 41 – Ongoing 3

Williston Lake



Tsay Keh Dene

The Project: TKD Solar Airfield

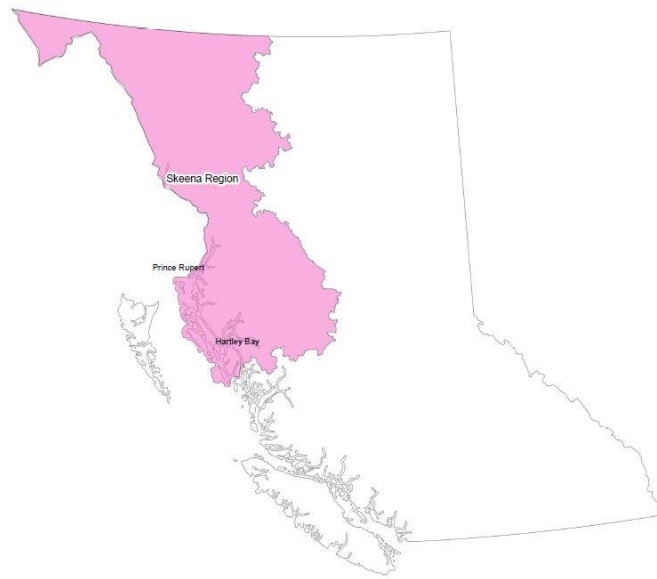
Technology: Solar

ICE Fund: \$81,628

Status: Completed September 2013

Project Value: \$244,884

Jobs: Construction 1 – Ongoing 0.5



Skeena Region

Prince Rupert



Mavi Turbines Inc.

The Project: Demonstration of a Tidal Turbine Design for Remote Electrification in BC

Technology: Ocean – Wave/Tidal

ICE Fund: \$469,622

Status: In Progress

Project Value: \$1,434,900

Jobs: Construction 6 – Ongoing 6

Hartley Bay



Pulse Energy Inc.

The Project: Energy Management Software in Rural and Remote BC Communities – Village of Hartly Bay

Technology: Energy Management

ICE Fund: \$2,418,000

Status: In Progress

Project Value: \$7,280,300

Construction 25 – Ongoing 22



Thompson – Okanagan Region

Grand Forks



City of Grand Forks

The Project: Heat Recovery from Park Lift Station

Technology: Waste to Energy

ICE Fund: \$666,666

Status: Completed July 2010

Project Value: \$2,000,000

Jobs: Construction 15 – Ongoing 2

Lytton



Halfway Ranch

The Project: Halfway Ranch Micro-Hydro Generating Plant

Technology: Hydro

ICE Fund: \$44,000

Status: Completed August 2013

Project Value: \$200,000

Jobs: Construction 2 – Ongoing 0

Lytton, Clinton and Logan Lake



Thompson-Nicola Regional District

The Project: Eco-Depot Solar Power Supply

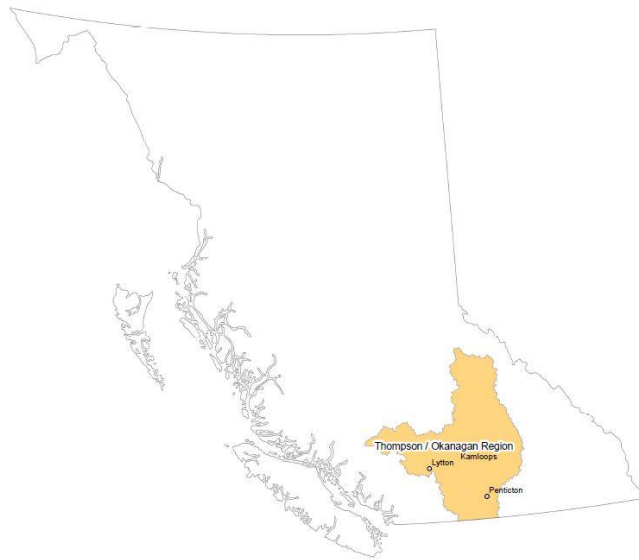
Technology: Solar

ICE Fund: \$53,027

Status: Completed March 2010

Project Value: \$237,189

Jobs: Construction 4 – Ongoing 3



Thompson – Okanagan Region

Penticton



Saltworks Technologies Inc.

The Project: Solar Desalination pre-commercial Plant

Technology: Solar

ICE Fund: \$503,910

Status: Completed March 2011

Project Value: \$1,586,000

Jobs: Construction 13 – Ongoing 10

Salmon Arm



Fortis BC Inc.

The Project: Salmon Arm Biogas Production

Technology: Bioenergy

ICE Fund: \$366,000

Status: Completed February 2013

Project Value: \$2,300,000

Jobs: Construction 9.5 – Ongoing 1.5



Vancouver Island – West Coast

Bella Coola



BC Hydro/Powertech Labs Inc.

The Project: Energy Storage for Remote Communities

Technology: Energy Storage

ICE Fund: \$203,775

Status: Completed June 2012

Project Value: \$617,500

Jobs: Construction 5 – Ongoing 1

Esowista Indian Reserve #3



Tla-O-Qui-Aht First Nation

The Project: Esowista New Community District Geoexchange Energy System

Technology: Geoexchange

ICE Fund: \$750,000

Status: Completed January 2011

Project Value: \$3,000,000

Jobs: Construction 5 – Ongoing 1

Gibsons



Town of Gibsons

The Project: Geoexchange District Energy Utility for Upper Gibsons

Technology: Geoexchange

ICE Fund: \$325,115

Status: Completed December 2012

Project Value: \$993,969

Jobs: Construction 1.5 – Ongoing 0.1



Vancouver Island – West Coast Region

Nanaimo



Cedar Road LFG Inc.

The Project: Collaborative Development and Demonstration Centre for Biogas Utilization (Landfill Gas)

Technology: Waste to Energy

ICE Fund: \$1,000,000

Project Value: \$4,068,449

Status: Completed September 2013

Jobs: Construction 8 – Ongoing 8



International Composting Corp.

The Project: Organic Waste to Fischer-Tropsch Bio-fuel Facility Proposal

Technology: Bioenergy

ICE Fund: \$2,500,000

Project Value: \$9,000,000

Status: In Progress

Jobs: Construction 5 – Ongoing 25



Vancouver Island – West Coast Region

Regional District of Strathcona



Canoe Pass Tidal Energy Consortium

The Project: Canoe Pass Tidal Energy Commercialization

Technology: Ocean – Wave/Tidal

ICE Fund: \$2,000,000

Status: In Progress

Project Value: \$6,370,000

Jobs: Construction 33 – Ongoing 0

Sooke



T'Sou-Ke First Nation

The Project: A Photovoltaic Innovation and Demonstration Project

Technology: Solar PV and Thermal

ICE Fund: \$400,000

Status: Completed July 2009

Project Value: \$900,000

Jobs: Construction 20 – Ongoing 10

Going Forward

The Province's Innovative Clean Energy Fund has positioned British Columbia at the leading edge of the global low-carbon economy, while providing direct support for the energy and environmental priorities identified in government's Canada Starts Here: The BC Jobs Plan which drives province-wide job creation and opportunities in the natural gas, transportation, clean tech and green economy sectors.

The original mandate given the ICE Fund was to accelerate the commercialization of new, clean energy technologies in BC. The opportunity exists for the Ministry to expand the mandate within the legislative framework of the Special Account to meet other provincial energy and environmental priorities, while continuing to create long-term benefits for all British Columbians.

The legislation underpinning the ICE Fund Special Account is versatile and robust. It allows the Ministry to undertake a broad range of activities to address government's energy, economic and environmental priorities. The Ministry has a unique opportunity to utilize this legislation to its maximum potential in order to assist the Province in meeting its priorities – now and in the future.

QUICK FACT:

The opportunity exists for the Ministry to redirect its focus and use the ICE Fund Special Account to its maximum potential in order to meet B.C.'s energy, economic and environmental priorities.

For more information on the Innovative Clean Energy Fund, please visit:

www.gov.bc.ca/innovativecleanenergyfund

Or contact the program delivery team:

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