



Natural Resources
Canada

Ressources naturelles
Canada

C E T C

CANMET ENERGY TECHNOLOGY CENTRE

RETScreen[®] International

www.retscreen.net

CLEAN ENERGY TECHNOLOGIES

Case Study of a Program to Promote
the Use of Renewable Energy in Indigenous
and Northern Canada

Canada 



Renewable Energy in Indigenous and Northern Canada

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Communities in northern Canada are small and remote

- have limited infrastructure
- diesel is the primary fuel for producing electricity
- fuel oil is a major energy source for heating purposes.



Renewable Energy in Indigenous and Northern Canada

- Indigenous and Northern communities stand to gain much by using renewable energy and contributing to control of climate change.
 - Energy costs are very high
 - Effects of climate change are already evident and are becoming more pronounced each year
- Issues of global warming, climate change control, and sustainable living are top priorities
- Communities have a vested interest in addressing these issues.

Renewable Energy in Indigenous and Northern Canada

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Case Study

RETScreen: The development of software to evaluate the economics of renewable energy installations and initiate projects

1996 – 2001

Renewable Energy for Remote Communities Program

- From work in northern Ontario remote communities
- RETScreen initially developed with RERC funding
- Plan developed with stakeholder input
 - * need for generic tool
 - * training materials
 - * facilitation

1998

RETScreen VERSION 98 announced at Cold Climate Conference in Montreal



Renewable Energy in Indigenous and Northern Canada

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Case Study RETScreen

2000 – ongoing

REDI– Renewable Energy Deployment Initiative

- Contributes funding to RERC to help build tool and promote
- **NASA** joins as partner
- **UNEP** joins as partner

2001 – 2003

Renewable Energy Capacity Building Program

- **RETScreen VERSION 2000** announced in 2000
- WB's Prototype Carbon Fund

2003 – ongoing

RETScreen International

- **RETScreen VERSION 3** announced in 2004
- **RETScreen VERSION 4** will come out in mid-2006 with energy efficiency and additional tools





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RETScreen® International
Clean Energy Decision Support Centre

Managed by the CANMET Energy Technology
Centre - Varennes (CETG-Varennes)



Northern Deployment Impact

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Developing Decision-Making Tools and Training

- RETScreen users (120+ in Indigenous and Northern communities)
- Remote community case studies available for most RETScreen technologies
- Version 3.0 developed - improved for Kyoto Protocol
- Trained 104 people in north to use RETScreen



Project Implementation Support Network

- NWT & Nunavut - Arctic Energy Alliance
- Yukon - Energy Solutions Centre
- ANCAP in Nunavut, Northwest Territories and Yukon



Project Facilitation Services

(# of projects assisted)

- 200 + Indigenous & Northern communities



Project Facilitated by RETScreen

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Solarwall® on High School in Northern Canada



Alaittuq High School
in Rankin Inlet

“The RETScreen software program was a key decision making tool when the Nunavut government approved the project.”

Brian McCluskey
Special Projects Officer
Arctic Energy Alliance,
Yellowknife, NWT, Canada

Photo credit:
Arctic Energy Alliance



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RETScreen International Results and Impacts

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Empowering cleaner energy decisions

Performance Indicators	Present Impact (1998 to 2004)		Future Impact (1998 to 2012)	
	Canada	World	Canada	World
User Savings	\$240 million	\$600 million	\$1.8 billion	\$7.9 billion
Installed Capacity	320 MW	1,000 MW	4.9 GW	24 GW
Installed Value	\$750 million	\$1,800 million	\$10 billion	\$41 billion
GHG Reduction	130 kT CO ₂ /yr	630 kT CO ₂ /yr	3.6 MT CO ₂ /yr	20 MT CO ₂ /yr

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