

Leadership in ecoInnovation

**RETS**CREEN<sup>®</sup> INTERNATIONAL





### RETScreen's Clean Energy Policy Toolkit

### *Clean Energy Solutions Center Webinar* 26 April 2013





### **RETScreen's Mission: Empower Cleaner Energy Decisions Worldwide**

#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

#### www.retscreen.net





Natural Resources Ressources naturelles Canada Canada

### What is **RETScreen**?

#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

www.retscreen.net



- World's leading clean energy decision-making software
  - Energy efficiency; heating & cooling; power generation; and cogeneration
    - Fossil fuels
    - Renewable energy
  - 36 languages covering 2/3rds Earth's population



- 372,000+ users in 222 countries & territories
  - 40,000+ new users each year
  - 500+ universities & colleges use for training & research
  - Over \$8 billion in direct user savings since 1998





### **Example of Project Facilitated by RETScreen**

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### **Photovoltaic Water Pumping System in Africa**



Sasso s.n.c., Italy

"We have used RETScreen to design different solar pumping systems installed in Africa."

Armando Martinez, Renewable Energy Consultant

Photo credit: Armando Martínez

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### **Example of Project Facilitated by RETScreen**

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#### Wind Farm in Ireland (7 Turbines x 650 kW)



#### www.retscreen.net

Sustainable Energy Authority of Ireland

2003 User Survey Summary:

RETScreen Software used for 20 wind energy projects built or under construction, totalling 100 MW and an investment of \$210 million.

Paul Kellett, Technical Manager

Photo credit: Sustainable Energy Authority of Ireland

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### **Overview of** *RETScreen Suite* **Software**

### **RETScreen Training Institute**







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### **RETScreen Software Suite**

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Downloading and running **RETScreen Software Suite** will install two separate programs:



**RETScreen 4** is an Excel-based clean energy project analysis software tool that helps decision makers quickly and inexpensively determine the technical and financial viability of potential renewable energy, energy efficiency and cogeneration projects.



**RETScreen Plus** is a Windows-based energy management software tool that allows project owners to easily verify the ongoing energy performance of their facilities.

### Also available on RETScreen website:

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**REFRIG3** is an Excel-based RETScreen Energy Efficient Arena & Supermarket Project Model (Version 3 format)



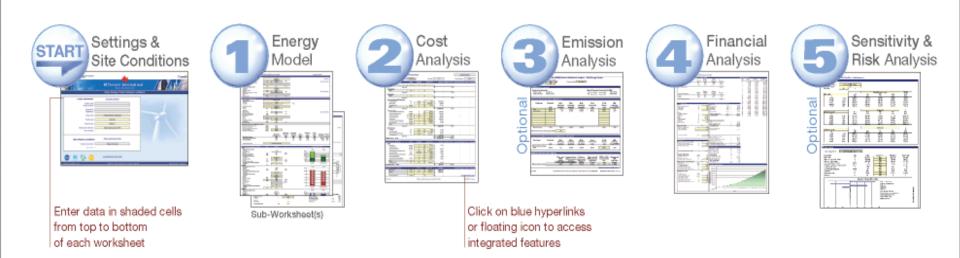


### **RETScreen® International**

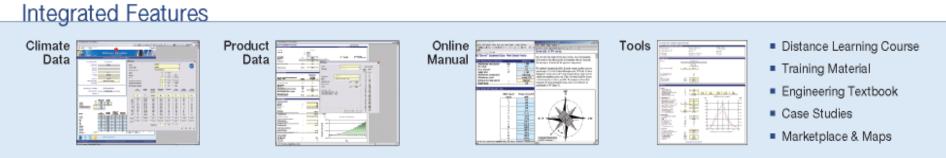
www.retscreen.net

Clean Energy Project Analysis Software

### Five Step Standard Analysis



### Ready to make a decision



#### RETScreen<sup>®</sup> International

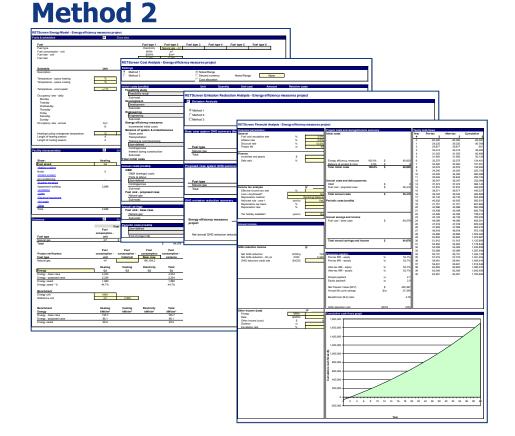
### **Analysis Type (Start Sheet)**

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### **Method 1**

TScreen Energy Model - User-defined							
r-defined							
User-defined	0	Energy					
User-Genneg		Green power					
		Other					
	0	Uther					
		Base case	Proposed case				
Technology		Grid electricity	Wind turbine				
Power capacity	kW		2,000				
Capacity factor	%		30%				
Electricity exported to grid	MWb		5.256				
Incremental initial costs	\$/kW		2.000				
O&M (savings) costs	\$/kWh		0.010				
Electricity export rate	\$/kWh		0.150				
Encouncily expert time	46.000		0.150				
Emission Analysis							
		GHG emission					
		factor	T&D	GHG emission			
Base case electricity system (Baseline)		(excl. T&D)	losses	factor			
Country - region	Fuel type	tCO2/MWh	%	tCO2/MWh	1		
Canada	All types	0.211	5.0%	0.222	-		
Electricity exported to grid	MWb	5,256	T&D losses	8.0%	1		
					-		
GHG emission			-				
Base case	tCO2	1,167	-				
Proposed case	tCO2	93					
Gross annual GHG emission reduction	tC02	1.074	-				
Gross annual GHG emission reduction GHG credits transaction fee	1002	0.0%	1				
GHG credits transaction fee Net annual GHG emission reduction	% tCO2		1		0.000		_
Net annual GHG emission reduction	tCO2	1,074	is equivalent to	218	Cars & light trucks not	used	
GHG reduction income							
GHG reduction credit rate	\$/tCO2	0.00					
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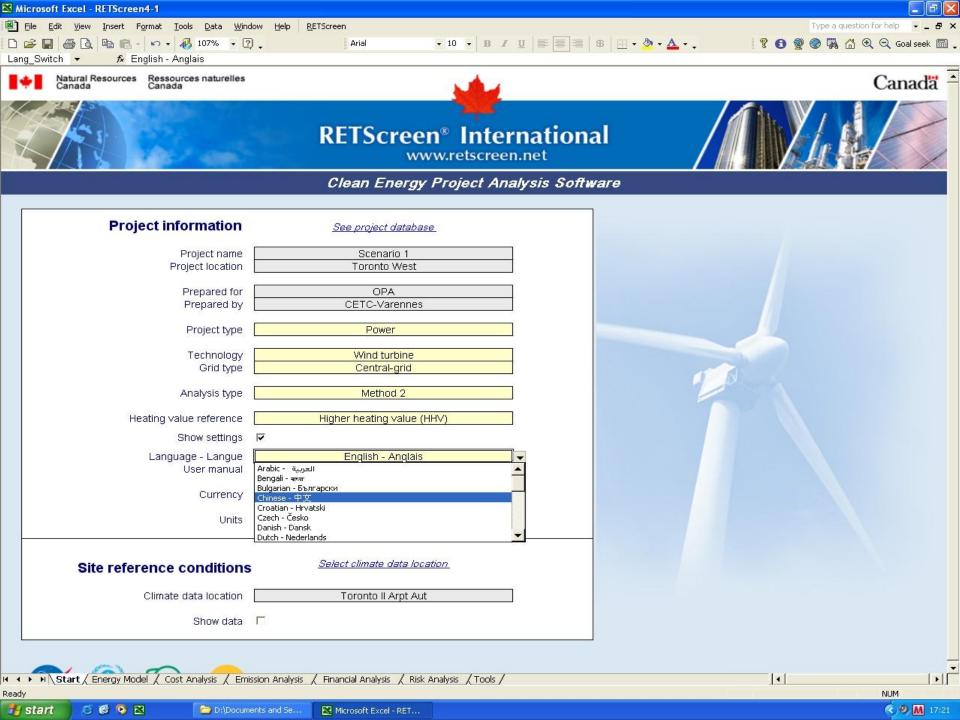


#### Templates Case studies User-defined

Project type	Туре	Project name	^
Power	Photovoltaic	100 kW	
Power	Solar thermal power	100,000 kW	
Power	Hydro turbine	2,000 kW	
Power	Wind turbine	50,000 kW	
Combined heating & power	Gas turbine	Apartment building	
Power	Reciprocating engine	Biogas	
Energy efficiency measures	Residential	Building envelope	
Energy efficiency measures	Commercial	Building envelope - Windows	
Combined heating & cooling	Heat pump - Ground-source	Commercial	
Energy efficiency measures	Industrial	Compressed air	≡
Energy efficiency measures	Commercial	Electrical equipment - Computer	
Energy efficiency measures	Industrial	Fans	
User-defined	Energy	Generic	
Energy efficiency measures	Industrial	Heat recovery	
Heating	Solar water heater	Hot water	
Energy efficiency measures	Residential	Hot water – Apartment	
Power	Reciprocating engine	Landfill gas	
Energy efficiency measures	Commercial	Lights – Compact fluorescent light	
Energy efficiency measures	Commercial	Lights - Fluorescent T8 - electronic ballast	
Energy efficiency measures	Industrial	Motors	
Energy efficiency measures	Industrial	Other	
Heating	Solar air heater	Process	
Energy efficiency measures	Industrial	Process electricity	
Energy efficiency measures	Industrial	Process heat	
Energy efficiency measures	Industrial	Process steam	
Energy efficiency measures	Industrial	Pumps	~









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<ul> <li>Power Conducted &amp; power (Cogneration)</li> <li>Legal aspects of nergy projects</li> <li>e Testbook</li> <li>Case studies / Funglese</li> <li>Photos</li> <li>Training calendar</li> <li>Other languages</li> <li>RETScreen - Legal Aspects of Clean Energy Pro</li> <li>Training calendar</li> <li>Other languages</li> <li>RETScreen - Legal Aspects of Clean Energy Pro</li> <li>Training material</li> <li>RETScreen - Legal Aspects of Clean Energy Pro</li> <li>Training calendar</li> <li>Other languages</li> <li>RETScreen - Legal Aspects of Clean Energy Pro</li> <li>The initiative was undertaken by NRCan Cannets</li> <li>Representation</li> <li>Construction AND TERM LOAN AGREEMENT (as amended from time to time, this "Agreement") is entered into on, by and among a (the "Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and mong a agent?).</li> <li>The initiative has brought together sample legal documents</li> <li>Indeconnection agreements</li> <li>Indeconnection agreements</li> <li>Indeconnection agreements</li> <li>Interconnection agr</li></ul>
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Training material
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e-Textbook / Guides RETScreen - Legal Aspects of Clean Energy Pro Sample legal documents Real property agreements Green leases Finance agreements Engineering, procurement & construction agreement Engineering, procurement & construction agreements Engineering, procurement & construction agreements Energy performance contracts Emissions/Environmental attributes trading agreement The initiative has brought together sample legal do time and costs associated with developing legal an public stakeholder awareness and capacity regard
e-Textbook / Guides       RETScreen - Legal Aspects of Clean Energy Pro       This CONSTRUCTION AND TERM LOAN AGREBMENT (as amended from time to time, this "Agreement") is entered into on, by and among, a (the "Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and, as agent for the Lenders (together with its successors and assigns in that capacity, the "Agreem").         Finance agreements       Finance agreements       RecITALS:         Power purchase agreements       1. The Borrower intends to design, construct, own, and operate afired,         Interconnection agreements       1. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
RETScreen - Legal Aspects of Clean Energy Pro       This CONSTRUCTION AND TERM LOAN AGREEMENT (as amended from time to time, this "Agreement") is entered into on, by and among, a (the "Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and, as agent for the Lenders (together with its successors and assigns in that capacity, the "Agreement").         Finance agreements       Engineering, procurement & construction agreements       RECITALS:         Interconnection agreements       Interconnection agreements       1. The Borrower intends to design, construct, own, and operate afired,         The initiative has brought together sample legal do time and costs associated with developing legal an public stakeholder awareness and capacity regard       2. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Sample legal documents       This CONSTRUCTION AND TERM LOAN ACREBMENT (as amended from time to time, this "Agreement") is entered into on, by and among, a (the "Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and, as agent for the Lenders (together with its successors and assigns in that capacity, the "Agent").         Finance agreements       Finance agreements         Fuel supply and O&M agreements       Recitation agreements         Interconnection agreements       Interconnection agreements         Energy performance contracts       1. The Borrower intends to design, construct, own, and operate afired,         Power purchase agreements       1. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
<ul> <li>"Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and <u>Real property agreements</u> <u>Green leases</u> <u>Finance agreements</u> <u>Engineering, procurement &amp; construction agreements</u> <u>Engineering, procurement &amp; construction agreements</u> <u>Interconnection agreements</u> <u>Interconnection agreements</u> <u>Energy performance contracts</u> <u>Emissions/Environmental attributes trading agreements</u> <u>Emissions/Environmental attributes trading agreements</u> <u>The initiative has brought together sample legal do</u> time and costs associated with developing legal an public stakeholder awareness and capacity regard</li> <li>"Agreement."</li> </ul>
Real property agreements       "Borrower"), the lenders named on the signature pages to this Agreement (the "Lenders"), and, as agent for the Lenders (together with its successors and assigns in that capacity, the "Agent").         Finance agreements       Engineering, procurement & construction agreements         Fuel supply and O&M agreements       RECITALS:         Power purchase agreements       1. The Borrower intends to design, construct, own, and operate afired,         Interconnection agreements       1. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Green leases
Finance agreements       Engineering, procurement & construction agreements         Fuel supply and O&M agreements       RECITALS:         Power purchase agreements       Interconnection agreements         Interconnection agreements       1. The Borrower intends to design, construct, own, and operate afired,         Emissions/Environmental attributes trading agreem       1. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Fuel supply and O&M agreements       RECITALS:         Power purchase agreements       Interconnection agreements         Interconnection agreements       1. The Borrower intends to design, construct, own, and operate afired,         Emissions/Environmental attributes trading agreem       2. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Power purchase agreements       Interconnection agreements         Interconnection agreements       1. The Borrower intends to design, construct, own, and operate afired,         Emissions/Environmental attributes trading agreem       1. The Borrower intends to design, construct, own, and operate afired,         The initiative has brought together sample legal do time and costs associated with developing legal an public stakeholder awareness and capacity regard       2. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Interconnection agreements       1. The Borrower intends to design, construct, own, and operate afired,         Emergy performance contracts       Emissions/Environmental attributes trading agreement         The initiative has brought together sample legal do time and costs associated with developing legal an public stakeholder awareness and capacity regard       1. The Borrower intends to design, construct, own, and operate afired,         2. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.
Energy performance contracts       megawatt electric generating facility to be located in         Emissions/Environmental attributes trading agreem       2. The Borrower has asked the Lenders to provide a portion of the financing for this facility, and the Lenders are willing to do so on the terms and conditions contained in this Agreement.         Dublic stakeholder awareness and capacity regard
Emissions/Environmental attributes trading agreem The initiative has brought together sample legal do time and costs associated with developing legal an public stakeholder awareness and capacity regard
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public stakeholder awareness and capacity regard
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The parties therefore agree as follows:
Many legal documents in a clean energy project at
employment contracts, etc. In keeping with RETS
known agreements, those more specific to clean e - ARTICLE 1
categories listed is not necessarily sequential. Not energy projects but may still be useful as an inform - DEFINITIONS
To facilitate discussion and information sharing, the
Capitalized defined terms used in this Agreement have the meanings given to them in
The Toolkit is also incorporated within the RETSc - Schedule X, and the rules of construction set forth in Schedule X govern this Agreement.
RETScreen software.
RETScreen software.    Note      ARTICLE 2
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Cheen energy project analysis       types of Renewable-energy and Energy-efficient Technologies (RETs). The software (available in multiple language) also includes product, project, hydrology and climate databases, a detailed user manual, and a case study base college/university-level training course, including an engineering etextbook.         Overview of training course       RETScreen 4, a major new edition of the RETScreen software, helps rapidy evaluate whether a proposed dean energy project makes sense and is worth further consideration. This prosentation introduces RETScreen 4, hiphlights its new features, and describes the RETScreen approach to project analysis.         Training material Clean energy With RETScreen Greenhouse gas emission analysis       Thistoren - Introduction - Presentation sides (3.59 MB) ETScreen - Introduction - Speaker's notes         RETScreen analysis with RETScreen marysis with RETScreen analysis with RETScreen emission analysis       Cree studies (5.58 ME)         Financia R risk analysis with RETScreen summary       Cree studies / Templater Power         Case studies / Templater Power       Case studies / Templater Power         Consist with RETScreen Second of the analysis with RETScreen Combined heat & Power       Consent Combined heat & Power         Consist with RETScreen Second of the analysis with RETScreen Combined heat & Power       Consent Consent with RETScreen Combined heat & Power         Constitution / Cean Energy Legal and clean energy retermine a clean heat with RETScreen Consent and with RETScreen Consent and with RETScreen Consent and with RETScreen Consent and with RETScreen Engineering & Cases Textbook - entire e Textbook ' includes most RETScreen suma	Training Cours	e energy	production a	nd savings,	costs, en	ission reduc	tions, finar	ncial viabilit	y and risk fo	r various				
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### **RETScreen Training Institute**

#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

- RETScreen 101 Introduction to Clean Energy Project Analysis (just completed)
- RETScreen 201 Energy Efficiency Project Analysis
- RETScreen 202 Heating & Cooling Project Analysis
- RETScreen 203 Power Project Analysis
- RETScreen 301 Cogeneration Project Analysis
- RETScreen 302 Energy Performance Analysis
- We do customized training!



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### Clean Energy Policy Analysis With RETScreen®



Photo Credit: Strong, Steven DOE/NREL



# **Clean Energy Policies - Incentives**

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- Direct Cash Payments
  - Grants and Rebates
  - Performance-Based Payments
- Tax Incentives
  - Tax Credits
  - Tax Exemptions
  - Accelerated Depreciation
- Loan Programs



Proposals will be assessed by EANCP's Project Review Committee against criteria that reflect the objectives of the program. These criteria include the level of reduction of GHG emissions, the likelihood of the project being installed or built and operational, the ability of the community to take a leadership role in the project, as well as other economic, environmental and social considerations.

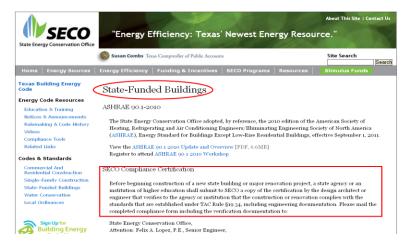




# **Clean Energy Policies - Regulations**

#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

- Building Code Mandates
- Favourable Permitting Rules
- Interconnection Standards





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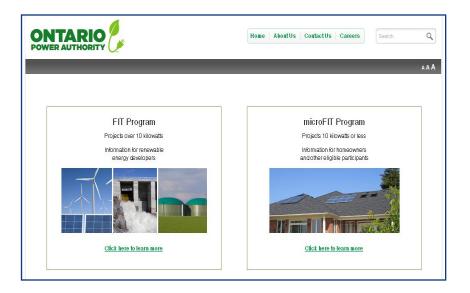
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# **Clean Energy Policies - Hybrids**

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- Feed-in Tariffs
- Utility Quota Obligations
- Net Metering
- Emissions & Environmental Attributes Trading





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# **RETScreen for Projects** *and* **Policy**

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# RETScreen as a tool to demonstrate the viability of clean energy *projects*

But also ...

...useful for planning, designing, implementing, and reviewing the viability of clean energy *policies* 



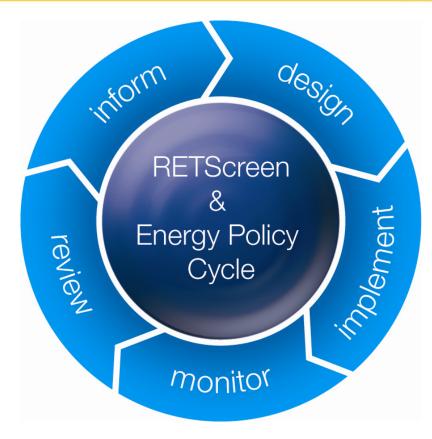


# **The Policy Cycle**

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- Inform
- Design
- Implement
- **Monitor**
- **Review**









# **Examples of RETScreen Use for Policy**

#### **RETSCREEN® INTERNATIONAL**

- International (UNFCCC)
- National (Canada)
- Sub-National (Texas)
- Municipal (Toronto)
- Utility (National Grid)

10 11	Public Utilities Commission 21 S. Fruit Street, Suite 10, Concord, NH 03301-2429
	STEP 1: INCENTIVE PRE-APPROVAL APPLICATION
	FOR NON-RESIDENTIAL SOLAR THERMAL <sup>1</sup> AND SOLAR ELECTRIC SYSTEMS up to 100 KW or 100 KW EQUIVALENT
•	System must become operational on or after November 1, 2010. Pre-approval will reserve your place in the funding queue. Once the facility has been installed at the site, applicant must then complete Step 2 by submitting a <b>final incentive request form</b> . The incentive pre-approval expires <u>9 months</u> from the date this application is pre-approved and funding is reserved. When all available program funding has been reserved for approved projects, applicants that meet all program and project requirements will be placed on a waitlist. Projects placed on the waitlist are not guaranteed funding.
	**Because this application requires original signatures, no electronic copies will be accepted**
	**Because this application requires original signatures, no electronic copies will be accepted** Technical Requirements
1.	
	Technical Requirements           Any renewable energy system must comply with all manufacturers' requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code.
2.	Technical Requirements Any renewable energy system must comply with all manufacturers' requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code. Any interconnection of the renewable energy system with your utility must comply with your Interconnection Agreement, the
2.	Technical Requirements           Any renewable energy system must comply with all manufacturers' requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code.           Any interconnection of the renewable energy system with your utility must comply with your Interconnection Agreement, the Puc 900 Net Metering Rules (if applicable), as well as any applicable tariffs governing interconnection.           Solar PV systems must have a manufacturer's rated panel output under standard test conditions (STC) of equal to or less than 100 kilowatts and must be certified by a nationally-recognized testing laboratory as meeting the requirements of UL 1703.
2. 3. 4.	Technical Requirements           Any renewable energy system must comply with all manufacturers' requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code.           Any interconnection of the renewable energy system with your utility must comply with your Interconnection Agreement, the Puc 900 Net Metering Rules (if applicable), as well as any applicable tariffs governing interconnection.           Solar PV systems must have a manufacturer's rated panel output under standard test conditions (STC) of equal to or less than 100 kilowatts and must be certified by a nationally-recognized testing laboratory as meeting the requirements of UL 1703.
2. 3. 4. 5.	Technical Requirements         Manufacturer's requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code.         Any interconnection of the renewable energy system with your utility must comply with your Interconnection Agreement, the Puc 900 Net Metering Rules (if applicable), as well as any applicable tariffs governing interconnection.         Solar PV systems must have a manufacturer's rated panel output under standard test conditions (STC) of equal to or less than 100 kilowatts and must be certified by a nationally-recognized testing laboratory as meeting the requirements of UL 1703.         Systems shall include a labor warranty of no less than five years in order to qualify for a rebate.         Solar electric systems greater than 50 kW shall include a revenue grade meter to measure production of the system [and shall include data monitoring through a web-based system].
2. 3. 4.	Technical Requirements         Any renewable energy system must comply with all manufacturers' requirements, installed according to manufacturer's recommendations, and meet all applicable requirements of the State Building Code pursuant to RSA 155-A:1, IV including the National Electric Code 2008 and the International Fire Code.         Any interconnection of the renewable energy system with your utility must comply with your Interconnection Agreement, the Puc 900 Net Metering Rules (if applicable), as well as any applicable tariffs governing interconnection.         Solar PV systems must have a manufacturer's rated panel output under standard test conditions (STC) of equal to or less than 100 kilowatts and must be certified by a nationally-recognized testing laboratory as meeting the requirements of UL 1703.         Systems shall include a labor warranty of no less than five years in order to qualify for a rebate.         Solar electric systems greater than 50 kW shall include a revenue grade meter to measure production of the system [and shall include data monitoring through a web-based system].         Solar thermal systems with a collector area of 500 sq. ft. or greater shall have an output meter and/or web-based temperature

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#### www.retscreen.net

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<sup>5</sup> Criteria for approval of computerized simulation model programs include: (a) The program is nonproprietary and available at no cost or for a small cost; (b) The simulation algorithms are available and documented; (c) Reliable and documented historical and real time weather data, compatible with the program, are available for the country were the project(s) are implemented; and (d) The program has been tested and bench marked to show that it is reliable and the results of such testing/bench marking in the public domain; and user support is available. At the time of approval of this version of this methodology, the only pre-approved model simulation program is RETScreen (<htp://www.retscreen.net/>). Submittals may be made for requesting revision of this methodology to include other programs.

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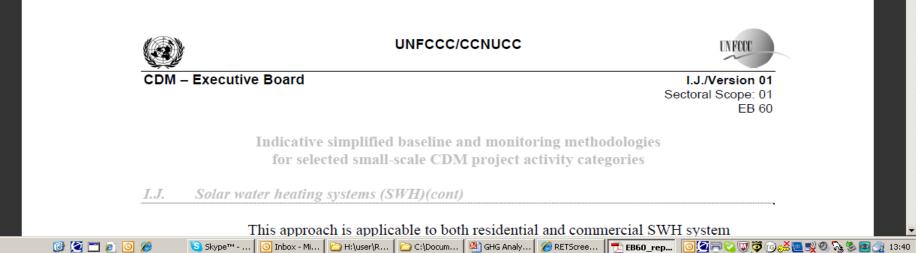
<sup>6</sup> Water consumption per day shall be assumed to follow a typical daily, per hour, pattern that can reasonably shown to be typical for the residence(s) for which the project SWH system(s) will serve.

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According to national or international standards, e.g. the Solar Rating and Certification Corporation certification, rating, and labelling program for solar collectors and complete solar water heating systems.

<sup>8</sup> Insolation and ambient temperature data must be obtained from globally accepted data sources, e.g. data published by the National Aeronautics and Space Administration (NASA) or the National Renewable Energy Laboratory (NREL). Data can be used only if they are for a location that can be demonstrated to be representative of the project location.

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CecoENERGY for Aboriginal and Northern Communities Program	n 2011- 2016 - Windows Internet Explorer	<u>_ 8 ×</u>
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	Project Eligibility Criteria	<b>_</b>
	Projects must meet the following criteria in order to be eligible for EANCP funding:	
	• The applicant is an eligible recipient.	
	<ul> <li>The project will facilitate the engagement of Aboriginal peoples and / or northerners in a community driven strategy for addressing the use and provision of energy.</li> </ul>	
	<ul> <li>The project will lead to the reduction or elimination of heat and / or electricity use from a conventional, more GHG-intensive source. For Stream A projects, the proposal must demonstrate that a completed and built project will result in 4,000 tonnes or greater of GHG reductions from a 'business as usual' scenario (i.e., conventional heat or electricity source) over the life-cycle of the project (usually considered to be 20 years).</li> </ul>	
	<ul> <li>The project will have economic, environmental and social benefits for the community in which it is located.</li> </ul>	
	<ul> <li>The community in which the project is located is supportive of the project and it can be demonstrated that the community has a vested interest in the successful outcome of the project.</li> </ul>	
	<ul> <li>The project has not already received the maximum amount of funding from EANCP (see 'Maximum funding levels' below).</li> </ul>	
	<ul> <li>The project will involve the incorporation or implementation of a proven technology that is appropriate to the application, location, etc. Research and development, pilot or demonstration projects are not eligible for funding.</li> </ul>	
	<ul> <li>The applicant has completed and submitted the following:</li> </ul>	
	1. Proposal for project funding	
	<ol><li>Project budget template: Both worksheets must be completed: 'Expenditure details' and 'Contributions from other sources'</li></ol>	
	3. Letter of support for the project from the community	
	4. RETScreen: The RETScreen Clean Energy Project Analysis Software is described as a 'decision support tool' for renewable energy and energy efficiency projects. A user can enter data into RETScreen about their project (like site conditions, systems characteristics, costs, etc) and about their current or 'base case' electricity and / or heating systems and RETScreen will output estimated energy production and savings, costs, emission reductions, financial viability and risk. The software can be downloaded free of charge from <u>Natural Resources Canada</u> www. A completed RETScreen must be provided in .xls or .ret format (a photocopy, pdf or faxed copy is not acceptable).	
	<ul> <li>Proposits for projects that include key partners (such as provincial/territorial governments, Aboriginal governments, educational institutions, professional or</li> </ul>	<b>.</b>
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### Toronto Solar Neighbourhoods Initiative Input Data for RETScreen Simulation

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All RETScreen analyses provided to Solar Neighbourhoods should be carried out using RETScreen Version 4, and should use the following basic parameters:

RETScreen Input Line	To use for Product Participation Application "System Performance" Section	To use for modelling of projects eligible under the TSNI	
Start Screen			
Facility Type:	Residential	Residential	
Project type:	Heating	Heating	
Technology:	Solar Water Heater	Solar Water Heater	
Analysis Type:	Method 1	Method 1	
Heating Value Reference:	High	High	
Climate Data Location:	Toronto	Toronto	
Energy Model Screen: Heating Project			
Application:	Hot Water	Hot Water	
Load Characteristics			
Load Type	House	House	
Daily hot water use:	Run 3 separate RETScreen simulations using 150, 225, 300 litres/day	Use estimate from Hot Water Assessment portion of "Solar Hot Water Site Assessment Form" completed by the ecoENERGY assessor – there will be 2 values given (a base and	

RETScreen - CETC-V ....

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### **National Grid Solar Thermal Program**

### Commercial:

- Solar Thermal \$3/therm first year savings
- LIMIT 50% project cost or \$100,000
- Economic Redevelopment funds available for projects with high Community benefits up to \$8 per therm
- RETScreen analysis is required
- Step #1 energy audit
- 1-800-843-3636





# **RETScreen Clean Energy Policy Toolkit**

#### **RETSCREEN<sup>®</sup> INTERNATIONAL**

www.retscreen.net

- Developed by RETScreen International
- Financially supported by a grant from the Renewable Energy and Energy Efficiency Partnership (REEEP)
- Includes Case Studies/Templates, e-Textbook Chapter, Training Slides, and Sample Documents
- Available on the RETScreen Website and within the **RETScreen User Manual**







# **Case Studies & Templates**

#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

www.retscreen.net

- Power Photovoltaic Feed-in Tariff Policy / Canada
- Power Wind GHG Reduction Income Policy / China
- Heating Solar Water Heater Capital Cost Incentive Policy / USA
- User-defined Tax and Finance Measures Policy / Canada

+ many more!



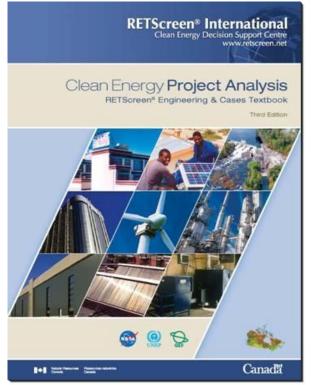




### **Presentation Slides & e-Textbook Chapter**

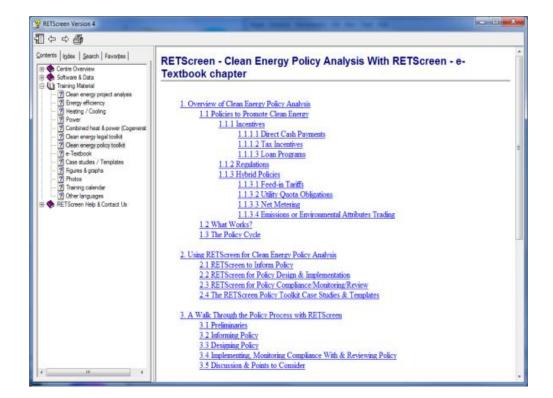
#### **RETS**CREEN<sup>®</sup> INTERNATIONAL

www.retscreen.net



See e-Textbook Clean Energy Project Analysis: RETScreen<sup>®</sup> Engineering and Cases

Clean Energy Policy Analysis with RETScreen



### CanmetENERGY



