



of Business & Technology

108 Years of Training Excellence

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June 20, 2005

# RS140 Passive Solar Project Feasibility Analysis Certification Course

## **Passive Solar Technologies for**

- Single detached houses
- Row and Town houses
- High Rise Buildings
- Commercial Buildings
- Industrial Buildings
- Institutional Buildings

**Distance learning eCourse (3 weeks - 15 hours) – 1 credit  
+ 2 hands-on projects (4 weeks – 20 hours) – 1 credit**

- College Certificate – Continuing Education Credits**
- Distance Learning/Online Course**



**In partnership with**



**GPEKS  
Constructions Inc.**

**Clean Energy International**

**We thank the following organizations for their support with the resources they have provided:**



**RETScreen®  
International**



**United Nations  
Environment  
Programme**



**Global  
Environment  
Facility**



**Natural Resources  
Canada**

## Passive Solar Project Feasibility Course



The requirement to get smart about renewable energy technology and the financial analysis of renewable energy projects is becoming increasingly critical for a growing number of public and private organizations. With the Kyoto Protocol now in force and many energy issues coming into play such as oil and gas shortages, energy price surges, energy security issues, the demand for renewable energy professionals is heating up.

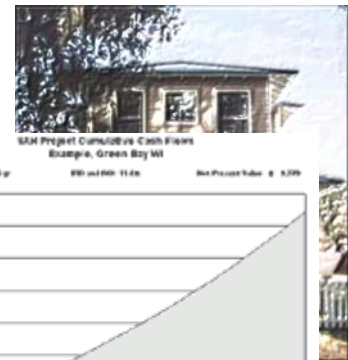
The RS140 solar energy course follows a case-study approach that expands on a curriculum initially developed by Natural Resources Canada's RETScreen Division (with co-sponsoring from UNEP and GEF). The RS140 training materials include a multimedia presentations that cover solar air heating technology, "RETScreen International Renewable Energy Project Analysis Software", RETScreen Engineering & Cases" electronic textbook, and various other related resources. Internet resources to facilitate learning for this course include an online forum and "Study Group".

The course content can be easily applied to real local or international projects.

The first module provides a status of solar water energy technology, markets and applications; and presents an introduction to renewable energy project analysis, including estimating the greenhouse gas (GHG) emission reductions and financial performance of potential projects.

Following modules cover passive solar technologies, the RETScreen software model and include a review of basic solar water technology that illustrates key considerations for project analysis. Participants are given a technology background so that they have sufficient technical understanding to perform feasibility studies.

The last module gives participants a hands-on exposure to the software, databases and documentation with which they will complete a series of case study assignments found in the text book. The text book also provides solutions to the assignments and descriptions of the projects that were actually built. In addition, the textbooks provide engineering background reading for the training module and a detailed description of the algorithms found in the eight RETScreen computer models.



### AUDIENCE

The audience for this course is anyone involved in the technical and economical evaluation of Passive Solar projects: building and **facility** owners or managers, **project** coordinators and managers, people working for **utilities**, **municipalities** (especially members of the PCP program), energy **utility** companies, energy **auditors**, project advisors on innovative or **environmental** technologies, **finance** managers of energy projects, **financial institutions** who want to be able to conduct informed due diligence on Passive Solar projects, **marketing** companies involved in Passive Solar projects, national and multinational **engineering** firms, HVAC professionals and specialists, etc.



## Steps to Obtain Willis College Passive Solar Project Analysis Certification

The purpose of the certification is to attest that successful candidates have acquired a certain level of knowledge of the technology, and that they have acquired the essential skills to perform renewable energy technical and economic feasibility analysis. By the end of the program, participants will have conducted two full scale feasibility studies. The certification is also designed to show that successful candidates are able to conduct various types of renewable energy project analysis.



### Certification Steps – Distance eLearning Option

Study class material provided on Technology. Complete Comprehension exercises/quiz (open questions)  <b>Weight: 25%</b>	Complete Case Study with assistance from remote coach (email, toll free phone support)	Pass the computer based electronic exams on this technology module (multiple choice, multiple answers, fill the blank, matching answers...)  <b>Weight: 25%</b>	Complete two real project feasibility analysis.  Note: students may choose project of their choice or use an instructor supplied project.  <b>Weight: 50%.</b>
Pass 2 exams, complete  mandatory assignments and projects			
<b>Willis College Passive Solar Project Feasibility Analysis Certification</b>			

### OBJECTIVES

The goal of this course is to allow stakeholders to evaluate technical and financial feasibility of a Passive Solar projects. This course does not teach how to install or maintain a Passive Solar system.

After completion of this course, participants will have learned:

- The technology of Passive Solar systems, the various types of Passive Solar projects, the equipment and processes involved, in what context they are most interesting and appropriate.
- How to identify economically viable potential Passive Solar projects.
- How to perform complete Technical and Economic project feasibility analysis for Passive Solar projects.
- How to use the RETScreen tool to perform a Technical and Economic Feasibility Study for Passive Solar projects
- The complete method to calculate the payback, return on investment and other financial ratios for Passive Solar projects.

### BENEFITS

This course will also:

- Give participants a solid understanding of what Passive Solar can achieve.
- Provide in depth information on Passive Solar Design.
- Teach participants to perform a Passive Solar feasibility study in a minimum number of hours.
- Allow building owners to perform their own due diligence on Passive Solar systems.
- Give people looking at a career transition an open path to this exciting and growing field.

## RS110: Passive Solar Project Analysis

### ➤ Course Content:

- ◆ What do Passive Solar Heating systems provide?
- ◆ Principles of Operation of Passive Solar Heating
- ◆ Advanced Window Technologies
- ◆ Shading and Thermal Mass
- ◆ Solar Resource vs. Requirement for Space Heating
- ◆ Passive Solar Heating Costs & Savings
- ◆ Passive Solar Heating Project Considerations
- ◆ Canadian & American Low Energy Buildings
- ◆ European Self-sufficient Solar Houses
- ◆ Assignment on conceptual design concepts for Passive Solar projects
- ◆ Guided exercises on performing RETScreen Passive Solar project analysis
- ◆ Graded exam on energy Passive Solar project analysis

### ➤ Real Projects – Real life Experience Acquisition.

- ◆ Work in an exciting field poised to become a major industry in years to come.
- ◆ Be better positioned in the job market and in the industry
- ◆ Acquire essential workplace skills
- ◆ Earn 2 Willis College **Continuing Education Credits.**
- ◆ This course gives 2 college credits towards our **Project Management in Clean Energy** program.

## FAX/MAIL REGISTRATION FORM

### RS110- Passive Solar Project Feasibility Analysis Certification Program

Name: \_\_\_\_\_  
 Mr.  Ms.  Title: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ Province/State: \_\_\_\_\_  
 Postal/Zip Code: \_\_\_\_\_ Country: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_

Type of Business: \_\_\_\_\_

Reason for taking this course: \_\_\_\_\_

How did you learn about this course:

- Clean Energy International  
 Other: \_\_\_\_\_

#### Payment Information

Course price: C\$295.00

- Special discount (early registration, coupon) \$ \_\_\_\_\_  
 GST (Canada only, add 7%) GST Reg. # 858541287

Total: C\$ \_\_\_\_\_

#### Payment Method:

- Cheque enclosed with registration mail:

Mail to: GPEKS Constructions Inc.  
 85 O'Connor Street, Ottawa, ON K1P 5M6

- VISA: Card Number: \_\_\_\_\_

Expiry: \_\_\_ / \_\_\_

Card Holder's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

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**FAX the registration to +1 (819) 775-4315**

You may also register using our **online form** at: [www.gpeks.com/education/register.asp](http://www.gpeks.com/education/register.asp)