



**Willis College**  
EST. 1896

of Business & Technology

108 Years of Training Excellence

# RS110 - Solar Air Heating Project Feasibility Analysis Certification Program

*Solar Heating & Ventilation for*

- Industrial Buildings
- Commercial Buildings
- Residential Buildings
- Agricultural Buildings
- Crop Drying
- Process Heat

**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**



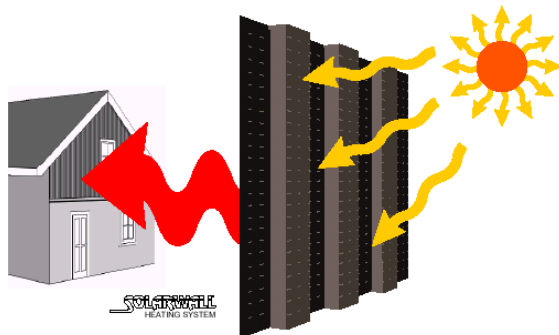
**Global**  
**Environment**  
**Facility**



**Natural Resources**  
**Canada**

## Solar Air Heating Project Feasibility Course

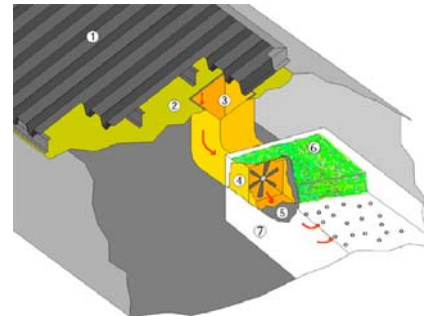
The requirement to get smart about renewable energy technology and the financial analysis of renewable energy projects is becoming increasingly critical for a growing number of public and private organizations. With the Kyoto Protocol now in force and many energy issues coming into play such as oil and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



The RS110 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 RS110 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 easily be applied to real life local or international projects.

The first module provides a status of solar air heating 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 the solar air heating technologies and related RETScreen software model, including reviewing the basics of these technologies, illustrating key considerations for project analysis.



Participants are given a background into the technology so that they have enough technical understanding to perform feasibility studies.

The last module gives participants a hands-on exposure to the software, databases and documentation to complete a series of case study assignments found in the textbooks. Solutions to the assignments are provided along with descriptions of the projects that were actually built. The textbook provides engineering background for the training module and gives a detailed description of the algorithms found in the eight RETScreen computer models.

### AUDIENCE

The audience for this course is anybody involved in the technical and economic evaluation of solar air heating projects: HVAC professionals and specialists, building and **facility** managers, **project** coordinators and managers, people working for **utilities, municipalities** (especially remote communities), energy **utility** companies, energy **auditors**, project advisors on innovative or **environmental** technologies, **finance** managers of energy projects, **banks and other financial institutions** who need to conduct due diligence on Solar Air Heating projects, **marketing** companies involved in Solar Air Heating projects and national and multinational **engineering** firms to name a few.

## Steps To Obtain Willis College Solar Air Heating 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 analyses.  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 Solar Air Heating Project Feasibility Analysis Certification</b>			

### OBJECTIVES

The goal of this course is to teach stakeholders how to evaluate technical and financial feasibility of a solar air heating project. It is not to teach how to install or maintain a solar air heating system.

After completion of this course, participants will have learned:

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

### BENEFITS

This course will also:

- Give participants a solid understanding of what Solar Air Heating can achieve.
- Allow participants to save thousands of dollars on feasibility studies.
- Teach participants to perform a Solar Air Heating feasibility study in a minimum number of hours.
- Allow building owners to perform their own due diligence on Solar Air Heating systems.
- Give people looking at a career transition an open path to this exciting and growing field.

## RS110: Solar Air Heating Project Analysis

<b>➤ Course Content:</b>		
<ul style="list-style-type: none"> <li>◆ What do SAH systems provide?</li> <li>◆ SAH System Operation</li> <li>◆ Commercial/Residential SAH/Ventilation Systems</li> <li>◆ Industrial SAH Systems</li> <li>◆ SAH System for Process Heat and Crop Drying</li> <li>◆ Solar Resource vs. Demand for Ventilation Heat</li> <li>◆ SAH System Costs and Savings</li> <li>◆ Solar Air Heating Project Considerations</li> <li>◆ Assignment on conceptual design concepts for energy projects</li> <li>◆ Guided exercises on performing RETScreen project analysis</li> <li>◆ Graded exam on energy project analysis</li> </ul>		
<b>➤ Real Projects – Real life Experience Acquisition.</b>		
<ul style="list-style-type: none"> <li>◆ Work in an exciting field poised to become a major industry in years to come.</li> <li>◆ Be better positioned in the job market and in the industry</li> </ul>	<ul style="list-style-type: none"> <li>◆ Acquire essential workplace skills</li> <li>◆ Earn 2 Willis College <b>Continuing Education Credits.</b></li> </ul>	<ul style="list-style-type: none"> <li>◆ This course gives 2 college credits towards our <b>Project Management in Clean Energy</b> program.</li> </ul>

### FAX/MAIL REGISTRATION FORM

#### RS110- Solar Air Heating 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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Payment Information**  
**Course price:** C\$295.00  
 GST (Canada only): + C\$20.65  
**Total:** : C\$ \_\_\_\_\_

**Payment Method:**  
 Cheque enclosed with registration mail:  
 VISA: Card Number: \_\_\_\_\_  
 Expiry \_\_\_ / \_\_\_  
 Card Holder's Name \_\_\_\_\_  
 Signature \_\_\_\_\_

**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)