CREST

Community REtrofit through Sustainable Technology

france (manche channel) england interreg

European Regional Development Fund
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**CREST Project**

# Teaching programme

**Training 'raising awareness for energy " CREST**



SCIC ÉNERGIES RENOUVELABLES PAYS DE RANCE

Cambridgeshire County Council

southend onsea BOROUGH COUNCIL

études ET chantiers

CESI recherche
IRISE : INNOVATION ET SCIENCES DE L'ENTREPRISE

**Training "Raising Awareness for energy"**

- Linking consumer habits, the cost of energy and the invoice from energy supplier
- Reduce, through daily actions, its energy consumption
- Identify jobs related to the energy sector

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| **Association Etudes et Chantiers Bretagne Pays de Loire**<br>**3, rue Jean Lemaistre**<br>**35000 Rennes** | ***Association Al'Terre Breizh***<br>***7, rue Aristide Briand***<br>***29000 Quimper*** |

TRAINING "AWARENESS OF ENERGY"

**SKILLS / KNOWLEDGE REFERRED TO**

- **Acquisition of knowledge related to energy**
  - Identify what energy is
  - Understanding the measuring unit for energy
  - Understanding energy challenges
  - Identify the site and the possibilities of renewable energy production
  - Understanding the energy-making mechanism

- **Exercise good judgment on consumption choices and lifestyle habits**
  - Make a diagnosis of the building
  - Analyze fluids bills
  - Understand and use units of measurement
  - Matching: the use of a machine, the measuring unit and the cost of energy for such use
  - Define benchmarks to analyze the situation
  - Set criteria for decision making

- **Identify and analyze the energy sector**
  - Context and language used in the sector
  - Identification of trades
  - Define professional skills
  - Transferability of skills

- **Use mathematics in professional situations**
  - Take measures
  - Perform operations
  - Use measuring units
  - Use measurement and geometric tools (compass, protractor ...)
  - Calculate volumes, surfaces and perimeters
  - Transfer calculations on surfaces: trace, cut

**SKILLS / KNOWLEDGE REFERREDTO**

- **Organize your workstation**
  - Identify security elements to consider
  - Identify the equipment needed for the action
  - Organize one's intervention in time, in space, with the team

- **Understand and communicate orally and in writing**
  - Understand an oral instruction
  - Understand an instruction in writing, a technical note
  - Express and argue a point of view
  - Listen to another
  - Report and present technical choices in front of a group

- **Identify and apply safety rules**
  - Identify the source of risk
  - Apply safety rules

**PREREQUISITES**

Be able to read a document
Team working
Listen to and follow an instruction

**ORGANIZATION**

11 days of training spread over the months of February, March and April 2014

Start of training on: February 25, 2014

Module 1 - Schedule: 9.00-12.00 / 13.00-16.00
Module 2-3 - Schedule: 9.00-12.00 / 13.00-17.00

**Location :** 07 bis rue René Rolland, 22110 Rostrenen
Site of Palacret, 22140 St Laurent

**Number of participants:** 8

**Animation :** Association Al 'Terre Breizh

| SUMMARIZED PROGRAMME | | |
|---|---|---|
| **Module 1 "I consume energy"** | **Teaching methods** | **Dura-tion** |
| Phase 1 : **The energy issue**<br>- History of Energy<br>- Changes in relation to energy<br>- Energy in the habitat<br><br>Phase 2 : **Evaluate your feeling in the workspace**<br>- Collection of concepts and initial knowledge about energy<br>- Issues of the building under study<br>- From the study of the building, each other's feelings are expressed<br><br>Phase 3 : **Review and diagnosis of a building** - Etudes et Chantiers Building in Rostrenen<br>- The building and its functioning<br>- Equipments<br>- Users<br>- Individual diagnosis / use of sensors (usefulness / operation)<br><br>Phase 3 : **Linking the basic feeling and the individual diagnosis / measuring sensor data**<br>- Identifying the specific needs according to the uses and the rooms<br>- Analysis of sensor readings / individual diagnosis<br>- Streamlining what is felt with external inputs<br><br>Phase 4 : **Create vision / Make choices**<br>- Thermal comfort, working comfort<br>- Define requirements<br>- The control of energy consumption / finding ways | theoretically presentation<br>-<br>Setting in situation | 18h |

| SUMMARIZED PROGRAMME | | |
|---|---|---|
| **Module 2 "I produce energy"** | **Teaching methods** | **Dura-tion** |
| Phase 1: **Making a freestanding wood cooker**<br>- General principles of a wood cooker<br>- Marking the parts, cutting, assembling<br>- Wood cooker assembly<br>- Calorific yield of wood, comparison<br><br>Phase 2 : **Testing the freestanding wood cooker**<br><br>Phase 3 : **Making a generator**<br>- General principle of the generator<br>- Reading and understanding plans<br>- Making the winder with metal tube, plywood and the threaded rod<br>- Make the stator coils and connect the coils together<br>- Drawing and cutting template to glue magnets (dividing a circle with a compass, angle measuring)<br>- Glue the magnets<br>- Drawing and cutting moulds for the stator and the rotor<br>- Place the rotor in the mould, pour resin<br>- Place the coils in the mould, pour resin<br>- Cut the drum of the hub<br>- Assemble the generator<br><br>Phase 4 : **Testing the generator**<br>- | theoretically presentation<br>-<br>Setting in situation | 42h |

| | SUMMARIZED PROGRAMME | | |
|---|---|---|---|
| | **Module 3 "I work in the energy sector"** | **Teaching methods** | **Dura-tion** |
| | Phase 1 : **Identify trades related to energy**<br>- Expressing representations about jobs related to renewable energy<br>- Simplified mapping: context, renewable energy sector and related trades<br>- Identify trades / skills related to the renewable energy sector<br><br>Phase 2 : **Visit a local company in the sector**<br>- Meet professionals in the sector<br>- Enriching mapping<br>- Evaluate the feasibility of the project<br><br>Phase 3 : **Define professional skills**<br>- Identify current skills / professional project<br>- Identify the links between their current job / professional project and the "energy" field of activity<br>- Work on the professional project | theoretically<br>presentation<br>Industrial tour | 14h |