REE_TROFIT

European Project

Training on Renewable Energy solutions and energy Efficiency in reTROFITting

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Introduction

- REE_TROFIT project (founded by EU Commission in the IEE programme) aims to contribute to solve the shortage of local qualified and accredited retrofitting experts, as foreseen in the EPBD and its recast - and as indicated by various European countries in an assessment by the EC - for increasing the energy performance of the existing building stock. REE_TROFIT will use in-house, the know-how and experiences of participants in carrying out vocational courses on innovative eco-building technologies. REE_TROFIT project define best practices for institutionalization and implementation of vocational courses on renewable energy solutions and energy efficiency in retrofitting, set up and implement a large-scale educational scheme and by fostering exchange of knowledge and best practices among stakeholders.

Italian Model

- Training Italian Model
- The Italian model are based on the study of special case studies prepared by the research group for the training courses; this model follow an European vocational training including definition of templates for the training material and the guidelines on the training method. REE_TROFIT vocational italian training courses are addressed to the following categories of professionals:
- - bricklayers, constructor professionals,
- - plumbers, thermo hydraulic installers,
- - electrical installers

Italian Model

- who intend to develop ability in retrofitting techniques, technologies and products. The programs are developed in direct correspondence with the market of retrofitting and the skills required by professionals.
- Case studies intend to document Best Practice of outstanding energy-efficiency and sustainability achievements in some retrofitted building and will be didactic material to give to trainees during the courses. Same Case studies with energy efficiency techniques are shown at the following web page http://www.reetrofit.eu/content.php?p=cas.
- Courses will be carried out in three different training batches along the duration of the project.

WP 6 Validation and impact assessment

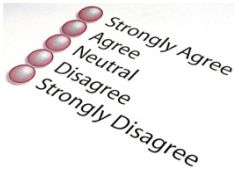
- Definition of a validation procedure to trainers and to trainees.
- The procedure will be based on feedback forms and on protocols to assess the perceived and experienced added value by trainees at the end of the course
- Feedback will be applied for quality assessment.
- Final outcome will be suggestions for policy makers on how to create certified courses on the efficient use of energy in buildings.

Task 6.1. Develop a common validation methodology

- Creation of a manual with feedback, translated in different languages, with quality information to provide:

- Quality

- Impact value of the project



- **Strategies**

- **Feedback** forms for trainees: to understand the correspondance with market and knowledge provided

- **Feedback** forms for trainers: quality of the training methodology and experience

- **Energy saving** questionnaires: to trainees to assess the knowhow and energy saving achieved in real situation during refurbishments of buildings.

- **Didactic management**, as a set of functions and services, which working alongside the structure's own resources, facilitate relations with trainees, the verification of the effectiveness of the teaching, and dialogue with bodies outside within the labour market.

- **Quality evaluation** , based on a control methodology that in analyzing and evaluating the quality of the teaching of the courses, adopts the standpoint of attributing credits to the various courses.

Producing more expert technicians with a more flexible knowledge through:

-the introduction of methodologies to assess the quality of process and products of the course's teaching programme, to analysis "customer satisfaction" and to control procedures.

-on-going relations with the labour market in the design and implementation phases of the proposed courses.

By working on:

- **Learning**: ensuring that this occupies a central role with respect to teaching.
- **Autonomy**: encouraging services offered and regards the overall organisation of the courses, in order to meet European parameters of evaluation and selection.
- **Competition**: encouraging competition with higher educational systems courses of the same typology inside and outside Italy through activities designed to enhance new activities.
- **Establishing links between academic studies and the professions** through internships, as well as through regular on-going relations with businesses, economic agents and local authorities in order to bring the courses into closer contact with society, the requirements of the labour market and corporate culture

By working on:

- **Communication**,

using activities and instruments suitable for doing justice to the new physiognomy of the courses, as also its objectives and results, in order to encourage a constant dialogue with students designed to keep them well-informed and to guide their academic development and cultural growth throughout the world of work.

The meaning of quality evaluation.

REE_TROFIT project avails a methodology inspired - with due modifications - by the quality evaluation models of service companies (ISO 9000), which has been developed in cooperation with professional quality control sector associations.

The evaluation contributes towards the definition of goals, operational arrangements and the results of the system and at the same time facilitates the control over factors of success or unsuccess, but always in relation to changes in the external world.

Educating for energy change

The goals:

- identifying the solutions in order to solve any resulting drawbacks;
- recognising good practices for incorporation in other systems.

Training **goals**

:: encouraging the acquisition and use of the techniques, skills and tools necessary for performing the various actions foreseen by REE_TROFIT in the most effective manner possible;

:: disseminating a real culture orientated to group work, the measurement of the results and ongoing improvement based on the experience obtained in the field by the communities participating in the project.

Certification

Information technology skills:
reconciling the different standpoints to the international standards;

Courses must be certified for any road running performance to be accepted as a record or to be nationally or international ranked.

Courses

Educational activity to acquire professional knowledge, through:
the introduction of training courses and internships.

E-Learning and ICT services, with:
teaching and administrative instructions that can be used with the help of telematics and information technology.

Didactic management, with functions of:
- guidance and assistance to students
- organisation of educational activities with particular attention to external activities (internship, job placement, etc.)

Quality evaluation, which:
- facilitates vision and planning.
- stabilises and consolidates choices and organisational procedures
- opens up the path to the evaluation of results in terms of objectives.

Task 6.2. Analyses of feedbacks and quality assessment

Feed backs collected will be periodically examine to study an immediate quality check delivered to end users.

Action to be taken in the analysis of feedbacks:

- **professional management of teaching**
- **development of new programmes, projects and tools**

Maximising the benefits for all

Characteristic activities:

- development of educational activities related to information and communication technologies (ICT), the new economy and network services.
- constant interaction with the **labour market**
- implementation of specific actions for the **courses system**
- definition and application of a shared model of evaluation of the educational services provided
- preparing a network-based management system to monitor the project's progress and costs and evaluate quality

Task 6.3. Impact assessment and suggestions to Policy Makers, Chambers of Commerce and Training Institutes

- Feedback will improve the training methodology and extrapolating a realist impact of the project and of vocational training initiatives and local markets.
- Final outcome will be suggestions for policy makers and how to create qualified /certified retrofitters.

Deliverables

- D6.1 Manual of the validation strategy

- D6.2 Feedback forms and quality reports

- D6.3.v1 Impact analysis with suggestions to policy makers

- D6.3 v2 Final impact analysis with suggestions to policy makers

Case studies and web site

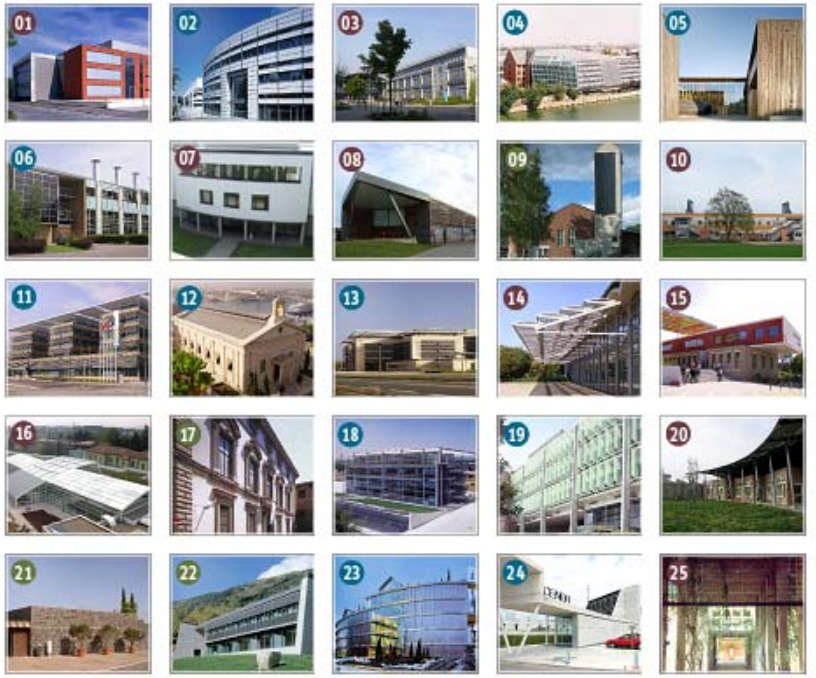
The web site takes many information on the analysis of many different case studies analyzed to make lessons for the different course categories, electrical, plumber and installers.

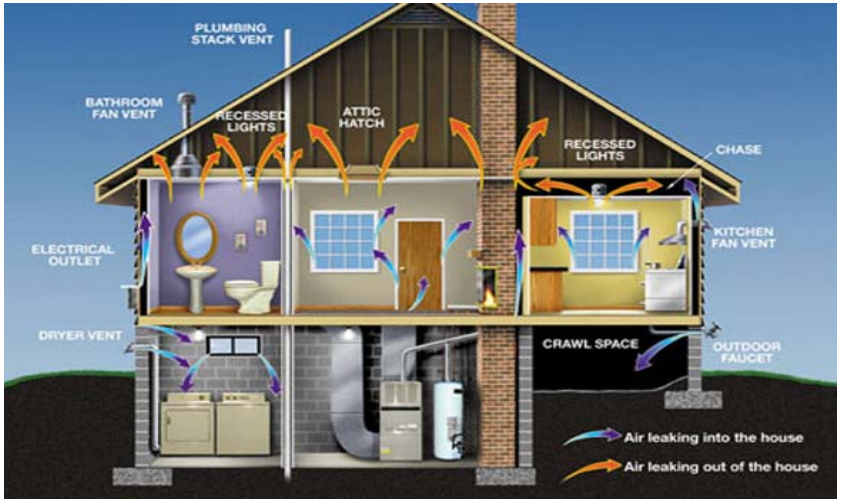
- Contents in the web site provide:
- • Implementation of training programme in each country with the localization of all programmes, the selection and hiring of trainers, and have been identified the first batch of courses and scheduled the potential venues. Last but not least, the web takes the criteria for the selection of the applicant trainees.

- Preparation of training materials. The training materials (including PPT presentations, exercise, etc.) to download. Moreover, the feedback forms that will be delivered to all trained professionals at the end of a course to evaluate its global impact and adjust it wherever necessary for the next batch of courses is under process, will be published on the web site.
    - Low energy design: case studies:
- The low-energy design process begins when the occupants' needs are assessed and a project budget is established. The proposed building is carefully sited and its programmed spaces are carefully arranged to reduce energy use for heating, cooling, and lighting. Its heating and cooling loads are minimized by designing standard building elements—windows, walls, and roofs—so that they control, collect, and store the sun's energy to optimum advantage.

These passive solar design strategies also require that particular attention be paid to building orientation and glazing. Taken together, they form the basis of integrated, whole-building design. Rounding out the whole-building picture is the efficient use of mechanical systems, equipment, and controls. Finally, by incorporating building-integrated photovoltaics into the facility, some conventional building envelope materials can be replaced by energy-producing technologies. For example, photovoltaics can be integrated into window, wall, or roof assemblies, and spandrel glass, skylights, and roof become both part of the building skin and a source of power generation. This case studies has been prepared primarily for Public energy managers and installers to provide practical information for applying the principles of low-energy, whole-building design in new Public buildings.

- An important objective of this guidebook is to teach energy managers how to be advocates for renewable energy and energy-efficient technologies, and how to apply specific strategies during each phase of a given project's time line





Results

- The REE_TROFIT project aims at establishing the resource base for massive replication of the developed European Training Programme through institutionalised vocational courses on retrofitting in several Member States (MS) beyond duration of the project. Regional and national stakeholders may replicate the training programme in all European languages (starting from English) and set up educational courses in order to speed-up the qualification of building professionals on low-energy retrofitting.