



Improve Skills and Qualifications in the
Building Workforce in Cyprus

Evaluation of existing training material and tools

**Synoptic report on existing training material/tools, for RES
and energy efficient building applications in EU/ national
level, that may be utilized (build on) for the purposes of the
project**

(WP2 –D2.1, Document)



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BUILD UP Skills We-Qualify: The We-Qualify project will utilize the findings of the national roadmap (Build up skills I) and will facilitate the target of reducing the skills gap between the current situation and the skills needs for 2020, by developing a training and/or qualification scheme for blue-collar workers/installers, which will focus on the most critical skills identified in the roadmap. The critical skills selected to be included in WE-Qualify based on the roadmap developed under CY-Pillar I, are:

- Skill 1: Placement of thermal insulation
 - Skill 1.1: Placement of conventional insulation/thermal insulation plaster
 - Skill 1.2: Placement of external insulation
- Skill 2: Installation of thermopanes and exterior sunshades
 - Skill 2.1: Installation of high energy efficient thermopanes
 - Skill 2.2: Installation of exterior sunshades
- Skill 3: Installation and maintenance of Biomass heating systems

These critical fields were selected based on the existing structure of the building industry, the limited qualification of the installers and the limited available training programmes and material. Although skills 1 and 2 are categorised as high and medium priority, they are not regulated by either any national legislation or Standards of Vocational Qualifications (SVQ) thus, it is considered very important to be included in the WE-Qualify. Moreover, although skill 3 is to be regulated by legislation N210(I)/2012 and is planned to be included in further RES legislations there is a currently a severe lack of experience for the installation of the systems, thus resulting to low efficiency and not sound practices.

The outcomes of WE-Qualify are expected to provide the key components for the upgrading of existing or drafting of new SVQs to be included in the future National Qualification Framework (NQF), an appropriate training methodology and a transparent and clearly defined qualification route. The ambition is to configure a competent workforce specialized on the Energy Performance of Buildings according to European criteria and standards, to encourage a greater number of blue-collar workers to advance their professional skills and knowledge and to help achieve the target for the construction of near zero energy buildings by 2020.

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Cyprus Organization for Standardisation (CYS)	Cyprus
Human Resource Development Authority (HRDA)	Cyprus
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1 General

At the beginning of the project, a thorough review of existing European projects (and initiatives) concerning the development of teaching material and training courses relevant to the program We-Qualify was carried out. The review also examined the existence of relevant technical textbooks/manuals or training courses, provided by local and international bodies.

The review was conducted to evaluate the educational material and structure of training courses, emphasizing on the peculiar environmental and energy conditions of Cyprus, in order to form the backbone where the structure of the three training skills will be based. Moreover, particular emphasis was given to projects containing educational material for the instructors of the training courses. This material will be used during the development of the trainers' manuals which will be given to the instructors, as well as an indicator of the ratio of the theoretical to practical training hours and the proposed time for homework.

Initially, all the projects on the database of Intelligent Energy Europe (IEE) were investigated, and the deliverables of each project were evaluated based on the needs of WE-Qualify. Although the project We-Qualify deals mainly with two thematic subjects, i.e. energy savings in buildings and installation of biomass systems, the analysis was further expanded to include projects related on the installation of renewable energy systems and on energy saving in transport.

Apart from the database of the IEE, the technical manuals issued by the manufacturers/distributors of the systems used in the three pillars of the program were reviewed, as well as the training material developed by these companies for the installers' training workshops. Furthermore, technical manuals issued by Technical Chambers, articles in technical publications and articles published by the Cyprus Energy Agency were also reviewed.

Moreover, since the Cyprus Productivity Centre which is Partner of We-Qualify is the main training centre for artisans in building facilities, existing training material on subjects related to We-Qualify which were developed by CPC was investigated. As part of this review, the partners of the project have been in contact with the Technical Services of the Ministry of Education and Culture, in order to evaluate the educational material used in the training of students in Technical High Schools and in the apprenticeship system, as well as with other educational centres in Cyprus which undertake training courses or certification schemes for blue collar workers, especially in the building sector.

Finally, the Cyprus Organisation for Standardisation investigated international standards applicable within the objectives of We-Qualify. These standards laid the basis underlying the literature review of the physical properties and required technical characteristics from the materials that are on the three pillars of the project.

2 Database of Intelligent Energy Europe

The Database of the Intelligent Energy Europe is divided into three categories: 1) Renewable energy (including biomass), 2) Transportation and 3) Energy saving (in buildings and industry). The projects of each category are divided into those that are negotiation, in the ongoing projects and in the completed projects. In the description of each program, are given (bold + italics) the elements that could be useful during the design, implementation and possible further expansion of We-Qualify in the future and emphasized (*bold italics*).

The list of the IEE projects relevant to We-Qualify is appended, with additional indications on the extent to which their deliverables may be utilized within the scope of We-Qualify.

2.1 Projects in negotiation

Projects in negotiation were not evaluated since so far, since there are no deliverables that could be used within the objectives of We-Qualify.

2.2 Ongoing projects

2.2.1 Built Up Skills II

Of the ongoing projects, there are 15 projects relevant to We-Qualify under the Built Up Skills II initiative, each of which is applied in a different country. These projects aim in training blue collar workers in the three pillars of the IEE projects, by developing training materials and training courses, taking into consideration the particular local conditions and regulations of each region. Although these projects are ideal to lay the groundwork for the development of the educational materials to be used in We-Qualify, none of them has published deliverables so far, hence they will not be utilized immediately for the purposes of the project. However, given that some these projects are at the end of their first year, ***their educational material will be used for comparison and evaluation*** of the developed material after the completion of the first year of We-Qualify, where according to the timetable of the project, the evaluation for the improvement of the training material of the first two skills of We-Qualify will take place.

2.2.2 SOLIDSTANDARDS

Beyond the projects of the framework Built Up skills, an ongoing project that has published remarkable deliverables is SOLIDSTANDARDS (Enhancing the implementation of quality and WE-Qualify WP2_ D2.1_ Synoptic report on existing training material/tools, for RES and energy efficient building applications in EU/ national level, that may be utilized (build on) for the purposes of the project, ETEK, Created 17-08-15, Last update 25-08-15

sustainability standards for solid biofuels, IEE: 2469). SOLIDSTANDARDS aimed in informing and training solid biofuel industry players in the field of standards and certification, while at the same time their feedback was collected and provided to the related standardization committees and policy makers

Even though SOLIDSTANDARDS deals with the exploitation of solid biomass as a raw material for creating biofuels, it ***has significant reference to the certification schemes of the 11 countries of origin of the partners***, which will be used by the partners of We-Qualify and more specifically by the Cyprus Certification agency within ***the process of the evaluation of the trainers and the trainees and of the educational material***.

2.2.3 EuremPlus

A relevant ongoing project is EuremPlus (EUREMplus: Boost Energy Efficiency in Manufacturing SMEs by Extending European Energy Manager Training and Network, IEE: 2623), which is a follow-up of Eurem and Eurem.Net projects. These projects aim in educating managers of large energy facilities on subjects related to RES, Energy saving in buildings and management of energy systems.

The material of this project is equivalent to the material of Eurem.Net and deals with an overall overview of available systems and trends in the energy sector. Since the Cyprus Energy Agency is a partner of the EuremPlus, ***the infrastructures and the organizational structure of the project will be used appropriately for the implementation of We-Qualify***.

2.2.4 SUSREG

Finally, from the ongoing projects, the program SUSREG (Stimulating Sustainable Regional Development by means of a Structured Process Approach, IEE: 2617) deals with the development of training materials and training courses for urban design and sustainable energy for urban development, but has not yet published any deliverables.

Even though this program is not addressed to blue collar workers but to consultant engineers, since there are partners from Cyprus and Greece and the manuals will be issued in Greek, the partners of We-Qualify will get in contact with the partners of SUSREG to investigate the extent to which they ***can contribute to the development of We-Qualify, specifically in the first two skills of the project (Placement of thermal insulation and Installation of thermopanes and exterior sunshades)***.

2.3 Completed Projects

Of the completed projects there is satisfactory material to lay the groundwork of We-Qualify, but there are not any corresponding projects with comprehensive technical manuals and training courses, which could be used as educational material. However, the projects which are briefly described below will be studied in detail with regard to the organization of the training courses, the proportion of the theoretical and practical training and the format of technical manuals. Moreover, the partners of We-Qualify will communicate with the coordinators of each project to learn about any difficulties encountered during the projects, to be advised on best practices and additionally about the dissemination activities of the project to the target audience.

2.3.1 PVTrin

PVTrin (Training of Photovoltaic Installers, IEE: 2382) was the first certification program for installers in the field of renewable energy and energy efficiency in buildings implemented in Cyprus. More specifically, PVTrin addressed the market needs by developing a training and certification scheme for technicians who are active in the installation and maintenance of small-scale PV systems. PVTrin has experienced a great success and continues to certify photovoltaic technicians in Cyprus as it is expected to carry out new training courses in April 2014.

Since the Cyprus Energy Agency and the ETEK were key partners of PVTrin, the basic structure of the program (i.e. to meet the criteria set by the 2009/28/EC Directive for qualification schemes and certified training courses in each Member State, taking into account the national framework and legislation), ***the educational material and the procedures followed during PVTrin will be the basis of the structure of We-Qualify.*** The deliverables of PVTrin included technical manual for trainers and trainees in Greek, a full set of slides of the presentations as well as ***assigned homework and guidance for hands-on training.***

Finally, ***the evaluation questionnaires*** given to the trainees during the first courses of PVTrin that constituted an important feedback of the readjustment of the program based on the requirements of the trainees ***will be used for scheduling the training courses and development of the technical manuals of We-Qualify.***

2.3.2 Install+RES - QUALICERT

Install+RES (Training courses for installers of small-scale renewable energy systems in buildings, IEE: 2380) established training courses for the qualification of trainers and the certification of installers of small scale renewable energy systems (biomass, solar, PV and heat pumps) in buildings. The training package included theoretical and practical training while the certification

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of installers required practical examination on the installation of the systems and theoretical examination in relevant subjects, such as ecology, economics and the proper operation of renewable energy systems in buildings.

QUALICERT (Quality certification & accreditation for installers of small-scale renewable energy systems, IEE: 1828) proposed a concerted action on certification and accreditation of installers of small-scale building-integrated RE systems.

As with PVTrin, ***the basic structure of these two programs, combined with the experience gained during their implementation will be analyzed in detail during the scheduling of We-Qualify and a comparison of their procedure will take place in order to extract the best practices to be applied in We-Qualify.*** Moreover, the ***educational material*** developed in the Install+RES regarding the installation of biomass systems in buildings will be largely utilised since it is one of the three skills of We-Qualify.

2.3.3 EUREM.NET

EUREM.NET (Training and network of European Energy Managers, IEE: 1573) aims at expanding the successful "European EnergyManager" training program EUREM to nine further EU countries, while the training material developed during the initial project (EUREM) was to be extended and country-specific adaptations would to take place. EuremNet aimed in educating managers of large energy facilities on subjects related to RES, Energy saving in buildings and management of energy systems.

The material of this project deals with an overall overview of available systems and trends in the energy sector. As was mentioned at the description of EUREMPlus where Cyprus Energy Agency is a partner of the project, ***the infrastructures and the organizational structure of the project will be used*** appropriately for the implementation of We-Qualify.

2.3.4 WINDSKILL

WINDSKILL (Skills network for European wind energy, IEE: 1769) aimed to create a European Qualification Profile for workers on- and offshore wind installations. Although the area of WINDSKILL is not consistent with the skills of We-Qualify, since it was completed in 2009, the ***results of the project can provide important information for future acceptance of the program and the trainees.*** Based on the development of the program and its acceptance by the industry and the public ***corresponding strategies for the dissemination diffusion and promotion of We-Qualify will be determined,*** while ***foundations for further training courses after completion of the project will be laid.***

2.3.5 TRAINREBUILD - REE_TROFIT

TRAINREBUILD (Training for Rebuilding Europe, IEE: 2489) designed a comprehensive value chain strategy to generate change in thinking of public and private building owners regarding the link between energy efficiency and value related to building ownership. The aim of the project was to encourage retrofitting in a wide range of residential buildings, spanning from individual to multi-family houses and from private to social housing. The long-term purpose of the project was to create a significant European dimension to foster market transformation in the building sector and develop a scale effect to reach the EU 2020 goals.

The **training material of the project will be used for technical assistance in the development of We-Qualify**, especially for the development of the introduction chapters of the training material regarding the necessity of converting buildings into buildings of low or near zero energy consumption.

Respective targets were set by the project REE_TROFIT (Training on Renewable Energy solutions and energy Efficiency in reTROFITting, IEE: 2370) but the deliverables were very few and cannot be utilized within the objectives of We-Qualify.

2.3.6 CEPH

CEPH (Certified European Passive House Designer, IEE: 1880), a project completed in 2011, enabled the participants – after the passing of an exam – to obtain the Certificate of European passive house designer. The project was applied in areas of northern Europe. The exploitation of this project is expected to be limited because on one hand the technical guidance of the project were addressed to completely different climatic conditions from those of Cyprus and on the other hand, it was addressed to the designers and not to the installers. Above all, a significant negative factor restricting the exploitation of the training materials is that access to the material is not free.

2.3.7 GEOTRAINET

GEOTRAINET (Geo-Education for a sustainable geothermal heating and cooling market, IEE: 1812) was a certification project for the ground-source heat pumps workforce. Even though the thematic area of GEOTRAINET is not consistent with the skills of We-Qualify, since it was completed in 20011, **the results of the project can provide important information for future acceptance of the program and the trainees**. Based on the development of the program and its acceptance by the industry and the public **corresponding strategies for the dissemination**

diffusion and promotion of We-Qualify will be determined, while foundations for further training courses after completion of the project will be laid.

Moreover, the *thematic object of GEOTRAINET may be included in possible future expansion of the thematic areas of We-Qualify*, thus in that case, it will provide better scheduling during the initiation of the procedure, since a large part of the technical analysis and of the training material will be available.

3 Technical Manuals and Technical publications

Due to the requirement that the language of the training material will be Greek, during the review greater importance was given on finding modern textbooks in Greek. Thereby, the textbooks will be fully understood both from the trainers and from the Technical Advisory Committee, particularly regarding the technical terms that are used in the construction sector.

Indicatively, the list of available technical manuals provided below will be evaluated, and may be used in the development of the technical manuals of the project. It has to be mentioned that any possible reference to the content or images of a manual will be performed after contacting the authors and citation will be always present at the end of the manual.

1. Ktirio Publications

- 1.1. Design Guide for installations, 2012 (in Greek)
- 1.2. Design Guide for thermal insulation and waterproof, 2011 (in Greek)
- 1.3. Design Guide for Energy planning, 2011 (in Greek)
- 1.4. Applications/Design Guide for construction (in Greek)
- 1.5. External walls (in Greek)
- 1.6. Frames (in Greek)
- 1.7. Architecture and Energy (in Greek)

2. Technical manuals and publications of Cyprus Energy Agency

- 2.1. Green Roofs (in Greek)
- 2.2. Bioclimatic Design and Garden (in Greek)
- 2.3. Presentations to local authorities, consultants and public on issues related to the objectives of We-Qualify (in Greek and English)
- 2.4. Applications of wood biomass – Thermal heating in the residential sector

3. Technical Guide for insulation installation

- 3.1. Fibran
- 3.2. Kelyfos
- 3.3. Weber Saint-Gobain Hellas
- 3.4. Dow
- 3.5. Stotherm Hellas

- 3.6. Nikolaides & Kountouris
- 3.7. Quinn Therm Ltd
- 3.8. Neopor
- 3.9. Baumit

4. Technical Guide for frame installation

- 4.1. Gyprock
- 4.2. Awa
- 4.3. Grace VYCOR
- 4.4. Pella
- 4.5. Alumil
- 4.6. Schuco
- 4.7. Muskita

5. Technical Guide for biomass systems

- 5.1. ÖkoFEN
- 5.2. Kraft und Wärme aus Biomasse GmbH
- 5.3. Ferroli
- 5.4. Green Energy Engineering
- 5.5. Thermostahl BioEnergy
- 5.6. Θερμοδυναμική Κρήτης (Greek)
- 5.7. CarbonTrust. Biomass heating – A practical guide for potential users (2009)
- 5.8. EKETA. Guide for wood biofuel and biomass boilers for residential heating (in Greek)
- 5.9. Biomass Energy Centre. Biomass heating: a guide to small log and wood pellet systems (2011)
- 5.10. Biomass Energy Centre. Wood-Chip heating systems: A guide For Institutional and Commercial Biomass Installations (2004)
- 5.11. T. Tsoutsos, I. Mavroyiannis. Heating of buildings and residents using biomass applications, CERA, ALTENER, 2003

6. Standards for installation

- 6.1. DIN 18357:2010-04 – German Technical specification in construction contracts (ATV)
– Mounting of door and window hardware
- 6.2. DIN 18358:2010-04 – German Technical specification in construction contracts (ATV)
– Installation of roller shutters and similar equipment
- 6.3. DIN 18345:2010-04 – German Technical specification in construction contracts (ATV)
– Work on external thermal insulation composite systems
- 6.4. DIN 18421:2010-04 – German Technical specification in construction contracts (ATV)
– Insulation and fire protection of service installations
- 6.5. DIN 18360:2010-04 – German Technical specification in construction contracts (ATV)
– Metalwork

- 6.6. EN 303-5:2012 Heating boilers. Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW. Terminology, requirements, testing and marking
- 6.7. KYA 189533/2011: Regulation of issues related to the operation of fixed furnaces for heating buildings and domestic hot water (in Greek)

7. Standards of materials

- 7.1. UNI EN 13162:2009 - Thermal insulation products for buildings - Factory made mineral wool (MW) products
- 7.2. UNI EN 13163:2009 - Thermal insulation products for buildings - Factory made products of expanded polystyrene (EPS)
- 7.3. UNI EN 13164:2009 - Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS)
- 7.4. UNI EN 13165:2009 - Thermal insulation products for buildings - Factory made rigid polyurethane foam (PUR) products
- 7.5. UNI EN 13166:2009 - Thermal insulation products for buildings - Factory made products of phenolic foam (PF)
- 7.6. UNI EN 13167:2009 - Thermal insulation products for buildings - Factory made cellular glass (CG) products
- 7.7. UNI EN 13168:2009 - Thermal insulation products for buildings - Factory made wood wool (WW) products
- 7.8. UNI EN 13169:2009 - Thermal insulation products for buildings - Factory made products of expanded perlite (EPB)
- 7.9. UNI EN 13170:2009 - Thermal insulation products for buildings - Factory made products of expanded cork (ICB)
- 7.10. UNI EN 13171:2009 - Thermal insulation products for buildings - Factory made wood fibre (WF) products
- 7.11. CEN/TC 335 biomass standards
- 7.12. EN 14961-1:2010: Solid Biofuels, Part 1 - Fuel specifications and classes – General requirements
- 7.13. EN 14961-2:2011: Solid biofuels – Part 2: Fuel specification and classes –Wood pellets for non-industrial use
- 7.14. EN 14961-3: Solid biofuels – Part 3: Fuel specification and classes – Wood briquettes for non-industrial use
- 7.15. EN 14961-4: Solid biofuels – Part 4: Fuel specification and classes – Wood chips for non-industrial use
- 7.16. EN 14961-5: Solid biofuels – Part 5: Fuel specification and classes – Firewood for non-industrial use
EN 14961-6:2012: Solid biofuels – Part 6: Fuel specification and classes – Non-woody pellets for non-industrial use

8. Temporary National technical Specifications for Greece, published by the Hellenic Ministry for the Environment, Physical Planning & Public Works

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- 8.1. PETEP 03-08-01-00: Wood Frames
- 8.2. PETEP 03-08-03-00: Aluminum Frames
- 8.3. PETEP 03-08-04-00: Frames from composite materials
- 8.4. PETEP 03-08-07-02: Double glazing
- 8.5. PETEP 03-08-10-01: Aluminum Facade

9. Literature regarding biomass resources

- 9.1. CERA, Study regarding the Action Plan on Biomass in Cyprus 2008-2020 – Final Report, 2008
- 9.2. M. Tzinevrakis, I Tzavara, T Tsoutsos, D. Vamvoyka, K. Xifaras. Ξιφάρης. Biomass potential for thermal energy applications in Crete, Proceedings of 8th national conference on Renewable Energy Sources, Thessaloniki, 29-31 March 2006 pp. 453-460

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Appendix

	Acronym	Subject	Ending	Available material	Description	Project Name	link IEE	link
1	ACTUATE	Transportation	2015	NOT YET	Develop training concepts for safe eco-driving for different types of clean vehicles, including trams, trolleybuses, hybrid buses and e-buses equipped with supercapacitors. Conduct 200 training seminars to train around 1.000 drivers across Europe in safe eco-driving techniques for clean vehicles	Advanced Training and Education for Safe Eco-driving of Clean Vehicles	2382	http://www.actuate-ecodriving.eu
2	BUILD UP SKILLS BEEP	Buildings	2016	NOT YET	Increase the number of skilled construction workers by developing a trainers training scheme and material and produce training material and new methods for the trainees. Develop and pilot on-site training scheme for training of change agents	Best Energy Efficient Construction and Training Practices	2661	-
3	BUILD UP SKILLS CONSTRUYE2020	Training	2016	NOT YET	Provide building workers in Spain with the competences and skills required in the fields of Energy Efficiency and Renewable Energy Systems in order to contribute to achieve 2020 energy objectives	Build a greener and a more sustainable 2020	2660	http://spain.buildupskills.eu/es/home
4	BUILD UP SKILLS QUALIBUILD	Training	2016	NOT YET	Development of a Foundation Energy Skills programme targeted at all construction workers and operatives with content available in hardcopy and on-line.	Energy Training for Construction Workers for Low Energy Buildings	2653	-

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	Acronym	Subject	Ending	Available material	Description	Project Name	link IEE	link
					Development of a Train the Trainers programme to increase their knowledge and competency			
5	BUILD UP SKILLS QUALISHELL	Buildings	2015	NOT YET	National qualification scheme for opaque building envelope insulation systems installers (ETICS installers) and window system fitters (installers of thermal insulation carpentry and efficient glazing) to ensure the need for qualified workers by 2020	National Qualification Scheme for Construction Workers to Ensure High Performance Building Envelopes	2655	http://www.iee-robust.ro/QualiShell
6	BUILD UP SKILLS QUALITRAIN	Buildings	2016	NOT YET	Conception and implementation of large-scale qualification and training schemes as well as accompanying measures which ensure a sustainable system of lifelong qualification of blue-collar-workers in the building sector	Qualification and Training Schemes for craftsmen and on-site-workers in the German Building Sector	2654	http://www.bauinitiative.de
7	CEPH	Buildings	2011	AVERAGE	Undertake the first intense training course for Passive House Designer on the European level	Certified European Passive House Designer	1880	http://www.passivehousedesigner.eu
8	COMBISOL	Solar heating	2010	PERFECT	Distribution of useful educational material for installers of solar heating systems	Solar Combi systems promotion and standardisation	1491	http://www.combisol.eu
9	ECOEFFECT	Transportation	2013	NO	Design and develop one day eco-driving courses to help drivers of commercial vehicles deliver a consistent 5%-9% reduction in fuel consumption. Train 100 trainers in delivering eco-driving	ECO trainEr For Fleet Commercial trucks and light vehicles	2444	http://www.ecoeffect.org

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	Acronym	Subject	Ending	Available material	Description	Project Name	link IEE	link
					courses and train 2600 professional drivers in eco-driving.			
10	ECOWILL	Transportation	2013	VERY GOOD	Training of at least 500 driving instructors and educating 10,000,000 learner and novice drivers. Conducting at least 10,500 ecodriving trainings for licensed drivers, involvement of 1,500,000 licensed drivers	Ecodriving - Widespread Implementation for Learners and Licensed Drivers	2415	http://www.ecodrive.org
11	EEBD	Buildings	2007	AVERAGE	Develop a web-based vocational tool to help implement the training requirements for the building certification market arising from new European legislation The fully functional tool is in multi-lingual format in order to assist training providers from different countries.	Development of an interactive vocational Web training tool for the take-off of the buildings DIRECTIVE 2002/91/EC	1520	http://www.eebd.org
12	EETT	Energy Management	2007	AVERAGE	Provide structured training and training material to facilitate a training system in energy management in both the public and private sectors	Energy Efficiency Training of Trainers	1523	-
13	EUREM.NET	Energy Management	2009	GOOD	Expanding the successful "European Energy Manager" training program EUREM to nine further EU countries. The training program is adapted to local legislations and priorities and is updated in all languages of the partners	Training and network of European Energy Managers	1573	http://www.energymanager.eu

	Acronym	Subject	Ending	Available material	Description	Project Name	link IEE	link
14	EUREM.PLUS	Energy Management	2015	NOT YET	The educational material EUREM is available in six additional countries, and updated to meet the needs of SMEs.	EUREMplus: Boost Energy Efficiency in Manufacturing SMEs by Extending European EnergyManager Training and Network	2623	http://www.energymanager.eu
15	GEOTRAINET	Geothermal Energy	2011	PERFECT	Develop training program, which includes schemes for designers and operators / fitters for shallow geothermal installations. Develop teaching materials, 12 courses in 8 European countries, electronic educational platform, and access to geological information.	Geo-Education for a sustainable geothermal heating and cooling market	1812	http://www.geotrainet.eu
16	IDES-EDU	Integrated Building	2013	NOT YET	Provide training for architects and engineers on integrated multidisciplinary building design	Master and Post Graduate education and training in multidisciplinary teams implementing EPBD and beyond	2384	http://www.chri.nl
17	IE4SAHEL	Energy Management	2007	GOOD	Strengthen the capacity of a well-established research and training centre in the domain of energy and on its role to combat poverty	Energy For Poverty Alleviation in Sahel	1607	http://ie4sahel.energyprojects.net
18	ILETE	Buildings	2009	AVERAGE	Set up initial training on low consumption for architects and engineers and industry professionals Inform the general public and contracting authorities on level A certification	Initiative for Low Energy Training in Europe	1610	http://www.ilete.eu

WE-Qualify WP2_D2.1_Synoptic report on existing training material/tools, for RES and energy efficient building applications in EU/ national level, that may be utilized (build on) for the purposes of the project, ETEK, Created 17-08-15, Last update 25-08-15

	Acronym	Subject	Ending	Available material	Description	Project Name	link IEE	link
19	INSTALL+RES	RES Buildings	2013	PERFECT	Training courses for installers of small scale renewable energy systems (photovoltaic, solar thermal, heat pumps and biomass systems) in buildings	Training courses for installers of small-scale renewable energy systems in buildings	2380	http://www.resinstaller.eu/
20	PINE	Energy Audit	2015	NOT YET	Increase energy efficiency in industrial SMEs by means of auditing schemes and subsequent provision of professional technical advice for the implementation of customized measures, aiming to create a self-sustaining model capable of expanding project-specific measure	Promoting Industrial Energy Efficiency	2503	http://www.pineaudit.eu/eng/resources.aspx
21	PVTrin	RES	2013	PERFECT	Training and Certification of photovoltaic installers	Training of Photovoltaic Installers (PVTRIN)	2382	http://www.pvtrin.eu
22	QUALICERT	RES	2011	PERFECT	Development of common quality certification and accreditation for installers of small-scale renewable energy (RE) systems	Quality certification & accreditation for installers of small-scale renewable energy systems	1828	http://www.qualicert-project.eu/
23	REE_TROFIT	Buildings - Retrofitting	2013	AVERAGE	Adoption of institutionalized training courses for RES and energy efficiency renovations which will contribute to solving the lack of qualified/accredited experts in the implementation of energy performance certification of buildings.	Training on Renewable Energy solutions and energy Efficiency in reTROFITting	2370	http://www.lucense.it

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24	SOLIDSTANDARDS	Biofuel	2014	VERY GOOD	Information and training of solid biofuel industry players in the field of standards and certification. Feedback collection to provide it to the related standardization committees and policy makers	Enhancing the Implementation of Quality and Sustainability Standards and Certification Schemes for Solid Biofuels	2469	http://www.solidstandards.eu/
25	SQUARE	Quality Management	2010	VERY GOOD	Assure energy efficient retrofitting of housing with good indoor environment. Implementation of four pilot projects in Austria, Spain, Sweden and Finland	A System for Quality Assurance when Retrofitting existing buildings to Energy efficient buildings	1738	http://www.iee-square.eu
26	SUSREG	Buildings	2015	NOT YET	Development of training material and training courses for urban and regional planning. Enhance capacity building of more than 800 professional planners in 6 countries through training workshops and on-the-job training for 40 professional planners	Stimulating Sustainable Regional Development by means of a Structured Process Approach	2617	http://www.susreg.eu
27	TRAINREBUILD	Buildings - Retrofitting	2012	GOOD	Information of staff of national associations of property owners, individual property owners and officials from local authorities responsible for the retrofit of buildings in order to generate change in thinking regarding the link between energy efficiency and value related to building ownership	Training for Rebuilding Europe	2489	http://www.trainrebuild.eu

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28	VENT DISCOURSE	Buildings - Ventilation	2006	AVERAGE	Set up of distance learning training courses for building ventilation, to be applied in low energy buildings.	Development of Distance Learning Vocational Training Material for the Promotion of Best Practice Ventilation Energy Performance in Buildings	1765	http://www.ventdiscourse.eu
29	WINDSKILL	Wind	2009	VERY GOOD	Create a European Qualification Profile for workers on- and offshore wind installations	Skills network for European wind energy	1769	http://www.windskill.net/