



European Construction Sector Observatory

Policy measure fact sheet

Greece

UPSWING

Thematic Objective 2

March 2017

Implementing body:	Centre for Renewable Energy Sources and Savings (CRES)
Key features & objectives:	UPSWING is part of the EU strategic initiative 'BuildUp Skills'. It is developing and delivering three new integrated training and certification schemes on energy efficiency in buildings, and includes the development of training materials. The project adheres to and is in full accordance with the National Qualification Roadmap (NQR) and the 2020 energy and climate targets.
Implementation date:	01/09/2014 – 31/08/2017
Targeted beneficiaries:	UPSWING proposes the development of three large-scale fully functional training schemes for the: (i) insulation technicians; (ii) aluminium and metal constructions craftsmen; and (iii) installers-maintainers of burners.
Targeted sub-sectors:	Building insulation, aluminium and metal construction, heating systems.
Budget (EUR):	551,178 (EU contribution: 75%)

In a nutshell

The Greek building stock of 4.1 million buildings¹ is responsible for 33% of CO₂ emissions and 36% of the country's total energy consumption². The vast majority of Greek buildings (3.7 million) are high energy consumers. Nearly two thirds are older buildings (pre-1980) that were built before the introduction of regulation on insulation and over a quarter have the lowest energy efficiency rating³.

Greece needs to significantly improve building energy performance to comply with European Directives and achieve the energy efficiency targets for 2020 defined in the National Energy Efficiency Action Plan (NEEAP)⁴. To achieve this objective, according to the Greek National Qualification Roadmap⁵, Greece needs to address the skills shortage in the construction sector workforce, especially in specialised skills areas such as energy efficiency and renewable energy, for which there is a significant lack of

vocational education and training programmes. There were 109,000 construction sector professionals in 2013 working in the construction of energy efficient buildings and the installation of renewable energy systems, representing 53% of all professionals in the Greek construction sector⁶. In terms of accreditation, the Hellenic Association of Accredited Certification and Inspection Bodies (Hellas Cert) has about 40 certification bodies; however, almost none are providing certification in building professions related to energy efficiency and renewable energy systems⁷.

UPSWING proposes the development of three large-scale fully functional training schemes that are tailored to insulation technicians, aluminium and metal construction craftsmen, and installers and maintainers of burners. These three professions are identified in the Qualification Roadmap as key skills shortage areas in the construction sector⁸. It has the potential to provide a valuable training platform for targeted vocational skills development, and in the longer-term, to serve as a vehicle to support continuous skills development in the construction sector, stimulating construction sector employment, innovation, growth and opportunities. UPSWING provides both short and long term benefits:

- **For construction workers, craftsmen and installers**, it enables them to gain recognition for their skills, and increases their employability and opportunities;
- **For building owners**, it delivers optimal energy efficiency and lower energy costs, and provides confidence and assurance;
- **For the construction sector**, it improves workforce efficiency, lowers costs, achieves more satisfied customers and builds trust in the industry.

General description

UPSWING is a three-year national initiative (2014-2017). Launched on 1st September 2014, it is developing and piloting an energy efficiency skills training and accreditation programme. It is being delivered by seven experienced construction sector stakeholders⁹ under the leadership of the Centre for Renewable Energy Source and Savings (CRES). It is co-financed by the

European Commission's Intelligent Energy for Europe Programme¹⁰, and is a national project under the European BUILD UP Skills Initiative. To achieve this broad objective, the initiative's action plan includes:

- Creation of a group of skilled and qualified workers to meet the energy efficiency and energy saving demands of the national market;
- Design of specialised vocational training courses and development of appropriate educational materials and tools to enhance the upskilling of the workforce in Greece;
- Informing the workforce about good practices and providing installation guidelines on energy efficiency in buildings;
- Establishment of an "observatory" for the systematic monitoring and recording of the needs for skills enhancement and/or acquisition of new skills in matters of green buildings¹¹.

Construction sector professions that relate to the construction and finishing of the building shell and the installation and maintenance of the mechanical and electrical equipment are currently excluded from any form of energy efficiency training in Greece. Although some basic energy saving tasks are envisaged in their occupational profiles, continuous vocational training does not provide the relevant skills to these occupational roles¹². For this reason, the UPSWING initiative aims to enhance energy efficiency knowledge and skills in three professions¹³:

Group 1:	Technical insulation
Group 2:	Aluminium and metal constructions craftsmen
Group 3:	Installers and maintainers of burners

To take part in the training programmes, candidates must first prove that they have a minimum level of relevant work experience or an appropriate qualification or licence, depending on the training being sought¹⁴. The entry criteria¹⁵ for all participants are:

Profession	Qualification requirements
Technical insulation	At least 2 years of work experience and appropriate certificate of qualification.
Aluminium and metal construction craftsmen	At least 2 years of work experience and appropriate certificate of qualification.
Installers and maintainers of burners	Appropriate building installation licences issued by national authorities. No specific working experience is required.

UPSWING provides a training programme using a modular approach that combines theoretical learning with practical application demonstrations and exercises¹⁶. The duration of each training course is 30 hours and comprises 20 hours of theoretical training (module 1) and 10 hours practical training (module 2). It should be delivered over 5 days, with 6 hours of training per day¹⁷.

Table 1: UPSWING training courses

Profession	Training objectives	Hours	Number of training courses	Location	Number of participants
Technical insulation	Energy efficiency and energy saving insulation in buildings.	30	3	Athens, Thessaloniki, Heraklion	45
Aluminium and metal constructions craftsmen	Energy efficiency / construction and implementation. Product / frames aluminium and iron in buildings.	30	3	Athens, Thessaloniki, Heraklion	45
Installers and maintainers of burners	Energy efficiency and energy saving.	30	3	Athens, Thessaloniki, Heraklion	45

Source: Institute for small businesses and general confederation professionals in Greece (2016)¹⁸

Technical insulation training content includes:

- Theoretical training (Module 1) focuses on the regulatory requirements, key energy terms and the basic thermophysical characteristics that are relevant to building energy performance, energy saving upgrades and the construction of zero-energy buildings. It also covers basic and cost effective energy saving solutions and an overview of the professions involved in these types of implementation activities¹⁹.
- Practical training (Module 2) imparts how to construct, test and install building insulation according to European and national standards to maximise energy efficiency. Topics include: technical characteristics of insulation materials; familiarisation with technical drawings and metering equipment; building insulation installation procedures and basic operations; and how to comply with relevant European and national standards requirements.

Aluminium and metal construction training aims to develop a theoretical understanding (Module 1) of technical energy saving solutions, from requirements to proposal development to the selection of suitable materials and aluminium profiles depending on the specificities of the openings and project requirements²⁰. Practical training (Module 2) imparts how to assemble, install and complete an energy efficiency building solution. The topics covered include:

- Energy saving and heat insulation potential through aluminium / iron systems (Module 1);
- Aluminium / iron products properties and evolution of their specifications (Module 1);
- Current legal / regulatory requirements that relate to construction products applied to building openings (Module 1);
- Impact of air permeability and water tightness of frames on energy performance (Module 2);
- Technical requirements and specifications related to quality control and the implementation of accurate measurements (Module 2).

Burner installation and maintenance training aims to develop a theoretical understanding (Module 1) of energy efficient heating

systems and their potential to achieve energy savings in existing buildings²¹. Practical training (Module 2) imparts how to install and configure automated heating systems to achieve optimal energy efficiency. The topics covered include:

- Existing Regulations and Technical Instructions;
- Calculation of the annual energy demand for heating of buildings - Checking boiler's power (Module 1);
- Good practices during maintenance and necessary adjustments for increasing efficiency (Module 1);
- Management and neutralization of combustion condensates (Module 1);
- Installation and setup of adjusting devices of the chimney's draft (Module 2);
- Installation of an autonomy system with outdoor temperature's compensation (Module 2);
- Settings and electrical / electronic automations for improving the DHW facility (Module 2).

The overall goal is to train 135 workers/craftsmen (of all three groups) over the course of the project²². Training delivery takes place in training centres located in Athens, Heraklion and Thessaloniki. Practical training is delivered to small groups of a maximum of five participants at a time to improve the learning experience. Participants must complete a theoretical and practical examination within six weeks of course completion. Successful participants receive certification of successful completion of training course²³.

To strengthen the delivery and reach of UPSWING training, an additional set of three training courses have been developed to 'Train the Trainer'. The aim is to produce around 45 teachers specialised in technical insulation, aluminium and metal construction, and burner installation and maintenance. The trainers will be trained to educate 135 individuals working in these professions, prior to large scale roll out²⁴. Successful participants receive a Certificate of Successful Monitoring.

The longer-term aim is to increase the number of new trainers to 225 by 2020 and for the new trainers to train a total of 23,650 workers and craftsmen by 2020²⁵, as part of a large-scale roll-out of the training programme.

Achieved or expected results

To develop an appropriate qualification and certification scheme, UPSWING has overseen the setup of a National Technical Committee (NTC) for each of the three vocational training courses. NTC members broadly represent all stakeholders across the value chain in each vocation and are actively contributing to the development of the scheme by providing expertise and guidance throughout the UPSWING lifecycle²⁶. The NTC is working to²⁷:

- Transfer market knowledge and experience to participants;
- Monitor UPSWING implementation and training courses efficiency and effectiveness;

- Promote UPSWING and its outcomes through their members.

The expected results of the UPSWING initiative, by project end in August 2017 and by 2020, are²⁸:

- 3 large-scale fully functional qualification schemes for insulation technicians, aluminum and metal construction craftsmen (assemblers and installers of aluminum frames and glass fitting), and installers-maintainers of burners, in Greece;
- Certification of the 3 qualification schemes;
- Significant strengthening of Continuous Vocational Education and Training (CVET) for the 3 vocational groups;
- 9 pilot courses, 3 per vocational group, delivered in different regions – Athens, Thessaloniki and Heraklion;
- 3 pilot 'train the trainer' courses, one per vocational group;
- 12 theoretical and practical training courses;
- 45 new trainers qualified by project end (and 225 by 2020);
- 135 professionals (of all 3 categories) qualified and certified by the end of the project;
- 23,650 trained craftsmen and systems installers by 2020;
- Implementation of support measures to ensure the sustainability of the training schemes beyond 2017, such as incentives to encourage construction sector participation, proposals for funding mechanisms, and dissemination activities to reach the targeted stakeholders;
- Establishment of a 'Skills Observatory' to monitor the skills shortage and improvement needs in the Greek construction sector, particularly regarding green building skills;
- Accreditation of the bodies that will undertake the training and those that will implement the examination and certification of graduates.

Two sets of 'Train the Trainer' courses for the three pilot training schemes were delivered on 29-30th September 2016 and 1st October 2016²⁹. Both included three day seminars which were held on the premises of the Labour Institute of the Greek General Confederation of Labour (INE-GSEE) in Athens. Each provided 5 hours of practical training. 36 trainers successfully completed the programme and are now qualified to provide energy efficiency (UPSWING) training to Greek construction sector contractors and craftsmen³⁰.

By the end of January 2017, the three training and qualification schemes have been developed and are going through pilot testing, in order for them to be evaluated and revised before their full-scale launch (post-project)³¹.

To date, UPSWING training programmes are being piloted according to plan³². The training programme for aluminium and metal constructors has already been successfully delivered in Athens and Heraklion, and is currently being delivered in Thessaloniki³³. The training programme for insulation technicians has also been successfully delivered in Heraklion has been completed, and the training programme for installers and maintainers of burners is currently being delivered in Thessaloniki. Delivery of each training programme in each of the three city locations is expected to be complete by the end of August 2017.

Following completion of each course, participants are requested to complete a training questionnaire and provide feedback on their experience. Participant feedback is not yet available to the public but will be presented in the final report on UPSWING results and outcomes following completion of the pilot project (August 2017).

Looking forward, the UPSWING project coordinators intend to create a skills observatory (expected result) to monitor new building skills and generate interest and demand for highly qualified workers and craftsmen in Greece. The intention is to set up the observatory by the end of the initiative in August 2017 and to use it as a tool to enhance and build upon the UPSWING training courses³⁴.

Over the course of the UPSWING initiative, the partners have sought to disseminate the project's activities and results to relevant construction sector stakeholders to raise awareness of the pilot training and accreditation programmes. Dissemination outputs have included a project brochure and fact sheet, a project website (<http://skills-upswing.gr>), press releases, newsletters and articles, social media communication and participation in relevant events³⁵.

Perspectives and lessons learned

From a **project implementation perspective**, the initiative is on track and is proving to be successful thus far. According to a leading implementation partner – the Small Enterprises' Institute of the Hellenic Confederation of Professionals, Craftsmen and Merchants (IME GSEVEE) – UPSWING is a well-established project that has been designed and is being delivered by partners that are key stakeholders in the Greek construction sector and Greece's vocational and educational-certification structures. The project features realistic, achievable, focused and measurable objectives and targets.

According to IME GSEVEE, there are some potential barriers that could affect the large-scale roll-out of the UPSWING training programmes. The impact of the economic crisis on the construction sector, reluctance to invest in training due to the costs, as well as a potential lack of interest in training on new and emerging skills, are potential threats to UPSWING beyond the pilot phase. In reality however, new skills are actually a pathway to resilience in the face of turbulent periods of economic and technological change³⁶.

According to the project partners, the overall key lessons include³⁷:

- Importance of integrated approaches to vocational training – identification of needs, pilot training courses, certification;
- Significance of systemic initiatives through multi-party mechanisms with the collaboration of partners from business and academia;
- Enhanced 'green skills' in the construction sector through targeted approaches to skills development in specific professions to address specific skills gaps.

From the **perspective of the training participants**, the initiative was evaluated positively. The participants expressed their overall satisfaction with that they had learnt³⁸. According to the project coordinator, the participants provided positive feedback on their training experience and especially on the training topics covered in classes and the practical training. The skills topics covered and the materials provided have enhanced their knowledge and skills, and they have also benefited from the opportunity to network with other participants and share best practices. However, participants have indicated that they would have preferred more practical training. Being qualified and certified is increasingly important in the construction sector, and those that gained UPSWING certificates confirmed that the achievement provides them with a competitive advantage in the market³⁹.

The **'Train the Trainer'** course was viewed positively by participants. One issue that was raised by participants was that the training was only conducted in Athens and the participants were not provided any travel expenses. For this reason, not everyone had enough resources to take part in the training course⁴⁰. Looking forward, effort should be made to provide this training in different regions. Additionally, one training course was provided for targeted specialisation, which was not considered enough⁴¹.

From the **National Technical Committee's perspective**, the UPSWING initiative is an important instrument for strengthening Continuous Vocational Education in Greece⁴². The training programmes being piloted are essential to help develop energy efficiency as an important discipline in the Greek construction sector and to create a more qualified construction workforce in Greece⁴³.

Implementation of 'Train the Trainers' helps to increase number of qualified trainers in Greece. In turn, they can impart their knowledge and new techniques with larger numbers of trainees⁴⁴. However, NTC members believe that it is not enough to provide only one training per specialised profession.

The main strength of the training programmes, from the NTC perspective, is that they are well structured and provide all of the necessary topics for all three professions. The courses are also considered to be effective and beneficial to participants because the scheme is focused on three specific professions and has strict entry criteria. Selected participants share same level of skills and experiences, which helps to ensure an optimal learning speed and experience in each course⁴⁵.

The UPSWING pilot project is due to end in August 2017, by which point it will be important to have collected participant feedback on the quality of training materials to ensure that the initiative can be enhanced and maintained beyond the pilot phase⁴⁶.

Endnotes

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