| BUILD UP Skills Portugal Factsheet | |
|---|---|
| **BUILD UP skills activities of the country** | |
| **BUS Pillar I project title (contract number)** | Build up Skills Portugal |
| **BUS Pillar II project title (contract number)** | Training FOr REnewableS and Energy Efficiency in building sector – Training schemes set-up<br>Acronym of the project: BUILD UP Skills FORESEE<br>Contract N°: SI2.680177 |
| **Horizon 2020 Construction skills project title (contract number)** | n/a |
| **BUILD UP Skills FORESEE** | |
| Project coordinator's full name | Helder Gonçalves |
| Contact person's name | Helder Gonçalves |
| Contact person's phone | +351 210 924 666 |
| Contact person's email | helder.goncalves@lneg.pt |
| Project Partners | National Laboratory for Energy and Geology (LNEG, I.P.) *(Consortium Coordinator)*<br>Directorate General for Energy and Geology (DGEG)<br>Energy Agency (ADENE)<br>National Agency for Qualification and Vocational Education and Training, (ANQEP, I.P.). |
| Project website | http://www.lneg.pt/iedt/unidades/20/paginas/187 |
| Keywords | Building Envelope, energy efficiency, integration of renewables in buildings, training materials, training courses. |
| Duration | Start date: 01/09/2014<br>End date: 28/02/2017 |
| Budget | EUR 359,180 (EU contribution 75%) |
| **Context** | |
| Summary description | The FORESEE Project, aims to put into practice the priorities identified in the Roadmap 2014-2020, by the Build Up Skills – Portugal project. The initiative is intended to help address skills gaps in various construction related professions. This has been done by developing material to train installers in three core areas: building envelope, renewable and efficient use of electricity and heating and cooling. The project will include training trainers and pilot courses to test the supporting material. |
| Objectives | a) Developing and elaborating new training schemes for continuous professional development with:<br>- Preparation of Training Support Materials and Guides |

| | |
|---|---|
| | - Training of trainers to select and prepare training resources;<br>- Pilot courses to validate technical and pedagogical training and to enable the identification and correction of any weaknesses.<br>b) Selection of laboratory facilities and proper equipment to train and qualify trainees, giving special focus to the practice component in order to "build" theoretical and practical courses to apply and solve realistic problems.<br>c) Incorporate EE and RES concepts in existing qualifications and design new training content related to new competences where the concept of energy efficiency in buildings and renewable energy sources becoming a cross-cutting issue in all building worker's qualifications.<br>d) Mobilisation of the key actors, training providers, professional associations and interested stakeholders concerning continuous professional development in order to contribute to the exchange of good practices.<br>e) Dissemination activities to raise awareness among dwelling owners and non-residential owners to spread measures that may be adopted in terms of energy efficiency and integration of renewable energy during the rehabilitation of their buildings. |
| Target skills/ professions | Training material has been developed for installers in the following six areas: a) windows, b) thermal insulation, c) solar thermal and biomass boilers, d) photovoltaic and wind systems, e) HVAC and f) lighting. |
| **Project's results and impact** | |
| Results | Course content developed and quality assured by relevant trade associations in all 6 target areas.<br>• **151** Trainers trained<br>• **262** Installers in Pilot Courses<br>Relationships between trainers and the construction industry developed and strengthened<br>Relations between trainers and the construction industry have been developed and strengthened |
| Lessons learnt | The trainees who applied for and attended the courses have a strong belief that specialised training and certification of qualifications on energy efficiency, renewable energy systems and construction elements are of major importance to them in achieving recognition of their professional competence and abilities in their field of work.<br>The training of trainees proved the interest of the participants, |

| | |
|---|---|
| | companies and training centres.<br>Training providers offer their installations for the training actions.<br>The participation of DGEG and ANQEP, as institutional authorities in the consortium, has enabled the project to reach a positive position with regard to the training materials being accepted as part of the national qualification and certification (NCQ) system for the installers. |
| Barriers[1] | There are difficulties associated with attracting construction workers to longer training courses (e.g. 25 hours), during working hours, being a difficult task to bring back professionals/workers to classrooms with bad previous experiences.<br><br>The distribution of the academic load 25 hours of courses on 3 consecutive days is not suitable for employee professionals and more critical for smaller company's size, without time available or financial capital to undertake supplementary training and where sometimes the employee is also the owner. For larger companies the situation is different because the continuous professional development is part of their contract.<br><br>Signing and agreeing contracts with training content developers and deliverers can be time consuming. |
| Key needs[2] | The recognition and inclusion of these courses in the National Catalogue of Qualifications. |
| Recommendations[3] | To give special focus to the practical component. |
| Replicability[4] | Training material was developed, tested and continuously improved including legislation, concepts and available material to improve skills with exercises and practice description.<br>From the survey responses it can be concluded that the slides/presentations should not have too much text and include:<br><br>– Illustrations and images;<br>– Training exercises or case studies<br>– Practical description to better replicate the experimental procedures<br><br>The completion of the Pilot Training Courses, with the lessons learnt, efforts are being made in order to integrate the 25 hours and 50 hours training courses developed in the framework of FORESEE project into short training units (UFCD) of the National Qualification Catalogue (NCQ). The bases for this purpose are created, but there are some aspects that are necessary to overcome, in particular, to bring together the Sectorial Council 582 (Civil Construction and Civil |

[1] Input from Helder Gonçalves, March 2017
[2] Input from Helder Gonçalves, March 2017
[3] Input from Helder Gonçalves, March 2017
[4] Input from Helder Gonçalves, March 2017

| | | | |
|---|---|---|---|
| | Engineering), the Sectorial Council 522 - Electricity and Energy. | | |
| **Project indicators** | | | |
| **Common Performance Indicators** | **Ex ante target** | **Final result[5]** | **Target 2020** |
| Number of training courses triggered by the action | 24<br>(12 Train the trainer, 12 Pilot training courses (TC)) | 24<br>(12 Train the trainer, 12 Pilot training courses) | 250 |
| Number of people that will be trained | 420<br>15x12= 180<br>20x12= 240 (TC) | 413 | 3500 |
| Number of hours taught in the frame of the courses triggered | 738<br>12 x 24= 288 (TOT)<br>6x50 = 300 (TC)<br>6x25 = 150 (TC) | 12x25hr+<br>12x50hrs=<br>900 | 2500 |
| Estimated specific cost to qualify each trainee (€) | Approx. 400 Euro/trainee | 350€/trainee (5000€ per 3-day course, with 15 students and 2 teachers) | Approx. 400 Euro/trainee |
| Renewable Energy production triggered (toe/year) | 2.3 x$10^3$ toe/year* | 2.3 x$10^3$ toe/year* | 16 x$10^3$ toe/year** |
| Primary energy savings compared to projections (toe/year) | 320 x $10^3$ toe/year* | 340 x$10^3$ toe/year** | 580 x$10^3$toe/year** |
| Reduction of greenhouse gas emissions (tCO2e/year) | 1400 x$10^3$ tCO2e/year* | 1400 x$10^3$ tCO2e/year* | 2500 x$10^3$ CO2e/year** |

*values included in National Renewable Energy Plan and Energy Efficiency Action Plan (NEEAP)

** according D6.1 (Table 2) results in the NEEAP

[5] Input from Helder Gonçalves, November 2017