



BUILDUP Skills

9th EU exchange meeting

6 - 7 December 2016 - ATHENS

Crowne Plaza Athens, 50 Mihalakopoulou Avenue, 11528 Greece



QualiBuild

Upskill • Train • Improve



Co-funded by the Intelligent Energy Europe
Programme of the European Union



BUILD UP SKILLS
ENERGY TRAINING FOR BUILDERS

Project Duration


1/11/13 – 30/7/16
(33 Months)

Website: www.QualiBuild.ie

Social Media:

 facebook.com/QualiBuild

 @QualiBuild

 #QualiBuild



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Build UP Skills - Up-Skilling in Quality Low Energy Building

Why it all started



EU Build Up Skills Initiative



Build Up Skills Ireland – Pillar 1



QualiBuild Project – Pillar 2

► **Up skill construction workers that are still employed**

► **Up skill trainers who in turn will upskill construction workers**

► *Update EU policies and national regulations*

► *Principles of low energy building*

► *Understand quality*

► *Improve on-site communication skills*

Training Actions



Train the Trainers.

- ▶ Review apprentice curricula for construction crafts to incorporate knowledge and new skills related to low energy buildings.
- ▶ Develop specialist training for each relevant craft.
- ▶ Develop specialist training for arising technician roles.
- ▶ Review, update and develop if needed new programmes for construction managers and site supervisors that will equip them with the necessary skills to manage the implementation of low energy buildings.

Introduce short Foundation Energy Training for all Building Construction Workers.

Supporting Actions



Quality Building Registration System designed & integrated with other relevant systems



Quality Building Communications Campaign implemented on multiple levels engaging with >10,000 people



National Roll Out Plan agreed with additional finance secured



Training Programmes:

Train the Trainers

Foundation Energy Skills - FES

Train the Trainers

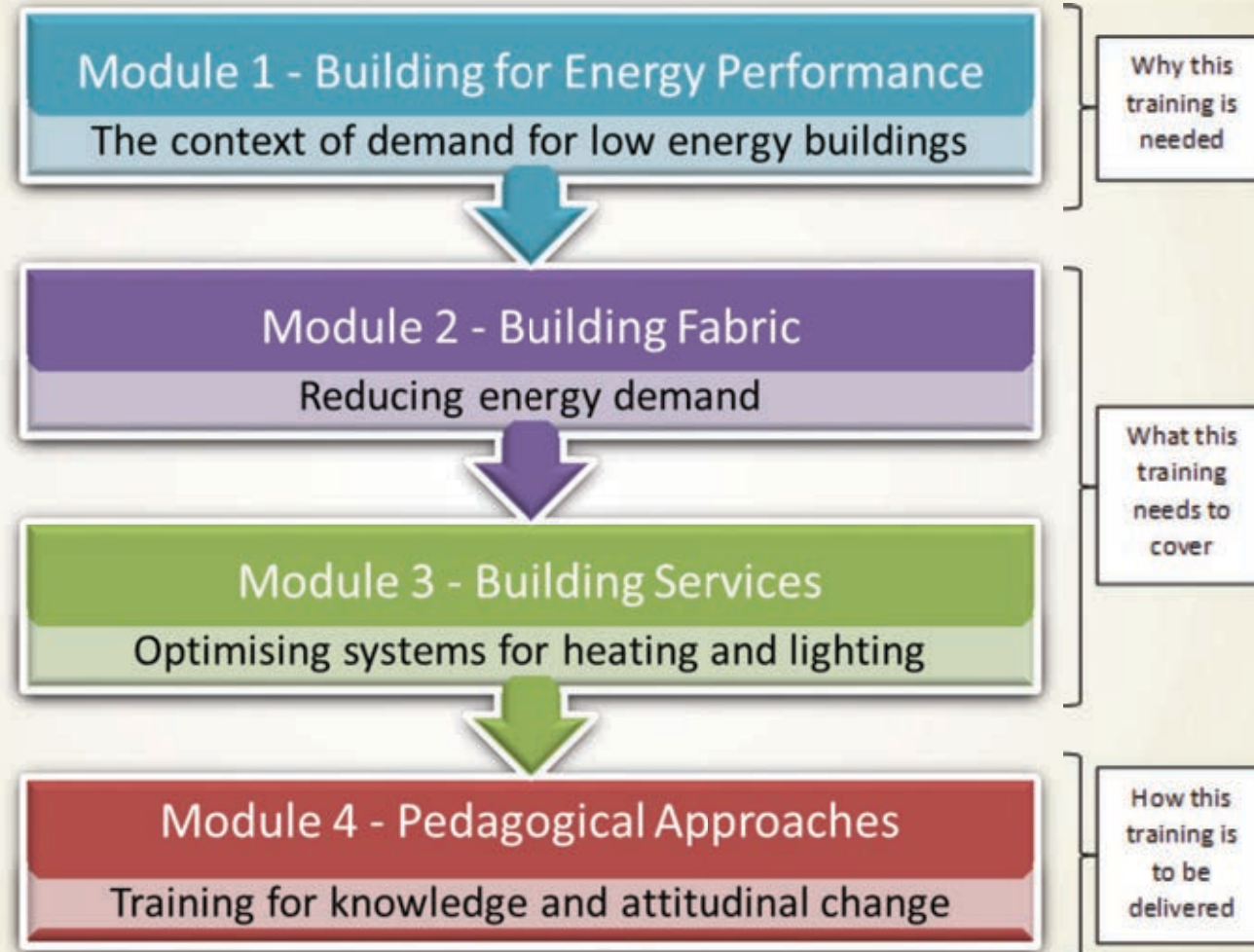
The Aim - Address the knowledge gap that exists with the current trainers

The Now - Deliver the new programme for 100 trainers

The Future - Develop a proposal for a system of Continuing Professional Development (CPD) for trainers



The Train the Trainer Programme



Programme Structure

- 4 module programme – 20 Credits at NFQ Level 7 (Level 6 EQF)
- Certificate in Training in Low Energy Buildings
- Blended Learning Approach
- Content provided upfront – Learner Manual for each module
- Followed by workshops & site visits
- Continuous Assessment



Delivery Approach

- ▶ 4 - 5 weeks between modules
- ▶ Learner manuals circulated 4 weeks beforehand
- ▶ Pre-workshop activities to engage learners
- ▶ A 'flipped classroom' approach
- ▶ Site visit following workshop to provide insight to practical applications and reinforce learning
- ▶ Written/practical assignments issued at each workshop (to be completed before next module)



Delivery of Train the Trainer Pilot

- Phase 1 – Oct 2014 – Mar 2015
3 Groups - 2 Dublin and 1 Sligo
- Phase 2 – Sept 2015 – Mar 2016
2 Groups - Dublin and Cork
- 87 Trainers registered. 57 Trainers qualified

Information on the Train the Trainer is available at: <http://www.qualibuild.ie/train-the-trainer/>



Train the Trainer pilots

- ▶ Delivery modelled on pedagogical approach for FES
- ▶ Group activities enabling peer-to-peer learning
- ▶ Opportunity to observe practical applications of theory



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Results and Evaluation

- Lower than anticipated levels of participation
- Low numbers of trainers in both the IoT and ETB sectors
- Lack of awareness at organisational level for need for training in this area
- Lack of formal CPD structures for vocational trainers

“I really enjoyed the course and would love to get a chance to deliver it in the future!!”

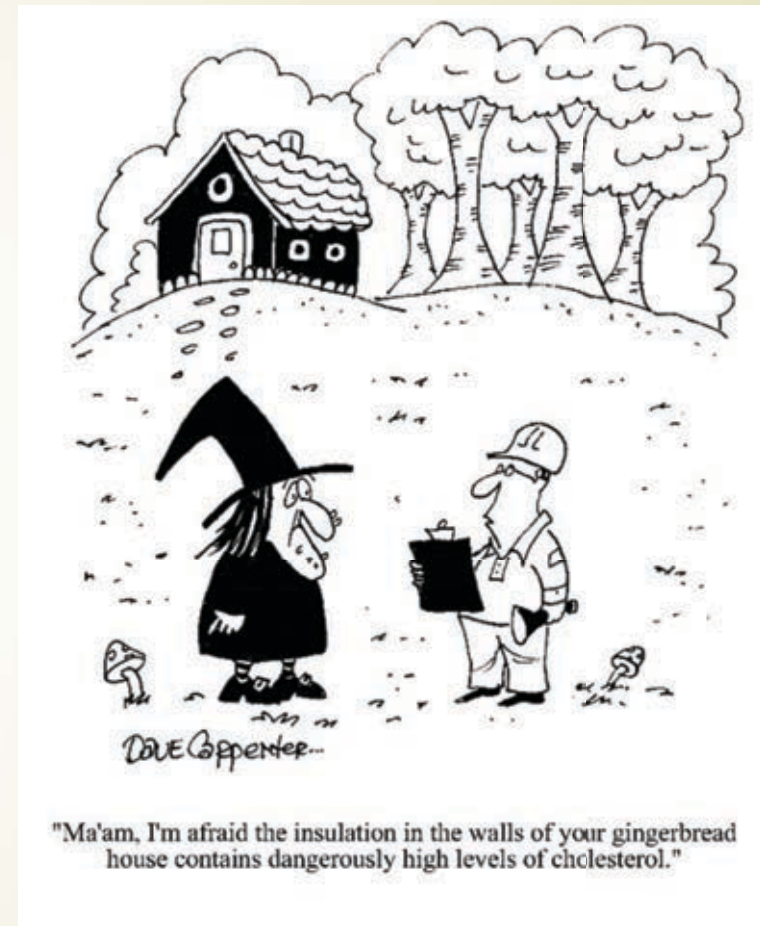
“I did find the volume of work intense on top of an already full work-life”

“More hands on practical demonstrations with learners being allowed to do the task”

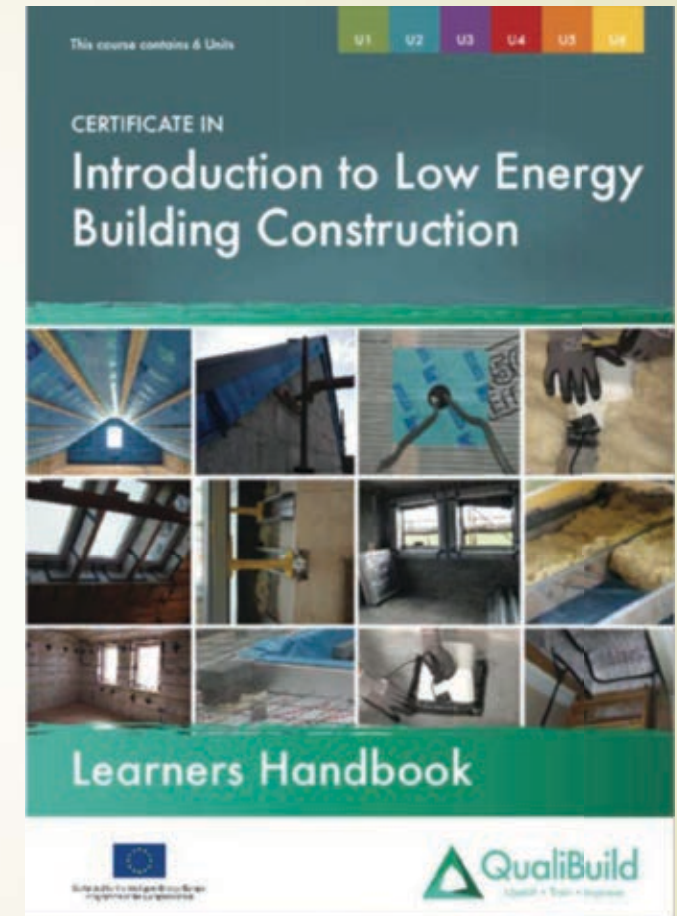
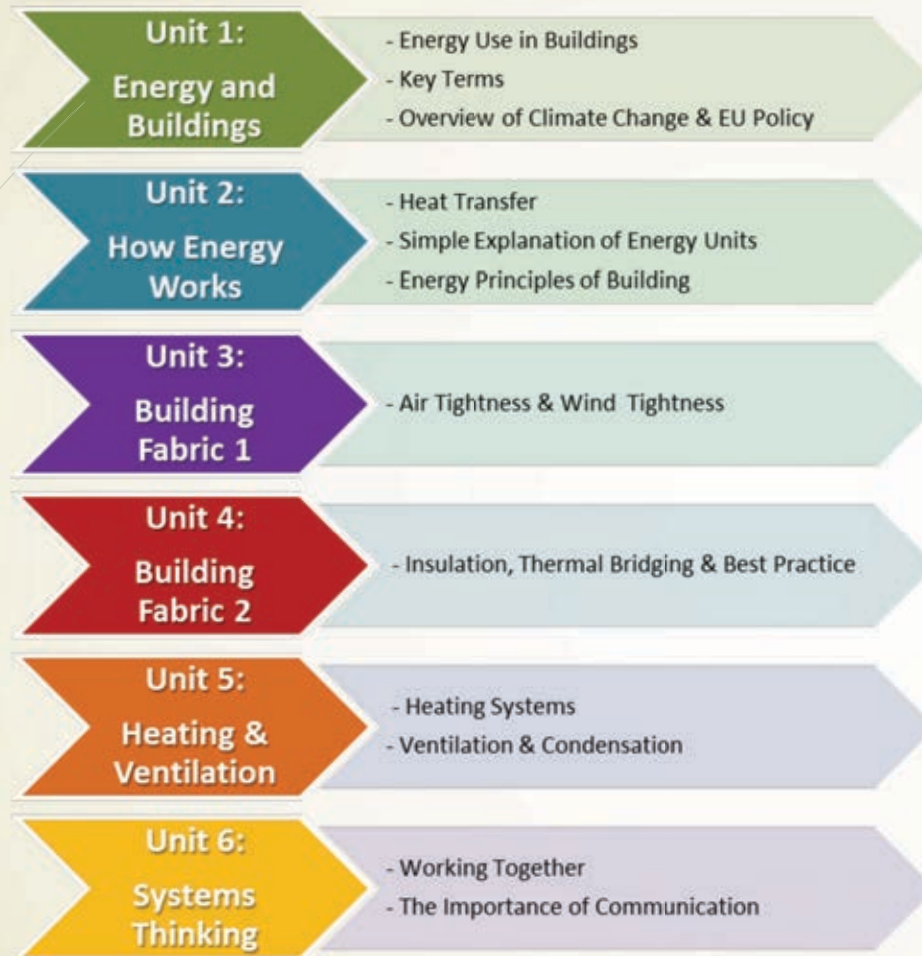
“Well done on the course it has helped me update myself on modern building techniques”

Foundation Energy Skills - FES

- Develop a training programme for construction workers on Quality Low Energy Building
- Pilot it with 200 workers
- Evaluated and accredited by LIT and ITB
- Has to be Relevant, Effective, Scalable
- Knowledge vs Skills
- Should be Engaging, Valued, Accredited



Programme



Accredited as Hetac level 6 (EQF level 5) - 5 Credit Module

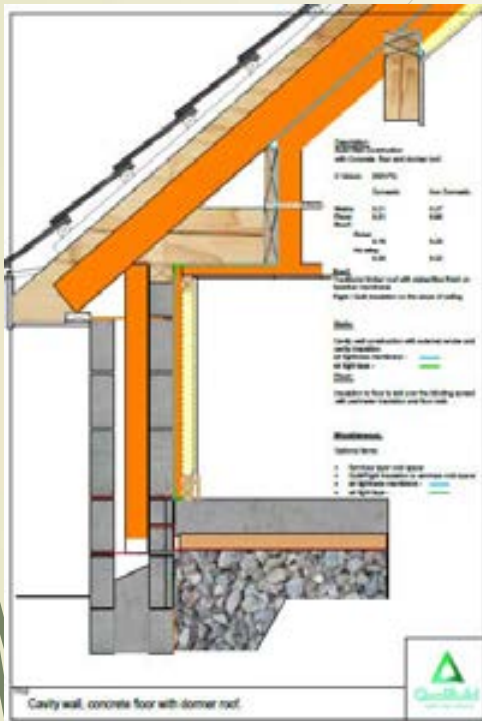
The content from the course can be downloaded from the website www.qualibuild.ie/resources

Content provided – hardcopy and on-line

Preparation of course materials for independent learning

Demonstrations and workshops:

- Air Leakage
- Principles on Air Tightness
- Continuous Insulation
- Detailing and Thermal Breaks
- Controlled Ventilation

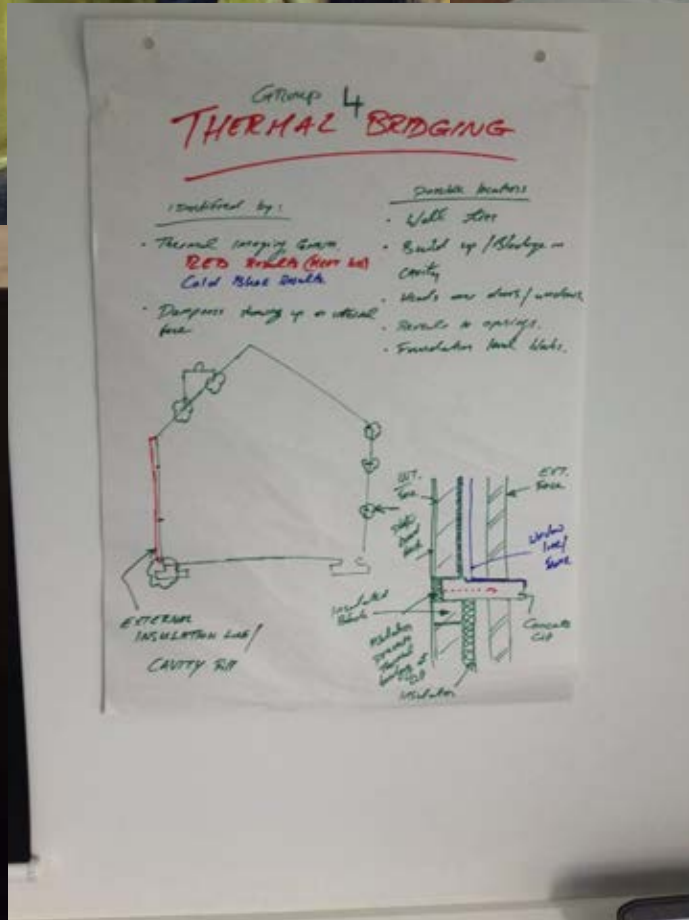
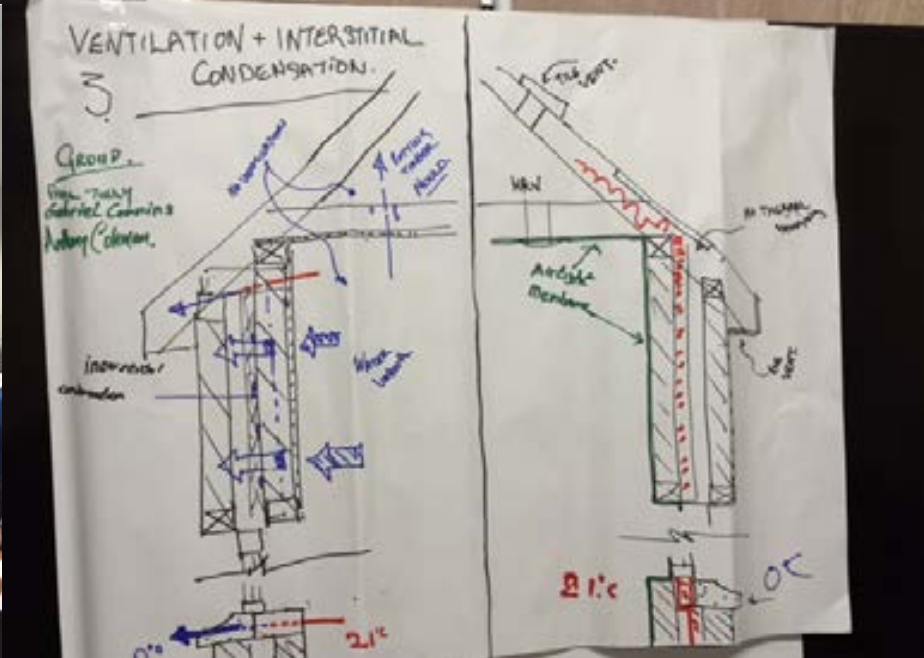


Delivery of FES Pilots

Who took part ?



- ❑ Range of delivery methods
 - 2 Days plus 1 demo day (over 5 weeks)
 - 4 Evenings plus 1 demo day (over 6 weeks)
- ❑ Balanced Classroom and Demonstration Workshop
- ❑ Discussions, debates, poster work, interaction, technical and animated videos
- ❑ Demonstration models, hands on activities, and review of materials and products
- ❑ Group work, Assessment and Accreditation



Location of FES Pilots

Phase 1 - delivery for 7 groups, 2 in Dublin, 2 in Cork, 1 in Limerick, 1 Galway and 1 Cavan

Phase 2 - delivery for 5 groups, 2 in Dublin, 1 in Limerick, 1 in Galway and 1 in Waterford

Additional deliveries for Better Energy Communities in Belmullet and Irish Prison Services in Portlaoise



14 Pilot courses completed – 232 registered and 196 completed the course.

Cork 1 Group – Daytime	Wed. September 23 rd 2015
Cork 2 Group – Evenings	Thurs. September 24 th 2015
Cavan Group – Daytime	Wed. October 28 th 2015
Galway 1 Group – Daytime	Thurs. October 29 th 2015
Limerick 1 Group – Evenings	Thurs. October 29 th 2015

Read what the construction workers have to say

<https://youtu.be/18SxI7oEf2w>

Belmullet Group – Daytime	Tues. April 5 th 2016
Port Laoise Group – Daytime	Wed. April 6 th 2016
Waterford 1 Group – Evenings	Thurs. April 7 th 2016
Dublin 4 Group – Daytime	Wed. April 13 th 2016

What Worked - Evaluation

- **Reaction** – a pre and post training questionnaire
- **Learning** – the course assessment results
- **Behaviour** – a series of phone interviews with participants
- **Results** – series of phone interviews with employers



Employer: Do you believe that all workers involved in building construction should complete a FES course or similar?

"All construction workers should [do the training] so we're all singing off the same hymn page in that we all know what we're doing. I find that in residential housing one guy comes in and he is doing things to his ideas and somebody else is doing it to other ideas" – employer in Galway

FES Worker: What, in your opinion, would encourage more building workers to seek training on low energy building?

"If there was someone calling onsite to check who knew what and to highlight to them if they didn't know stuff that they need the training" – participant from Offaly

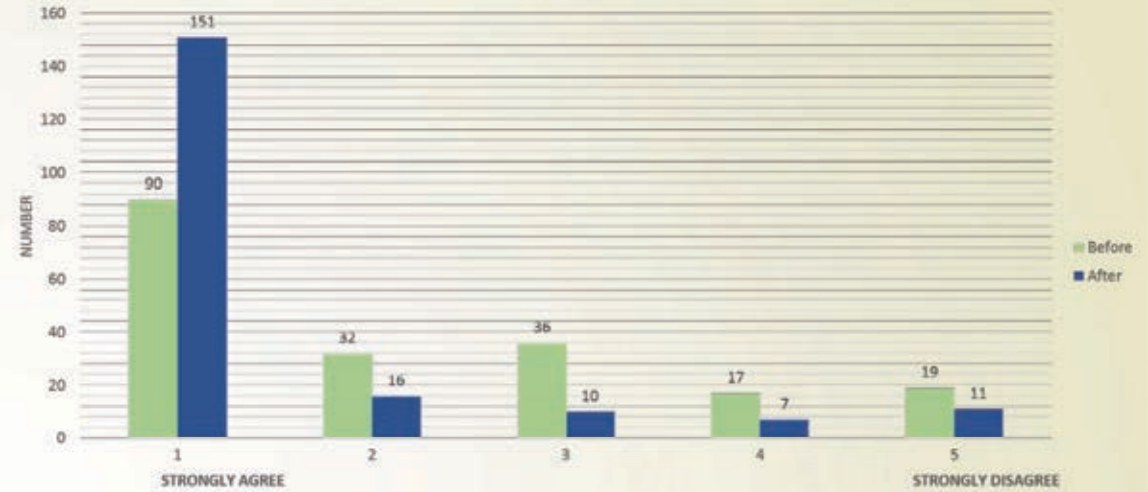


Results Summary

Employers

- 100% recognised need to invest in staff training
- Majority (90%) saw link between FES, CPD and CIRI
- Majority (75%) indicated willingness to pay for programme
- 100% indicated benefits of being able to market services based on quality
- 100% would recommend to others

Q6. I have some responsibility for the energy performance of the buildings that I work on



FES Participants

- 100% would recommend to others
- Majority (90%) would pay for the programme
- Majority (75%) feel it should be mandatory
- Majority (90%) had discussed with co-workers and got positive reaction
- Majority (90%) felt all building construction workers should complete programme



Conclusions

Training Delivery	3 day FES course accepted by individuals and employers to achieve learning objectives
Practical Training	Practical demonstrations and/or hands-on training appropriate for cohort
CPD Training	A majority of FES participants rated their knowledge of low energy buildings as middling and require further follow-on training.
Training Support	Weekday preferred by large companies and evening/weekend preferred by smaller companies and individuals
Training Costs	Costs should be minimised or subsidised as the objectives of quality buildings and energy savings should be supported by government.
Mandatory Training	Many believe that FES should be a mandatory training requirement (similar to Safe Pass).
CWSR	Many participants want greater recognition of their qualifications and a platform to show them.
Validation	NFQ - The FES course should be revalidated at a vocational educational level more appropriate to the 3-day training programme and the target cohort for the training.



Supporting Actions:

Register

Communication

National Roll Out

Construction Workers Skills Register



Online register of training for individual construction workers in Ireland

A platform for all construction workers to join the Register and display their training and skills.

Search the Register for construction workers who are trained in quality low energy building

Why Register?

- Registered members can use the annual Construction Worker Skills Register logo in their promotional material
- Inclusion on a register of skilled construction workers is a means of generating new business leads
- Creates a direct link between training and employment opportunities



Requirements for entry:
Complete the FES course

To link with other registers



CWSR

Finalised the design and development of the register.

Piloted CWSR with construction workers – currently only have 36 registered.

Link: <https://www.constructionworkerskillsregister.ie/>

Communication Campaign

- ▶ Unique website visits target was 10,000 - exceeded with 14,465 visits
- ▶ On the website: 4,000 views of the QualiBuild videos; over 500 connections with builders, trainers and construction professionals viewing other training resources. 150 downloads of Quality Building e-book for consumers and professionals.
- ▶ Social media channels, resulted in 878 followers on Twitter, 186 likes on Facebook, 3,845 video views on YouTube and 1,569 views on SlideShare.

The screenshot displays the QualiBuild website interface. At the top, the QualiBuild logo is accompanied by the tagline 'Upskill • Train • Improve'. Navigation links include Home, FAQ, Resources, Events, Training, and New Construction Worker Skills Register. A search bar and social media icons (Facebook, Twitter, LinkedIn, YouTube, RSS) are also present. The main content area features a 'What is Quality Building?' section with a 'Building Owner' sub-section, highlighting energy efficiency and high standards. Below this, there are three columns of featured content: 'FES TRAINING', 'TRAIN THE TRAINER', and 'SKILLS REGISTER'. A 'USEFUL LINKS' section is located at the bottom left, and a 'VIDEOS' section is at the bottom right. On the right side, there are sections for 'QUALIBUILD NEWS' and 'EVENTS'. A Twitter feed is visible, showing a tweet from Roman @dromshouse. The overall design is clean and professional, with a focus on providing resources for the construction industry.





- Promotional: Publications, training courses, brochures, posters, visual videos.

- Presented at fifteen conferences with a combined attendance of over 4,300 people.
- Exhibited and supplied information at six main industry events with over 1,400 stakeholders.
- Consumer outreach on the topic of Quality Low Energy Building, the project exhibited at three consumer trade shows, with over 30,000 attendees.



National Roll Out

- Investigated the key elements:
 - **Sustainable Funding** – Sources of funding, estimated costs and where to train 60,000 plus workers.
 - **Other Training Actions** – Training opportunities and progress in CPD
 - **Other Supporting Measures** – CIRI, upskilling building officers and industry training
 - **Handover and National Roll Out Plan** – Responsibility of a National Body, such as SOLAS.
 - (short term plan and long term plan)

Sustainable Funding

➔ Numbers to train: assuming 20 per course and 20 venues available

Category	Scenario 1	Scenario 2	Scenario 3
Numbers to be trained	60,000	80,000	100,000
Annual average number of courses over three years	1,000	1,334	1,667
Annual average number of courses over six years	500	667	834
Annual average number of courses over ten years	300	400	500
Annual average number of courses per centre over three years	50	67	83
Annual average number of courses per centre over six years	25	33	42
Annual average number of courses per centre over ten years	15	20	25
Annual average number of courses per trainer over three years	17	22	28
Annual average number of courses per trainer over six years	8	11	14
Annual average number of courses per trainer over ten years	5	7	8

Whats Needed

5 key factors are essential for success:

- **Financial** assessment to cover the training programme delivery and the management of the CWSR
- **Availability** of organisations and venues willing and able to deliver the training courses
- **Responsibility** of an organisation willing and able to take on the coordination function of the Training and CWSR
- **Promotion** highlighting the importance of the training programmes and quality low energy building.
- **Mandatory CPD** development providing value to the training and skills of the construction workers through the CWSR.

FES National Roll-Out – Long-term

- **Long-term** roll-out to 60,000+ construction workers requires involvement of a major organisation.
- To be **Co-ordinated** by SOLAS and ETB Network using the ETBs and private trainers.
- The pilot suggests FES is **Sustainable** and could be self-funding.
- **Subsidy** through Sustainability Skillnet for employers
- Upskilling of **unemployed** construction workers will be needed as economy recovers
- **Mandatory CPD** essential in construction industry - CIRI

FES National Roll-Out – Short-term

- **Initiated** a short term Roll-Out of FES
- **Delivery** proposed in 2017 at a number of locations to be accredited by LIT and ITB.
- All QualiBuild partners signed MoU to assist with **promotion** and support.
- **Interested Training Bodies** from ETBs, IoTs and private trainers are in the process of signing MoUs.
- **Fee** agreed at €340 – additional costs for registration and CWSR (range €300-500)
- **Discussions in process** with Government, SOLAS and CIRI

Summary Recommendations

➤ Train the Trainers

- Registration system and CPD required for trainers of construction skills

➤ FES Training

- Validate at NFQ level 5 (EQF Level 4) to maximise roll out
- Create CPD pathways to continue training/education
- Short Term Roll Out - proposed to be managed by LIT/ITB
- Long Term Roll Out - negotiations with government and organisations for large scale integration into National systems - mandatory
- Promote FES within market to stimulate demand

➤ CWSR

- Incorporate with other construction registers and to be managed by CIRI or SOLAS.



Performance Indicators

Common Performance Indicators			
	Existing target	Result	Target 2020
Number of training courses	10 FES pilot courses 4 Train the Trainers	7 in phase 1 M23 to M26 7 in phase 2 M26 to M30 3 in phase 1 M12 to M17 2 in phase 2 M24 to M29	8 in 2017 & 172 by 2020 Trainers: 9 by 2020
People to be trained	Foundation Energy (Workers): 200 Trainers: 100	Pilot: 196 Phase 1: 23 Phase 2: 36 Total 59 trained	160 workers in 2017 3,356 workers by 2020 Trainers: 140 by 2020
Number of hours taught	Workers: 800hrs Trainers: 240hrs	Workers: 1008 hrs (72xcourse) Trainers: 320 hrs	576 hrs for 2017 12,084 hrs by 2020 Trainers: 576 hrs by 2020
Specific Costs	Workers: €600 Trainers: €1,500	Workers: €600 per worker Trainers: €2,300 per worker	€340 in 2017 per worker €1,141,040 by 2020 Trainers: €20,700 by 2020

Performance Indicators

Common Performance Indicators			
	Existing target	Result	Target 2020
Renewable Energy production triggered	1,340 toe/year	1,340 toe/year	10,720 toe.
Primary energy savings	2015: 2,487 toe/year 2016: 14,921 toe/year	2015: 74,603 toe/year 2016: 74,727 toe/year Total: 149,330toe/year	861,307toe/year
Reduction of greenhouse gas emissions	2015: 7,230 tCO2/year 2016: 43,380 tCO2/year	2015: 216,909tCO2/year 2016: 224,139tCO2/year Total: 441,048 tCO2/year	2,581,182toeCO2/year

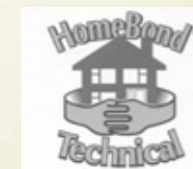
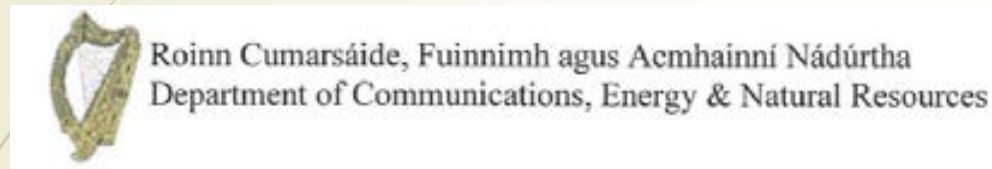
Final Remarks

- ▶ Short term FES training is to be carried out in 2017 – initiating 8 courses by LIT and ITB.
- ▶ Other training organisations are invited to train
- ▶ Upskilling of construction workers proved successful through both training programmes.
- ▶ Support for Training by major organisations – CIRI, SEAI, SOLAS requires financial assistance from Government.
- ▶ Influence the Change of the Construction Industry

A Vision - Quality Building Skills Pass



Thank you to:



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• Partner 1

- Institute of Technology
Blanchardstown

• Partner 2

- Dublin Institute of Technology

• Partner 3

- Irish Green Building Council

• Partner 4

- Construction Industry
Federation



Thank you for listening