

TOWARDS LARGE SCALE DEEP RENOVATION - UNLOCKING IRELAND'S POTENTIAL

ECCOPRO – Workshop 2
Dublin, 5th December 2017



ECCoPro Report

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www.igbc.ie

About the Irish Green Building Council

The [Irish Green Building Council](#) (IGBC), is the leading authority on sustainable building in Ireland. With a network of over 100-member organisations, the IGBC is working to transform the Irish construction and property sector into a global leader in quality and sustainability.

To do so, the IGBC has developed several sustainable building tools, including the [Home Performance Index](#) - Ireland's first national certification system for quality and sustainable residential development – and an [Environmental Product Declaration Platform](#). The IGBC has also developed an extensive green building education programme, which includes BREEAM, LEED and LCA training courses.

See www.igbc.ie for further details.

Acknowledgment

Thanks to all the organisations and individuals who attended and contributed to this workshop. These are listed below. Thanks also to our workshop facilitator, [Chris Chapman](#).

Finally, we would like to thank the various organisations who took part in [Ireland's National Renovation Strategy Consultation Process](#) as part of the Build Upon project. Their feedback on the building industry energy efficiency upskilling needs directly led to the ECCoPro initiative.

Project Overview

As construction workers and building professionals interact with end-users at key moments in time (e.g. when a building is sold or refurbished), they have a key role to play in driving energy renovation. However, depending on training and engagement they can act as advisor or as negative influencer; hence the necessity to better incentivise them to upskill in energy efficiency and sustainability.

The aim of this project is to explore the opportunity of introducing a customer-friendly energy efficiency accreditation system for construction professionals - [ECCoPro](#). This accreditation system would support closer alignment between professionals, allow end-users to clearly identify professionals who have upskilled in energy efficiency related skills, and thus incentivise professionals to upskill in the area.

The ECCoPro initiative primarily targets employed and unemployed building professionals. Nevertheless, it is hoped that some of the key findings of this project would be used by higher education institutions to ensure a multidisciplinary approach to energy efficiency and sustainability in their degrees.



The Dialogue Journey

In September 2017, the Irish Green Building Council released the "[Construction Professionals' energy efficiency knowledge and upskilling - A short review](#)" report. The document is intended to be used as a source of reference by all organisations involved in the development of a customer-friendly environmental accreditation for building professionals in Ireland.

The IGBC is now hosting a series of workshops focusing on the potential design and delivery of this certification system.



The first workshop took place on 19th October in Dublin. A copy of the key findings of that workshop [is available here](#). The aim of this second project meeting was to reach an agreement on key energy efficiency skill set for building professionals and to better identify ways of assessing building professionals' prior learning.

Note: Workshop dates are provided for information only and may be subject to change. Please visit www.igbc.ie for further details.

Summary

The following bullet points sum up the workshop key learnings and outcomes.

- The accreditation system should be simple, manageable and recognised by all key stakeholders.
- The accreditation should initially only cover retrofit competences. Yet, it should do it in a holistic way – ensuring building professionals know about indoor air quality, building users' needs, etc.
- The accreditation system should be centralised and structured. While operated by professional bodies, it should probably be administrated by a nationally trusted organisation, with resources to police and promote it. SEAI was mentioned.
- Although some workshop participants said the various levels of competences should be better recognised, others felt the system should be launched with a single level of accreditation to create a momentum and generate traction.
- [14 categories of building professionals who should upskill in that area were identified, and a list of specific retrofit skills required for each of them was produced](#). This may need to be further developed by professional bodies.
- Professions may need to be clustered in 3 or 4 groups to keep the system simple and manageable.
- Accreditation should require a mix of theoretical learning and practical experience. Accredited professionals should also accept a code of practice.
- Prior learning should be recognised and a flexible accredited pathway to upskilling develop.
- A balance must be found regarding the amount of knowledge required as very few working professionals can afford to complete a full year training programme.

Pat Barry and Marion Jammet of the Irish Green Building Council opened the workshop with a brief overview of the project and progress to date. A copy of the presentation is [available here](#).

Introduction

Participants were subsequently asked to introduce themselves and to reflect on their hopes and concerns in relation to this initiative.

Most workshop participants felt that a good result from this process would be the development of a simple, manageable certification system accepted and recognised by all key stakeholders.

This requires the full buy-in of all key stakeholders i.e. professional bodies, third-level institutions and the wider construction industry. They must understand the importance of this certification, support it and be ready to collaborate to make it a reality.

Yet, some workshop participants felt that the short timeframe of the project could have a negative impact on the quality of the accreditation: Identifying skills gaps, appropriate training and drivers of upskilling is a complex task. Furthermore, the integrity and fairness of the certification process must be guaranteed. It is not good enough to develop a pathway to accreditation, building professionals must be incentivised to upskill in that area.

If this cannot be achieved within the project timeframe, a clear strategy to ensure a comprehensive and quality assured certification system is developed should be produced.

As part of this process, a clear definition of where the skills gaps are and how this could be addressed is needed. A quality list of training programmes available to professionals should be compiled, and a detailed pathway to upskilling developed. It should be easy for all building professionals to identify the steps they need to take.

Finally, this work should be used to better inform third-level institutions and to ensure that within 4-5 years all students emerge from universities and institutes of technology with the right skillset.

Session I: Key Industry Skills Needs

Workshop's participants reached an agreement on a group of 14 building professionals who should be targeted as part of this project.

These are architects, architectural technologists, building control officers, contract managers, site managers, civil and structural engineers, building services engineers, mechanical and electrical engineers, property and facilities managers, building surveyors, clerks of work, valuers, estate agents and quantity surveyors.

Other suggested categories included sustainability engineers, conservation engineers and consultant project managers.

Workshop participants were asked to react to a list of key skills identified for each profession - A copy of that original list is [available here](#). Each skill was set at one of four levels:

- Awareness: A person should be aware that specific regulations, issues, concepts, etc. exist and should also understand where they are relevant or might apply.
- Knowledge: A person, in addition to being aware that a regulation, a concept, an issue, etc. exist must also have some degree of knowledge of how it applies, and be able to apply it independently at a basic level.
- Understanding: A person has a comprehensive knowledge of a regulation, a concept, an issue, etc., including how it applies, and can apply it at a complex level.
- Ability: A person can bring all their knowledge and skills to bear in the successful delivery of that particular element of a professional service.

To gain a better understanding of key skills for each profession, workshop participants suggested to develop full role profiles for each of them in relation to building energy renovation.

According to them, awareness is required across the board. In fact, this may constitute the basic level of accreditation.

It was suggested to cluster professions together (e.g. the 4 professions who can sign off on a project under the Building Control Amendment Regulations 2014) and to set different levels of accreditations (e.g. 1, 2 and 3 as per the RIAI conservation accreditation) for each cluster. However, as levels 1, 2 and 3 may be confusing for consumers, some work needs to be done around labelling.

Looking at specific skills for each profession, workshop participants felt that architects, engineers and building surveyors should all be able to interpret building regulations and standards in relation to energy renovation. Architects and engineers should also be able to cost retrofit.

Some workshop participants felt that energy renovation of traditionally built buildings should be listed as a specific competence, to ensure a broad understanding of the risk associated with these buildings.

Although some workshop participants felt it should be the sole responsibility of professional bodies to define key energy efficiency skills for each profession, an updated version of the “Identifying industry’s skills needs” document was developed based on feedback collected on that day. This is [available here](#).

Session II: Matching Required Skills & Competences with existing training courses

In session II workshop participants were asked to work in groups of architects, engineers and property professionals and to provide feedback on [energy efficiency courses previously identified](#).

Architects

Two groups of architects reviewed 7 existing training courses: [RIAI Sustainable Fundamentals](#), [RIAI Designing Low-Energy Domestic Refurbs](#), [RIAI Building Fabric Design](#), [Retrofit Coordinator](#), [Retrofit Coordinator +](#), [Carbonelite Retrofit Online Training](#) and [DIT's MSc in Building Performance](#).

The 3 RIAI’s training courses were generally perceived as highly relevant to upskill architects to awareness and knowledge levels. However, these are not currently available. The 3 Retrofit Academy training courses seem equally relevant to upskill architects to knowledge or understanding levels. Yet, as these courses were developed in the United Kingdom, they would need to be adapted to the Irish market. Furthermore, the pool of trainers is currently limited. Most participants felt that both RIAI and the Retrofit Academy’s training courses focus excessively on residential buildings. DIT’s MSc in Building Performance was perceived as fully adapted to the Irish market, covering all buildings typologies and allowing architects to reach ability levels. Module flexibility and online delivery were also perceived positively. Nevertheless, some workshop participants expressed their concerns that there might not be institutional willingness or enough expertise to deliver this course at larger scale.

Overall, workshop participants felt that soft skills (e.g. communication, interdisciplinary and collaboration skills) and whole building system thinking (including to assess the value of a building) were not given enough coverage as part of these courses.

Many other potentially relevant training courses were mentioned by workshop participants. These include general training courses (e.g. LIT NZEB training courses or CAT Sustainable Building Courses), certification training courses (e.g. Passive House, LEED, BREEAM or DGNB), and topic specific training courses (e.g. Cost optimisation, BIM, hygrothermal analysis, building thermography, airtightness testing, linear thermal bridging modelling and DEAP / SBEM).

Different points of views were expressed about how the certification system could work for architects. Some workshop participants felt that the focus should be on core skills needed for all professionals across the board – to ensure a multidisciplinary approach. Others felt that specialised technical skills should be better recognised. One suggestion for the basic level of accreditation was to look at how architects’ competency is defined in Building Regulations and at how it applies to energy renovation specifications. All architects (*generalist architects*) should reach the basic level of accreditation and be able to refer clients to *specialised architects* for specific projects and issues (e.g. conservation and retrofit). This would ensure specialised architects are paid for their expertise.

Although no agreement was reached on this last point, it was clear that architects need to be incentivised to upskill (e.g. through public procurement or through greater public awareness) and that a clear pathway to upskilling must be defined.

Engineers

Two groups of engineers were asked to review 5 existing training courses: [Retrofit Coordinator](#), [Retrofit Coordinator +](#), [Carbonelite Retrofit Online Training](#), [DIT's MSc in Building Performance](#) and [CIBSE Low Carbon Consultants](#).

All these training courses (except for DIT’s MSc) were perceived as relatively easy to replicate at larger scale in Ireland, but also as focusing exclusively on energy. Building standards and regulation, indoor air quality, building users’ health and wellbeing, retrofit costing and financing solutions, heritage awareness, embodied carbon and life cycle assessment should all be part of a retrofit training programme for engineers. However, a balance must be found between too much and too little information as very few professionals can invest time in completing a full Master’s degree.

Other relevant training courses identified by participants included [Trinity College Dublin Sustainable Energy \(P.Grad. Dip\)](#) and some of the courses listed on [buildingconservation.com](#).

In relation to how the system could work, one of the groups said the IGBC should define a pathway to upskilling in collaboration with Engineers Ireland, RIAI, CIBSE, SCSi, NSAI and ACEI, which should subsequently be responsible for managing the scheme.

Property Professionals

Property professionals were first asked to provide feedback on the [Renovalue training materials](#). These were developed to provide practising valuation professionals with the tools to include sustainability in their daily practice.

The Renovalue training material was perceived as useful as it allows valuers to integrate energy efficiency and sustainability considerations in valuations - This is key when advising funders. However, valuers' energy efficiency upskilling training courses should also cover retrofit costing and financing options (including state support), post-retrofit valuations, dealing with asset replacement in accountancy depreciation, and awareness of national building standards and regulations. Other suggested topics included BIM, ongoing assessment (as required by ISO14001) and protected structures.

Session III: Assessing Skills & Competences in a simple standardised way

In preparation for the [January's workshop](#), participants were asked to provide feedback on how the general certification system could work.

Most workshop participants said the accreditation system should be centralised and structured as opposed to decentralise to professional institutes. It should be administrated by a nationally trusted body, with the power to police it (SEAI?). This national authority would play a key role in marketing the scheme to the public, and in incentivising public professionals to upskill (e.g. through public procurement).

The accreditation should be for individuals and not for an organisation. To achieve accreditation individuals should have a mix of energy renovation theory knowledge and practical experience. They should also accept a code of practice. A rigorous quality assurance system should be in place for approved training courses and practical experience should be demonstrated through the submission of completed reference projects.

Final Recommendations

At the end of the event, participants were asked to provide one key recommendation on how the accreditation system should be developed and should be operated. These recommendations are listed below.

Focus on how the system will operate and who will support it, not so much on technical aspects.

More people must be involved in this consultation process e.g. Quality and Qualifications Ireland (QQI), CIBSE Heritage Group, but also Universities and Institutes of Technology – They know a lot about recognition of prior learning!

Make sure SEAI is 100% behind the system. Their support and involvement are key!

The sheer scale of the forthcoming training demand for energy reduction in buildings must be recognised and responded by the Department of Education and Skills, as well as by DCCAE.

Keep it simple. It would be counterproductive to create various levels of accreditation.

The accreditation system must be simple to gain traction!

Apply same standards across all construction professionals!

Accreditation is only one part of the equation. Policing is equally important.

It can't be one size fits all.

The accreditation systems must recognise various levels of competences.

Aim high rather than low.

The basic accreditation level cannot be too onerous. The system should allow for small incremental steps.

Make sure there are clear connections with existing certification schemes (e.g. LEED AP). The multiplication of certification schemes makes it difficult to keep a high level of involvement.

Use BC(A)R mechanisms. They work and are well understood.

Make the relevant professional bodies responsible for defining refurbishment competencies for different building typologies.

Unless accreditation is mandatory in public tenders, people won't invest time or money in upskilling.

