



Dedicated to stimulate demand for sustainable  
energy skills in the construction sector

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<b>Report:</b>	<b>D.3.2 Using Public Procurement to Incentivise Upskilling - Best Practice Guide</b>
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## TABLE OF CONTENTS

<b>1. CHANGE RECORDS.....</b>	<b>3</b>
<b>2. DEFINITIONS .....</b>	<b>4</b>
<b>3. SUMMARY .....</b>	<b>5</b>
<b>1. INTRODUCTION .....</b>	<b>6</b>
1.1 PUBLIC PROCUREMENT AS A POLICY TOOL TO SUPPORT UPSKILLING.....	6
1.2 ABOUT THIS DOCUMENT .....	8
<b>2 INDIRECT USE OF PUBLIC PROCUREMENT TO DRIVE ENERGY EFFICIENCY UPSKILLING.....</b>	<b>9</b>
2.1 CASE STUDY: SOCIAL RETURN ON INVESTMENT (SROI) OBLIGATION .....	9
2.1.1 <i>Rationale: Why was this approach taken?</i> .....	9
2.1.2 <i>Methodology: How is this implemented?</i> .....	10
2.1.3 <i>Results</i> .....	11
2.1.4 <i>Replication and next steps</i> .....	11
2.2 CASE STUDY: INTRODUCING AMBITIOUS AIRTIGHTNESS STANDARDS IN PUBLIC PROCUREMENT .....	12
2.2.1 <i>Rationale: Why was this approach taken?</i> .....	12
2.2.2 <i>Methodology: How is this implemented?</i> .....	13
2.2.3 <i>Results</i> .....	13
2.2.4 <i>Replication and next steps</i> .....	13
<b>3 DIRECT USE OF PUBLIC PROCUREMENT TO INCENTIVISE ENERGY EFFICIENCY UPSKILLING.....</b>	<b>14</b>
3.1 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN FRANCE.....	14
3.1.1 <i>Rationale: Why was this approach taken?</i> .....	14
3.1.2 <i>Methodology: How is this implemented?</i> .....	15
3.1.3 <i>Results</i> .....	16
3.1.4 <i>Replication and next steps</i> .....	17
3.2 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN IRELAND.....	17
3.2.1 <i>Rationale: Why was this approach taken?</i> .....	17
3.2.2 <i>Methodology: How is this implemented?</i> .....	18
3.2.3 <i>Results</i> .....	18
3.2.4 <i>Replication and next steps</i> .....	19
3.3 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN BULGARIA.....	19
3.3.1 <i>Rationale: Why is this approach taken?</i> .....	19
3.3.2 <i>Methodology: How is this implemented?</i> .....	20
3.3.3 <i>Results</i> .....	20
3.3.4 <i>Replication and next steps</i> .....	20
<b>4 USING PUBLIC PROCUREMENT TO INCENTIVISE UPSKILLING - THE ROLE OF HIGH-QUALITY GUIDANCE DOCUMENTS .....</b>	<b>21</b>
4.1 CASE STUDY: THE IMPORTANCE OF HIGH-QUALITY GUIDANCE DOCUMENTS .....	21
4.1.1 <i>Rationale: Why was this approach taken?</i> .....	21
4.1.2 <i>Methodology: How is this implemented?</i> .....	21
4.1.3 <i>Results</i> .....	22
4.1.4 <i>Replication and next steps</i> .....	22
<b>7. ACKNOWLEDGMENT.....</b>	<b>23</b>

## I. CHANGE RECORDS

Version	Date	Author	Changes
Version 0.1	08-02-2022	Marion Jammet	Collating case studies received from partners
Version 0.2	21.02.2022	Marion Jammet	Incorporating partners feedback
Version 0.3	01.03.22	Marion Jammet	Draft I
Version 0.4	01.03.22	Jan Cromwijk	Review for submission

## 2. DEFINITIONS

**Award Criteria:** Award criteria are the criteria on which the contracting authority will compare offers and base its award. EU procurement rules require contracts be awarded on the basis of the “most economically advantageous tender”. Relevant environmental criteria can be inserted either as a benchmark to compare green offers with each other (in the case where the technical specifications define the contract as being green) or as a way of introducing an environmental element and giving it a certain weighting.

**Competency-based clause:** Specific training or education may be requested as part of a tender, but they can only be requested as selection or award criteria and must specifically relate to the subject matter of the contract.

**Green Public Procurement (GPP)** is a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured<sup>1</sup>. To be effective, GPP requires the inclusion of clear and verifiable environmental criteria for products and services in the public procurement process.

**Public procurement:** represents the process by which contracting authorities (for example, local authorities) acquire goods and services from the market.

**Selection criteria** are the minimum requirements or standards that bidders must meet to progress further in the procurement exercise. Bidders that cannot demonstrate that they meet this baseline must be excluded from the competition. The selection criteria used must be relevant and proportionate to the procurement exercise being carried out.

**Training clause:** A training clause may be included whereby the company who won a tender commit to train all staff working on the project on a specific topic. Training clauses are for instance used in the Hauts-de-France region in France.

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<sup>1</sup> Communication (COM (2008) 400) “[Public procurement for a better environment](#)”

### 3. SUMMARY

The building sector offers a large untapped potential for cost-effective energy and carbon savings. However, to successfully decarbonise Europe's building stock, middle- and senior-level building professionals as well as trade professionals must upskill in sustainable energy-efficient construction.

As the largest single consumer in the EU economy, the public sector can use its purchasing power to influence the market. In particular, Green Public Procurement can stimulate the provision of more resource-efficient, less polluting goods, services and works within the marketplace. One of the main objectives of the BUSLeague project is to explore how public procurement can be better used to incentivise energy efficiency upskilling and improve quality of work.

This report presents some examples and best practice of how public procurement can be used to incentivise (directly and indirectly) energy efficiency upskilling in the construction industry. By presenting successful case studies, that are fully compliant with EU tendering rules, it is hoped that this document will inspire more public bodies to use these tools to drive upskilling.

Additional case studies will be gathered and analysed over the next few months, but the six case studies presented in this document have allowed the BUSLeague team to put together some key recommendations for public bodies that may be interested in using public procurement to incentivise upskilling. These initial recommendations are presented below:

- Public procurement can be used to incentivise energy efficiency upskilling both directly (e.g., through energy efficiency training clause and competency-based clauses) and indirectly (e.g., by introducing higher quality standards).
- New requirements must be developed in close cooperation with a broad range of stakeholders, including industry. Public bodies must be fully transparent about the process.
- Given the additional work associated with the introduction of additional requirements, energy-efficiency training clauses are typically used for ambitious projects (often going beyond minimum building regulations) over a certain size (€).
- Additional requirements should initially be piloted on some specific projects. However, overtime the same rules should apply to all projects in a region to ensure consistency.
- High quality templates and guidance documents are critical and should be made available to public bodies willing to use public procurement to incentivise upskilling.
- Onsite training is usually well received by building professionals and trades working on a project. It also allows them to gain a better understanding of how their work connect with the work of other building professionals and construction workers.

# I. INTRODUCTION

## I.1 PUBLIC PROCUREMENT AS A POLICY TOOL TO SUPPORT UPSKILLING

**Public procurement is a strategic instrument for Member States of the European Union (EU).** It constitutes approx. 14 % of the EU Gross Domestic Product<sup>2</sup> – and thus has the potential to provide significant leverage in seeking to influence the market and to achieve environmental improvements in the public sector.

Green Public Procurement (GPP) remains a voluntary instrument in the EU. However, several EU policies and pieces of legislation highlight that public bodies must lead by example in the transition to a low carbon economy<sup>3</sup>. **By using GPP, public authorities can provide industry with real incentives for upskilling, and other stakeholders with the confidence they need to upgrade their buildings.**

Public procurement can support energy efficiency upskilling both directly and indirectly. Directly, through the use of competency-based clauses and energy efficiency training clauses, and indirectly, for instance by introducing quality check going beyond regulatory standards.

### Competency-based clauses

Art. 66 of [Directive 2014/24/EU](#) explicitly states that the **organisation, qualification and experience of staff assigned to performing a contract** (where the quality of the staff assigned can have a significant impact on the level of performance of the contract) **can be a criterion for awarding a contract. For complex contracts such as building contracts it can usually be expected that the quality of the project managers, design team, specialist consultants and contractors can have a significant impact on the performance of a project.**

However, the educational and professional qualifications of the service provider or contractor or those of the undertaking's managerial staff may only be evaluated once in a tender procedure, either at selection stage or as an award criterion (Annex XII, Part 2 f of Directive 2014/24/EU).

The terms on which these selection criteria can be applied, and the means of proof which can be requested, are specified in Article 58 and Annex XII of the Procurement Directive 2014/24/EU. At selection stage, bidders must be allowed to prove their technical and professional capacity through various means. Evidence of professional qualifications, labels and certificates from other member states must be taken into consideration. Technical specifications which refer to particular standards must be accompanied by the words 'or equivalent'. Furthermore, selection must be proportionate. E.g., there is a limit on the number of previous contracts which bidders can be asked to provide to demonstrate technical ability.

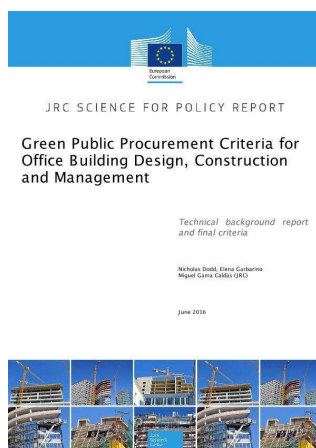
To reduce the environmental impact of public purchasing, the EU highlighted the need to identify and develop GPP criteria for products, services and works which account for a high share of public purchasing combined with a significant improvement potential for environmental performance. In 2016, the Joint-Research Centre published "[Green Public](#)

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<sup>2</sup> COM(2017) 572 final "Making Public Procurement work in and for Europe"

<sup>3</sup> For instance, the European Green Deal (COM/2019/640 final) states that "public authorities, including the EU institutions, should lead by example and ensure that their procurement is green". The [Energy Efficiency Directive](#) and the [Energy Performance of Buildings Directive](#) (EPBD) also require public authorities to lead by example by becoming early adopters of energy efficiency improvements.

## Procurement Criteria for Office Building Design, Construction and Management”.



The Guidance document was developed to provide procurers with orientation on how to effectively integrate GPP criteria for office buildings into the procurement process. It addresses the procurement process for office buildings, including their design, site preparation, construction, servicing and ongoing management.

Project team competencies (design team and contractors) is a key criteria of the EU's GPP, which can for instance be used as a selection criterion. The proposed GPP criteria relating to the ability of the tenderer for office building is summarised in the table below.

GPP criterion	Brief Description
<b>Criteria related to the ability of the tenderer</b>	
Competencies of the project manager	<i>Experience and expertise in the management of:</i> <ul style="list-style-type: none"> <li>- Contracts with environmental performance requirements</li> <li>- Implementation of environmental technologies and design innovations</li> <li>- Financial appraisal of environmental technologies and design innovations</li> </ul>
Competencies of the design team	<i>Experience and expertise in:</i> <ul style="list-style-type: none"> <li>- Energy efficient building fabric and services design and commissioning</li> <li>- Specification of resource efficient construction materials.</li> <li>- Use of multi-criteria building assessment and certification schemes,</li> </ul>
Competencies of the lead construction contractor and specialist contractors	<i>Experience and expertise in:</i> <ul style="list-style-type: none"> <li>- Energy efficient building fabric and services design and commissioning</li> <li>- Procurement of resource efficient construction materials.</li> <li>- Implementation of demolition site waste management plans</li> </ul>
Competencies of design, build and operate (DBO) contractors and property developers	<i>Experience and expertise in the selection and management of:</i> <ul style="list-style-type: none"> <li>- Design teams to achieve environmental performance requirements</li> <li>- Main contractors who have delivered buildings with environmentally improved performance</li> <li>- Ongoing facilities management in order to optimise the performance of office buildings</li> </ul>

Figure 1: GPP Criteria related to the ability of the tenderer for Office buildings - Source: JRC, 2016

The guidance document includes core criteria to assess the ability of the tenderer. These were developed to be used by any contracting authority across the Member States with minimum additional verification effort or cost increases.

### Training clauses

Training clauses allow public procurers to require companies winning highly ambitious projects (reaching the NZEB standard or beyond) to train their staff in energy efficiency. This type of clause is currently in-use in the Hauts-de-France region (France), where the companies winning these projects must train staff working on a project (construction workers and site supervisors) in energy efficiency.

## 1.2 ABOUT THIS DOCUMENT

Public procurement is a strategic instrument which can significantly influence the market, but to date it hasn't been widely used to support energy efficiency upskilling. One of the objectives of the BUSLeague project is to explore how it can be better used to incentivise energy efficiency upskilling in Europe.

A first step in that process was to analyse the [main barriers to incorporate “Energy efficiency” training clause and competency-based clause into Public Procurement](#).

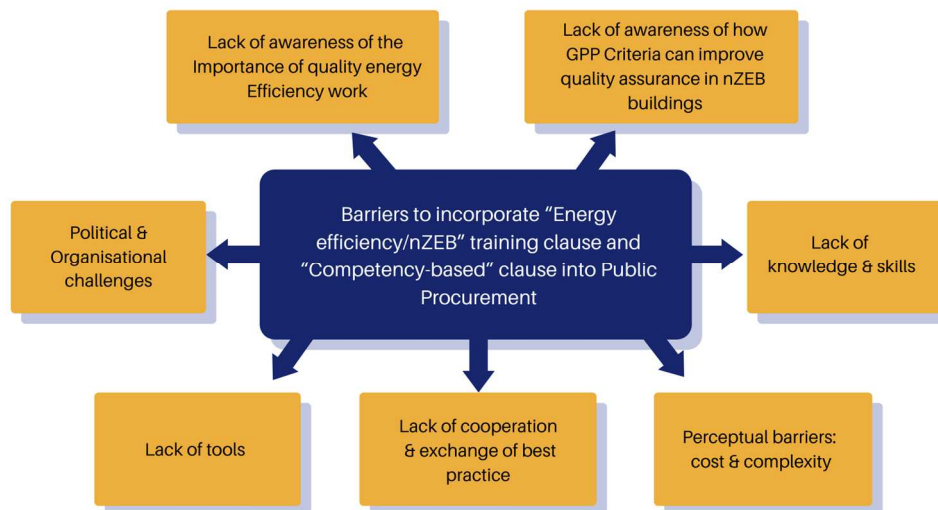


Figure 2: Barriers to incorporating energy efficiency training clauses and competency-based clauses into Public Procurement identified as part of BUSLeague.

Building upon these findings, the objective of this document is to **capture best practice from across Europe on how to use public procurement to incentivise energy efficiency upskilling**. This report covers both [indirect](#) (2) and [direct ways](#) (3) to incentivise upskilling through public procurement. All the examples provided are fully compliant with EU tendering rules. The report also highlights the importance of [high-quality guidance document and templates](#) (4).

This report should first and foremost support and inspire project partners and public bodies as they test the energy efficiency training clause and/or the competency-based clause in 2022. However, given labour and skills shortages represents one of the main risks to the successful decarbonisation of buildings across the continent, it is hoped that this report would also inspire public bodies that are not involved in this pilot. This report will be updated in Q4 2022 (D3.3) to reflect on the experience of the public bodies piloting the clause.





Figure 3: Piloting energy efficiency training clause as part of BUSLeague - Timetable

## 2 INDIRECT USE OF PUBLIC PROCUREMENT TO DRIVE ENERGY EFFICIENCY UPSKILLING

This section presents two examples of how public procurement can be used to indirectly drive energy efficiency upskilling: The highly successful Social Return on Investment Obligation in the Netherlands – [2.1](#), and the introduction of highly ambitious airtightness standards as part of public procurement in Austria – [2.2](#).

### 2.1 CASE STUDY: SOCIAL RETURN ON INVESTMENT (SROI) OBLIGATION

Local governments in the Achterhoek region (NL) include conditions concerning social return in their procurement and contracting policies, the so-called Social Return On Investment (SROI). For every contract that meets certain conditions, such as contracts related to construction and installation, the SROI provision is imposed in the tender.

According to this provision, a certain percentage, in the Achterhoek region 5%, of the contract sum must benefit the community at regional or local level. This can be done by spending this percentage on the following types of activities: labour participation, social procurement and social activities. Linked to the SROI requirement are provisions on the actions to be taken, the value they represent and how they are to be accounted for. Winners of tenders receive support from the Achterhoek Employers Service Points - *Werkgevers Servicepunt Achterhoek* (WSPA).

#### 2.1.1 Rationale: Why was this approach taken?

The decision to use Social Return on Investment was prompted by the desire to **better integrate projects with the labour market** and **to increase the value of public procurement to society**. Social return is often deployed on labour market themes, which means that **public contracts increase access to the labour market for groups that are distant (due to, among other things, disabilities, or school dropouts) or have become distant (due to unemployment or the loss of their profession)**. In the

Achterhoek region, the following three reasons are mentioned to start working with the approach:

4. To create employment for people with a distance to the labour market;
5. To promote and strengthen strategic cooperation between governments, regional employers, and training companies;
6. To reduce the burden of benefit recipients and reintegration funds.



### 2.1.2 Methodology: How is this implemented?

SROI has been used in the Netherlands for more than a decade, but interest and commitment have increased significantly over the past few years. In the Eastern Netherlands, which includes the Achterhoek region, for example, work has been done on a standard classification of blocks. Blocks are the actions with which the SROI obligation can be fulfilled. The blocks are subdivided into three themes:

1. Labour participation, to get as many people as possible into the labour market.
2. Social procurement, to support organisations with a social purpose.
3. Social activities (MVO), aimed at the labour market, craftsmanship or education.

**Both labour participation and social activities contribute, certainly in construction projects, to the promotion of sufficiently qualified construction personnel.** The first by providing internships (*stages*) and workplaces, the third by improving training. The SROI obligation must be fulfilled as much as possible with the first or, if not possible, the first and second together. Below is part of the list with the blocks.<sup>4</sup>

**As the method is used by all contracting authorities in the region, companies are subject to the same rules throughout the region.** This applies not only to the rules to be

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<sup>4</sup> The complete list of Blocks can be found here:  
<https://www.sociaaldomeinachterhoek.nl/assets/Uploads/Downloads/760c78cad3/Handleiding-SROI-2019.pdf>

7	Werkervaringsplek <sup>o</sup>	€ 750 per maand	Overeengekomen periode
8	Leerling BBL (leerbaan), niveau 1 en 2	€ 20.000 per leerwerkjaar	Opleidingsperiode
9	Leerling BBL (leerbaan), niveau 3 en 4	€ 15.000 per leerwerkjaar	
10	Leerling BOL (stage), niveau 1 en 2	€ 7.500 per stage	Opleidingsperiode
11	Leerling BOL (stage), niveau 3 en 4	€ 5.000 per stage	
12	Leerling VSO/Praktijkonderwijs	€ 5.000 per stage	Opleidingsperiode
13	Leerling VSO/Praktijkonderwijs tot 18 jaar (werkplek na uitstroom)	€ 25.000	Eenmalig
14	MVO-activiteiten	€ 100/uur en/of factuurwaarde	

complied with, but also to the way in which monitoring, and reporting take place. For example, all contracting authorities in the Achterhoek region use a single system to record progress.

The SROI obligation is fulfilled by the winner of the tender in consultation with the WSPA. In the Achterhoek Region, this organisation has three tasks in contact with the winner of the tender: Advising the contractor prior to implementation, monitoring during the project, and enforcing compliance if a contractor fails to meet its obligations (possibly with fines).

Because an extra effort is required from both the client and the contractor, which must also be monitored, a certain minimum size of contract (which varies from one local or regional government to another) is needed to use the SROI instrument in a justified manner. The national government therefore applies a minimum contract sum of €250,000 and a SROI value of 5%. Because SROI is not a statutory obligation, there is room to deviate from this in specific situations and to apply different thresholds regionally and locally.

### 2.1.3 Results

As is often the case, market players did not want to face additional obligations as part of tenders and wanted the technical requirements to remain as minimal as possible. However, in the construction sector, **SROI obligations have been shown to contribute positively to companies' development**. For instance, **it has helped companies in recruiting well-trained personnel, among other things, though high quality supervised work placements** introduced as part of the SROI obligation. By sharing these stories, resistance to the SROI obligation has decreased significantly.

A good result that is sometimes observed in the Achterhoek region is that companies are already incorporating the SROI principles into their own human resources management policies. The result is that compliance with the SROI obligations in these companies is then 'automatic' - although monitoring will always be necessary.

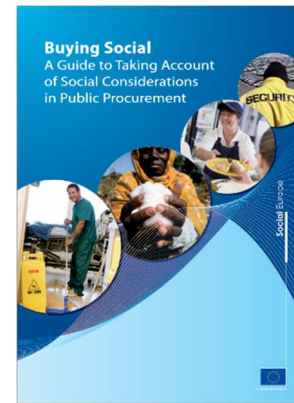
### 2.1.4 Replication and next steps

The SROI instrument is widely used in the Netherlands and **is fully compliant with the EU tendering rules**. From a legal point of view, it can hence be used in all member states. A precondition for its successful replication is that the implementation of social policy for people distant from the labour market is more or less the same as in the Netherlands. However, **some of the “blocks” such as guest lectures and work placements, could be easily**

**implemented anywhere.** Further information on the SROI is available in the EU's "Buying Social – A Guide to Taking Account of Social Considerations in Public Procurement" manual<sup>5</sup>.

Organisations interested in using the SROI should remember that it will take time for its use to become common practice. Although it is now widely used in the Achterhoek region, the accumulation of knowledge is still ongoing.

**The success of the SROI in the Netherlands shows that it is possible to impose additional conditions to the winner of a tender, as a 'Technical specification'.** What is interesting in this case study is that the principle of 'opposition beforehand, glad of it afterwards' applies. The contracting authorities have imposed additional obligations that ultimately have benefited local companies, and society.



## 2.2 CASE STUDY: INTRODUCING AMBITIOUS AIRTIGHTNESS STANDARDS IN PUBLIC PROCUREMENT

### 2.2.1 Rationale: Why was this approach taken?

To support the European path to greater sustainability and to live up to the exemplary role of the public sector, the Austrian federal government developed a new Action Plan for Sustainable Public Procurement.

Since 2021, new green public procurement criteria apply to federal public buildings in Austria. These require that new and refurbished federal buildings match the *klimaaktiv building standard*. The *klimaaktiv building standard* is a national specific sustainability rating system for buildings published by the Federal Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology. The criteria set is transparent and freely accessible. The *klimaaktiv building standard* not only assesses and evaluates energy efficiency, but also the quality of work, the quality of construction materials and design, as well as aspects such as location, comfort, and indoor air quality. In line with this building standard, a blower door test to prove airtightness must be performed<sup>6</sup>. The result of a blower door test relates directly to the quality of work onsite. The mandatory use of the *klimaaktiv building standard* can become a cornerstone for raising the quality of craftsmanship, and lead to a higher demand for highly skilled building professionals in Austria.

<sup>5</sup> The manual can be found here: <https://op.europa.eu/en/publication-detail/-/publication/cb70c481-0e29-4040-9be2-c408cddf081f>

<sup>6</sup> The owner or the architect/constructor can do the *klimaaktiv* declaration themselves without costs. The documents such as Blower-door test etc. have to be uploaded to a platform. There is a plausibility test from *klimaaktiv* side afterwards and if the documents and inputs are approved, the owner/architect will receive a certification/notification. The approved buildings owners/architects are invited to a yearly ceremony receiving a badge indicating the *klimaaktiv* rating (silver, gold, etc.). Read more at <https://www.klimaaktiv.at/bauen-sanieren/gebaeuedeklaration/kriterienkatalog.html>



Figure 4: Mandatory airtightness blower door test as a way to improve craftsmanship

### 2.2.2 Methodology: How is this implemented?

Since 2021, new and refurbished federal buildings must match the *klimaaktiv standard*. This means a proof of airtightness is required for all these projects.

### 2.2.3 Results

The approach is new, and impacts haven't been fully evaluated yet. The idea is that public buildings will act as best practice examples for the public and promote the realization of high sustainability standards. Furthermore, the mandatory implementation of airtightness tests should raise the quality of craftsmanship and lead to a higher demand for highly skilled building professionals in Austria.

### 2.2.4 Replication and next steps

To increase impact, it is suggested to extend the *klimaaktiv building* requirements to buildings of the federal provinces and communities of Austria in the near future. Furthermore, to support the binding quality controls that goes together with the *klimaaktiv building* standard, the Austrian Energy Agency in cooperation with the umbrella organization for energy advisors (ARGE-Eba) and the energy Agency of Styria develops and implements short trainings for energy advisors within the BUSLeague project. These actions should further incentivise companies to send their employees to trainings and further educational construction courses, to minimise the risk of construction errors.

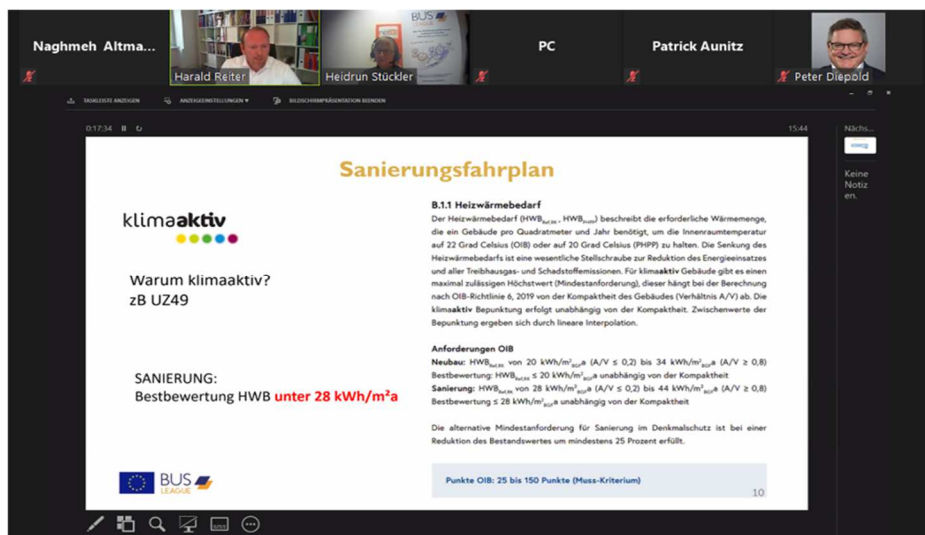


Figure 5: Klimaaktiv training course for energy advisor run as part of BUSLeague (Source: AEA)

### 3 DIRECT USE OF PUBLIC PROCUREMENT TO INCENTIVISE ENERGY EFFICIENCY UPSKILLING

This section presents how some sort of energy efficiency training clause have been used in France (3.1) and Ireland (3.2). It also details how it will be piloted by the municipality of Gabrovo in Bulgaria in 2022 (3.3).

#### 3.1 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN FRANCE

This case study details how the energy efficiency training clause was used by social housing provider/landlord CLESENCE for the renovation of four residential units within a multi-family dwelling in Avesnes-les-Aubert.

The project aimed to be certified to the [nZEB label by Effinergie Rénovation](#), within the French High Environmental Quality Standard (NF HQE). The overall objective was to reduce the impact of the building on the external environment, and to create a healthy and comfortable indoor environment for the occupants.

##### 3.1.1 Rationale: Why was this approach taken?

Achieving performance levels related to this certification implies the respect of requirements and constraints defined by the reference framework and stated in the written documents of the contract, especially regarding the use of certified products and / or processes and if not, justifying equivalent characteristics. Eco-renovation and eco-construction require using new techniques and materials, as well as addressing airtightness and thermal bridges, to reduce the loss of energy. To achieve this standard, the contracting authority used an energy efficiency training clause, requiring the implementation of a multi-trades onsite training, through the Integrated Work Training - FIT (*Formation Intégrée au Travail*).



## Article premier : Objet du marché - Dispositions générales

### 1.1 - Objet du marché

Le présent marché concerne des travaux de réhabilitation d'un immeuble de 4 logements collectifs sis 6 passage Largillière à AVESNES LES AUBERT (59), pour le compte de CLESENCE. Il s'agit d'un ensemble immobilier pour lequel une certification NF Habitat HQE Rénovation Logement niveau d'entrée, label BBC Effinergie Rénovation été initiée.

**Il s'agit d'une relance. L'exécution du marché comporte désormais une action de formation.**

La description des prestations est détaillée dans le cahier des clauses techniques particulières (CCTP).

#### **Pénalités pour non-respect de l'obligation de suivre à la formation :**

Le maître d'œuvre se chargera de veiller à la bonne mise en œuvre et à la coordination de l'action de formation sur le chantier. La présence aux heures de formation sera certifiée par un émargement et une attestation délivrée à la fin de la formation. L'engagement à suivre cette formation est contractuel, tout défaut d'assiduité sera donc soumis à pénalités. Voir article 6.3 ci-après

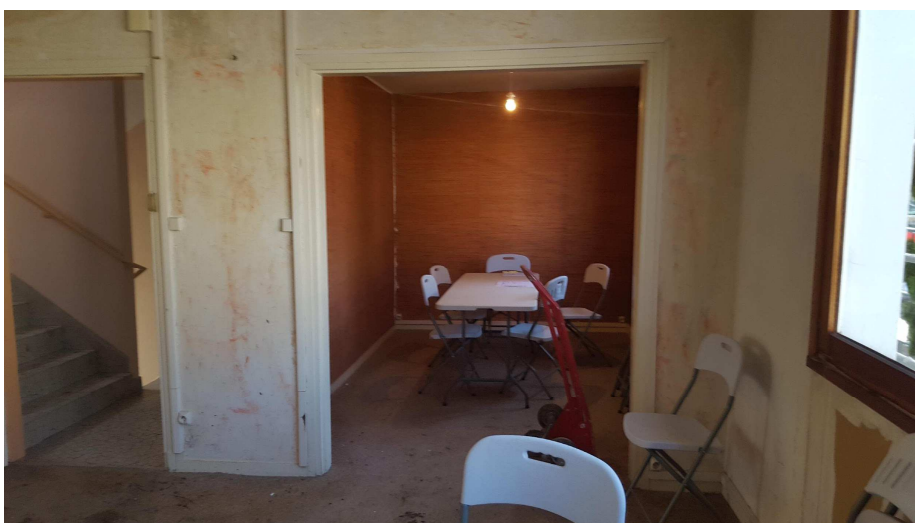


Figure 6: Onsite training as part of the FIT programme

### 3.1.2 Methodology: How is this implemented?

Once the project started, a project coordinator organised training for site operators (apprentices, workers, journeymen, team leader, etc.) and site managers (site foremen, works managers, managers, etc.)<sup>7</sup>. The training was also opened to other stakeholders who work onsite and are part of the development team and whose involvement is essential to enhance a transversal appropriation.

The training course was implemented based on the progress of the work at the most appropriate time, i.e., when there is a maximum number of workers onsite. An information meeting was organized first by the project management in the presence of the project owner to present the training, to proceed to the constitution of the groups between the different trades, and to set the operational calendar.

The training programme was as follow:

- Module 1 (M1): Technical approach to airtightness (4 hours)

<sup>7</sup> In France, the FIT coordinators work for the "Maison de l'Emploi" and are paid through national and regional funding. Read more at <https://www.programmepacte.fr/fit-formation-integree-au-travail>.

- Module 2 (M2): Coordination, design and management of a low energy building site (7 hours)
- Module 3 (M3): Airtightness and good practices (7 hours)
- Module 3 bis (M3 bis): Waterproofing good practices (4 hours)
- Module 4: (M4) Feedback from operators (4 hours)

Site operators had to complete a 15-hour training course (modules 1, 3 and 4), and site managers had to complete an 11-hour training course (modules 2 and 3 bis).

Given the size of the companies involved in that project, the educational costs of the training were covered by Constructys, an organisation who support upskilling in the construction industry<sup>8</sup>. The training course allowed the beneficiary companies to deliver a high-quality project, and to improve their staff knowledge and competences in relation to energy efficiency.

A certificate of attendance was issued for each participant who completed the course. In addition to the gain and the recognition of competences for the employees, it allows the company to make reference to its engagement with these inter-trade formative approaches as part of future bids, etc.



Figure 7: A session of the Integrated Work Training (FIT) in Avesnes-les-Aubert

### 3.1.3 Results

For the contracting authority, the objective of the FIT action was to achieve, through the implementation of airtightness, a global energy performance. For companies and professionals, the objective was to upskill employees through the collaboration of different trades, and different ranks responsibilities, by making them better understand what other trades are doing and learning how to work together.

The FIT onsite training allowed SMEs to upskill their workers onsite. This is key as company managers usually want to avoid any “loss of time” for training, as they believe trainings would affect the turnover. It also made it possible to better respect the deadlines, as there is less work to be redone.

<sup>8</sup> Read more about financing mechanisms at [FIT - Formation intégrée au travail | Programme PACTE](#)



### 3.1.4 Replication and next steps

This project was part of a series of ongoing FIT actions in the Hauts-de-France region. After this specific action, CLESENCE has fully integrated the relevance of the onsite training and is currently discussing other future similar operations.

To maximise impact, a “local (upskilling) charter” is being developed. This will be signed by construction companies and local authorities. As part of this process, a programme of training will be developed in partnership with enterprises and their representative bodies. Companies will subsequently commit to upskill their employees in energy efficiency. Local authorities will then be able to share a list of businesses that upskilled in energy efficiency with homeowners who wish to retrofit their homes.

## 3.2 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN IRELAND

The work at St. Bricin’s Park was the culmination of a city-wide bedsit amalgamation programme run by Dublin City Council. The programme involved combining two adjacent bedsits to create a one-bedroom apartment which can accommodate one or two people. While all recent retrofits already achieve the Nearly Zero Energy Building (NZEB) standard, Dublin City Council undertook to go further with this pilot Passive House project (EnerPHit standard) to achieve a high-performance low-energy building and improve comfort for the residents.

Improved thermal comfort was achieved by externally insulating the walls, insulating the floor and roof, and installing high performance external windows and doors. This was coupled with attaining a high standard in airtightness, eliminating, and minimising thermal bridges, and using mechanical ventilation with heat recovery systems in each apartment.

To achieve the EnerPHit standard, Dublin City Council included a Passive House Tradesperson’s training requirement as part of the tender. Consequently, the construction team undertook a bespoke Passive House Tradesperson’s Course, along with members of Dublin City Council’s design and maintenance staff.



Figure 8: St Bricins Pre-Renovation



Figure 9: St Bricins Post-Renovation

### 3.2.1 Rationale: Why was this approach taken?

St Bricins was the first project for which Dublin City Council tried to achieve the EnerPHit standard. The project was very much treated as a trial to investigate whether the standard could be successfully achieved.

When the project was developed, it became clear that the airtightness requirements, the detailing to eliminate cold bridging, and the exhaust air heat pump were all likely to be unfamiliar to the contractors who may tender for this project. As training was so critical to the success of the project, Dublin City Council decided to include a training requirement in the tender.

### 3.2.2 Methodology: How is this implemented?

A clause was included in the contract to require workers to complete the Passive House Tradesperson's training. The training was paid for by the Dublin City Council and organised at the outset of the contract.

The training was organised in 5 sessions. The first session was theoretical and took place before the start of the project. The following sessions were highly practical and occurred on site at the beginning of relevant activities. For instance, taping around windows was dealt with just before windows were installed and all participants were asked to carry out a length of airtightness tape to a window.

Contractor's personnel (10-12 people) were asked to take part in the whole training. They were joined for some sessions by the Council's own inspectors, architects and engineers, who used it as an opportunity to upskill too.

E	Please note D.C.C. will arrange training for the successful contractor so that at a minimum 2 no. personnel employed on the project successfully complete the Certified Passive House Tradespersons training for a minimum of 2 days. As well as this the Contractors electrical and mechanical subcontractors must also undertake the training.
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**Bedsit Amalgamation St. Bricins Block 2**  
**Volume C - Pricing Document 19**

Figure 10: Copy of the training clause used in the St Bricins' project. This is provided for information only; different requirements may apply to different types of contracts.

### 3.2.3 Results

St Bricins was Dublin City Council first and only EnerPHit project to date, so there are no similar projects to compare it with. However, Dublin City Council staff highlighted that the training clause most likely contributed to its success. The onerous requirements of EnerPHit were achieved by a contractor who had no previous experience of working to this standard. This would probably have been very difficult without the inclusion of the training clause and hands-on training. Furthermore, because of the training the construction workers were more enthusiastic about the project and great care was taken of all details.



Figure 11: On-site upskilling at St Bricins

#### 3.2.4 Replication and next steps

Dublin City Council may not try to reach the EnerPHit certification again and the use of the clause requires resources. It's not only about including a new clause in the tender, but it must also be implemented, paid for, and enforced.

As future designs will include airtightness and cold bridging detailing that is more sophisticated than what has been normal, as well as ventilation systems and heat pumps that have not been widely used to-date by contractors, including specialist training requirements in tenders and providing practical on-site training at the beginning of new projects could be highly beneficial.

### 3.3 CASE STUDY: ENERGY EFFICIENCY TRAINING CLAUSE IN BULGARIA

The municipality of Gabrovo intends to renovate its Summer Theatre Complex. The Complex, built in 1972 as a cultural centre for the citizens, comprise several buildings, facilities and open area for various stage performances and initiatives. It has not been functioning since 2005 and was left in ruins without glazing, installations, coating, etc. The objective now is to use the foundations of the existing buildings and facilities and construct a multifunctional youth centre, providing a variety of services, including shared working space, conference room with modern multimedia, well equipped networking space, dancing and theatre performance halls, library and coffee, etc. The reconstruction should be fully aligned with the current energy efficiency standards.

#### 3.3.1 Rationale: Why is this approach taken?

The national and EU policies to address climate change have turned into strategic documents pushing local governments to design and implement projects and initiatives related to energy efficiency in buildings and green measures. The Bulgarian Strategy for Sustainable Energy Development 2030-2050 envisages improvement of energy performance of residential and non-residential buildings with the aim to speed up the usage of contemporary technologies in buildings. As of January 2020, buildings with poor energy performance (class E, F and G) comprise 91% of non-refurbished buildings in Bulgaria. This leaves room for a booming building renovation market, but the industry might struggle to cope with this sudden increased demand for qualified construction workers.

Moreover, when the National Renovation Programme for Multifamily buildings was implemented in 2015, the municipality of Gabrovo felt that the government-induced demand for energy efficient construction picked up faster than the supply of well-trained construction workers. This was especially challenging in the smaller cities, where some of the renovation projects did not reach the expected level of energy efficiency.

To address this issue and ensure the reconstruction of the Summer Theatre Complex is of high quality and highly energy efficient, the municipality of Gabrovo will pilot the energy efficiency training clause on this project.

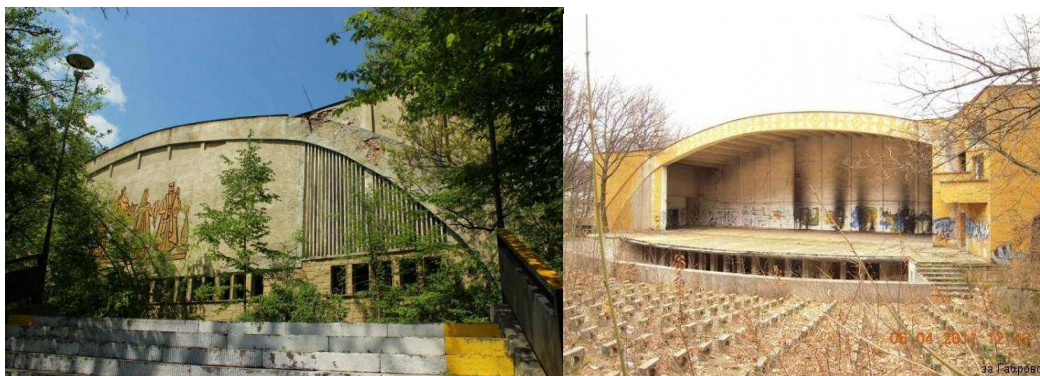


Figure 12: The energy efficiency training clause will be piloted on the retrofit of the Gabrovo's Summer Theatre Complex

### 3.3.2 Methodology: How is this implemented?

The version of the clause to be tested as part of this project will be based on the clause in use in the Hauts-de-France region (3.1). The municipality of Gabrovo, as contracting authority, will offer training in energy efficient construction principles, prior to the work start. The training course will cover practical and theoretical aspects of energy efficiency, such as deep renovation, building envelope, airtightness, installation of insulation systems and glazing.

The experts did not meet any specific challenges in launching the training clause as it is aligned with the municipalities' long-term priorities to implement quality energy efficiency measures. The proposal for the inclusion of the clause contained a well justified qualitative and quantitative arguments supporting the initiative. The use of the training clause will not only lead to improved quality of the construction and the energy efficiency, but it also has to potential to stimulate the labour market as it boosts upskilling.

### 3.3.3 Results

This is the first time that the energy efficiency training clause is being used in Bulgaria. The aim is to pilot the clause, measure its short-and long-term impact on the quality of construction, the comfort of living in the building and health.

### 3.3.4 Replication and next steps

The municipality hopes that the pilot will show the positive effect of such measures and motivate other Bulgarian local authorities to use it.



## 4 USING PUBLIC PROCUREMENT TO INCENTIVISE UPSKILLING - THE ROLE OF HIGH-QUALITY GUIDANCE DOCUMENTS

Lack of tools, knowledge and skills were all identified as some of the main barriers to the greater use of public procurement to incentivise upskilling<sup>9</sup>. Good quality templates and guidance documents are critical to address this issue. In the Spanish region of Valencia (*Generalitat Valenciana*), a comprehensive guide on green public procurement was released which include detailed guidance on how to use public procurement to incentivise upskilling.

### 4.1 CASE STUDY: THE IMPORTANCE OF HIGH-QUALITY GUIDANCE DOCUMENTS

#### 4.1.1 Rationale: Why was this approach taken?

In March 2018, the regional government of Valencia (*Generalitat Valenciana*) approved a "Practical guide for the inclusion of social responsibility clauses in the procurement of the Generalitat and its public sector". The aim of the guide was to systematise existing regulations. It includes examples of possible social responsibility clauses to be inserted in procurement procedures.

In 2020, the regional government of Valencia (*Generalitat Valenciana*) launched a Guide for Green Public Procurement in construction, the "*Guía Verde de medidas medioambientales en la contratación pública en el ámbito de la edificación de la Generalitat*". The guide has a high exemplary value, and influences the market, encouraging the private sector towards new forms of production and more responsible consumption where circularity and the efficient use of resources prevail. In May 2021, the guide was updated to cover "competency-based clause".



Editor: Generalitat Valenciana (Regional Government of Valencia)

1<sup>st</sup> edition: June 2020

2<sup>nd</sup> edition: May 2021 (including a competency-based clause)

Link: <https://guiaverda.gva.es/es>

Competency-based clause: C4-01 ([click here](#))

#### 4.1.2 Methodology: How is this implemented?

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<sup>9</sup> [Microsoft Word - D3.1 Barriers Final \(busleague.eu\)](#)

The Generalitat Valenciana promotes the “Guide for GPP” and collaborates with the BUSLeague’s Spanish partner, Valencia Institute of Building (IVE) in its elaboration.

The Guide is the result of a collaborative process in which the main stakeholders involved in the tendering processes are consulted to enrich the document. This process guarantees the quality of the document and, for this reason, the Guide is approved as an "official" document by the Regional Government, and is used by municipalities and other public entities.

The Guide is a dynamic policy instrument that evolves over time by incorporating new innovative measures. To facilitate its constant updating, it is published in digital format.

IVE's key role as a main contributor to the Guide offers the opportunity to propose new measures such as the consideration of Energy Efficiency-skilled professionals among others. These suggestions must be reviewed, verified and approved, not only by the Generalitat Valenciana, but also by numerous prestigious entities in the sector.

As a result, the Valencia Institute of Building (IVE) , proposed the inclusion of a competency-based clause in the guide and worked with the Regional Government of Valencia to develop it. Guidance on how to use the competency-based clause was integrated into the 2<sup>nd</sup> edition of the Guide for Green Public Procurement, in May 2021.

### 4.1.3 Results

The data sheet describing the competency-based clause on the experience and/or training of professionals is coded with the number C4-01. It contains information on the objective, description and verification of the competency-based clause and complementary information on legal aspects and related regulations.



Figure 13: Information on the competency-based clause, and how to use it in the Valencia Green Public Procurement Guidance document

### 4.1.4 Replication and next steps

In 2022, the Guide for Green Public Procurement and therefore the competency-based clause will be applied on 3 pilot projects. These buildings will be constructed by the Generalitat Valenciana as laboratories to experiment with various promotional innovations.

A first step in that process is detailing the requirements to be met by the training, hence facilitating the verification process. Key considerations to implement the clause are who should the training providers be (to guarantee quality of the training), which skills and competencies

should be covered, and the minimum duration of the training courses (both to ensure consistency).

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