



BUILDUP SKILLS

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high performance of our buildings



DELIVERABLE D4.2 BUS2 FRANCE DEVELOPMENT OF THE 2023- 2030 ROADMAP AND ACTION PLAN



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The French BUS2 community brings together public and private actors from the value chain of the building, employment, and training sectors: white- and blue-collar workers, local authorities, training organizations, real estate stakeholders, etc. Based on a 2023 report assessing the strengths and needs in terms of jobs, professions, and skills, which provides a general framework for actions to enhance building performance, a series of thematic workshops was conducted with numerous stakeholders to identify and formulate actions to be implemented to meet the human resource needs of various professions until 2030 and to develop the market by supporting the demand for performance.

Through its coordinated proposals, mainly based on successful experiences or best practices (see annex 3), the BUS2 ecosystem aims to provide concrete responses to the challenges faced by the sector: the gradual decrease in the number of professionals due to, among other factors, retirements, recruitment tensions to meet market demands, the integration of energy and ecological issues into qualifications and training (national pathways for mitigation and adaptation to climate change, population aging), coordination of trades and skills, especially on construction sites, and the integration of new ecological issues into building qualifications and training.

BUS2 aims to involve the state, local authorities, and all stakeholders in the territories in implementing these proposals, notably by supporting and strengthening the coordination of initiatives in connection with building, education, and training actors. Thus, each axis of this roadmap outlines major orientations and sets forth action proposals that have all been developed with building stakeholders and have been implemented in the territories. Largely inspired by local experiences, this roadmap serves as a relevant and comprehensive tool for transmission and implementation for building stakeholders.



1 EXECUTIVE SUMMARY

[BUS2](#) is a participative approach based on a community of professionals, players in the ecological transition, employment, and training, on a national scale and in 3 employment areas: Cambrésis, Cotentin, and the Aix-Marseille metropolitan area.

The BUS2 community has put together a series of proposals for action, reflecting the concerns of the players involved and contributing to the debate on the challenges of the sector's ecological transition. They do not, however cover all the issues, some of which are being addressed by specific bodies. Largely focused on mobilising the professional offer and strengthening skills, they do not deal with the support of public authorities and the stabilisation of policies to support demand in order to make it easier for players to anticipate, nor with strategies to support and develop the sector economically.

France's building sector is rich in players, resources, systems, and initiatives working towards an ecological transition in new construction and renovation, and towards the development of initial and continuing training in the building trades. The proposals are based on feedback from the field and best practice (see Appendix 3) to guarantee their feasibility and success. The main aim of the BUS2 proposals is therefore to strengthen and scale up initiatives that have proved their effectiveness and to contribute to the government's action plans.

The needs up to 2030 are substantial, and relate as much as to increasing demand for energy renovation as to the supply of skills and labour. They have been estimated based on an ambitious forward-looking scenario, consistent with the European objectives of decarbonisation and, more generally, ecological transition. The BUS2 report concludes with the need to achieve 900,000 efficient renovations per year from now on. To achieve this, the current workforce needs to be doubled, with an increase of between 170,000 and 250,000 full-time equivalents. The qualitative needs are no less of a challenge for the sector, since they involve removing the obstacles specific to the various recruitment pools, which are still under-utilised, and speeding up the general upskilling of all those involved in the building industry, as well as the related professions in real estate, insurance and banking in particular.

Some skills need to be strengthened, such as cross-disciplinary skills related to digital technology, co-activity and interface management, etc., as well as technical skills (related to air-tightness or thermal bridges). Others, on the other hand, are new for the vast majority of professionals in the sector, and require an adaptation of initial and continuing training systems and standards, of the order of a paradigm shift to enable high-performance renovation and new construction that meets the requirements of the RE 2020: re-use, resource management, summer comfort, bio-based and low-carbon materials, trade interfaces, work on occupied sites, support for project owners, etc. More than 500,000 professionals, or a third of the sector's workforce, will need to have the skills required to renovate the residential and tertiary sectors.

The BUS2 community's proposals are structured around 3 axes aimed at facilitating the emergence of the skills needed to achieve the objectives of the buildings, and meeting the aspirations of professionals:

PRIORITY 1- SUPPORTING DEMAND FOR PERFORMANCE IN CONSTRUCTION AND RENOVATION

Market and demand are important drivers of employment and skills development, and the level achieved is partly the result of coherent private decisions and policies. The ecological transition of the building stock is based on both renovation and new construction. Renovation of the residential building stock requires public intervention and support (financial aid in the broadest sense, support for private individuals, and support for social property owners). The renovation of commercial buildings is governed by regulations, on the one hand, and by the availability of a range of tools and support services for businesses and local authorities, on the other. In addition, certain sectors require greater support to develop, in terms of both renovation and new construction.



PRIORITY 2 - ENCOURAGING THE RECRUITMENT AND RETENTION OF WORKERS IN THE SECTOR

At a time when the building sector is struggling to recruit, mainly due to a lack of attractiveness, the efficient renovation of buildings requires 200,000 more jobs (full-time equivalents) than are currently available. The building sector needs to make itself more attractive if it is to recruit: potential sources are young people, jobseekers, working people interested in retraining and women, who are still not very present in the sector, as well as professionals from new construction. Another major challenge for the sector is to retain its talent.

PRIORITY 3 - TRAINING DEVELOPMENT

While professionals are qualified for the "traditional" exercise of their trade, they need to acquire new skills to take on board the new challenges of the sector's ecological transition. This applies to all trades, including related sectors such as real estate, and new construction workers, who are particularly affected by the changes to come, and who need to focus more on major refurbishment and renovation. To achieve this, initial and continuing training courses need to be encouraged, but also adapted to the constraints faced by professionals.

Implementation of BUS2 proposals

The aim of the BUS2 approach is to ensure ongoing dialogue between all those involved in the building industry, from building professionals to employment and training providers, including government departments and local authorities, etc., in order to ensure that actions are steered at national level and that they are taken on board by local authorities and their local partners at employment area level. This area therefore meets two challenges: to ensure that the BUS2 proposals are linked to and consistent with national plans and guidelines, and to implement the BUS2 dynamic in as many areas as possible.



Table of national and regional actions

PRIORITY 1- SUPPORTING DEMAND FOR PERFORMANCE IN CONSTRUCTION AND RENOVATION	
Helping local authorities to set up Third-Party Financing companies, by distributing a guide	National (appendix 4)
Encourage cooperation between social landlords and demand for performance through local calls for projects	National (appendix 4)
Renovation of private tertiary premises: Informing businesses and communicating about the issues, obligations, aid and support schemes	National (appendix 4)
Share the benefits of pooling resources between municipalities or within an EPCI for the renovation of tertiary buildings in small local authorities, and the mechanisms for implementing this pooling.	National (appendix 4)
Facilitating the use of bio-sourced and low-carbon products and materials in new construction and renovation: clauses in public procurement contracts and training.	National (appendix 4)
Facilitating the re-use of products and materials (for new construction and renovation): local engineering and training for professionals	National (appendix 4)
Creation and implementation of a forward-looking territorial observatory of the need for jobs, skills and training	Aix Marseille area §5.1
Promoting support schemes for comprehensive renovation	Cambr�sis §5.2
Encouraging energy-efficient renovation of GMF homes	Cambr�sis §5.2
Developing information for property professionals: relaunching the "ACTIMMO" scheme	Cotentin §5.3
Involving stakeholders in a charter that is valued by the region	Cotentin §5.3



PRIORITY 2 - ENCOURAGING THE RECRUITMENT AND RETENTION OF WORKERS IN THE SECTOR	
Launch a communication campaign tailored to target audiences to change the image of the building trades	National (appendix 4)
Inspiring vocations in young people through action	National (appendix 4)
Coordinating and developing the professional integration of people who are far from employment in the building trades in local areas	National (appendix 4)
Feminising construction sites	National (appendix 4)
Strengthen the role of specifiers in guiding and supporting applicants in the building sector	National (appendix 4)
Objectivising the benefits of long-term career support through a large-scale socio-economic study	National (appendix 4)
Annual programme of sessions to promote the building industry and its career opportunities	Aix Marseille area §5.1
Discovering careers through action	Aix Marseille area §5.1
Workshop on building trades for women	Aix Marseille area §5.1
Educating all of the people who prescribe employment and training pathways about changes in the construction sector and trades	Aix Marseille area §5.1
Experimenting with reverse VAE as a response to recruitment difficulties in the construction sector	Aix Marseille area §5.1
Supporting business start-ups, takeovers and professional retraining in the construction sector	Aix Marseille area §5.1
Deploying and enhancing the BTP method	Cambr�sis §5.2
Expand the "Build Your Project" BTP scheme	Cotentin §5.3
Concerted action to increase the number of women in the building trades, in conjunction with the Coutances apprentice training centre (CFA)	Cotentin §5.3
Implementing the "Ecoconstruction Worker" certification (OEC)	Cotentin §5.3



PRIORITY 3 - TRAINING DEVELOPMENT	
Develop and scale up practical training courses to acquire the specific skills needed to carry out high-performance work (DPE levels A and B).	National (appendix 4)
Encourage companies to upgrade their skills to carry out efficient renovations via training clauses or professional networks	National (appendix 4)
Raise the skills of real estate professionals in the field of Ecological Transition: banks, estate agents, notaries, brokers, property managers, etc.	National (appendix 4)
Promoting MOOCs on efficient renovation and construction	National (appendix 4)
Helping construction specialists make the transition to renovation: sharing feedback from companies as part of a Réno Tour and preparing professionals for retraining.	National (appendix 4)
Gender equality training for site managers	Aix Marseille area §5.1
Securing career paths for existing employees	Aix Marseille area §5.1
Training professionals to manage renovation interfaces	Aix Marseille area §5.1
Design and testing of a training module to promote professional bridges to the renovation markets	Aix Marseille area §5.1
Training property transaction professionals in the challenges of energy renovation / Mobilising the conditions to ensure the long-term future of the local Actimmo 13 initiative	Aix Marseille area §5.1
Experimenting with the Training Clause	Aix Marseille area §5.1
Mobilising a network of technical platforms to support hands-on training	Aix Marseille area §5.1
Organise Praxibat and FIT "hands-on" training courses	Cambrésis §5.2
Encouraging local businesses to develop the skills they need to renovate and construct efficient buildings	Cambrésis §5.2
recovery and reuse of building waste	Cambrésis §5.2
Developing the FIT "Work Integrated Training" training clause	Cotentin §5.3
Optimise use of the department's 2 PRAXIBAT platforms Promote the Rénovateurs BBC scheme and increase the number of associate members in the region	Cotentin §5.3



2 INTRODUCTION

2.1 MOBILISING ALL STAKEHOLDERS AROUND SHARED CHALLENGES

The Build Up Skills 2 (BUS2) project is seeking to provide practical solutions to the challenges posed by the gradual decline in the number of professionals, recruitment pressures, the need to incorporate issues relating to the ecological transition into qualifications and training courses, and the need to coordinate a wide range of skills. In addition to these challenges, there is the need to massively increase demand for high-performance renovation and construction, and to encourage homeowners to take action. The diagnosis carried out in phase 1 showed that the number of high-performance renovations needed to be multiplied by 20 in order to achieve the targets set for 2030.

These proposed guidelines and actions are the fruit of work carried out with French players in the building sector as part of this European project, which aims to prepare the building sector for the transition to a resource-efficient, climate-friendly future.

To achieve this, BUS2 integrates all the public and private players in the building sector value chain: white and blue-collar workers, ministries and local authorities, training bodies, real estate players, etc. It also covers a broad scope, integrating players in new construction, energy renovation, the residential and tertiary sectors, and taking into account new challenges such as adaptation, the circular economy, and prefabrication. It also covers a broad scope, including players in new construction, energy renovation, the residential and tertiary sectors, and taking into account new challenges such as adaptation, the circular economy, and off-site prefabrication.

BUS2 has also made it possible to construct these proposals for guidelines and actions for 2030 based on a diagnosis¹ of the strengths and needs of these players, which sets out a general framework for actions to promote the performance of buildings in line with the objective of carbon neutrality by 2050. The report takes stock of the challenges facing the building sector, the policies that stimulate demand for high-performance renovation and new construction, public policies and initiatives to improve initial and continuing training and overcome recruitment barriers. Finally, it provides an estimate of the direct and indirect employment requirements needed to meet national energy and climate objectives.

Because of this renewed knowledge base, a wide-ranging consultation was conducted with a large number of different players, to identify and formulate actions to be implemented with a view to meeting the human resources needs of the various trades up to 2030 and developing the high-performance renovation market. More targeted interviews were also conducted in phase 2.

Finally, BUS2 aims to involve the State and the regions in implementing these proposals, in particular by supporting and strengthening the coordination of initiatives, in conjunction with players in the building, education and training sectors. Its added value lies in its strong territorial dimension, thanks to the participation of three employment areas in the process (Le Pays du Cambrésis, the Communauté d'Agglomération du Cotentin and the Métropole Aix-Marseille-Provence), and in the desire to propose guidelines and actions based on good practice (see appendix 3) to ensure that they can be implemented.

The BUS2 community's proposals are structured around 3 axes, aimed at facilitating the emergence of the skills needed to achieve the objectives of the buildings, and meeting the aspirations of professionals. Each area comprises a number of action sheets drawn up with the building industry, and a detailed version is available on the [BUS2 website](https://librairie.ademe.fr/urbanisme-et-batiment/6547-diagnostic-des-besoins-en-emplois-metiers-et-competences-du-batiment-jusqu-en-2030.html#:~:text=The%20diagnostic%2C%20publi%C3%A9%20in%202023,by%20report%20to%20level%5B%E2%80%A6%5D).

- Area 1: Supporting demand for performance in construction and renovation
- Priority 2: Encourage the recruitment and retention of workers in the sector
- 3: Developing training

Coordination and even leadership are needed to monitor and steer the implementation of the proposed actions.

¹<https://librairie.ademe.fr/urbanisme-et-batiment/6547-diagnostic-des-besoins-en-emplois-metiers-et-competences-du-batiment-jusqu-en-2030.html#:~:text=The%20diagnostic%2C%20publi%C3%A9%20in%202023,by%20report%20to%20level%5B%E2%80%A6%5D>



2.2 ACHIEVING THE 2030 OBJECTIVES OF FRANCE AND THE EUROPEAN UNION

The aim of the BUS2 project is to act as a lever on skills, recruitment and the market to help achieve the decarbonisation targets set for 2030, and to integrate it into national policies.

As part of the European Climate Pact and the Fit for 55 proposals, particular attention has been paid to the building sector, the second largest consumer of final energy (27.9%) in the European Union², with a target of doubling the renovation rate to a total of 35 million renovated buildings by 2030. To achieve this, European countries need to adopt ambitious employment and training policies, while strengthening existing schemes. The 2020 Pact for Skills already provides for the upskilling and retraining of at least 25% of the construction workforce by 2025.

In France, these targets are set out in the National Low-Carbon Strategy (currently under review), **which in 2019 allocated the building sector a carbon budget corresponding to a 49% reduction in its emissions between 2015 and 2030, with the aim of achieving complete decarbonisation by 2050**. To meet these targets, the SNBC envisaged an average of 700,000 equivalent complete renovations per year from 2030, compared with the few thousand currently being carried out. Recently revised by the General Secretariat for Ecological Planning (SGPE), France's targets now aim to achieve 900,000 energy renovations per year by 2030.

The Energy-Climate Act (2019) and the Climate and Resilience Act (2021) have recently activated a number of levers to stimulate the renovation of housing, such as the gradual ban on renting out heatwasters, the obligation to carry out an energy audit when selling, to draw up a project for certain condominiums offering several options for Pluriannual Work Plans (PPT) for buildings over 15 years old, and the reduction in the rate of land artificialisation, which restricts new construction projects. The tertiary sector is not to be outdone, since the Tertiary Eco-Energy Scheme (2019) requires around 68% of the total tertiary building stock to reduce its energy consumption by 40% by 2030 and by 60% by 2050, based on a reference year that cannot be earlier than 2010.

On the construction side, the 2020 Environmental Regulations for new buildings tighten up insulation performance requirements, take action on emissions throughout a building's life cycle, and include summer comfort. A new version of the RE2020 guide published by the Direction de l'habitat, de l'urbanisme et des paysages (DHUP) and Cerema has been available since the beginning of January 2024. This general guide details the issues and technical content of the RE2020³.

Are the education and training system and the job market capable of meeting this strong demand? In quantitative terms, the various estimates made recently as part of BUS2 or by partner organisations (négaWatt and France Stratégie) put these needs at **between 170,000 and 250,000 additional full-time equivalents**, even though the sector is already facing recruitment difficulties.

In terms of quality, a number of policy measures⁴, some of which are not specific to the building sector, have helped to support employment in the building industry and to adapt the building industry's vocational and

² Eurostat data 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Primary_energy_production

³ <https://rt-re-batiment.developpement-durable.gouv.fr>

⁴ These measures are described in chapter 6 of the BUS2 report and include commitments to develop employment and skills (EDEC) and human resources consultancy services (PCRH), Employment-Skills Pathways (PEC) and Single Integration Contracts (CUI), the various "Youth Plan" plans, the Skills Investment Plan (PIC), etc.



educational sectors to the growing needs and new skills required. However, the building sector does not benefit from a common national framework and objectives, and at present, the reference frameworks for both initial and continuing training (vocational qualifications and professional qualification certificates) do not yet include energy renovation, and even less so the new challenges facing the building industry, such as summer comfort or the circular economy.

Employment and skills development agreements (EDEC) are annual or multi-annual agreements created in 2005 and signed between the State and one or more professional organisations or branches, to anticipate socio-economic changes in jobs and adapt skills and training needs. Until now, only regional EDECs had been concluded: one such agreement in Occitanie in 2022 helped companies to better understand bio-sourced and low-carbon substitute materials or to give greater consideration to waste recycling. A national EDEC is currently being negotiated with the construction skills operator Constructys, and other more local EDECs, notably by DREETS 44, are in progress.

Employment policies have sought to promote the employability and professional integration of young people. The Jobs for the Future scheme (between 2012 and 2016), the Priority Youth Plan (2012) and the Employment and Skills Pathway (2018), dedicated to the commercial sector, have granted financial aid to companies for the recruitment of young people, particularly those with low qualifications. More recently, in 2021, the government introduced plans to reduce tensions in a number of economic sectors, but despite those identified in the construction industry, it has not yet benefited from them.

More recent policies also integrate the issue of skills enhancement with that of recruitment. The Plan d'Investissement dans les Compétences (Skills Investment Plan) (2018) aimed to support the level of training entries by supporting pre-existing programmes (aimed at young people as well as employees in integration), but also via "regional skills investment pacts". By 2021, 420,000 young people will have benefited from contracts under this scheme, which combine training, work experience and any other action that encourages the beneficiary to become self-sufficient. Finally, the "1 young person, 1 solution" plan in 2020 firstly strengthened existing schemes and granted new aid for the recruitment of work-study students, giving a major boost to the sector, with apprenticeship contracts jumping by 40% that same year. The 2021 Recovery Plan, which set out to develop skills in the trades of the future, allocated €500 million over 5 years to the development of new low-carbon construction materials, in particular by renovating and modernising the wood industry's production facilities. It also provides for a call for expressions of interest until 2025 "Skills and professions of the future" (AMI CMA), which aims to help train 400,000 people a year by 2030 and 1 million new graduates by 2030, at the levels of operators, technicians, assistant engineers, engineers, masters, doctorate, and mainly in the field of STEM (Science, Technology, Engineering, Mathematics). The first season of the AMI CMA from December 2021 to March 2023 has made it possible to carry out 59 diagnostics and finance 116 projects (training schemes), in 3 successive waves in 2022 and early 2023, making it possible to train 3.1 million learners.

It is currently difficult to estimate the extent to which this national framework is benefiting the construction sector. What's more, while these policies respond to the economic challenge faced by companies, particularly smaller ones, of being able to hire and train if necessary, they do not necessarily respond to the obstacles identified in the BUS2 assessment, namely working conditions that may be considered difficult, the remoteness of workplaces, a level of pay that is perceived as too low, the sector's lack of attractiveness to young people from the initial training stage and the lack of retention of young graduates.

There is a wealth of initiatives in this area by players in the building industry and in the regions, at the forefront of national educational and professional policies. It is this synergy that the BUS2 project aims to amplify and accelerate, so that the building sector can rise to the ecological challenges and aspirations of its professionals.



2.3 DATA AND LESSONS FROM THE SURVEY

The assessment of the situation has enabled us to draw a number of conclusions about the construction market, the sector's human resources, and the obstacles to achieving the 2030 targets.

2.3.1 Lessons learned about the state of demand for renovation and high-performance construction

The building sector (residential and tertiary) now accounts for final energy consumption of 753.7 TWh in 2021, or **46.5% of final energy consumption in France**. Final energy consumption in the building sector fell by 2.3% between 2012 and 2021. This general fall in consumption conceals disparities between different types of building. While energy consumption has actually fallen in the residential and tertiary sectors, that of shopping centres has increased significantly (by 20%).

What's more, of the 30 million homes in France, only 5% are classified A and B, and 15% are classified F and G and therefore considered to be "thermal flats".

RESIDENTIAL RENOVATION

The current rate of renovations, particularly high-performance renovations, needs to be stepped up significantly if the European and French targets for 2030 and 2050 are to be met. While the SNBC2 targets 700,000 energy-efficient home renovations per year by 2030, it is estimated that almost 900,000 will be needed to achieve the European targets set out in the Fit for 55 strategy. By 2023, only 60,000 energy-efficient renovations had been carried out.

A number of obstacles and needs to which the BUS2 proposals aspire to respond were detailed and analysed in the inventory: financial aid to reduce the remaining costs for private individuals who renovate their homes, long-term visibility, and measures geared more towards comprehensive renovation rather than renovation by gesture. In addition, high-performance renovation requires a detailed study of the work to be carried out, as well as finding the skills and setting up the coordination between different professionals. What's more, its development has been slowed by a number of factors, which mean that it is not a priority for most homeowners: financial problems (high costs not necessarily offset by grants, energy audits and project management that are difficult to get financed, generally complex financial packages), a general mistrust of grants and professionals as a result of numerous scams and poor workmanship, difficulties in finding qualified companies to carry out the work, and the inconvenience and nuisance caused by the work, which is often quite invasive.

TERTIARY RENOVATION

In the tertiary sector, the targets set by the Tertiary Eco Energy Scheme for areas larger than 1,000 m² call for the rate of renovation to rise from 21.5 million m² per year over the historical period to 27 million m² in a scenario compatible with European targets. Regulations are the main driver for encouraging the renovation of existing buildings, but it is also necessary to step up support, which is virtually non-existent today, to ensure that the work is of a high quality and that the costs involved are kept under control. Energy renovation is also an issue for the small commercial sector (not subject to the decree), in terms of controlling energy costs and ensuring the long-term viability of the business.

In the tertiary sector, the main obstacle is a lack of awareness of the issues among stakeholders, including local councillors and their technical departments in the case of local authority public buildings. In the private tertiary sector, stakeholders may feel that they have little to do with the issue, particularly if they are not subject to the tertiary eco-energy scheme.

NEW BUILD

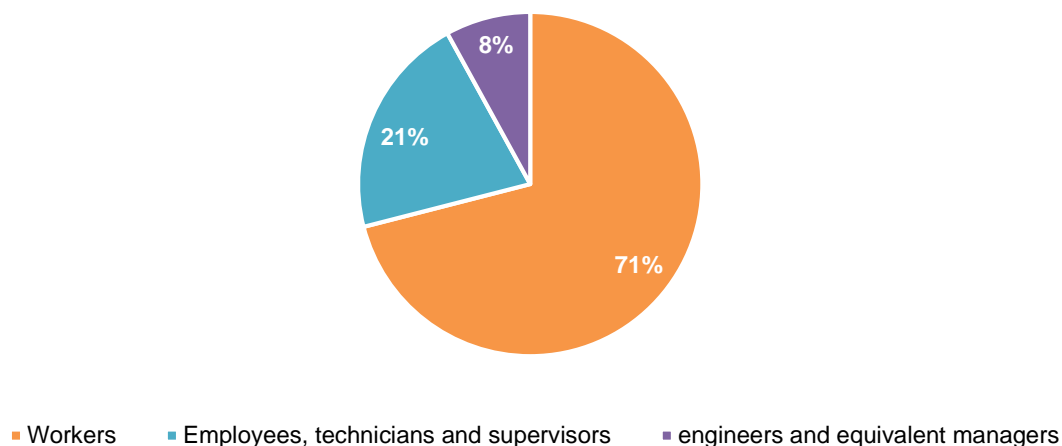
In terms of construction, the decline in demographic growth, the expected reduction in the amount of land being built on, and changes in household structures (which are changing the need for different types of housing) are forcing the market to adapt: land recycling, fewer building sites, modular and prefabricated construction. Regulations are changing rapidly, forcing the construction industry to redefine itself just as quickly. This can lead to a lack of visibility for players.



2.3.2 Lessons on training and employment in the construction sector

The BUS2 report shows that the sector is still dynamic, with an ever-increasing number and variety of recruitment needs, but that it is also increasingly sensitive to economic uncertainties and environmental regulations. The way the sector is structured is currently showing increasing fragmentation. Since 2012, the number of small businesses in the sector has increased by 44%, and self-employed entrepreneurs account for 72% of construction companies. The construction sector now employs around 1.3 million people, or 1.8 million including self-employed tradespeople. The breakdown by socio-professional category is broadly constant over the period 2012-2022, with the following percentages in 2021:

Distribution of employees by category



Enrolment in courses that could lead to a career in the construction industry is increasing slightly, but not enough to meet the sector's estimated needs by 2030. After declining since 2012, the number of students studying for the Certificat d'Aptitude Professionnelle (CAP) and the Brevet de Technicien Supérieur (BTS) in the building and public works sector has been rising slightly since 2018 (between 2 and 5% per year), and will represent 87,000 students in 2021. The number of students taking construction-related courses in higher education has risen significantly and then levelled off in recent years. They will reach around 38,000 in 2021-2022 (compared with 32,000 in 2014).

Apprenticeship training is rising sharply in all areas, driven in particular by national policies. The biggest increase was in higher education, which accounted for 56% of contracts in 2020, compared with 39% in 2018. In the construction sector, according to the CCCA - BTP, 102,900 young people were in initial training apprenticeships for the 2020-21 school year, 50% more than for the start of the 2016-2017 school year. However, the sector suffers from a higher exit rate than other sectors: 27% of those who start a course of study in building and civil engineering leave before graduating, compared with 13% for the rest of the sectors.

In terms of continuing training, the government ensures the quality and content of training courses, with 81 professional qualifications and 75 certificates of professional qualification relevant to the building and civil engineering sector. The professional qualifications are updated every year and new qualifications are created. In 2019, for example, the Ministry of Labour has created two new professional titles relating to building data modelling: BIM modeller for the building industry and BIM coordinator for the building industry. The lack of appeal of the building trades, linked in particular to working conditions (working hours, distance, arduousness, conditions on the site, pay) and the often negative image of the sector conveyed, sometimes even by professionals, makes it more difficult to recruit and train young beginners. As a result, only 44% of apprentices actually work in the construction industry immediately after graduating, a rate that is relatively similar to that for apprentices in other sectors⁵.

⁵ <https://dares.travail-emploi.gouv.fr/publication/les-apprentis-sont-ils-en-emploi-dans-la-branche-ou-ils-ont-fait-leur-apprentissage>



On the other hand, only 39% remain in the sector three years after graduating. Efforts are being made, however, by companies and their professional organisations, as well as by the public authorities, to improve the perception of the sector and to promote its social and environmental benefits (reducing emissions, fuel poverty, etc.).

However, the needs up to 2030 (and beyond) are considerable, both in terms of the number of professionals required to meet national targets, and in terms of the robustness of their skills to ensure the quality of the work carried out. The various scenarios forecasting the job requirements for energy-efficient renovation of buildings by 2030 (France Stratégie, BUS2, négaWatt) are relatively convergent, with an estimated additional need for between 170,000 and 250,000 Full Time Equivalents (FTEs) compared with today. Many trades, mainly involved in construction, could be mobilised to work on the energy renovation of building envelopes or on the deployment and maintenance of efficient, low-carbon equipment. Initial and ongoing training should enable the emergence of new skills and new professions, linked to digital tools, the use of new materials, the reuse of existing resources, off-site prefabrication, renovation, or advice and support.

The scale of the needs also calls for changes in the way the construction industry approaches recruitment, as well as in working conditions, in order to mobilise all recruitment pools: young graduates, women, jobseekers, people who are far from employment, foreign workers....

Lastly, the skills upgrading needed to achieve the 2030 targets is hampered by the difficulty, particularly for small businesses and tradespeople, of finding time for training in addition to that which is already compulsory, by the failure of training materials and formats to match the needs and skills of professionals, and by the loss of earnings associated with training outside the worksite. In other words, often the market drives companies to upgrade their skills, either voluntarily or out of obligation. Some contracting authorities, particularly public authorities, include training clauses or criteria as a condition of access to subsidised contracts, or set up directories of professionals that they have certified or brought together around principles and commitments.

The assessment carried out with around a hundred stakeholder organisations from the building, employment and/or training sectors and several pilot regions has enabled the players involved in the BUS2 project to identify relevant proposals. These proposals aim to support demand for high-performance renovation in the various segments of the building stock, while incorporating the new challenges associated with the ecological transition. They also aim to support and spread existing initiatives to improve the attractiveness of the sector and the recruitment of new talent pools, with a view to securing the human resources needed to achieve the sector's ecological objectives.

Finally, BUS2 puts forward proposals aimed at adapting both initial and continuing training to incorporate environmental issues, as well as the cross-disciplinary skills needed to provide high-quality services. In this context, the BUS2 proposals seek above all to draw on local experiences of "good practice" (see Appendix 3) that have proved their worth.



2.4 METHODOLOGY FOR DRAWING UP THE ROADMAP

2.4.1 Governance

For phase 2, which began in September 2023, the steering and monitoring committee met three times, on 5 September, 23 November and 5 February, including representatives of the French government: the Ministry of Employment and the Ministry of Ecological Transition, to monitor the project and ensure that it was consistent with the findings of the diagnostic phase. (Cf. the COPIL minutes in appendix 5).

The Strategic Orientation Committee met on 19 March 2024 to approve the proposed actions. (See COS minutes in Appendix 5).

2.4.2 National concertation and consultation

At national level, the roadmap and action plan were developed through a broad consultation process involving a dozen collaborative workshops, fifteen interviews and a public consultation. The aim was to obtain buy-in for the roadmap through genuine co-construction of its actions.

- A dozen workshops, plenary sessions and flash working groups were held: 12 participative workshops were organised and run, using collective intelligence to draw up the roadmap, including the detailed set of actions needed to achieve the objectives, and then to test the feasibility and acceptability of the action plan with stakeholders and local and national authorities. (See workshop preparation guide in Appendix 2).

The minutes of each workshop are available in Appendix 2.

1	21/09	Workshop 1a - Supporting demand for efficient renovation: private homes	On-site
2	21/09	Workshop 2a - Attractiveness and recruitment: the challenge of increasing the number of women on worksites and integrating young people	On-site
3	21/09	Workshop 3a - Training: fundamentals - what's missing?	On-site
4	12/10	Workshop 3b - Training for professionals and trades related to energy renovation	Visio
5	20 /10	Workshop 4a - National steering of the Roadmap	Visio
6	9/11	Workshop 1b - Supporting demand for efficient renovation - Focus on commercial buildings	Visio
7	16/11	Plenary session to share initial workshop results	Visio
8	28/11	Flash workshop - Hands-on training	Visio
9	30/11	Workshop 3c - Focus on the challenges of new construction	Visio
9	5/12	Workshop 2b - Attractiveness and recruitment: focus on professional retraining and guidance for jobseekers - during the CNBD	On-site
13	8/12	Flash workshop - Social housing: renovation markets and skills	Visio
10	20/12	Workshop 4b - Multiscale management and local ownership of national issues	Visio
11	25/01	Plenary session for final sharing of proposals for the Roadmap	Visio

Table 1: schedule of collaborative workshops at national level



CONSULTATION IN BUS2 WORKSHOPS BETWEEN SEPTEMBER 2023 AND JANUARY 2024

- **205 different participants**
 >> **68 participants** at the launch day of phase 2 on 09/21/2023
 - **11 virtual workshops**
 - ✓ 2 flash workshops
 - ✓ 7 thematic workshops
 - ✓ 2 sharing plenaries
 - **4 in-person workshops**
 Including one at the National Sustainable Building Congress of 2023, which welcomed **27 new people** into the BUS2 community
- Using an interview guide (cf. interview guide in appendix 1), the fifteen or so interviews conducted by ADEME and AVE representing all the different sectors concerned by the project: public authorities, professionals and their representatives, education and training stakeholders, education and training experts, were conducted in such a way as to allow everyone to express their opinion, without hindrance (cf. minutes of all the interviews in appendix 1).

CEREMA	ACTIMMO	DGFEP
AREC Occitania	Lille Avenirs	ANRU
Industry for Construction" Strategic Committee	Scientific and technical centre for the building industry	UFCAC
Saint-Gobain	ADEME	EIFFAGE CONSTRUCTION
CCCA-BTP	France Travail	MANPOWER
HEOL-ENERGIES AND	Eco-construct Federation	

- In addition, there are 8 other interviews with French European projects:
- European projects (including Blueprint), which aims to define the broad outlines of the roadmap (strategic orientations) and to highlight complementarity with other projects and initiatives.
 - At this stage, the H2020 BIMplement and BUS League projects and the LIFE projects identified with an application in France were specifically interviewed, both on questions of technical innovation and on the impact of the project.

An online consultation for the general public was set up between 15/12/2023 and 15/01/2024 in order to reach as many people as possible involved in the building, construction, training and employment sectors (see the consultation report in appendix 8).



Online Consultation: Key Results

Nearly 230 contributions!

- **152 reactions generated, including:**
 - 38 on Axis 1
 - 27 on Axis 2
 - 39 on Axis 3
 - & 48 on additional proposals
- **76 operational comments**
- **2,010 visitors on the platform**
- **Nearly 50 unique contributors**
Including approximately 40 professional organizations:
 - Climate Action Network (Réseau Action Climat)
 - RFCP
 - Federation of Eco-construction (Fédération écoconstruire)
 - FPI
 - Consulting firms and design offices
 - Construction companies and craftsmen
 - Individuals
 - Local authorities
 - Training stakeholders

2.4.3 The approach followed in partner territories

In the 3 territories that followed a local approach, in parallel with the national approach, meetings in workshops, working groups or plenary sessions were organised between September 2023 and March 2024. These meetings led to a consensus on local action sheets, many of which are adaptations of the national action sheets.

Territory of the Aix-Marseille-Provence Metropolitan Area (AMP)

MdE Ouest Provence organised the discussions and steered the work in the AMP region to produce an action plan shared by all the local players. Between September 2023 and March 2024, the following events were held:

- Participation in the national phase 2 launch plenary in Paris, and mobilisation of partners on 21 September 2023
- 3 recruitment and career security working groups
- 3 professional training working groups
- 3 working groups Experimentation and deployment of training methods adapted to the constraints of professionals (training clause)
- 3 observatory working groups
- Round table presentation at the BUS2 finals in Paris: 27 March 2024

The final plenary session is scheduled for 16 April 2024.

Each WG brought together local partners with an interest in the subject, i.e. between 5 and 15 people for each WG. It was within these WGs that the actions selected for the action plan were drawn up. In all, 44 organisations were involved in the local project.



Cambrésis region

The "Cambrésis-Emploi" organisation, which is responsible for the BUS2 project in the region, organised several meetings during Phase 2, which led to the development of the local roadmap.

- Participation in the national phase 2 launch plenary in Paris on 21/9/23
- Local Housing Commission: 13 July 2023
- Craftsmen's breakfast on company groupings by the Pays du Cambrésis with the CD2E: 21 September 2023
- Market working group: 18 October 2023
- Employment and skills working group: 19 October 2023
- Visio "expression of territories" meeting: 14 December 2023
- Working group with RGE companies: 31 January 2024
- Information and discussion breakfast organised by the Pays du Cambrésis on "The new renovation aids available in the Cambrésis from 2024" :19 February 2024
- Waste recovery working group: 15 March 2024
- Round table presentation at the BUS2 finals in Paris: 27 March 2024
- Visit to Récup Tri, a back-to-work construction waste recovery site: 15 April 2024

Cotentin region

5 meetings were held on both "market development" and "employment and skills" issues.

- Participation in the national phase 2 launch plenary in Paris, 21 September 2023
- 20 November 2023
- 14 December 2023
- 11 March 2024
- 23 March 2024

2.5 LESSONS LEARNED FROM OTHER EUROPEAN OR NATIONAL PROJECTS

As part of phase 2 of the roadmap, the BUS2 consortium interviewed a number of European projects linked to employment and skills issues or market consolidation.

BLUEPRINT PROJECT

France, represented by CCCA-BTP, took part in this European project, which focused on 3 areas: energy efficiency, digitalisation and the circular economy.

The project has led to some interesting advances in terms of pedagogical engineering:

- identifying, in these 3 sectors, the list of issues to be addressed in training courses for businesses,
- creating an awareness-raising programme (around 25 hours) for site workers in these 3 sectors.

The discussions held showed the importance of showing the company that the training proposed has a purpose, such as providing a competitive advantage, but also of raising the question of the cost of NOT training for companies, particularly in terms of the impact on co-activities and interfaces between batches. Finally, the BluePrint project has demonstrated the formative value of work situations, a concept that is already being developed in Spain and Italy.



BIMPLEMENT PROJECT

This LIFE project was led in France by Alliance Ville-Emploi. Its aim was to deploy the use (and not the design) of BIM models on site by companies.

Although the project had shown the feasibility and economic interest of free tools for viewing models to improve understanding of the project and the management of interfaces between trades, this subject was never discussed in depth during BUS2. It emerged from the discussions in the workshops and working groups that the issue of BIM was far removed from the problems faced by companies, and was even systematically rejected as a potential solution.

The BIM Plan set up by the French government brings together all the players in the construction industry to help them make the digital transition in the building sector. At the end of 2023, it launched three new calls for projects:

1. Using digital technology to improve environmental performance
2. Digital solutions for operations and maintenance management (OMM)
3. Digital technology for construction sites. As part of the BUS2 workshops, information on BIMplement was passed on to partners potentially interested in these invitations to tender.

RENOV'UP PROJECT

This Erasmus+ project was led in France by the CCCA-BTP. It aims to "Professionalise site managers and team leaders in the specific management of building renovation sites in Europe". The original approach of the project was not to provide knowledge on each of the subjects identified, but to place work situations at the heart of the teaching project.

Site managers and team leaders undergoing training are invited to observe their own work situations, using a very detailed grid developed as part of the Rénov'Up project, so as to highlight the combination of different skills required, including communication with the site team. This change of point of view also means that trainers need to be trained beforehand to learn how to observe learners and to be able to use work situations to set up training courses "in the classroom".

ACTIMMO

The aim of ACTIMMO was to raise awareness among property professionals (estate agents, solicitors, banks) of the need to renovate the energy efficiency of the homes they sell. Notaries were the least responsive to the programme.

ADEME carried out an analysis of feedback from 15 sites and made a number of recommendations. [The study](#) was published in March 2023. It led to the production of 3 specialist guides for estate agents, banks and notaries. The aim is to make them available to the France Rénov network (Rénov advisers monitored by the ANAH - SARE programme), which is 50% funded by the EPCIs. This experience was highlighted in BUS2, which proposed relaunching the programme, taking into account the feedback received. (See interview report in APPENDIX 2).

BUSLEAGUE

The BUSLeague project, co-funded by the European Union's Horizon 2020 research and innovation framework programme, ran for 30 months from September 2020.

Its main objective was to address the challenges of stimulating demand for a skilled energy workforce (demand side) and building practical capacity to increase the number of skilled workers in the design, operation and maintenance of buildings (supply side). BUSLeague has achieved this by implementing a European recognition of energy skills, reinforcing the training methods and techniques already developed in previous European and national initiatives such as BUILD UP Skills and Construction Skills. The project focused on four key elements: mutual recognition of energy skills, awareness-raising, capacity-building and legislative changes.



Implementation took place at national and regional level, combining measures to stimulate demand with practical skills building for the local and regional workforce involved. This approach ensured the commitment of SMEs. BUSLeague was formed by a coalition of former BUILD UP Skills and Construction Skills projects. The partners felt that working together would improve national implementation plans and develop methods, making them more attractive and effective. The project was further strengthened by experienced researchers in anthropology and educational technology who helped to demonstrate its impact and optimise the combinations used to stimulate demand and improve knowledge transfer from applied learning tools and materials.

BUSLeague's contributions to the BUS2 project:

1. In-depth study of supply and demand in the building sector :

- BUSLeague has carried out an in-depth study of supply and demand in the building sector, particularly in the context of energy renovation.
- The study aimed to understand the challenges encountered in the field, such as restrictions related to the COVID-19 pandemic, skills and qualifications needs, existing practices in construction worker training and certification, proven approaches to skills recognition, institutional complexities and time constraints.
- These contributions provided a better understanding of the social, cultural and material realities of the sector and served as a starting point for BUS2 to understand the specific skills and qualification needs in the construction sector.

2. Development of educational tools and resources :

- BUSLeague has designed and promoted educational tools and resources tailored to the needs of trainers, enabling them to deliver effective and comprehensive energy efficiency training.
- France has been able to capitalise on these experiences with the Practree Truck training tool, which can be used to host various training programmes, as well as the BTP method assessment course, which is used to classify workers hired so that they can be assigned to different training courses to train them as quickly as possible. These operations will form part of the BUS2 actions.
- BUSLeague has compiled an inventory of training tools including demonstration models, training platforms and training centres that support both conceptual and theoretical knowledge. The consortium has identified various sources to characterise these tools and their suitability for specific contexts.

3. Raising awareness :

BUSLeague has developed a guide to raise awareness and stimulate demand for skills, focusing on feedback and lessons learned from working with DIY and building shops to raise awareness among the general public and the workforce (Working with the ADEO Group in France).

4. Public procurement as a lever for skills development:

- BUSLeague has identified best practice in Europe, including France, for using public procurement to encourage eco-efficiency training.
- Key recommendations have been developed for public bodies. A case study from France shows how the energy efficiency training clause was used by the social landlord CLESENCE to renovate social housing in Avesnes-les-Aubert.
- BUSLeague has analysed existing financial mechanisms in France that encourage the use of qualified energy efficiency workers in building renovations, such as the "RGE" label.



5. Establishment of a system of mutual recognition of energy efficiency skills :

This innovative system enables construction workers to have their skills recognised in other European countries, thereby promoting labour mobility and cross-border collaboration.

6. Creation of a quality reference framework for energy skills :

- This framework clearly defines the skills required by building professionals to carry out high-quality energy renovations, thereby guaranteeing an optimum level of building performance.
- The BUS application offers the option of linking learning content to relevant tasks and sub-tasks, making it easier to access the application.
- Using the application, partners can 1) map content, 2) find content, 3) upload content, 4) accredit learners and 5) find recognised craftspeople.
- BUSleague's contributions to BUS2 are diverse and cover a wide range of areas, including research, education and policy.

The findings of the BUSLEAGUE project provide interesting insights into the challenges and opportunities of upskilling the construction workforce for energy efficiency. The BUSLeague tools and resources can be used to support the implementation of the BUS2 action plan.

BUS GO CIRCULAR

The BUS Go Circular project is a LIFE project. France is not taking part in the project, but the consortium wanted to contact the Dutch partner. The project aims to develop the circular economy in businesses, by working on both the necessary changes in business strategy and the development of specific training courses and their recognition by a qualification framework adapted to businesses.

The products of the project could be used by the "circular economy and reuse" actions developed at national level and in the regions, particularly with regard to the very in-depth analysis of the keys to transforming "traditional" businesses in order to bring about a radical change in the way these businesses operate. The idea is that the circular economy is not just a part of the business, but that it is the whole of a company's activities that must change in order to become circular.



3 ROADMAP: NATIONAL GUIDELINES AND PROPOSALS

Each action is the subject of a detailed action sheet specifying:

Objectives, description, human, technical and financial resources envisaged, project sponsors, public targeted by the action, monitoring indicators, as well as tried and tested good practice (see appendix 3) which inspired the action and recommendations for other related actions which were not detailed as part of this exercise. The 17 action sheets can be consulted in appendix 4.

3.1 AREA 1 - SUPPORTING DEMAND FOR PERFORMANCE IN CONSTRUCTION AND RENOVATION

3.1.1 Background and challenges

The general framework of the construction sector in France

The entire building stock, both residential and commercial, shares a certain number of common challenges, starting with the many recent regulatory changes which, although they make a major contribution to structuring what companies can offer, can sometimes reduce players' visibility of the deadlines, priorities and solutions to be adopted, particularly for the efficient renovation of buildings.

The aim here is to adopt a broad vision of performance, in both renovation and new construction. This should take the form of an integrated approach to the many environmental, heritage, social and adaptation issues facing buildings: **decarbonising energy sources on a massive scale, anticipating a rise in temperatures, and insulating buildings from both cold and heat, preserving biodiversity, sustainable water management, the use of bio-sourced resources, and the circularity of materials, integrating into the landscape, etc.**

To achieve this level of performance, the human and financial support systems need to be strengthened, while continuing to adapt to these growing challenges and to the different targets (businesses, landlords, more or less well-off households, single-family homes, condominiums, etc.) in order to remove the various obstacles: remaining costs, return on investment, availability of skills and businesses in the regions, business model of the businesses, access to information, etc.

Fragmentation of construction companies and uneven development of sectors

A challenge shared by all the sectors is the need to structure a competent, coordinated offering. However, this supply is becoming increasingly fragmented, with a significant increase in the number of companies with fewer than 10 employees, and above all, in the number of micro-businesses, which now account for 72% of construction companies. What's more, the sector seems to be experiencing increasingly frequent disruptions and is showing greater sensitivity to economic ups and downs: after the crisis of 2008, employment in the sector has recovered since 2016, and the sector is now experiencing increasing difficulties in recruiting. The Covid-19 pandemic triggered a new crisis, leading to a drop in demand for housing and business premises. Despite a recovery in the economy, the sector is now facing a significant drop in new building permits.

In addition to the economic uncertainty, the sectors needed to make the ecological transition in the building sector are not developing evenly: the energy renovation offer is still struggling to take shape in the face of growing demand, which is evolving according to the aid schemes in place. As for the more specific sectors, some are developing rapidly, such as heat pumps, which are now facing a shortage of skills, while others are unevenly developed across the region, such as bio-sourced materials, or are facing specific obstacles (technical or regulatory in particular), such as the circular economy.

This fragmentation represents a challenge for the performance of renovations in particular, which are complex to design from a technical point of view, not least because they require excellent coordination between the various trades in order to deal with the interfaces properly and achieve optimum energy performance.



New build, a driving force that needs to take the path of renovation

The new-build sector is faced with national targets for reducing greenhouse gas emissions, resource consumption, and land conversion. However, it is also a driving force for renovation in terms of taking environmental and energy issues into account: increasing general expertise in the life cycle of buildings, the use of natural resources, low-carbon systems, and so on. On the other hand, new-build companies will also need to develop their business models to enable them to expand their renovation activities, which will require training and support for employees as well as managers and company directors. This driving role, and this structuring, with training courses mostly geared towards construction, should ultimately benefit the renovation sector via

- Changes in skills and professions ;
- The changing business models of both large and small companies;
- Structuring the industry so that micro-businesses can work together to ensure the quality of the work and nationwide coverage.

3.1.2 Issues specific to the residential sector

The pace and nature of current renovations are not up to the challenge, and high-performance renovation must become the norm. Today, 80% of renovations are still carried out in stages. While high-performance renovation⁶ in stages is possible thanks to rigorous planning, the likelihood of achieving this performance decreases as the number of stages increases. The transition from non-BBC (single-step) renovations to BBC (comprehensive) renovations involves much more extensive renovation work on the building envelope: insulation, replacement of windows and doors, installation and maintenance of ventilation systems.

Furthermore, the current annual rate of energy-efficient renovation of homes is 35,000 per year, whereas our efforts would have to be multiplied by 20 to achieve the target of 700,000 energy-efficient renovations per year by 2030. The scenario used in the BUS2 project to estimate job requirements shows the need to reverse these trends, with the majority of energy-efficient renovations at BBC level, and a division by 10 of renovations by gesture.

The different segments that make up the French housing stock (12% social housing, 25% condominiums and 60% single-family homes) require technical, financial, and human support that meets their needs, and which the BUS2 proposals aim to strengthen.

Still insufficient incentives for efficient home renovation

Many homeowners and occupants are not yet convinced of the importance and benefits of high-performance renovation, which is more cumbersome, more costly, and more restrictive for them. For a long time, public policies on energy renovation have encouraged renovation by gesture, and generally lacked stability and clarity. For example, in 2021 and 2022, only 10% of applications for assistance under the MaPrimeRénov' scheme were for comprehensive renovations. Changes to heating systems and other insulated renovations therefore account for the majority of energy renovation work, even though they often do not provide a lasting solution to fuel poverty. The cost and out-of-pocket expenses of such comprehensive work are still too high for many households, who are therefore unable to envisage carrying out such work on their homes.

Condominiums have long been a blind spot for public policies

There were 542,000 condominiums in 2022, and they are considered to be the blind spot for public policies on renovation, particularly in terms of financial aid. With 85% having fewer than 20 lots, condominiums combine, the difficulties associated with single-family homes, with the high financial sums required, with those associated with condominiums, with the complex collective management of decision-making and financing.

⁶ Allows you to achieve the Bâtiment Basse Consommation level, corresponding to an A or B label on the Diagnostic de Performance Énergétique (Energy Performance Diagnostic)



To facilitate decision-making, the "RECIF" programme in Ile-de-France proposes to train property managers and raise awareness of energy renovation among condominiums, by meeting with them to mobilise them, by offering online MOOCs, and above all by mobilising local authorities to raise awareness among elected representatives and technicians and mobilise condominiums in the area. Third-party financing companies can also provide an interesting solution for this segment, by offering specific support and providing group loans to condominiums that are not currently widely distributed by the banking sector.

Finally, there is now a national platform for information and support for condominiums with their renovation projects, an integral part of France Renov': CoacCopro, run by the Agence Parisienne du Climat.

Single-family homes: the challenge of support and massification

Private homeowners, whether or not they occupy their own homes, are a priority target for energy and climate policies, because of the energy-saving potential they represent. There are many issues at stake in this segment, and the markets are evolving rapidly to meet renovation needs, both for construction companies and for diagnosticians, auditors, and renovation consultants.

Support is particularly important when it comes to renovating houses, because work is often carried out without any architectural plans, and no one is responsible for managing the interfaces between the different parts of the project. What's more, this segment has great potential for massification. As part of the PROFEEL programme, the Restore project plans to field-test reproducible renovation solutions tailored to specific types of single-family home. However, it is still difficult to make current industrialisation solutions economically competitive.

Although social housing is ahead of the private sector in terms of renovation, it faces its own specific challenges, such as the decarbonisation of heating systems.

Over the past few years, social property owners have undertaken more than 100,000 energy improvements per year, two-thirds of which have resulted in a change of energy label, according to a study by ANCOLS in 2022. The refurbishment of heat leakage properties, particularly multi-family dwellings, has been brought forward more than in the private sector. However, the rate of renovation is still lower than that required to achieve the target of 100% of the housing stock meeting BBC standards by 2050 (currently only 15%).

A significant proportion of the renovations carried out on social housing stock to date have been aimed at eliminating heat leakage, without necessarily seeking out the full potential for energy savings. Renovations in social housing are more focused on improving the building envelope than in private housing, which explains why the main areas renovated are ventilation, external wall insulation, and replacement of joinery. However, one of the major challenges facing social housing is the decarbonisation of heating and hot water systems, most of which are currently powered by gas. Some buildings will therefore need to be retrofitted by 2050.

3.1.3 Issues specific to the tertiary sector

Until 2019, less attention had been paid to the energy performance of buildings in the tertiary sector, even though in terms of greenhouse gas emissions, the sector is at the foot of the podium after transport, residential and industry. Since then, the Eco Énergie Tertiaire scheme, introduced by the tertiary sector decree, has imposed a gradual reduction in the final energy consumption of all the tertiary sector buildings subject to the scheme, with a target of -60% by 2050 (compared with 2010).

The Eco Énergie Tertiaire scheme has not yet made it possible to tackle the problem of renovating buildings on a large scale.

The scheme covers all branches of the tertiary sector and all existing and new buildings with a tertiary activity surface area equal to or greater than 1,000 m². The action plans vary according to activity and occupancy status, but some owners are not aware of the obligations, which also depend largely on the users of the premises concerned. Nevertheless, a number of tools do exist to enable the transition to more energy-efficient commercial buildings. A good knowledge of the building stock is needed to assess which tool is most appropriate. Energy Performance Contracts, for example, combine an investment to improve a building's energy efficiency with a guaranteed reduction in energy consumption. These contracts are yielding encouraging results (an average 30% reduction in energy consumption), but are not necessarily suited to all types of commercial building owner.

To ensure that the Eco Énergie Tertiaire scheme is applied effectively, controls need to be stepped up and the penalties for non-compliance need to be clearly displayed.



The challenges facing the public service sector are linked above all to the fact that the public sector itself is too unfamiliar with its buildings.

Around 40% of tertiary floor space corresponds to public buildings, most of which are owned by local authorities. Of these 415,000 public buildings, 52,455 are public educational establishments, including 44,902 schools (covering around 50 million m²), 5,290 collèges (covering 39 million m²) and 2,263 lycées (covering 41 million m²). The aim is to enable all local authorities to gain a better understanding of the energy challenges facing their buildings, in particular through the implementation of an energy master plan and the associated asset and financial management, and to be supported in achieving the targets set. According to France Rénov', 76% of energy consumption by local authorities is linked to buildings, half of which are school buildings (which account for 30% of this consumption and are therefore the most energy-intensive type of building for local authorities). Over and above the question of awareness of the issues, small local authorities often lack the human, technical, and financial resources to undertake the renovation of their tertiary buildings.

The small tertiary sector, which is not covered by the Eco Energie Tertiaire scheme, still requires specific support.

The aim of this support is to help people implement energy-saving measures and deal with rising energy costs. France Rénov' advice centres provide support for small private-sector businesses. Other tools exist, such as the "Baisse les Watts" programme, which helps them to control their energy consumption. According to an ADEME study, the priority actions to be implemented to facilitate energy renovation in the small private tertiary sector are to inform businesses about energy renovation and the support and aid schemes available, to create or strengthen tools for support staff, and to develop a specific financing offer.

Overall, the small tertiary sector could benefit from the momentum generated by those subject to the tertiary decree, and systematise the energy-saving measures initiated during the recent energy crisis.

In addition to construction and management solutions during the operating phase, the question of usage is a key factor in achieving performance targets.

This issue needs to be integrated into renovation projects from the outset, and should not be overlooked. The development of teleworking, for example, could ultimately reduce demand for office space. New types of office space, such as co-working spaces, should be investigated from the point of view of efficient renovation. Overall, the strategies of organisations (investors, owners, etc.) are being reconfigured in the wake of the health and energy crises.

3.1.4 What are the specific objectives for the performance request?

In order to achieve the performance targets for the existing housing stock set out in the BUS2 target scenario, which is in line with the European objectives (all housing stock to BBC level by 2050), it will be necessary to renovate around 900,000 homes to BBC level on average per year between 2022 and 2030, compared with an average of 14,000 per year over the 2012-2021 period. In a trend scenario, this average rises to 85,000, with the majority of renovations remaining non-BBC.

For tertiary premises, the renovation rate rises from 21.5 million m² per year over the historical period to 22.8 million m² per year between 2022 and 2030 in a trend scenario, and 27 million m² in a target scenario.

Lastly, construction is slowing sharply, in line with demographic trends and the optimisation of the use of the building stock. Renovation must compensate for the expected fall in the construction of new housing and tertiary premises. In addition, if we are to achieve the energy and carbon targets set for 2030 and 2050, renovation to control energy demand will have to go hand in hand with the replacement of heating systems that are highly carbon-intensive.

3.1.5 How can we support demand and the performance market?

Structuring the supply side to meet the objectives of the ecological transition also means boosting demand. The aim is to strengthen demand for performance while facilitating the development of specific sectors such as bio-based and low-carbon materials, and reuse. The proposed actions are based on the following guidelines:



Boosting demand for efficient renovation of the private housing stock through strong support for homeowners

To encourage homeowners to embark on a high-performance renovation programme, the first step is to improve the dissemination of information to users, highlighting the benefits of high-performance renovation. The second step is to improve the coherence and integration of technical and financial support systems, to facilitate grouping and pooling of orders, minimise out-of-pocket expenses and provide support at every stage of the project. However, access to information is not enough to trigger the decision to renovate. The initiatives carried out in the Cambrésis region show that a grassroots campaign is needed to convince individuals to undertake high-performance renovation.

This approach, which combines information with technical and financial support, is crucial to identifying and involving as many homeowners as possible in renovation work, particularly co-ownerships, where decision-making is more difficult. Local authorities can help homeowners with their renovation projects and thus support demand, in conjunction with national schemes, in particular by setting up third-party financing companies. It is vital that these measures are monitored for their impact.

Deploying guidance and support tailored to the needs of stakeholders

The various project owners (social property owners, local authorities, companies subject to the Tertiary Eco Energy Scheme, for example) need to be supported according to their needs, in order to achieve the energy and carbon targets set for 2030 and 2050. This support can be designed on an area-wide basis, to meet the specific needs of project owners and facilitate the establishment of cooperation or the pooling of resources.

Facilitating the development of sectors that improve the environmental performance of new build and renovation projects

Performance in renovation and new construction requires the development of certain sectors that will help to reduce the greenhouse gas emissions associated with construction and renovation operations: re-use of materials and products, bio-sourced and low-carbon materials, etc. The notion of performance is therefore extended beyond the energy aspect. The notion of performance has therefore been extended beyond the energy aspect. Experiments and best practices (see "Environmental clauses" in Appendix 3) have been a success in various regions, often thanks to the strong involvement of project owners. To bring these solutions to scale, we need to go beyond the "case-by-case" approach and set up an ecosystem in each region. Local authorities have a role to play in this process, not only in terms of public procurement but also in terms of approving building permits.

The 6 proposals for action that follow are therefore designed to support demand for high-performance renovation by facilitating the dissemination and use of support and funding schemes, and encouraging cooperation between trades and players.



3.1.6 Proposed actions

ACTIONS	OBJECTIVES AND DESCRIPTION
1.1: Support the creation of Third-Party Financing companies by local authorities, by distributing a guide	<p>Objective: Enable the duplication, adaptation, or creation of local technical, financial, and social support schemes, with a view to increasing access to high-performance home renovation for private individuals.</p> <p>The SERAFIN association is currently drafting a guide to help local authorities deploy new third-party financing companies in their areas. The action consists of setting up a communication plan to disseminate this guide and this solution (STF), which is particularly promising for the renovation of condominiums.</p>
<p>CAMBRÉSIS</p> <p>On the basis of an energy audit accompanied by the identification of efficient renovation work packages (1 or 2 stages) for 5 GMF-type houses built in the 1960s and 1970s (), the plan is to contact the owners of these types of houses in the area to give them examples of energy renovation projects and encourage them to start work by informing them of the technical and financial assistance they can claim, in particular the "Renovation Pass".</p> <p>The Hauts de France Region's "Pass Rénovation" (see "Régie du SPEE" in appendix 3) is a third-party financing scheme run by the Régie régionale du Service Public de l'Efficacité Energétique (SPEE), which enables all residents of the Region to benefit from comprehensive, personalised support for their home renovation projects.</p> <p>The Cambrésis region will be promoting the Renovation Pass throughout its territory, in conjunction with the SPEE's Régie, in order to promote energy-efficient renovation of individual homes and condominiums.</p>	
1.2: Encourage cooperation between social landlords and demand for performance through local calls for projects	<p>Objectives: to generate a mass of high-performance renovations, based on calls for projects focusing on inter-actor territorial organisation and the demand for performance, and giving access to specific co-financing by the Ministry of Ecological Transition and Territorial Cohesion and the Banque des territoires</p> <p>The action consists of launching a multi-year call for projects, which will make it possible to provide long-term financial support to social landlords (specific public subsidy and preferential loan from Caisse des Dépôts) for coordination initiatives on a regional scale between exemplary landlords to achieve a high level of performance (performance criteria, sobriety, use of industrialisation, training clause, control of use). This cooperation between social landlords is based on the formation of purchasing groups, the scheduling of works and the alignment of methods and technical and financial criteria by housing type.</p>
1.3: Renovation of private tertiary sector premises: Inform businesses and communicate on the issues, obligations, aid and support schemes.	<p>Objective: to give businesses, whether or not they are subject to the DEET, access to information on the issues, tools, and services to support high-performance renovation.</p> <p>The action consists of making it essential for project owners to have an overview of ecological issues, regulations (particularly DEET and BACS), obligations and synergies contributing to the achievement of the DEET objective, by making general national information available on the Accueil Entreprendre.Service-Public.fr website, relayed on the Accueil entreprises.gouv.fr website, and to communicate.</p>



<p>1.4: Share the benefits of pooling resources between municipalities or within an EPCI for the renovation of tertiary buildings in small local authorities, and the mechanisms for implementing this pooling.</p>	<p>Objective: helping small communities to renovate their heritage, by enabling them to mobilise human and financial resources through the introduction of pooling arrangements.</p> <p>The action aims to 1) set up a resource centre on CEREMA's "<u>expertises territoire</u>" website to share good territorial practice and promote the implementation of measures aimed at pooling resources between municipalities, and 2) organise partner events and associated communications to publicise this resource centre.</p> <p>This site will provide access to a number of tools:</p> <ul style="list-style-type: none"> • a platform for local authorities to share and exchange information on pooling issues, run on an ongoing basis by a permanent CEREMA staff member; • a data and knowledge base, with examples of schemes set up by certain local authorities and proposals for possible types of pooling.
<p>1. 5: Facilitate the use of bio-sourced and low-carbon products and materials in new construction and renovation: clauses in public procurement contracts and training.</p>	<p>Objectives: to integrate more bio-sourced and low-carbon solutions into buildings by maximising the use of environmental clauses in public procurement contracts to get the ball rolling, and by proposing to include training in bio-sourced and low-carbon materials in building courses.</p> <p>The action aims to develop the use of bio-sourced/low-carbon clauses in public procurement contracts (see "environmental clauses" in appendix 3), for example by setting up local initiatives, disseminating tools and providing access to expertise and feedback on their use.</p> <p>It also aims to integrate training in biobased materials into all building courses, from vocational training to architect or engineer level, in both initial and continuing training, drawing on the content and educational engineering already developed by the professional sectors and the EcoConstruire federation and its members.</p>

COTENTIN

The Maison de l'Emploi du Cotentin is planning to set up an 11-month "Eco Construction Worker" training course, owned by the EcoConstruire Federation, which already exists in 9 other regions. Funding is currently being finalised for the first training course in 2025.

This training course will provide companies with qualified personnel capable of carrying out building or renovation work using ecological construction methods: timber frame, raw earth, straw and hemp.

TERRITORIAL ACTION TO COMPLEMENT AXIS 1

In addition to the actions directly linked to the national initiatives, some territories have proposed complementary actions to meet their own needs.

AIX-MARSEILLE METROPOLIS

There is a major need for regular monitoring of developments in the various construction markets and for the production of forward-looking data on employment and skills, so that actions to support businesses can be targeted as effectively as possible.

The aim is to create the conditions for the local implementation of a tool for quantifying and analysing forward-looking data, markets, jobs, and skills for the period 2024-2030 and for monitoring training provision.



1.6: Facilitate the re-use of products and materials (for new construction and renovation): local engineering and training for professionals	<p>Objectives: setting up a recycling ecosystem in each region, and making better use of and integrating re-use solutions into projects.</p> <p>The project has 2 components:</p> <ol style="list-style-type: none">1. Local and regional authorities will create dedicated project manager posts for each employment area involved in this policy. Their role will be to support local and regional authorities in setting up and assisting re-use channels, raising awareness among project owners and removing uncertainties about insurance and ten-year guarantees.2. Improving the skills of those involved in the construction industry. In particular, this involves incorporating basic lessons on reuse into the reference training courses for all the building sectors, creating a complementary certification specifically for reuse techniques in addition to existing building training courses, designing teaching kits and content and disseminating them.
<p>CAMBRÉSIS</p> <p>To make it easier for jobseekers to enter the renovation sector, Cambrésis Emploi is planning to set up a construction waste recovery business run by an integration company.</p> <p>This recycling centre will include the removal of products from worksites, refurbishment, and resale.</p>	



3.2 PRIORITY 2 - ENCOURAGE THE RECRUITMENT AND RETENTION OF WORKERS IN THE SECTOR

3.2.1 Background and challenges

Despite regular and ongoing demand, the construction sector is facing recruitment difficulties at all career levels, struggling to retain young people who have been trained and professionals who are already in work, and attracting new groups of people, particularly women or people who are retraining, looking for work or far from employment. These difficulties are partly due to the negative image of the building trades, linked to the arduous nature of the work, the working hours, and the pay. They are also due to the structure of the market and the practices of certain companies, which make it difficult for people to enter the labour market and find paid employment: undeclared work, increasing self-employment, etc. Finally, these difficulties are compounded by the large number of people expected to leave the industry: between 2019 and 2030, 448,000 construction professionals are likely to retire or end their careers due to occupational illness or voluntarily.

Against this backdrop, the BUS2 community is keen to promote the strengths and significance of the building trades (as a vehicle for the ecological transition, a sector of the future, availability of training, effective apprenticeships, career development, etc.), and to attract new members of the public to ensure that the supply of professionals required for the ecological transition of buildings is sufficient.

Encouraging young people to take up vocations: the challenge of passing on know-how

The lack of attractiveness of the building trades can be seen at a number of levels, starting with the number of trainees, which is sometimes lower than the number of places available on the various courses. All too often, building trades are a default choice for young people, leading to a downgrading of training courses that persists from generation to generation. In addition, schools and, more generally, guidance organisations do not do enough to promote these trades to students, supervisors, or parents.

It is also reflected in the retention rate of students once they have graduated. The rate of students (including apprentices) leaving without a degree was 27% in 2016, compared with 13% in other sectors. Subsequently, only 44% of young people trained in the building and civil engineering sector had their first job in the sector, a figure that falls to 39% after 3 years. The long-term integration of the younger generation is a key issue, not only in terms of passing on the skills of today's professionals, but also in terms of integrating the skills that they possess more easily, starting with their mastery of digital tools.

Aimed at 15-24 year-olds, the "[T'es Refait](#)" platform run by ADEME and CCCA-BTP promotes training and careers in energy renovation by facilitating direct contact with training organisations via a dedicated platform. Despite these disparate initiatives across the country, a broader, more ambitious communication strategy, based on the communication codes (highlighting values in particular) of other sectors (cooking, the army), is still lacking.

Introducing construction trades to young people who are not in employment (and more generally to all age groups) requires closer cooperation between companies, local missions, France Travail and integration organisations, because the existing schemes are not always sufficient to fill the sessions. What's more, integrating them through training courses that do not necessarily lead to certification, but that combine theory and learning through technical gestures, enables them to go beyond the simple acquisition of the latter, to become aware of their environment, and to grasp interpersonal skills and professional codes.

There are very few tools and initiatives to help integrate women into the building trades.

According to URSSAF, women account for only 14.2% of new hires across all types of contract, making the construction sector one of the 5 sectors with the lowest proportion of women. Women are particularly absent from blue-collar jobs, accounting for 20% of managers but only 1.6% of blue-collar workers. Recruiting women requires, among other things, significant cultural, social, and practical changes, particularly on building sites.

Current working conditions are unsuitable (lack of separate changing rooms and toilets), and women have to contend with gender stereotypes and a view of jobs as "men's jobs".



The national schemes and policies for professional integration and continuing training available to the building sector do not adequately address this issue. However, a number of organisations are taking action to give women a place in the building sector, in all trades, from design to construction. The Maison de l'Emploi Ouest Provence, for example, offers an "Atout Mixité" training course designed to raise awareness of gender equality in the workplace among managers, middle managers, and team leaders. In addition, the growing emphasis on environmental issues in the construction and renovation sectors seems to be working in favour of women, as these are the occupations that employ the most women in the building and public works sector.

The retraining of workers requires appropriate integration and training schemes.

Although communication campaigns are aimed primarily at young people, a significant proportion of people in work or looking for work are likely to be trained in the building trades. Recruitment from outside the industry is still marginal. The construction sector does not currently benefit from the PACTE scheme, which facilitates the retraining of employees in sectors with shortage of skilled workers, but other, more cross-sectoral schemes can be used, such as the PRO-A scheme, which since 2018 has facilitated access to work-linked training during retraining. There are also a number of initiatives to promote retraining by emphasising the beneficial role of the building and energy renovation trades. The Maison de l'Emploi du Cambrésis has set up the "Bati ton projet" programme, which offers practical workshops to help jobseekers discover the building trades - particularly finishing work. The issue is also internal to the building sector, since new construction represents a pool of experienced labour to provide the additional work force needed for renovation, major refurbishment, or equipment maintenance, by adapting their skills.

Lastly, although it has great potential in the context of retraining, the Accompanied Self-Rehabilitation (ASR) worksite - as the first stage in a training programme - is not being exploited by the building professions and training bodies.

In addition to recruitment, there is the issue of job retention.

In addition to recruiting new people, retaining existing workers poses a number of challenges. These relate to matching the building trades with the aspirations and expectations of professionals, both employees and tradespeople, and with the physical capabilities of the latter.

Many people working in the construction industry, particularly blue-collar workers, end their careers due to occupational illness. It is therefore essential that they have access to career development opportunities within the sector, so that they can move on to less physically demanding occupations during their careers. This is what the professional prevention account (C2P) should make possible: trainer, trainer of trainers, manager, coordinator, adviser, support worker, supervisor.

The aim is also to foster a sense of pride among building professionals, and to clarify and reinforce the meaning given to their profession as it relates to the community, the ecological transition and, more broadly, society as a whole. Many players are highlighting the importance and role of the building industry in the ecological and social transition: reducing energy consumption, fuel poverty, summer comfort, etc. These various services are the building blocks of a discourse and an imaginary world that building workers and craftsmen, not just managers and supervisors, have yet to appropriate.

Finally, job retention requires changes in working conditions that meet the aspirations, demands, and limitations of the body: more flexible working hours that are adapted to family life in particular, solutions that reduce the distance between home and work, attractive and progressive remuneration, and a reduction in the arduousness of tasks. This represents progress that will benefit both the long-term retention of construction professionals and the attraction of young people, people undergoing retraining, and women.

3.2.2 What are the specific recruitment objectives?

The various scenarios forecasting the job requirements for energy-efficient renovation of buildings by 2030 (France Stratégie, BUS2, négaWatt) are relatively convergent, with an estimated additional need for between 170,000 and 250,000 full-time equivalents (FTEs) compared with today. Job requirements will depend on both the pace of renovation of the current stock and the pace of construction, as well as the types of renovation (phased or comprehensive) that will be carried out. Unskilled finishers, skilled painters and finishers, and bricklayers will be needed for shell renovation work (insulation, replacement of joinery), while



plumbers, heating engineers and electricians will be needed for the mass deployment and maintenance of the various heating, domestic hot water (DHW), ventilation and air conditioning systems in single-family and multi-family homes. Plumbers and heating engineers are the category expected to see the biggest increase in the number of FTEs needed per year, from 33,000 between 2012 and 2021 to 83,000 between 2022 and 2030, followed by site supervisors (+22,000), unskilled finishing workers (+21,000), skilled painters and building finishers (+18,000) and electricians (+16,000).

While the expected fall in new construction, already heralded by the significant reduction in building permits in 2023, may mean a reduction in labour requirements, this will be more than offset by the need for energy-efficient renovation of buildings.

3.2.3 What guidelines are needed to ensure that the workforce required to meet national targets is in place?

Attracting new talent

The challenge is to showcase a sector that is evolving and responding to the needs of society and the ecological transition, using new tools and know-how, both digital and traditional. Communication campaigns and the creation of new imaginary worlds around the building trades must be aimed at young people, but also at other target audiences (women, workers undergoing retraining, etc.), using formats and content tailored to each audience. The challenge is to showcase a sector that is evolving and responding to the needs of society and the ecological transition, using new tools and know-how, both digital and traditional.

Different pools of talent will need to be tapped to meet the challenge of massive energy renovation of buildings, and attracting these different talents requires a specific plan tailored to each resource: young people, women, people who are far from employment, people undergoing retraining, and so on.

Working directly with the public by involving school and career guidance intermediaries

For schoolchildren and students, the involvement of a wide range of professionals helps to demonstrate the diversity of careers within the sector and to prevent newcomers from dropping out too quickly.

Guidance counsellors, career development advisors and integration advisors all need to be trained and made aware of the issues and opportunities in this sector, and equipped with the keys to guiding professionals towards the right career for them. Finally, more targeted initiatives and optimum support are needed to help people who are "far from employment" to discover the building trades. This also involves structuring the integration process at the level of employment areas.

Keeping working people and professionals in their jobs

Once in post, retaining new arrivals and, more generally, all employees is a major challenge for the construction sector. Retention depends on meeting expectations in terms of pay and career development within the sector. Retention strategies can be put in place within companies, and must include not only communication about the meaning and benefits of the building trades, but also, and above all, the investment needed to upgrade employees' skills, as well as support for career development over the long term.

The 6 proposed actions that follow are designed to encourage people to stay in the construction industry and to recruit new people. A detailed description of each action is available in the appendix.



3.2.4 Proposed actions

ACTIONS	OBJECTIVES AND DESCRIPTION
2.1: Launch a communication campaign tailored to target audiences to change the image of the building trades	<p>Objectives: showcasing a meaningful sector by highlighting its strengths, and modernising the image of the building trades.</p> <p>The action consists of taking stock of previous campaigns, identifying and disseminating new key messages specific to each audience, with particular emphasis on deconstructing preconceived ideas (wages, arduousness, flexibility), and highlighting the strengths and meaning of the building trades.</p>
<p>AIX-MARSEILLE METROPOLIS</p> <p>The aim is to set up a campaign to promote a positive and dynamic image of the sector, using attractive and fun discovery tools (connected glasses, serious games, YOOKAN tools, TV shows) and testimonials from professionals. The content will be tailored to each audience: young people at school or supported by local missions, people in work placements, adults undergoing retraining, etc.</p>	
2.2: Encouraging vocations in young people through action	<p>Objectives: ensuring that career choices are made rather than imposed and raising young people's awareness of careers in the ecological transition of the building industry.</p> <p>The aim is to set up practical workshops to help schoolchildren and young people seeking career guidance discover the building trades, using existing facilities (technical platforms, mobile lorries).</p> <p>The action also involves encouraging young people to share their experiences by supporting the work of journeymen, who talk about their interest in their trades and the path they have followed.</p>
<p>THE THREE TERRITORIES: CAMBRÉSIS, COTENTIN, MÉTROPOLE AIX-MARSEILLE</p> <p>Workshops are organised in the form of hands-on discovery of building trades on equipped lorries, or using supports/tools that can be set up in rooms or on a technical platform (for example, by pooling those used for training in association with training organisations aimed at all young people under the age of 25, including schoolchildren (collèges) looking for career guidance). The workshops take the form of practical work to discover 3 or 4 different trades over a 1/2 day for a dozen young people (drawing a cable, painting a wall, etc.) inspired by the Bâtis Ton Projet approach (see the "Bâtis ton Projet" best practice sheet in appendix 3).</p>	
2.3: Coordinate and develop the professional integration of people who are far from employment in the building trades in local areas	<p>Objectives: to encourage optimal and coherent support for people who are a long way from employment; Development of economic integration (IAE) sectors by EPCIs and their associated organisations; and generalising GEIQs (Groupement d'Employeurs pour l'Insertion et la Qualification).</p> <p>The action consists of providing employment areas with a "building integration coordinator" who will be responsible for developing a shared local strategy, then coordinating local integration structures and companies to implement this strategy. The coordinator will also facilitate the setting up of IAE or GEIQ projects.</p>



2.4: Feminising worksites

Objectives: introducing each potential recruit to all our business lines, and prepare the sector to welcome and integrate women, combat sexism and deconstruct stereotypes on construction sites.

Part of the action consists of promoting the building trades to young women through dedicated workshops and the systematic inclusion of female figures or testimonials in CFA communication campaigns. The second action is designed to benefit women already in post, and consists of a dedicated awareness-raising programme for site supervisors on stereotypes and sexist behaviour.

COTENTIN

There are a number of ways of increasing the number of women in the building and civil engineering trades, such as the experience of the Coutances apprentice training centre, which has succeeded in increasing the number of female apprentices from 2% to 8%, training female instructors and raising awareness among contractors of the importance of appropriate infrastructure on building sites.

AIX-MARSEILLE METROPOLIS

This is a 6-day trial of a building trade's discovery workshop for a group of 12 women. The participants will be able to try out different building trades, with one trade per day on the technical platforms. The course will be punctuated by regular visits from various professionals in the sector, who will be able to provide guidance.

To alleviate the integration difficulties encountered by women on building sites, the action consists of training middle management on building sites to manage mixed teams. The Maison de l'Emploi Ouest Provence already has experience of similar training for industry (see the "Atout Mixité" best practice sheet in appendix 3).

2.5: Strengthen the role of prescribers who guide and support applicants in the building sector

Objective: introducing specifiers to the full range of building trades and the associated ecological transition issues.

The aim of the action is to set up a programme to raise awareness among guidance intermediaries (job-seeker guidance prescribers, career development advisers) so that they understand the issues and needs of the sector in relation to the ecological transition, and are better able to convey the societal role of the building trades.

AIX-MARSEILLE METROPOLIS

The action aims to raise awareness and educate all those who prescribe employment and training pathways: partners in the public employment service (France Travail, local missions, Cap Emploi), IAE structures, PLIEs, career development advisers, second chance schools (such as the "Epide" employment integration establishments), skills assessment operators, etc., about changes in the sector and its professional opportunities. It also aims to bring all prescribers up to speed on the technical skills and soft skills expected in each profession.

These tools will be optimised and used to familiarise jobseekers with the building trades through practice and testing, using the trucks or technical platforms that have been pooled for training purposes.



2.6: Objectivise the benefits of long-term career support through a large-scale socio-economic study

Objectives: to demonstrate to companies the benefits of investing in career support and skills development for their staff; and to share experience to encourage HR strategies in SMEs and VSEs to build employee loyalty.

The aim is to carry out a socio-economic study and distribute it to companies in the sector and to those involved in employment and training. The study will take stock of the situation and assess the impact of staff turnover, temporary work, and subcontracting on the quality and cost of worksites, as well as on companies. A "feedback" section will identify good practice in terms of retaining companies and will make recommendations.

AIX-MARSEILLE METROPOLIS

In order to limit staff turnover in companies, this action aims to secure the career paths of existing employees and provide support for professional development: through a field survey aimed at defining the main reasons for leaving the sector, as well as the type of employees and companies mainly concerned, and a proposal for a local service offering aimed at limiting departures due to unfitness, by restoring a sense of purpose, in particular through skills upgrading, and limiting the risks of ending a contract in the event of an unfavourable economic situation.

To help with the takeover of building companies, a tool will be set up throughout the region to put sellers and buyers in touch with each other. It will inform people undergoing retraining about opportunities to take over building companies, and then support them as they set up or take over a company and retrain for a new career.

In addition, company sellers will be made aware of reverse VAE (Validation of Acquired Experience) as a training tool for future buyers. Another action proposed by the MdE Ouest Provence aims to set up reverse VAE as part of a professionalization contract. This could be one of the solutions available to construction companies experiencing recruitment difficulties, mainly due to a lack of skills among applicants.



3.3 TRAINING DEVELOPEMENT

3.3.1 Context and issues

Initial and continuing training courses in the construction industry are relatively plentiful and considered to be of high quality, whether they are aimed at young people in schools or adults undergoing retraining. Apprenticeships, which are now better funded, have increased considerably in recent years. However, there is still little integration of renovation and ecological transition issues into the curriculum as a whole, which is holding back the development of skills specific to ecological issues and the supply of high-performance renovation and sustainable construction.

To guarantee the performance of renovation and new-build projects, companies and their employees need to master specific and cross-disciplinary skills. As shown by the feedback and good practices (see Appendix 3) presented by the BUS2 Community, these skills can be acquired easily and quickly by craftsmen, site workers and site managers, using appropriate teaching methods and tools.

Nevertheless, although the training on offer already appears to be relatively extensive and considered to be of high quality, the availability of construction and renovation professionals to attend training courses is very limited. What's more, most of these professionals have little interest in theoretical classroom training. Formats adapted to these issues have been developed, and must continue to be supported: online training (MOOC), training on teaching platforms and mobile training, on-the-job training, etc.

The fragmentation of the sector, with a large majority of craftspeople working on a self-employed basis, also makes it difficult to mobilise them quickly and on a large scale. Lastly, there are other organisational difficulties, such as the difficulties involved in registering with the France Compétences directory, which results in a lack of recognition for qualifications.

Transforming the construction sector through initial and continuing training.

Although construction is considered to be the driving force behind the building and public works sector, it is facing a number of changes: growing environmental demands, the objective of zero net artificialisation (ZAN), the quest to reduce greenhouse gas emissions from the construction sector, and the demographic slowdown all point to a slowdown in new construction to an extent that has yet to be determined.

The entire industry will have to adapt, starting with training. Training courses must already incorporate these issues, starting with the environmental requirements of the RE2020, with the development of the use of bio-sourced materials, the circular economy, technical building management for fine-tuned control of consumption and indoor air quality, and even BIM for optimising resources and improving quality. It is also a question of anticipating the tightening of requirements, and in particular issues relating to summer comfort and the circular economy.

The conversion of construction companies' activities to renovation or major refurbishment operations must also be anticipated by training bodies and in the organisation of companies. At present, few continuing or initial training courses and few professional standards incorporate these specific skills, which is not conducive to the retraining or adaptability of new construction professionals. An analysis of the professional or certification reference frameworks shows that the new-build sector predominates, and that there is a segmented vision of the various trades⁷.

What's more, such a shift can represent a significant loss of meaning for some professionals, so it's the entire industry that needs to adapt and grasp these changes, starting with supervisory staff such as company directors and guidance counsellors, who need to support the development of employees' skills as companies diversify their activities.

A synergy and an interface between the different professions under construction.

Training professionals in energy-efficient renovation should aim not only to improve individual practices but also, and above all, to promote synergy between the various trades. The quality of the work depends on the proper coordination of the various tasks involved: insulation, thermal bridge treatment, airtightness,

⁷ https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/fs-2023-note_danalyse_ndeg127-septembre_4.pdf



ventilation, etc. Coactivity and the management of interfaces between trades are essential factors in achieving final performance. It is therefore these interfaces that must be given priority. However, this effort cannot be carried out by site managers and works supervisors alone, since it is all the trades that will have to change their practices⁸.

The "Rénovateurs BBC" programme set up in Normandy proposes a series of measures aimed at coordinating trades and specialist companies on building sites, and introducing obligations to achieve results that can only be achieved through proper coordination: air-tightness tests and ventilation controls. The scheme also includes a practical training requirement in addition to the RGE obligations. Coordination of work is also a requirement of the "Dorémi" scheme, which supports the renovation of single-family homes by facilitating the grouping of companies and offering them "coordination and optimisation" training courses to ensure that air-tightness, the treatment of thermal bridges and dimensioning are all taken into account.

Teaching formats and approaches are gradually adapting to the constraints of professionals.

Since 2007, the FEEBAT programme (Formation aux Économies d'Énergie dans le Bâtiment) has been considered by many players in the sector to be the best way of organising and disseminating energy renovation training programmes. The programme still needs to be extended and expanded, as 98% of FEEBAT training courses are still aimed at obtaining the "Reconnu Garant de l'Environnement" certification for companies, which is a prerequisite for receiving public subsidies. Since 2022, it has also been aimed at teachers in secondary schools and apprenticeship training centres, students, teacher-researchers at ENSAs and other building professionals.

When it comes to training in energy renovation techniques, professionals are looking for complementary solutions that are better adapted to their professional constraints. On-site or technical training programmes are being developed (PRAXIBAT, Formation Insérée au Travail - FIT -, actions de formation en situation de travail - AFEST - etc.), partly in response to the constraints associated with building trades (distance between home and work, working hours, days available for training, preference for practical work) and the desire to enrich content with technical content. However, this "hands-on" approach to learning is complex to implement and requires worksites of a certain size involving several trades at the same time.

MOOCs are mainly used by managerial professions (architects, diagnosticians). Easy to access and flexible in use, they are also suitable for tradespeople and project owners. The range of courses on offer is expanding, but some subjects, such as damp in the building industry, would benefit from more integration.

A number of schemes make it possible to make work carried out by companies conditional on the training of their professionals.

The tightness of the labour market can encourage companies to focus more on recruitment than on training, and can thwart the project owner's quest for quality. A number of levers can be used to increase training opportunities and thus encourage companies to invest in their employees' skills: the inclusion of "training clauses" in contracts, following the example of Integrated Workplace Training (IWT) tested in Hauts-de-France by social landlords, or more generally by requiring the professionals involved to undergo theoretical or practical training of varying lengths. This is a way for the contracting authority to ensure a minimum level of skills, and for the company to incorporate this training time into its work schedules.

Local authorities also have the possibility of imposing compliance with a charter in order to generalise certain practices within their territory. Although they are not legally binding, they do help to guide the players in the sector and to share a common vision with them, which is likely to evolve and be strengthened. Labelling or agreements, such as the "Rénovateurs BBC" programme in Normandy, are also a way of encouraging companies to provide training that goes beyond the RGE label.

The challenge of upgrading the skills of related professions.

All players, even those indirectly linked to the building sector, must be in a position to guide private individuals and provide them with technical and financial support for their renovation projects. Banks, with their large customer portfolios, are a good way of encouraging private individuals to renovate. They play an essential role in arranging the financing for a renovation project, by financing the remaining costs: adapted repayment schedules, reduced or zero interest loans, etc.

⁸ <https://www.cereq.fr/la-transition-ecologique-metiers-construction-btp>



In the Provence-Alpes-Côte d'Azur region, an ALEC has set up the ACTIMMO training programme to raise awareness among property professionals. The aim is for co-ownership managers to identify homes and co-ownerships that need to be renovated quickly, and to help them arrange the loan. As for estate agents, it is important that they take on board the concepts of "green value" and the benefits of high-performance renovation, and that they inform buyers of the work required.

3.3.2 What are the specific training objectives?

It is estimated that more than 500,000 professionals (i.e. around a third of the sector's workforce) will be needed throughout France to master the skills required to work on energy renovation projects (housing and tertiary buildings) or new construction projects that meet the requirements of the RE 2020. Some of these skills are purely new, such as those relating to adapting buildings to climate change, water management or the circular economy. Others need to be strengthened or involve coordinating existing skills, such as the interface between trades on construction sites and the use of bio-sourced or geo-sourced materials. Lastly, some are linked to the ability of companies to adapt and evolve their activities from new build to renovation.

Raising the general level of expertise in the sector must also involve related players in the building sector, to ensure that project owners, whoever they may be, are properly supported: banks, estate agents, condominium managers.

3.3.3 How can we train building professionals for the ecological transition?

The range of courses offered by continuing training organisations (AFPA, GRETA, etc.) must enable all those involved in the building industry to improve their skills, so that they can provide appropriate support to clients in their renovation or high-performance construction projects, and ensure the quality of the work carried out. To achieve this, it must evolve both in terms of content and form. The proposed actions are in line with the following guidelines.

Encouraging the development of the skills needed to perform the work

Professionals generally have a good command of their respective trades, but these skills, which are focused solely on the historic trades, are not sufficient to guarantee ongoing performance on new-build sites (RE2020 level) or high-performance renovations (DPE level A or B). There are a number of ways of encouraging companies to acquire specific renovation skills, including training clauses in invitations to tender, professional networks and local charters.

Continuing to roll out a varied educational offering

There are teaching methods and tools for acquiring cross-disciplinary skills (coactivity between trades, IAQ and ventilation, insulation and bio-sourced materials, etc.), but these courses are still underused by companies. The lack of availability, or even interest, on the part of tradespeople and small businesses in taking training courses other than those that are compulsory is the reason most often given. The formats must therefore be adapted to the constraints and interests of professionals to enable companies to acquire the skills they need to achieve the performance targets for the fleet.

Enabling all players in the real estate sector to develop their general skills

In view of the targets that France has set itself for the renovation of its housing stock, property professionals (banks, estate agents, co-ownership managers, etc.) need to be mobilised and trained, at the very least, to advise and guide customers (particularly private individuals) towards efficient renovations.

The 5 proposals for action that follow are therefore aimed at rolling out training in high-performance renovation, in a variety of formats to suit the expectations and possibilities of each player.



3.3.4 Proposed actions

ACTIONS	OBJECTIVES AND DESCRIPTION
<p>3.1: Develop and scale up practical training courses to acquire the specific skills needed to carry out high-performance work (ECD levels A and B).</p>	<p>Objective: to organise short (2 to 3 days), practical training courses in all employment areas, close to where the professionals work, so that they can acquire the skills they need to carry out BBC-level work.</p> <p>The action consists of designing and implementing teaching programmes based on what is already working, approaching companies or contracting authorities to offer them the opportunity to follow or arrange for them to follow these training courses, and finding the spaces and structures where the training courses will take place. Some of these training courses already exist or are in the process of being designed (FEEBAT practical modules, see the "FEEBAT" best practice sheet in appendix 3), and the technical facilities to host them must be identified, also on the basis of what already exists.</p>
<p>COTENTIN</p> <p>The action consists of setting up a training system for building professionals based on FIT "Work Integrated Training", the planned methodology, FIT 2.0, linking the commissioning of construction and energy renovation work with training on the site of this work, using as a teaching tool mobile platforms of the type designed by the CD2E, or on fixed platforms of the PRAXIBAT® type (see "PRAXIBAT" good practice sheet in Appendix 3). The teaching focuses on co-activity and its impact on the energy and environmental efficiency of construction and renovation projects.</p> <p>CAMBRÉSIS</p> <p>The aim of the action is to promote the FIT approach already implemented on a number of building sites to principals, in order to step up training for companies in these areas, based on a mobile platform (container brought to the site) in which training in co-activity, airtightness, insulation and ventilation takes place, at the request of the headmasters.</p> <p>AIX-MARSEILLE METROPOLIS</p> <p>The aim of the action is to offer building professionals training in interface management on renovation sites, based on the model of the co-activity training developed by the CD2E on site or, where appropriate, on technical platforms, with the aim of improving the energy performance of buildings. The training is aimed at both supervisors and site workers, and will take place at the same time.</p> <p>Summer comfort is a key issue in the south of France. The aim of the project is to improve the skills of project managers, craftsmen and contractors in the use of techniques designed to limit the risk of overheating in buildings. A training programme was developed during the BUS2 project. The action also aims to create local conditions for funding and implementing the "Summer Thermal Comfort in Renovation" training course.</p>	
<p>3.2: Encourage companies to upgrade their skills to carry out efficient renovations via training clauses or professional networks</p>	<p>Objective: to ensure that professionals wishing to gain access to the new-build and energy-efficient renovation markets acquire the specific skills needed to carry out the work.</p> <p>To achieve this objective in the areas where these sites are located, two parallel and complementary approaches are proposed. The first is to incorporate training clauses (see "training clause" best practice sheet in appendix 3) into calls for tender on an ad hoc basis (by identifying future contracts that are suitable for action, meeting with the contracting authorities of these worksites to get them to include a training clause in their calls for tender, and by organising training courses). The other is to promote networks of companies or the formation of consortia capable of working in these markets. These networks will work with contracting authorities to define the quality criteria for worksites and any training required.</p>



THE THREE TERRITORIES: CAMBRÉSIS, COTENTIN, MÉTROPOLE AIX-MARSEILLE

Propose to promote or develop the "training clause" among the contracting authorities in their territories for their major projects. This involves identifying a willing project owner and a worksite that is conducive to training, and assisting them in incorporating the training clause into their public works contracts, making it a contractual requirement for companies to be trained while the worksite is underway. The training can be organised by the local employment centre or similar structures.

CAMBRÉSIS

To support companies in charge of small projects (for which the "training clause" is impossible to apply), Cambrésis Emploi is proposing to set up a charter to promote, on the market, companies that have acquired skills and trained their teams, and to make it known to private individuals. This action is linked to the promotion of the Pass Rénovation and the Régie du SPEE.

COTENTIN

In order to achieve the number of BBC renovations expected in the region, the Maison de l'emploi du Cotentin would like to support the Normandy region's "eco-energy cheque" scheme by increasing the number of "BBC renovators" (see "BBC renovators" best practice sheet in appendix 3). This action will be carried out in collaboration with the person in charge of "recruiting" renovators and raising awareness among those involved, and with the person in charge of technical support for the "Les chantiers de demain" sustainable building activity and employment cooperative.

3.3: Raise the skills of real estate professionals in the field of Ecological Transition: banks, estate agents, notaries, brokers, property managers, etc.

Objective: to ensure that the joint action of the real estate professions in the regions contributes to increasing demand for high-performance renovation work.

The action involves drawing on feedback from CLER's ACTIMMO programme (see "ACTIMMO" best practice sheet in appendix 3) to train property professionals (banks, agencies, notaries) in the challenges of high-performance renovation and its impact on property values, to establish lasting partnerships between these professionals at local level and the local representative of France Rénov', and ultimately to facilitate renovation projects.

COTENTIN

The aim of this action is to relaunch the ACTIMMO programme in order to bring the entire property value chain on board the energy renovation market.

AIX-MARSEILLE METROPOLIS

The aim of the action is to continue the ACTIMMO experiment and to put in place the means to continue this action beyond 2024.

3.4: Promote MOOCs on efficient renovation and construction

Objectives:

- Increasing the skills of professionals in the building and property sector in the areas of energy transition and sustainable building in general (construction and renovation);
- Raising awareness among the general public of the issues surrounding sustainable building, particularly energy-efficient home renovation.

The aim is to secure ongoing funding for updating and running the MOOCs on the Sustainable Building platform, in order to support the industry's skills development. The MOOCs should then be made more widely available through communication and promotional initiatives.



3.5: Help those specialising in construction to make the transition to renovation: share feedback from companies as part of a Réno Tour and prepare for the retraining of professionals.

Objective:

- Offering companies feedback on how their business is developing and identifying career development needs, with a segmented approach by sector, business and company size.
- Determining career development needs, with a segmented approach by sector, business line and company size.

The first action consists of sharing feedback on business reorientation, crossing technical, legal and economic subjects to directly inspire the companies present as part of a Réno Tour (on the model of the BIM Tour) and to contribute to creating stories of these business trajectories to communicate widely.

The second is to identify the additional skills required as part of the Energy Renovation of Buildings EDEC, and then to formulate ways of increasing skills within companies: advisers and trainers, catalogues, tutorials, etc.

AIX-MARSEILLE METROPOLIS

The action consists of defining the training content of a module promoting professional bridges from new build to renovation, by addressing the following 3 aspects: technical aspects (such as the removal of materials or interfaces and interactions between batches), behavioural aspects (soft skills) required for work on an occupied site with the presence of the tenant or owner during the work, organisational aspects such as the autonomy to be acquired by an employee working alone on a small operation.

TERRITORIAL ACTION COMPLEMENTARY TO AXIS 3

In addition to the actions directly linked to the national initiatives, some territories have proposed complementary actions to meet their own needs.

AIX-MARSEILLE METROPOLIS

In addition to the observatory that the region would like to see, it is proposed that a map of existing training courses and, for each, the number of places available should be added. The aim is to optimise the management of training provision (initial, continuing and vocational) and the various action plans to support the sector.



4 IMPLEMENTATION OF BUS2 PROPOSALS

As part of BUS2, the building industry is proposing a package of strategic and operational actions, the implementation of which depends on the will of the State and the capacity and resources of the stakeholders already mobilised or ready to mobilise. The aim of this section is therefore to highlight a number of principles that are essential if these proposals are to be passed on to stakeholders and local authorities.

For the BUS2 community, the challenge is to perpetuate dialogue and cooperation between players in the building, employment, and training sectors, in order to ensure concerted management of the proposed actions, at all levels: between ministries, between the various departments of local authorities, between players involved in integration and those involved in training, etc. For example, a local authority economic development officer responsible for employment issues needs to be familiar with employment and training schemes such as FEEBAT in order to be able to talk to construction companies in the area.

4.1 LINKING EMPLOYMENT AND ECOLOGICAL TRANSITION POLICIES AT ALL LEVELS

The BUS2 proposals require two ministerial co-pilots: one for the ecological transition of buildings, the other for employment and skills.

Efforts to link these two fields of public action gained momentum in 2015 with the announcement of a Jobs and Skills Programming Plan (PPEC) associated with the Multiannual Energy Programming. Although the PPEC has not yet been put into operation, a number of national measures are now in place to gradually bring employment and training policies into line with national energy-climate objectives. The Skills Investment Plan finances skills training for young people and jobseekers, with the emphasis on pathways to sustainable employment and support for priority sectors linked to the ecological transition. It is also set out in the "Regional Skills Investment Pacts" signed by the State and the Regions, thus enabling coordination with existing regional schemes.

The Interministerial Mission for Coordination of the Energy Renovation Plan for Buildings (MCI-PREB) coordinates its implementation by the Ministries of Employment and Ecological Transition and the General Secretariat for Ecological Planning (SGPE). The [plan](#) includes the acceleration of skills development and innovation in the building renovation sector as one of its 4 priorities to encourage "general mobilisation". Its targets (65,000 trained professionals) appear to be insufficient to meet the manpower needs assessed under BUS2, as are the human resources allocated to it to fulfil its missions, which are set to increase in the future. However, it does provide a framework for shared governance between those involved in training, transition and construction, which will be useful for the proposals and guidelines formulated as part of BUS2.

In addition, a commitment to the development of employment and skills (EDEC) is under discussion with the construction industry⁹. EDECs exist at regional level, often focusing on the digital and energy transition, as in Occitanie and Grand Est, but a structuring EDEC at national level is still lacking. The search for coherence between the challenges of transition in the construction sector and those of employment and skills is the basis of the BUS2 project. It is therefore essential for these proposals to be supported and promoted by those involved in energy renovation and construction, as well as those involved in employment and training.

It is also necessary for this support to materialise at several levels. The BUS2 proposals are intended to provide food for thought in the regions and at government level, with a view to drawing up future action plans for the development of professional skills in the building industry. Several other opportunities may also facilitate the integration of the BUS2 proposals into local and regional policies, such as the regional COPs, for example, as part of the territorialisation of planning, which aims to identify the levers for action to achieve national objectives and ensure that they are consistent.

⁹ A EDEC is an annual or multi-year agreement between the State and a professional organisation for the implementation of an action plan aimed at adapting the sector concerned to economic and social change.



4.2 A PROGRAMME TO IMPLEMENT BUS2 ACTIONS AT LOCAL LEVEL

Given the wide-ranging needs of the building sector in the regions, the need to provide appropriate support to potential households, businesses and local authorities in their renovation projects, and the variety of skills and profiles required, consideration of the BUS2 proposals at national level is directly linked to their implementation in the employment areas. To this end, we intend to continue the momentum generated in the 3 pilot regions before rolling out the approach to all regions.

Phase 1 (2024-2025): Build on the momentum generated by the 3 pilot areas

Based on their diagnosis, the three regions (Cambr sis, Cherbourg Cotentin and Aix-Marseille) have drawn up a list of actions based on local best practice, while also adapting proposals developed at national level. In this way, the local action plans are also structured around the 3 operational areas of the new construction and renovation market, recruitment and training. (See below guidelines and proposals for action in the 3 BUS2 pilot areas).

The aim is to test, in the three BUS2 areas as well as in the Lille European Metropolis (MEL), sets of actions identified at national level during phases 1 and 2 of BUS 2, and actions specific to the area, in order to check their feasibility, refine the methods of implementation and measure their impact.

To achieve this, each of the 4 territories needs two people (project officers or project managers) - one in charge of the "employment" section, the other in charge of the "market" section. They will work closely together to co-lead and coordinate dialogue on all employment-ecology issues (operational issues, feedback, forward-looking studies, etc.).

These people will be responsible for setting up and managing the actions selected for their area under priorities 1, 2 and 3 (see above). They will also be responsible for:

- Promote exchanges and dialogue between market players and those involved in employment/training.
- Contribute, beyond their territory, to the preparation of the next stage (the rollout of the approach in all employment areas).

In each of the 4 areas, the EPCs already have people in charge of housing and tertiary buildings. On the other hand, the positions of project managers or employment/training project managers need to be consolidated or created.

Phase 2 (from 2025): Roll-out to all employment areas in 2025

The gradual mobilisation of all employment areas so that concerted action plans can be drawn up and implemented in each of them will be carried out using two possible approaches: one that is predominantly "bottom-up" and the other that is predominantly "top-down".

- In the first approach, the initiative will come from the employment areas, which will seek assistance from the Regions, with support from the national level. This seems to be the most appropriate approach in the 3 regions where the areas involved in BUS 2 are located (Hauts de France, Normandy, PACA).
- In the second approach, the initiative will come from the national level, which will seek support from the regional level and then from the employment areas.
- In the 2 approaches, it is proposed that the national co-piloting of the BUS 2 follow-up be ensured by the ministry in charge of ecology and the ministry in charge of employment.

On the basis of the BUS2 territorial experiment (diagnosis and action proposals) and BUS2+1 year (implementation of actions) in the pilot territories, an assessment will make it possible to envisage and adapt the approach for all regions and employment areas that so wish from 2025. It will identify:

- The conditions for the success of these actions ;
- The profiles of the project managers to be recruited (job descriptions) ;
- Budgetary resources to be sought (in addition to posts).



It will be based on the complete cycle of experimentation in the 3 pilot areas: diagnosis, proposals for action and implementation. Diagnosing needs in terms of the market, jobs and training is an important starting point. The experience of the 3 pilot areas supported as part of BUS2 provides feedback and tools for setting up a similar dialogue between local players in the construction market and those involved in employment and training, led by the local authority.

Voluntary regions and areas will be selected via a call for expressions of interest. They will have the opportunity to finance one or two project manager posts responsible for setting up and managing BUS2 actions. These project leaders will benefit from the technical support of the BUS2 community leaders, will have access to practical guides and will be able to exchange ideas with other regions involved in the programme. Project leaders will be able to mobilise local market and employment players and work with them to diagnose their respective needs, with the possibility of implementing an SDP-type approach.



5 TERRITORIAL ROADMAPS

In parallel with the work carried out at national level by the BUS2 project, 4 territories have followed the same approach in their employment areas in order to draw up proposals for actions adapted to their context, based on concrete actions that can be implemented locally.

Many of these actions are based on the national proposals, and can therefore be used as a test for a wider roll-out of these actions.

As at national level, the action plans for these 4 territories are based on the following principles:

- supporting the high-performance renovation market
- developing recruitment in the construction industry
- offer training courses tailored to the needs of the building industry.

The 3 territories concerned are:

- Métropole Aix-Marseille-Provence (1.8 million inhabitants, 96 communes)
- Cambrésis region (162,000 inhabitants, 116 communes)
- Cotentin - Cherbourg conurbation (185,000 inhabitants, 129 communes).

The European Metropolis of Lille (1.6 million inhabitants) has approached BUS2 to join the initiative.

A meeting with these 4 employment areas was held on 19 December 2023. This provided an opportunity to present the progress made on each of their roadmaps.

5.1 AIX MARSEILLE AREA

The action plan comprises 15 actions divided into 5 thematic areas defined locally. 9 of these are linked to national actions.

PRIORITY 1: DYNAMIC OBSERVATION OF LOCAL EMPLOYMENT / TRAINING / MARKET NEEDS

Action 1.1: Creation and implementation of a forward-looking territorial observatory for jobs, skills and training needs

The aim is to observe regular changes in the building markets in the Aix Marseille Provence metropolitan area and the job and skills requirements of local businesses (in the short and medium term), so as to be able to optimise the training on offer (initial, continuing and professional) and the various action plans to support the sector.

The action will aim to create the conditions for local implementation of a tool for quantifying forward-looking data, markets, jobs and skills for the period 2024-2030 and for monitoring training provision, and to lead a "jobs and skills experts" working group, responsible for analysing the data produced, interpreting it and leading the local forward-looking dialogue.

- **Potential sponsor/pilot:** Maison de l'Emploi Ouest Provence
- **Associated stakeholders:** Carif emploi compétences, Région Sud, Acteurs Service Public de l'Emploi Local et Education nationale, CERC PACA, Capeb 13, Constructys, Fédération du bâtiment des bouches du Rhône, Observatoire CMA



PRIORITY 2: RECRUITMENT AND ATTRACTIVENESS

Action 2.1: Annual programming of sessions to promote the building sector and its career opportunities.

From 2025 onwards, the industry will be faced with a massive recruitment challenge. At AMP level, job demand in the building trades will fall by more than 30% between 2018 and 2023, and 16% of building professionals will be over 55 in 2022, meaning they will retire by 2035.

The aim of the action is to respond rapidly to this challenge by promoting a positive and dynamic image of the sector, and by providing as many people as possible with information on the construction sector, its development and career opportunities.

The aim is to set up and run a programme in each employment area to raise awareness of careers and opportunities in the construction industry. The programme will be tailored to each target audience: young people in or out of school, people in work-based integration schemes, adults on their way back to work or planning to retrain or set up or take over a business, etc. The action will mobilise and run a network of players who are willing to take part in one or more sessions (company managers and journeymen, Envirobat, suppliers of bio-sourced materials, young "ambassadors", retraining schemes, etc.).

→ **Prospective sponsor/pilot:** Maison de l'Emploi Ouest Provence

→ **Associated stakeholders:** CLEE Local School Enterprise Committee network, business clubs, Local Public Employment Services players, France Compétences, Bouches du Rhône Building Federation, Bouches du Rhône Capeb, Ecole de la 2ème chance, IAE networks, skills assessment centre.

This action will be carried out in conjunction with national action 2-1 "Improve the image of the building trades".

Action 2.2: Discovering careers through practical experience

The aim of this action is to ensure that, in addition to the information sessions on the sector and the trades, people who want to find out about building trades can try out 1 or more building trades by doing, in order to inform their career choices and limit the rate of people leaving the sector.

The aim will be to mobilise and run a network of local training bodies with technical construction facilities, so that anyone who so wishes can take part in a practical training course to discover 1 or more trades of their choice, particularly those with a high recruitment need in the area (action 1.1), by means of PMSMPs (periods of work experience in a professional environment).

→ **Project sponsor:** Maison de l'emploi ouest Provence (West Provence employment centre)

→ **Associated stakeholders:** building training organisations, France Travail players, all prescribers of pathways back to employment or professional reorientation.

This initiative will be carried out in conjunction with national initiative 2.2 "Encouraging young people to take up vocations through action".

Action 2.3: Workshop to discover the building trades specifically for women

According to the latest figures available from the Fédération française du bâtiment, the proportion of women in the building industry was 12.3% in 2020, with only 1.6% working on building sites. The aim of this initiative is to attract more women to the building trades, in order to meet companies' labour needs.

The project consists of a 6-day trial of a building trades discovery workshop for a group of 12 women. They will be able to try out different building trades, one a day, on the technical platforms of one or more training organisations selected in advance. The course will be punctuated by regular presentations by various professionals from the sector, company directors or journeymen. It should be positioned before any training sessions to support access to qualifications.



→ **Potential sponsor/pilot:** Maison de l'emploi Ouest Provence for the engineering phase / training organisation to be selected to implement the workshop.

→ **Associated stakeholders:** Constructys, training organisations, France Travail players, prescribers of pathways back to employment, les Fabricoleuses networks, Geiq BTP

This action will be carried out in conjunction with national action 2-4 "Feminising professions".

Action 2.4: Educate all those who prescribe employment and training pathways about changes in the construction sector and trades

To be in a position to promote the sector's opportunities to their target groups and to provide the best possible advice on the career choices of the people they support, the prescribers (partners in the public employment service (France Travail, local missions, Cap Emploi), IAE structures, PLIEs, career development advisers, second chance schools, Epide, skills assessment operators, etc.) need to be aware of developments in the sector and the expectations of local businesses. They also need to understand what technical skills and soft skills are required for each profession.

The action will consist of organising information sessions for specifiers in each employment area, including testimonials from local companies or expert partners (observatoire des métiers du bâtiment, Envirobat, FFB, Capeb, etc.), organising visits to building sites and technical platforms, and distributing a half-yearly newsletter presenting updated figures for the sector and developments in the local service offering.

→ **Project sponsor:** Maison de l'emploi ouest Provence (West Provence employment centre)

→ **Associated stakeholders:** local businesses through business clubs and professional organisations, technical support structures, etc.

This action will be carried out in conjunction with national action 2-5 "Strengthening the role of prescribers".

Action 2.5: Experimenting with reverse VAE as a response to recruitment difficulties in the construction sector

The Maison de l'emploi Ouest Provence is proposing to facilitate, support and monitor the implementation of the experimental Vae inversée scheme in the area, because of the scheme's ability to respond to the recruitment difficulties faced by local companies in the construction sector, due in particular to the lack of skills among applicants.

To this end, the MdE will identify and mobilise one or more potential project leaders in the Aix-Marseille metropolitan area to respond to the national call for projects on reverse VAE in the context of professionalisation contracts, as a response to the recruitment difficulties faced by construction companies, and thus enable the least qualified workers to find long-term employment and acquire skills, and enable companies to fill vacancies in occupations where recruitment is tight.

→ **Prospective initiator/pilot:** not yet identified

→ **Associated stakeholders:** Maison de l'emploi Ouest Provence, Constructys, Fédération du bâtiment and CAPEB on the mobilisation of local businesses, training organisations.

Action 2.6: Support business start-ups, takeovers and professional retraining in the construction sector

Building trades, and especially energy renovation, are not the most popular areas for retraining. What's more, a proportion of employees who are planning to change careers or want to set up their own business have no definite plans. To inform and support these groups in discovering the opportunities offered by the construction industry, the action aims to put in touch, with the Chamber of Trades and the Chamber of Commerce, the sellers of companies and people wishing to start up or take over, and to facilitate PMSMP ([Periods of](#) Practical Work Experience) to discover the trades and companies.



To this end, the professional development advisors, supported by Avenir Actif, and the skills assessment operators will be involved in initiatives to increase the awareness of prescribers, so that they can provide the right level of information to the people they support and direct them to the information sessions that will be held throughout the region. In addition, company sellers will be made aware of reverse VAE as a training tool for future buyers.

→ **Proposed initiator/pilot:** Ouest Provence employment centre

→ **Associated stakeholders:** Chamber of Trades, Chamber of Commerce, skills assessment operators, Avenir Actif

This action will be carried out in conjunction with national action 3-5 "Helping construction specialists to switch to renovation (organisational methods and training)".

PRIORITY 3: SECURING CAREER PATHS

Action 3.1: Training site supervisors in gender equality in the workplace

While the promotion of the building trades is aimed at women, testimonies highlight the difficulties of integrating women into these traditionally male trades, mainly due to a lack of awareness and training of intermediate supervisors on site.

The aim of the project is to successfully integrate women into the building trades by training middle managers in gender equality. The aim is to experiment with raising awareness and training middle managers to manage mixed teams. The aim of the training is to gradually deconstruct stereotypes, prejudices and preconceived ideas without judgement. Finally, the training should equip participants with support tools for managing mixed teams (team meeting facilitation techniques, mediation tools, etc.).

→ **Prospective sponsor/pilot:** engineering phase (writing the specifications, seeking funding for the training, selecting the service provider, setting up the group) by Maison de l'Emploi Ouest Provence.

→ Implementation of the training programme: selected training organisation

→ **Associated stakeholders:** Constructys, training organisations

This action will be carried out in conjunction with national action 2.4 "Feminising worksites".

Action 3.2: Secure career paths for existing employees

The construction sector is affected by high staff turnover. Responding to the labour needs of local companies therefore requires action to limit departures from the sector. To do this, a field survey was carried out to explain the main reasons why people leave the sector locally, and then a proposal was made for a local service offering aimed at limiting departures from the sector, particularly in the trades most affected by the need for manpower in the coming years.

In particular, the service offering should seek to

- limit involuntary departures due to unfitness
- limit voluntary departures by giving them a new sense of purpose, in particular through skills development
- limit the risks of contract termination in the event of unfavourable economic conditions

→ **Prospective sponsor/pilot:** to be defined

→ **Associated stakeholders:** Avenir Actif (CEP operator for employees) to be defined.



PRIORITY 4: BUILDING THE SKILLS OF PROFESSIONALS IN ENERGY-EFFICIENT RENOVATION

Action 4.1: Construction and testing of the "summer thermal comfort in renovation" training module

Faced with the acceleration of periods of extreme heat, craftsmen and professionals need to be able to prescribe directly to private individuals the right actions to rapidly improve their summer comfort and, where appropriate, control their energy bills by delaying the use of active systems. There is very little training available in France to date.

The aim is to set up and implement a "Summer Thermal Comfort in Renovation" training course in AMP, then to raise awareness, acculturate and train all professionals in the sector in the use of techniques designed to limit the risk of buildings overheating.

The educational content of this training course was developed by the BUS 2 players involved in the "training professionals" working group.

- 1 / Knowledge of the context, regulations and conditions of summer comfort as a differentiating factor for the company.
- 2/ The key elements of thermal comfort in summer: common problems and factors contributing to thermal comfort in summer.
- 3 / Techniques, technologies and materials for :
 - a. protect yourself from overheating
 - b. evacuate calories
 - c. use semi-passive strategies
- 4/ Complementary actions such as limiting the heat island effect and helping users to adopt good practices

→ **Prospective sponsor/pilot:** To be defined

→ **Associated stakeholders:** Constructys, training organisations, CAPEB 13, French Building Federation

Action 4.2: Training professionals to manage renovation interfaces

The local assessment carried out in 2023 shows that professionals have a good command of their respective trades, and that there is an abundance of high-quality initial and continuing training for building professionals in these trades. However, in order to guarantee the energy performance of buildings at the local level (level A or B of the DPE), particularly during renovation, the ability to work together and to manage the interfaces between batches needs to be strengthened. The action aims to offer building professionals training in managing interfaces on renovation sites, with a view to improving the energy performance of the building, along the lines of the training on co-activity developed by the CD2E in the Hauts de France region.

In order to implement this training, it will be necessary, on the one hand, to meet the conditions for its funding in the region and, on the other hand, to identify a training organisation to carry out the action.

The teaching content has been validated by the BUS 2 project partners at local level, but will have to be amended to meet the challenges of renovation and to incorporate new concepts such as summer comfort. The training will be aimed at both supervisors and site workers, and will take place on site or, where appropriate, on technical platforms.

→ **Prospective promoter/pilot:** Maison de l'emploi Ouest Provence on the project engineering aspect, promoter of the training action not identified.

→ **Associated stakeholders:** Constructys, training bodies, building federation, Capeb, chamber of trades and crafts

This action will be carried out in conjunction with national action 3.1 "Develop and expand practical training to acquire the specific skills needed to carry out efficient work".



Action 4.3: Construction and testing of a training module to promote professional bridges to the renovation markets

The objective of zero net artificialisation (ZAN), the quest to reduce greenhouse gas emissions from the construction sector, and the demographic slowdown all point to a slowdown in construction to an extent yet to be determined. To ensure their economic viability, construction companies need to reposition themselves in the energy-efficient renovation markets. This requires far-reaching changes to the culture and organisation of companies, to their strategy, and to the skills of their employees in the field of renovation.

The aim is to identify the additional or new skills required to adapt the organisation of companies to the renovation markets, as well as the skills of site supervisors and site workers, and to offer local companies training to adapt their organisation and skills to the energy renovation markets.

Initial work by local partners shows that this support should focus on 3 aspects: technical aspects (such as the removal of materials or interfaces and interactions between batches), behavioural aspects (interpersonal skills) required for work on an occupied site with the presence of the tenant or owner during the works, and organisational aspects such as the autonomy to be acquired by an employee working alone on a small project.

→ **Prospective sponsor/pilot:** to be defined

→ **Associated stakeholders:** to be defined

Action 4.4: Training property transaction professionals in the challenges of energy renovation / Mobilising the conditions to ensure the long-term future of the local Actimmo 13 initiative

Actimmo 13 offers a comprehensive range of services to inform, mobilise and train property transaction professionals in the challenges of energy-efficient renovation of flats, detached houses and condominiums.

The Actimmo programme was trialled in 28 areas across France from 2020 onwards. In our region, it was launched jointly by Alec Métropole Marseillaise and CPIE du Pays d'Aix. The convincing results obtained by the 2 operators have led them to continue this action since the end of 2021, under the name [Actimmo 13](#), which has become an integrated mission in the ecosystem of the Public Housing Renovation Service "France Rénov", of which the ALEC and the CPIE are associated operators as Espaces Conseil France Rénov (ECFR). Actimmo 13 is currently part of the SARE programme, which runs until the end of 2024. The conditions for the continuation of the Actimmo 13 programme are therefore set after this date.

The aim is to create favourable conditions for the two operators, ALEC and CPIE, to continue the Actimmo 13 initiative in the Greater Marseille area beyond 2024.

→ **Prospective sponsor/pilot:** ALEC (Agence Locale de l'Énergie et du Climat de la Métropole Marseillaise) and MEHC (Maison Énergie Habitat Climat du CPIE du Pays d'Aix).

→ **Associated stakeholders:** to be defined

This action will be carried out in conjunction with national action 3.3 "Raise the skills of real estate professionals in Ecological Transition: banks, estate agents, notaries, brokers, etc."



PRIORITY 5: OFFER COMPANIES TRAINING METHODS TAILORED TO THEIR EXPECTATIONS AND CONSTRAINTS

Action 5.1: Experimentation of the Training Clause

In 2021, VSEs, which account for 75% of the construction industry, will account for only 49% of trainees. What's more, most of the training they take concerns regulations and compliance with standards, with "energy and the environment" accounting for only 5% of training courses. The reasons put forward by VSEs for the low take-up of these courses are: lack of awareness of their usefulness, lack of time, centre-based courses that are not adapted to the target audience (too academic), and so on.

The training clause enables employees of companies awarded public or private works contracts to receive training on and during the worksite they are working on. To achieve this, contracting authorities accept that their worksites are training sites and encourage companies to take part in training by including a "training clause" in their contract documents. This clause has been tried out for a number of years in the Hauts de France region, and has since proved its effectiveness in meeting the training needs and expectations of very small businesses.

The Clause Formation (CF) will be rolled out and trialled as part of BUS 2 in the Aix Marseille Metropolitan Area. The engineering for this experimental action on a metropolitan scale will be carried out by the Maison de l'emploi Ouest Provence, which will :

- after identifying a willing project owner locally, work with them to identify the right site for training and assist them in incorporating the training clause into their public works contracts
- select the appropriate training organisation(s)
- organise the implementation of the training in conjunction with the project managers, the companies and the training organisation.

→ **Prospective promoter/pilot:** Maison de l'emploi Ouest Provence

→ **Associated stakeholders:** Alliance ville emploi (spin-off component), Constructys, CAPEB 13, Bouches du Rhône building federation.

This action will be carried out in conjunction with national action 3.2 "Encourage companies to develop their skills in efficient renovation and promote these skills".

Action 5.2: Mobilise a network of technical platforms to support hands-on training

Only 4% of companies in the AMP region are RGE certified. To date, the local diagnosis highlights 140 comprehensive renovations per year, whereas 18,000 per year are needed over 10 years to achieve the 2030 and 2050 targets.

"Energy and the environment" subjects account for only 5% of the training courses attended, and training through practical experience is very popular with professionals.

To encourage companies to upgrade their skills in energy performance, the action will offer "hands-on" training close to their area of activity, using the network of existing technical facilities as training supports. It will involve making an inventory of all the building technical facilities (housed in apprentice training centres, vocational colleges, materials suppliers, etc.), supporting the upgrading of their equipment to accommodate "energy performance" training and organising the arrangements for their use in all vocational training courses. The aim is to integrate "hands-on training" into the entire local building training offer, aimed not only at current professionals but also at all members of the public on training courses.

In addition, hands-on training must be provided by specially trained instructors. The training of trainers could be provided by the Chamber of Trades and Crafts at the Alvéobât centre in Sainte Tulle. The BUS project will have to create the right conditions for training the trainers.



→ **Prospective sponsor/pilot:** Maison de l'emploi ouest Provence (West Provence employment centre)

→ **Associated stakeholders:** Constructys, Feebat, training organisations, vocational high schools, apprentice training centre, southern region, CAPEB, building federation, chamber of trades and crafts

This action will be carried out in conjunction with national action 3.1 "Develop and expand practical training to acquire the specific skills needed to carry out efficient work".

Human and financial resources to be mobilised by the MdE to implement the action programme

The Maison de l'Emploi Ouest Provence needs 2 FTEs to implement the action plan, which covers a very large area encompassing 92 municipalities over a surface area of 3,148 km² (4 times the size of Greater Paris and 6 times the size of Greater Lyon) with a population of 1.9 million. In addition to the funding available under the FTJ, ways are being explored to find co-funding.

Métropole AMP is a valuable and major supporter in financing a large part of the action plan. It has been a very active stakeholder since the start of BUS2, and this partnership is continuing both in its operational phase (training clauses, etc.) and its strategic phase (the President of the MDE is a councillor of the Metropolitan Council).

5.2 CAMBRÉSIS

General context

The Cambrai district has a population of 170,000, divided between 3 EPCIs that have shared certain tasks delegated to the Pays du Cambrésis:

- Schemes to renovate old private housing
- Renovation of communal buildings
- The borough's SCOT
- And so on.

The Cambrésis Emploi association has been delegated the tasks of "employment", "integration" and "training". On the initiative of Cambrésis Emploi and with the support of the Pays, the region has successively committed itself to:

- A "SDP" approach to "market/building" dialogue (housing renovation - employment/skills)
- The BUS 2 project.

The roadmap for the Pays du Cambrésis has been drawn up based on these 2 approaches and is divided into 3 areas: Market, recruitment, training.

PRIORITY 1 - SUPPORTING THE RENOVATION MARKET

Action 1-1: Promote support schemes for comprehensive renovation

Context: The Hauts de France Region has set up the Pass-Rénovation scheme to encourage the efficient renovation of private or local authority housing, via a Public Energy Efficiency Agency (SPEE). Its aim is to encourage homeowners to carry out a comprehensive renovation of their home, which is more effective than a one-off renovation, by offering comprehensive technical and financial support:

- **Technical:** carrying out an energy audit with work scenarios, defining an ambitious works project to achieve significant energy savings, choosing tradesmen, site meetings, end-of-site visits, etc.
- **Financial:** preparing applications for available financial aid, proposing a loan to finance the remainder of the cost, full advance on the cost of the work.



In 2024, the ANAH launched a new scheme called **"Ma Prime Rénov' Parcours Accompagné" (My Renov' Accompanied Path)**, which aims to encourage homeowners to embark on a comprehensive renovation programme by providing **compulsory support** from an approved operator called "Mon Accompagnateur Rénov" (My Renov' Accompanist).

Support is both technical and financial (with grants to finance up to 90% of the work, and advances of up to 70% depending on income category).

Despite the added value of support schemes for overall renovation (less costly and more effective renovations), they are still under-used by private homeowners in the Cambrésis region and by local professionals, to the benefit of gesture-based aid.

Objective: The aim of this action is to promote support schemes for large-scale renovation in the Cambrésis region and thus contribute to the drive to massively increase energy renovation.

- Renovation Pass from the Régie du SPEE
- Ma Prime **Rénov' Accompanied Journey**

Description of the action: Communication campaigns will continue, aimed at 4 target audiences who are stakeholders in the schemes:

- Private landlords: publications on the Pays du Cambrésis website/social networks, guidance on the schemes by the Pays du Cambrésis housing operations officer and its service providers (France Rénov' - Operator of the PIG).
- Local craftsmen: annual census of RGE craftsmen, information mailings sent to craftsmen on a regular basis, invitations to renovation breakfasts 2 or 3 times a year, individual meetings as requested by craftsmen, etc.
- Real estate professionals (co-ownership managers, estate agents, notaries, etc.): invitations to renovation breakfasts, individual meetings as requested by real estate professionals, etc.
- Elected representatives and local authority departments: information mailings to local authorities, dispatch of communication materials produced so that local authorities can act as local relays.

Estimated resources: Time spent by the Habitat operations manager.

Action sheet 1-2: Encouraging energy-efficient renovation of GMF homes

Context: Around 5,000 houses from the Maisons Familiales Group (various standardised models) were built in the Cambrésis region, many of them in the 60s and 70s. Some of these houses have never been refurbished and are now in need of major renovation. As part of the SDP initiative, the Pays du Cambrésis has affirmed its willingness to take action to encourage the owners of these GMF houses to embark on a renovation project.

Objective: The aim is to encourage GMF homeowners to embark on a renovation project and to guide them in their decision-making process.

Description of the action: This action began in 2023 with the launch of an energy audit of a panel of 5 GMF homeowners with different construction models:

- search for a panel of volunteers throughout the borough,
- carrying out an energy audit,
- presentation of two work scenarios to achieve a BBC level,
- supporting volunteer households in accessing the appropriate assistance,
- creation of communication media: 2 fact sheets to guide the choice of tradesmen and insulating materials, 1 fact sheet on the stages of a renovation, 1 summary booklet illustrating the audits carried out on the 5 types of GMF homes, etc.



In 2024, this mission will be complemented by a **communication and promotion component** to help homeowners make the right decisions when it comes to carrying out works:

- dissemination of the materials produced in the municipalities and neighbourhoods concerned,
- creation and broadcasting of a dedicated podcast.

Estimated resources

- Time spent by the Pays du Cambrésis project manager
- Operator Urbanis commissioned in 2023 for the audit and creation of communication media
- Operator Inhari to support volunteer households wishing to implement one of the scenarios presented.
- Studio Flamboyances" podcasts commissioned in 2024

PRIORITY 2 - ENCOURAGING RECRUITMENT

Action Sheet 2-1: Deploying and enhancing the BTP method

Context: The BTP (Bâtis Ton Projet) method has been trialled for 3 years in the Cambrésis region, which has enabled the conditions for its success to be identified.

Objectives

- Raising awareness of the building trades among different target groups (young people, jobseekers, women, etc.) to persuade them to enter this sector and follow training courses in the trades on offer.
- Continue to use the method by organising at least 4 BTP actions each year in the Cambrésis region.
- Optimise its use by organising downstream training courses leading to employment in the construction sector

Description of the action: The BTP method will continue to be used (subject to obtaining the necessary human resources), with particular attention paid to the upstream and downstream stages of each action, including:

- Upstream, training in the use of the method for professionals likely to refer people to BTP (France Travail advisers, PLIE and Missions Locales, RSA referrers, IAE structures, etc.).
- Downstream, setting up an organisation that allows people who are interested in a building trade and have the skills to do so to embark on a training-to-employment programme without wasting time.

Estimated resources

- 25% of the time of the employment-training project manager (funding to be found for the post)
- Implementation of the BTP tool (financing to be found), logistical requirements, financing of professionals and contributors, etc.

PRIORITY 3 - DEVELOPING TRAINING

Action 3-1: Organise Praxibat and FIT "hands-on" training courses

Context: There are around 150 RGE companies in the region. A small group of these companies are involved in BUS 2. A Praxibat platform has been set up at the Lycée Blériot in Cambrai. Companies were unaware of its presence until a recent visit organised by Cambrésis Emploi as part of BUS 2. The company directors who took part in the visit were very interested in this educational tool. FITs were also organised in the region.

Objective: The aim of the action is to develop local training in the following area.



Description of the action

- The FIT can be organised on all sites, i.e. those large enough to bring together several trades at the same time.
- Another proposed approach is to draw up a training programme on the Praxibat platform at the Lycée Blériot with the group of companies that took part in BUS 2. This programme would be updated each year to meet companies' needs as closely as possible.

Resources mobilised

- 25% of a project manager's time
- Cost of using the FIT and Praxibat platforms (including consumables)

Action 3-2: Encourage local businesses to develop skills to renovate and construct efficient buildings

Context: Companies in the Cambrésis region are reluctant to invest in training courses that won't help them win new business. Some are aware that they need to acquire additional skills to those they already possess in order to be able to work on efficient renovation and new-build projects. In addition, project owners (social landlords, the Cambrai urban community, the Nord department, etc.) who have carried out major building renovation projects in the Cambrésis region have successfully used the training clause and the FIT for the companies awarded these projects.

Objectives: The aims of the action are to:

- Developing the use of the training clause
- Broadening the scope of training incentives.

Description of the action: The training clause will continue to be offered to project owners likely to use it. And, to broaden the scope of training incentives, it is proposed that we work with willing local companies to set up a scheme to distinguish companies that commit to training their staff on the Praxibat platform. This distinction could take the form of a local label that would be communicated to owners in the area.

Resources mobilised: 50% of a project manager's time.

Action sheet 3-3: Recovery and reuse of building waste

Context

In the Cambrésis area, there is no place, where construction companies can deposit their building site waste. An Emmaüs-affiliated back-to-work company, Recycle, has just been set up in Cambrai. In the neighbouring area of the coalfield (Aix-Noulette), the Chantier d'Insertion Récup-Tri has set up a system for recovering and sorting waste on building sites in 2 districts, and has just opened a sales outlet.

Objectives: The action has 2 objectives:

- Offering people who have been excluded from the labour market pathways to integration through economic activity in the construction sector.
- Offering local construction companies services for processing their waste.

Description of the action: An initial working meeting was organised on 15/03/2024 by the Maison de l'Emploi 'Cambrésis Emploi', attended by representatives of the Communauté d'Agglomération de Cambrai (an elected member and a technician), the State, the Département, Récup-Tri and Recycle. It was decided to launch the project, starting with a visit to Aix-Noulette by all the participants (on 15 April 2024).



A business plan will then be drawn up by Recycle with the help of Récup-Tri; it will then be submitted to the funding bodies in order to obtain the aid available under ordinary law.

The activity could then be set up by Recycle.

Resources:

- HR for Recycle and Recup-Tri
- Common law funding (State, Region, Department)

5.3 COTENTIN

The Cotentin Roadmap framework

The aim of the COTENTIN "package of actions" is to increase the number of high-performance renovations to homes and commercial buildings, and to meet the needs of the conurbation's Housing Plan. It is broken down into the 3 areas identified at national level:

Markets

- Develop information for property professionals: relaunch the "ACTIMMO" scheme with SCIC des 7 vents which, despite the programme's termination, has retained the skills to continue this work, which meets the requirements of a France Rénov space like "Je rénove en Cotentin".
- **Professionals: involve stakeholders in a charter promoted by the region**

Jobs and skills

- Developing the FIT "Work Integrated Training" training clause
- Optimise use of the department's 2 PRAXIBAT platforms Promote the Rénovateurs BBC scheme and increase the number of associate members in the region

Attractiveness of professions

- Expand the "Build Your Project" BTP scheme
- Concerted action to increase the number of women in the building trades, in conjunction with the Coutances apprentice training centre (CFA)
- Implementing the "Ecoconstruction Worker" certification (OEC)

ACTION SHEET 1: ACTIMMO

Partners: "Je Rénove" en Cotentin", 7 vents, MEF BUS2, ANAH

ACTIMMO was a national awareness-raising programme for property professionals (2019-2020). Locally, it was deployed by the 7 vents. Buying a property is an ideal time to consider a comprehensive, high-performance energy renovation. However, buyers still need good advice from their contacts to get them started.

The ACTIMMO programme aims to inform, mobilise and equip property transaction professionals so that they in turn can inform their customers. In this respect, there is a real need for accurate, factual information for property professionals with little experience of energy-efficient renovation. The aim is to bring this essential link in the property value chain, the "transaction" sector, into the mainstream energy renovation market. Transaction professionals need to be able to provide an initial level of information on the financial assistance available, the work that can be carried out and the green value of the property.

The ANAH is in the process of finalising a new contract with the public housing renovation service, so that the France Rénov centres can carry out long-term initiatives to raise awareness among property professionals.



ACTION SHEET 2: COMMITMENT CHARTER FOR EFFICIENT RENOVATION

A charter of commitment would embody the region's collective efforts to achieve energy efficiency and innovation. It would include essential criteria, the basis of the partnership, which would be mandatory, and important criteria which would be recommendations. Signed by the companies, it would enable them to be included on shortlists.

Suggestion: Among the Essential Criteria

- Comply with all legal and regulatory obligations, in particular : Labour law and health and safety ;
- Participate in planning and managing the efficiency of energy renovation work;
- Raising employees' awareness of sustainable development and the ecological transition (concepts of climate change, adaptation, energy sobriety, circular economy, pollution, biodiversity, pollution, grey energy, low-carbon materials, car-sharing, etc.);
- Take steps to reduce energy and water consumption and encourage the use of renewable energy wherever possible;
- Promote and take part in feminisation operations;
- Limit waste production, reuse or recycle unavoidable waste,
- Identify the sources of greenhouse gas emissions in your business as a whole (buildings, equipment, travel, etc.);
- Giving priority to local, environmentally-friendly and socially-responsible suppliers, where these are available, competitive and of sufficient quality;
- Measuring and monitoring customer satisfaction with a view to overall improvement;
- Welcoming interns and work-study students.

Important criteria

- Seek to experiment with work-integrated training and take part in BBC projects;
- Promoting savings on materials by encouraging re-use;
- Participate in actions aimed at improving the efficiency of trades to save energy; Participate in the development of local low-carbon bio-sourced materials (straw, flax, hemp, wood, etc.) and geosourced materials (earth, cob) to encourage the emergence of regional economic sectors based on the mastery of all value chains;
- Manage purchases to minimise waste (lifespan, reparability, etc.);
- Valuing sustainable development actions in a fair and reliable way;
- Enhancing the value of training, discovering different trades, working together in different trades, etc;
- Encourage initiatives to make the renovation sector more attractive: profit-sharing, working hours, HR policy, etc;
- Promote the Charter to suppliers, colleagues and customers

ACTION SHEET 3: WORK-INTEGRATED TRAINING FIT - A TRAINING CLAUSE

Partners: Région, CFA, MEF BUS2, Agglomération du Cotentin, Bailleurs sociaux, Pôle Emploi, CD2E, Constructys,

Work-integrated training (fit 2.0) is a method that has been developed and trialled since 2017 in Hauts-de-France. Funded by the government and the region, the aim of this initiative is to enable construction professionals to improve their skills in both their specialist areas and in terms of interoperability. In this way, the market (and the worksite) becomes a learning organisation. The commissioning of construction and energy renovation work is combined with on-site training, using PRAXIBAT®-type mobile training platforms as a teaching tool.

Companies have significant needs in terms of practical training, and we need to respond by offering appropriate methods and content that meet the challenges facing the sector: a global approach, energy savings, waste management, low-carbon biosourced and geosourced materials, reuse, adapting to climate change, taking biodiversity into account, greening, etc.

Focused on operational issues, the FIT course familiarises students with energy performance requirements and/or construction methods. The learner observes his or her own development of skills and is made aware of the impact of his or her professional actions through the mistakes he or she may make.



The learner can also make progress by discussing his or her actions and habits with the trainer and other trainees. Since learning can be observed in a work situation, the question of whether the participants will be able to apply the skills they have acquired is practically non-existent. The CD2E has said it is prepared to make one of its 2 FIT mobile platforms available for an initial trial in the Cotentin region. We are currently looking for a contracting authority likely to include a training clause in one of its large-scale contracts involving at least 6 trades. If it proves difficult to start with a site in the Cotentin region, a site in Caen might be easier to identify.

- It is also possible to organise a visit to Loos en Gohelle (headquarters of the CD2E, a suburb of Lens) to attend a FIT session and talk to local people familiar with the scheme.
- Constructys Normandie is aware of the FIT scheme currently being tested in Hauts-de-France and is keen to see it extended to other regions.
- The Coutances CFA has at least 1 trainer with the right profile to be trained in the FIT methodology in the Hauts-de-France region.

ACTION SHEET 4: PRAXIBAT® PLATFORMS

Partners: CFA, BUS2, GRETA, AFPA,

The Coutances CFA has 2 PRAXIBAT® platforms for training apprentices. The frequency of use of these platforms could be optimised:

- For use by professionals
- But also as part of the process of discovering new trades and raising awareness of the importance of insulation in the fight against climate change.

The work to be carried out focuses on different perspectives:

- What are the possible and relevant choices for optimising the tool?
- How do you attract craftsmen and employees?
- How can we make the most of their time?
- remanufacturing
- Redevelopment
- Benchmarking in Burgundy

ACTION SHEET 5: BBC GLOBAL RENOVATORS

Partners: The Region, Rénovateurs du Cotentin, Éric ZIMOLONG, MEF, Je RENOV en Cotentin, SCIC des 7 vents, CAE Les chantiers de demain

Since 2012, the Normandy Region has been providing support for comprehensive BBC renovations.

→ **On the technical side:**

Together with the Region, contracted auditors help to identify the real priorities through energy audits of homes. Homeowners can benefit from the skills of low-energy renovators (craftsmen, general contractors, project managers and architects trained in comprehensive renovation) who can coordinate all their work to ensure effective renovation over the long term. In one or more stages, homeowners can achieve a low-energy home.

→ **Financially**

Efficiently renovating a home with the help of the Chèque éco-énergie Normandie means: benefiting from a complete and coherent approach to your work, working with local and competent professionals, reducing your energy bill now and over the long term, living in a comfortable and attractive home, increasing the value of your home on the property market, taking part in the fight against global warming, etc.

The BUS2 assessment estimated that 2,700 BBC-level renovations would have to be carried out each year in the Cotentin region to meet France's commitments in terms of carbon-neutral housing. Although this may seem an illusory goal, stakeholders must redouble their efforts to experiment with solutions that will maximise the number of efficient renovations. Members of the BBC renovators' network can commit to the effectiveness of the comprehensive energy renovation work they undertake.



In practice, this commitment makes them a "quality benchmark" for energy-efficient renovations that should be promoted. A label is also being prepared to embody all the virtues of the chain of trust.

The aim of this action is to support the development of the Region's "eco-energy cheque" scheme and to increase the number of BBC renovators in the Cotentin region, i.e. companies capable of taking on the role of "quality leader" and with the necessary skills in comprehensive renovation.

ACTION SHEET 6: BTP "BUILD YOUR PROJECT"

Partners: REGION, JE RENOV EN COTENTIN, CITY OF CHERBOURG, AFPA, AROM, FRANCE TRAVAIL, INTERIM, GEIQ BTP, AVE, PRACTEE FORMATION, DDETS, MISSION LOCALE, PLIE, GRETA, AROM, CFA, 7 VENTS, FFB, CAPEB, DEPARTEMENT, CCAS, RENOVATEURS BBC

Bâti Ton Projet is a scheme for sourcing potential labour for the construction industry. It is made up of educational workshops and provides an opportunity to discover the different trades involved in various building and finishing activities. The "discovery" version allows 32 people to be tested over the course of a day. Candidates can be young or more experienced, male or female, with or without qualifications - the test is open to everyone!

It will be tested in the Cotentin region during the week of 8 to 12 April 2024 with the mobile version of the technical platform mounted on the PRACTEE Truck. Two meetings are scheduled for Friday 15 March and Monday 8 April, the first to mobilise the partners to optimise the arrival of BTP and organise the registration of the people to be tested, the second to discover the truck and discuss with the technical support staff their methodology for identifying skills and competencies.

To reach out to people living in rural areas, we are looking (before 15 March) for a comprehensive renovation site in a village in the Cotentin region (Portbail, Montebourg, Picauville, Bricquebec, Valognes, etc.) to host the trial on Thursday 11 April, and to provide a direct link between the potential workforce tested under the scheme and the companies looking for new journeymen.

A regional trial of the tool will be carried out by the AFPA as agreed in the grant application submitted to the region. The experimentation of BTP must be considered in the context of the dissemination of the good practices identified in BUS2 and it would be important to secure the "state of mind" in which BTP is deployed in Hauts-de-France, and that the consortium of Nordic MDEs be involved in the "Cotentin" experimentation by delegating a person who could work with Benjamin FEDOR with local partners to explain the approach, the methodology, the specific virtues of BTP, etc.

ACTION SHEET 7: FEMINISATION OF THE WORKFORCE

Partners: CFA - FFB - CAPEB - Chantiers de demeains - MEF - REGION - AROM

Between self-censorship and gender stereotypes, women are still under-represented in the building and civil engineering professions. In the building and public works sector, only 12% of employees are women. The recent study carried out by the Île-de-France Regional Joint Employment and Training Commission for the building and public works sectors (CPREF BTP) sought to identify the obstacles to the integration of women into the workforce and to identify the levers that can be used to promote the place of women in these professions. The study revealed that:

- (1) more than half of building and public works companies consider gender diversity to be a crucial issue,
- (2) these same companies recognise the positive impact that women have on their overall performance,
- and (3) women represent a potential means of easing recruitment-related tensions.

The study seems to suggest that female role models need to be developed in the construction industry in order to reduce the predominance of gendered choices and reduce women's self-censorship when choosing a career. The family and low-level influencers, such as teachers of general subjects, have a negative influence on career choices.



As a MEF study shows, these preconceptions could be countered by an information campaign focusing on the ecological responsibility of the building trades and the ergonomic advances they have made. Conversely, if people close to you are already working in the sector, this can counter stereotypes and make it easier for you to enter the building trades. The study also highlights the fact that the building trades are rarely seen as opportunities for women to retrain or enter the workforce.

However, courses related to finishing work, which emphasise more artistic aspects, are more attractive to women. Engineering and architecture courses are also attracting a great deal of interest, and additional modules on sustainable development are gaining in popularity among female students.

The interviews emphasised that access to the building and civil engineering professions requires adjustments to working conditions and recruitment practices in order to attract and retain women.

Site management occupations are identified as the most likely to be filled by women, in both the building and public works sectors. Research and design functions and finishing trades are also cited.

Avenues for action to FEMINISE the emerging sector:

- Inspired by the steps taken by the Coutances apprentice-training centre, which has succeeded in increasing the proportion of female apprentices from 2% to 8%.
- Inspired by recent studies published by the Observatoire des métiers et des grands enjeux du BTP on the feminisation of trades
- Importance of training trainers
- Feminisation of trade names
- Developing the skills of assistants and secretaries
- Emphasise that building is a collaborative effort to restore a global vision
- Organise meetings between companies, schools and young people to find out about careers
- Diversification of recruitment methods
- Raising awareness among contractors of the importance of appropriate infrastructure on worksites.

ACTION SHEET 8: ECOCONSTRUCTION WORKER TRAINING OEC

Partners: REGION, ATFPEN, GRETA, 7 vents (collective of trainers for the ecological transition), MEF, City of Cherbourg, Conservatoire du littoral, COMPANIES

This course does not yet exist in Normandy, although it is offered in nine other French regions. It is aimed at people who have an interest in and an aptitude for manual work and who wish to become professionals, or continue their career, in the field of ecological and sustainable construction, thanks to a recognised diploma.

Employees certified as "Eco Construction Workers" provide companies with qualified personnel capable of carrying out construction or renovation work on individual or small collective dwellings, with particular emphasis on the thermal properties of the building and incorporating the concept of energy efficiency and carbon footprint. They will be able to use materials that meet the requirements of sustainable development.

Based on practical apprenticeships on a technical platform and educational worksite, this course provides the knowledge and technical skills needed to carry out new and renovation work in ecological construction:

- Constructing a timber frame and framework to accommodate an infill made from bio- and geosourced materials
- Building with low environmental impact materials (raw earth)
- Insulate with bio- and geosourced materials to ensure the building's energy and environmental performance

It is easy enough to justify promoting green construction and the skills associated with it

- Train professionals to be in tune with tomorrow's practice (which should be today's practice) with skills that correspond to the needs of the ecological transition, energy efficiency, and environmental quality with the use of biosourced and geosourced materials, renewable energies, decarbonisation and the circular economy.
- Responding to local needs: customers wishing to carry out eco-renovation cannot find craftsmen to meet their needs; project managers and architects are limited in what they can offer due to a lack of expertise to match.
- To meet the labour needs of construction companies wishing to position themselves in the eco-construction market



- Initiate a resolute approach to greening practices, meeting the requirements of the objectives of ecological transition and decarbonisation of uses This Ecoconstruction Worker training course has met with great success in the regions where it has been set up, as it meets the ambitions of a workforce aware of the ecological responsibility of the construction sector.
- The trainees are motivated by environmental quality and the need for energy efficiency. Opening up this course and demonstrating the commitment of the men and women who choose it could help to raise the profile of the construction sector, which is struggling to attract new recruits (you don't choose this course by chance).
- It is important to provide training in the skills needed to use local materials from low-carbon, bio-sourced, geo-sourced and reused sources (see: resilience of the region and diversification of raw material production).

Since 2022, the MdE du Cotentin has been working with the town of Cherbourg and the Conservatoire du Littoral to set up eco-construction training courses to complement the renovation of buildings in the Roche Fauconnière botanical park, which is right in the heart of the town and close to the Provinces political district (Cherbourg-en-Cotentin).

The training courses envisaged have always focused on the acquisition of skills leading to energy efficiency and environmental quality. Other aspects linked to (1) saving raw materials through deconstruction and reuse, and (2) integrating the greening of buildings to combat heat islands and adapt biodiversity, have also been considered. Contacts have been made with local businesses and the Normandy Region to ensure the viability of the "one training, one job" scheme.

OEC training is the property of the ECOCONSTRUIRE Federation, of which the SCIC des 7 vents is a member. The engineering of the Normandy adaptation of this training is entrusted to the 7 vents associated with the GRETA, the ATFPEN with the support of the MEF.

An agreement between the town of Cherbourg-en-Cotentin and the Conservatoire du Littoral is currently being finalised and is awaiting signature. It includes a financial component. The breakdown of the financial contributions is as follows: Conservatoire du Littoral: 44.9% Cherbourg-en-Cotentin: 55.1%. The 1st training session is scheduled for 2025.

5.4 LILLE EUROPEAN METROPOLIS (MEL)

MEL's SDP approach and the diagnosis carried out

At the end of 2022, the Métropole Européenne de Lille (MEL) launched an SDP10 (Support for Prospective Dialogues) initiative called "Prospective Emploi pour Rénover l'Habitat", which involved 29 partners in the "employment/skills" working group and 11 partners in the "Markets" working group. The modelling carried out during this process enabled an assessment to be made of the FTE requirements needed to meet the market for high-performance renovation of individual homes, which is the MEL's core target.

Based on a diagnosis carried out beforehand, using data from the CERC and various scenarios, the MEL has set itself the target of renovating 5,200 private homes (3,200 individual and 2,000 collective) and 3,000 social housing units per year to BBC standard.

To be able to carry out this work, the CERC study carried out as part of the SDP showed that 4,145 FTEs/year would need to be mobilised to focus on energy-efficient renovation, whereas the sector has only 1,4300 production employees in the building trades (out of 28,200 people working in the sector).

The conclusions of the SDP approach are:

- Jobs and skills working group
 - There is a significant gap between existing skills and those needed for energy-efficient home renovation.



- There is a need for additional skills in the building and civil engineering trades to achieve energy efficiency renovation.
- Hot occupations: External thermal insulation, façade painters, coaters, bricklayers, plasterers, roofers, waterproofers, electricians (M/H)
- Markets" WG
 - The start of the crisis in the construction industry and the need for companies to focus on renovation in the future. Need for support with specific skills.
 - Companies need to be given RGE support and the administrative aspects need to be "de-dramatised".
 - Lack of HR culture, need for support in implementing reflexes aimed at building team loyalty, working on skills development, etc....

They resulted in 8 Action Sheets

1/ PURSUE THE PERH INITIATIVE AROUND SHORT-STAFFED JOBS.

- Continue to co-construct the "Market" and "Employment and Skills" groups around the trades identified in the PERH in order to support companies in their transition and monitor the deployment of PERH action sheets.
- More in-depth discussions on shortage occupations - knowledge of companies and training opportunities.
- Identify training opportunities and awareness-raising initiatives.
- Identify the needs of companies in terms of skills upgrading/recruitment and encourage their transfers.
- Optimise training/employment initiatives (POEC, POEI, AFPR, sandwich courses): involve companies and facilitate recruitment.

Pilot: CD2E/Lille Avenirs coordinate the action

PERH partners: CERC, CMQ BSEI 3.0, Compagnons du Devoir, FFB 59-62, Constructys, France Travail, Région, CAPEB, GEIQ BTP, APEC, etc.

2 / MONITOR THE PROMOTION OF BUILDING AND CIVIL ENGINEERING TRADES AND ENERGY RENOVATION.

- Identify and monitor the results of existing awareness-raising tools.
- Adapt existing awareness-raising tools to energy renovation (Bâtis ton projet, Bâtis Truck, After Fit) and optimise follow-up.
- Raising awareness of energy renovation and its actions among businesses.
- Assessment of awareness-raising initiatives (candidate/professional meetings, site visits, etc. and subsequent entry into a training and/or employment scheme).
- Examine possible adaptations of existing tools for renovation, depending on the maturity of the systems, and then create links with partners and other players in the PERH.
- Pilot: Lille Avenirs employment centre
- Management of existing tools: Lille Avenirs (Bâtis Ton Projet), CMQ BEI 3.0 + CAPEB (Bâtis Truck), France Travail + CD2E (After Fit).
- Sourcing candidates: France Travail, Missions Locales, PLIE, Département, APEC, SIAE, CMQ BEI 3.0, CAP Emploi.
- Sourcing companies: France Travail, CAPEB, FFB, GEIQ BTP.



3 / ENCOURAGE TRAINING FOR BUSINESSES THROUGH ECO-CONDITIONALITY OF AID.

Study

- Examine the possibility of introducing a principle of eco-conditionality for companies that have undergone on-site coordination training.
- Studying the technical conditions for re-launching the use of the 2 existing Praxibat platforms in secondary schools.
- Validate the principles of eco-conditionality and set up the monitoring system.

Deployment if validated

- Refurbishment of trays / validation of content.
- Organisation of training sessions in conjunction with companies.
- Pilot: CD2E is studying possible eco-conditionality models
- The CD2E, CMQ BEI 3.0 and Constructys are studying possible ways of deploying the action (technical/financing aspects), and the federations are relaying the information.

4 / RAISING AWARENESS AMONG PRESCRIBERS.

- Identify and list all the specifiers in the MEL: appoint one or more building specialist(s)/referent(s).
- Organise 3 to 4 meetings of building referents per year - combined with visits to building sites/companies/technical platforms, etc.
- A network coordinator regularly informs the referrers about changes in the building trades and sets up regular communications (newsletters, webinars).
- Raise teachers' awareness of energy renovation to pass on the message, dispel preconceptions about these trades from an early age and encourage people to take up the profession.
- Pilot: Lille Avenirs coordinates the scheme: running the network, organising joint events, capitalising on information.
- Partners: FFB, CAPEB, Constructys, France Travail, Compagnons du Devoir, GEIQ BTP: information feedback, participation in network meetings, co-organisation of visits, etc.

5 / MONITOR MARKET TRENDS AND BUSINESS NEEDS.

- Be aware of and monitor support schemes for companies to develop their HR practices. For example, the PCRH (human resources consultancy service) financed by the DREETS and deployed by the Federations and Constructys, with the support of specialist consultants.
- Share the findings of those involved in support by zooming in on the MEL as a whole, with particular attention to the shortage occupations identified in the PERH.
- Pilot: The CD2E is organising and coordinating two opportunities for partners to share and learn from each other's experiences
- Partners: The partners present the progress of the actions and their feedback on the needs of local businesses.



6 / WOMEN, KEY PLAYERS IN ENERGY RENOVATION.

- Promoting women's work in energy renovation, removing preconceptions and raising awareness from an early age.
- Make an inventory of existing initiatives/their funding and launch initiatives to complement existing initiatives.
- Involve companies in awareness-raising initiatives and/or train them to welcome women in facilities.
- The social clause encourages companies to set up job discovery initiatives, particularly for women, in public and private sector contracts.
- Raising awareness from an early age to combat stereotypes.
- Pilot: A pilot coordinates the system: running the network, organising joint events, capitalising on information, etc.
- CORIF lists existing actions.
- CMQ BSEI 3.0 and CAPEB are running awareness-raising campaigns for schoolchildren.
- Constructys, CAPEB and France Travail are working with companies.
- The FFB is mobilising its network of women managers to raise awareness.

7 / SHIFT THE WORKFORCE TOWARDS RENOVATION CONSULTANCY.

- Career management, skills upgrading and retaining senior and/or unfit workers in the building sector in renovation consultancy roles.
- Simplify and secure energy renovations by increasing the number of "Mon accompagnateur Rénov" as part of MaPrimeRénov'.
- Encourage those involved in energy renovation and contractors to offer "assisted selfrenovation".
- Encourage renovation advice for private (co)owners.
- The Federations are involved in "Mon Accompagnateur Rénov".
- Constructys is involved in "assisted selfrenovation".
- Support: TOERANA, CAP Emploi, AGEFIPH, France Travail.

8 / Stepping up support for businesses in obtaining the RGE label.

- Meeting or information point on the renewal of qualifications for companies in the AMELIO network (who must be RGE to join).
- Contact with the CMA about "business support" meetings for new and existing building companies (existed a few years ago).
- Production of video type support and a sheet in the Amelio toolbox to help companies move towards RGE certification.
- Information meeting for AMELIO operators to learn more about how the RGE works.
- Pilot: CD2E identifies presentation opportunities and acts as a link between the players, then coorganises.
- The certification bodies produce the tools.



6 CONCLUSION

BUS2's proposals highlight the efforts made by a large number of players in the building sector to accelerate the ecological transition of building sites, trades, existing buildings and new constructions. Their main aim is to strengthen and publicise existing, tried-and-tested initiatives, to adapt them and to massively scale up these levers for action. This will require the establishment of long-term collaboration between players in the building, employment and training sectors, at all levels.

While these jointly-developed actions aim to achieve the objectives of mitigation, adaptation and resource saving, they also aim to:

- Reducing obstacles to the renovation of residential and tertiary sector buildings, both public and private, by raising awareness of effective financial and technical schemes, facilitating collaboration and the pooling of resources between local players, and extending energy efficiency to environmental efficiency through the development of biosourced and geosourced industries, as well as recycling and the circular economy.
- The fulfilment of building professionals by providing more support for the development of their careers, from entry into the profession to the end of their careers, and by promoting the meaning of their profession and the needs of society to which it responds. We need to change the way people think about the industry if we are to encourage as many people as possible to make a long-term commitment to it: schoolchildren, young people and apprentices, jobseekers, women, foreigners, etc.
- Ensuring that France has enough skilled and trained companies to meet the environmental challenges facing the industry. The construction sector has always been an important part of French industry, and the gigantic energy renovation project that lies ahead should be an opportunity to continue to maintain this essential role.

For some of the proposed actions, both at national and local level, project sponsors, and funding have been identified, or are at least in the process of being finalised.

However, for the others, support from national, regional, or local authorities will be essential if they are to be implemented. This is why, throughout the project, discussions have been held with the ministries responsible for energy transition and labour to ensure that BUS2's proposals are included in national programmes aimed at achieving the 2030 targets.

The requests are for funding for national proposals and for local posts to lead the "employment-skills" dialogue with local economic development bodies.



7 TESTIMONIALS

Approval of the roadmap and action plan

The draft roadmap and draft action plan were presented to key decision-makers at state level with a view to obtaining their approval. This was done :

With decision-makers

- At bilateral meetings (see interview reports in appendix 1)
- At the Cos meeting on 19 March 2024 (see COS minutes in appendix 5)
- At the one-day event on 27/03/2024 (see minutes of this event in appendix 6)

Stakeholders from the 3 territories at plenary sessions, during which participants were invited to share their views on the national roadmap and action plan, and on its implementation at their level (see section §4).

At the end of phase 2, on 27 March 2024, a plenary meeting was held at which the roadmap and action plan were endorsed by the stakeholders concerned, in particular the SGPE, the Ministry of Employment and the Ministry of Education (see minutes of the meeting held on 27 March in appendix 6).

The Ministry of Labour, Health and Solidarity and the General Secretariat for Ecological Planning (SGPE) attended the BUS2 Roadmap Valuation and Approval Day on 27/03/2024.

Their support was expressed as follows:

Ministry of Labour, Health and Solidarity

"The objectives of BUS2 have been achieved; now we can continue; we need to get the regions on board".

Ministry for Ecological Transition, Territorial Cohesion, Energy Transition and the Sea

"The BUS2 project led by Ademe and AVEen 2023 has, through its many workshops, brought together the testimonies of a wide range of players on the subjects of jobs and skills, resulting in 17 action sheets, the conclusions of which will be incorporated into the Interministerial Plan for structuring the building energy renovation sector, particularly for actions relating to the renovation of private housing stock and training".

General Secretariat for Ecological Planning

"The challenge is not just to see what the public authorities and national players can do between them, but to get the economic players involved in a region, in a fragmented fabric with lots of very small and medium-sized businesses".



A letter of support was requested from all COPIL and COS stakeholders (see sample letter of support in appendix 7).

The organisations' approval report will be sent at a later stage as deliverable D4.3.

List of organisations approving the roadmap	Letter of support
Ministry	
CGDD - General Commission for Sustainable Development	Awaiting return
Ministry of Education - GRETA	Awaiting return
Ministry of Finance	Awaiting return
Government coordination for energy-efficient renovation of buildings	Awaiting return
France Stratégie	Awaiting return
Pôle Emploi	Awaiting return
National agencies	
AFPA - National Agency for Adult Vocational Training	
ANAH	received
ANRU	Awaiting return
CDC - Caisse Des Dépôts	Awaiting return
CMA France - Chamber of Trades and Crafts	Awaiting return
Private	
AIMCC - French Association of Construction Products Industries	Awaiting return
AQC - Agence Qualité Construction	Awaiting return
CAH - Home Improvement Club	received
I4CE - Institute for Climate Economics	Awaiting return
ISOTOP	Awaiting return
Sustainable Building Plan (PBD)	Received
Sustainable Building Network - Eco-Building Cluster - Sustainable Building Resource Centre	Awaiting return
Réseau Bâtiment Durable - HQE GBC Alliance	Awaiting return
Territories BUS2	
Cambrésis Employment Centre	Received
Ouest Provence employment centre	Awaiting return
Cotentin Employment Centre	Awaiting return
MEL employment centre	Awaiting return



"PROPOSITIONS & PERSPECTIVES"





8 CONTRIBUTORS

- **ADEME:** ANDORNO Émilie, BUS2 Project Manager, ARTAUD Jean Luc, Building Engineer, GAUDIN Thomas, Economist, LAROCHE Camille, Promotion and Communication Trainee, MARQUET Sarah, Coordinator of Economic Studies for the Ecological Transition of Buildings, PASQUIER Maxime, Head of the Building Department.
- **AVE :** BEN MOUSSA Narjisse SD Project Manager, LE MAROIS Henri, Consultant, OLIVIER Myriam, Consultant
- **Cambrésis Emploi :** DELAY Valérie
- **DDETS 44:** LOUIS Henri, Economic Change and Job Security Officer
- **Cotentin Employment and Training Centre:** DUBOIS Michel
- **Maison de l'Emploi Ouest Provence :** SEBASTIEN Ludivine
- **Ministry of Education and Youth:** CHAMPION Natalie, National Project Manager - BTP, Industry, Private Security, ASR sectors
- **Ministry of Labour:** MARGONTIER Sophie, Head of the Ecological Transition and Skills Project, VANEL Rémi
- **Ministries ecological transition territorial cohesion energy transition:** NASS Natacha Project manager "Energy renovation work offer", GRAVE Nicolas Doctoral student COFRA, employment and skills for the ecological transition
- **General Secretariat for Ecological Planning (SGPE):** QUEMENER Jean-Marie, Director of the building and development programme



9 REFERENCES

- [ADEME, Diagnostic des besoins en emplois, métiers et compétences du bâtiment jusqu'en 2030](#)
- [Eurostat data 2021.](#)
- [RT-RE Building](#)
- [DARES \(2023\), Les apprentis sont-ils en emploi dans la branche où ils ont fait leur apprentissage?](#)
- [France Stratégie, Energy-efficient renovation of buildings: how to meet employment and training needs](#)
- [Ministry for Ecological Transition and Territorial Cohesion, Energy Renovation Plan for Buildings](#)
- [CEREQ, La transition écologique dans les métiers de la construction : l'encadrement de chantier en première ligne](#)



10 GLOSSARIES

ADEME National Agency for Ecological Transition
ALEC Local Energy and Climate Agency
AMI Call for expressions of interest
ANCOLS National Agency for the Control of Social Housing
ARA Self-assisted rehabilitation
BBC Low Consumption Building
BUS Build Up Skills
BIM Building information modeling
BTP Building and civil engineering
BTS Brevet de technicien supérieur
CAP Certificate of vocational aptitude
CCCA-BTP Comité de concertation et de coordination de l'apprentissage du bâtiment et des travaux publics (Consultation and coordination committee for apprenticeships in the building and public works sector)
C2P Professional Prevention Account
CFA Apprentice Training Centre
CLER Energy Transition Network
DEET Tertiary Eco Energy Decree
DPE Diagnostic de Performance Energétique
DHW Domestic hot water
EDEC Commitment to develop employment and skills
EPCI Établissement Public de Coopération Intercommunale (Public Inter-municipal Cooperation Establishment)
FTE Full-time equivalent
FEEBAT Energy Saving Training in the Building Industry
FIT Integrated Workplace Training
GEIQ Groupement d'Employeurs pour l'Insertion et la Qualification (Employers' Group for Integration and Qualification)
GHG Greenhouse gases
IAE Integration through professional activity
MCI-PREB Interministerial Coordination Mission for the Energy Renovation Plan for Buildings
MOOC Massive Open Online Course
PLIE Plans Locaux Pluriannuels pour l'Insertion et l'Emploi (Multiannual Local Plans for Integration and Employment)
PROFEEL Industry programme for innovation to promote energy savings in buildings and housing
PACA Provence Alpes Côtes d'Azur
PPEC Employment and Skills Programming Plan
QIA Indoor Air Quality
RE2020 Energy regulation 2020
RECIF Renovation of condominium buildings in France
RGE (recognised environmental guarantor)
HR Human Resources
SNBC National Low Carbon Strategy
SPEE Public Service for Energy Efficiency
SGPE General Secretariat for Ecological Planning
VAE Validation of Acquired Experience
ZAN Net Zero Artificialisation



LIST OF APPENDICES

APPENDIX 1 - INTERVIEW REPORTS

Interview guide

List of interviews conducted :

- Centre d'Etudes et d'Expertise sur les Risques, la Mobilité et l'Aménagement (CEREMA), Benjamin CHOULET, Project Manager "Real Estate Assets and Digital Buildings" Sustainable Buildings Department / Cerema Territoires et Ville. 30/01/2024
- Agence Régionale pour l'Énergie et le Climat - Occitanie (AREC - Occitanie), Guillaume Derombise, Head of the Energy Transition for Buildings Unit, and of Rénov'Occitanie. 31/01/2024
- Agence de la Transition Écologique (ADEME), Christophe LESTAGE, Environmental Engineer, Shared Energy Council Coordinator, Territorial Policies Department. 19/01/2024
- Saint-Gobain, Clémentine Bonneau, Director of training programmes, SGDBF training schools, Saint-Gobain Distribution Bâtiment France. 19/12/2023
- Comité de concertation et de coordination de l'apprentissage du bâtiment et des travaux publics (CCCA-BTP), Marek LAWINSKI, Skills Internationalisation Unit. On the European Rénov'Up project. 01/2024
- Comité de concertation et de coordination de l'apprentissage du bâtiment et des travaux publics (CCCA-BTP), Christelle SOULARD, Direction des Politiques de formation de l'innovation pédagogique, Pôle Certification et Déploiement de l'offre de formation. 26/01/2024
- Heol-Energies, Nolwenn RAGEL, ALEC based in Morlaix (Finistère). 08/01/2024
- ACTIMMO run by ADEME, Christophe DREUIL, Project Manager, Mobilising professionals around energy-efficient home renovation & Régis VOGLIAZZO, ACTIMMO programme monitoring. 17/01/2024
- LilleAvenirs, Karine DELSART, Social Clause Project Manager, SDP - Support for forward-looking dialogue on employment to renovate housing. 28/11/2023
- Centre scientifique et technique du bâtiment (CSTB), Sylvain Laurenceau, Economics and Resources Division; Jérémy El Beze, Economic Analysis and Stock Dynamics Division; Henri Casella, economist, GORENOVE2 Adéquation project leader; Edouard Sorin, developer, GORENOVE2 Adéquation project leader; Abdoulaye Kane, economist. 11/07/2023 & 29/08/2023
- Union Française des Coopératives Artisanales de Construction (UFCAC), Jérôme MARCIAU, President & Ludovic ROUXEL, General Secretary. Also in attendance from ADEME, Jean-Luc ARTAUD. 31/01/2024
- France Travail, Joëlle BERTHALON, Head of DomEx (Area of Excellence) Ecological Transition & RRR (Recycling, Repair, Re-use) Pôle emploi Auvergne Rhône Alpes region. 04/01/2024

APPENDIX 2 - WORKSHOP REPORTS

- Workshop preparation guide
- Workshop 1a "Residential markets" - Workshop framework and minutes
- Flash workshop: social housing
- Workshop 1b "Supporting demand for tertiary performance" - Workshop framework and minutes
- Workshop 2a "Encouraging the recruitment and retention of workers in the sector" - Framework and minutes
- Workshop 2b "Attractiveness and recruitment: focus on professional retraining and guidance for jobseekers".
- Workshop 3a "Training: fundamentals - what's missing?"
- Workshop 3b "Training for professionals and trades related to energy renovation".
- Workshop 3c "Focus on the challenges of new construction".
- 3d workshop (flash workshop) "Gesture-based training (reduced committee)".
- Workshop 4: Implementation
- Plenary session 1
- Plenary session 2

APPENDIX 3 - BEST PRACTICE SHEETS

Detailed best practice sheets on :

- Atout mixité / Maison de l'Emploi Ouest Provence
- Build your project" workshops
- t'es refait" campaign
- Greening tomorrow's jobs
- FEEBAT Initial training
- FIT-Work [Integrated Training](#)
- training clauses
- environmental provisions
- PRAXIBAT platforms
- BBC renovators in the Normandy region
- SERAFIN, in particular [Régie du Spee](#)
- ACTIMMO

APPENDIX 4 - 17 DETAILED ACTION SHEETS

AXIS 1SUPPORTING THE ENERGY AND ENVIRONMENTAL PERFORMANCE MARKET

- Action sheet 1.1: Help local authorities to set up Third-Party Financing companies by distributing a guide
- Action sheet 1.2 : Encourage cooperation between social landlords and demand for performance through calls for projects at local level
- Action sheet 1.3: Renovating private tertiary premises: Informing businesses and communicating about the issues, obligations, aid and support schemes
- Action sheet 1.4: Share the benefits of pooling resources between municipalities or within an EPCI for the renovation of tertiary buildings in small local authorities, and the mechanisms for implementing this pooling.
- Action sheet 1.5: Facilitate the use of bio-sourced and low-carbon products and materials in new construction and renovation: clauses in public procurement contracts and training
- Action sheet 1.6: Facilitate the re-use of products and materials (for new construction and renovation): local engineering and training for professionals

PRIORITY 2ENCOURAGE THE RECRUITMENT AND RETENTION OF WORKERS IN THE SECTOR

- Action sheet 2.1: Launch a communication campaign tailored to target audiences to change the image of the building trades
- Action sheet 2.2: Encouraging young people to take up vocations through action
- Sheet action 2.3: Coordinate and develop the professional integration of people who are far from employment in the building trades in local areas
- Action sheet 2.4: Feminising worksites
- Sheet action 2.5: Strengthen the role of prescribers who refer jobseekers in the construction sector
- Action sheet 2.6: Objectivise the benefits of long-term career support through a large-scale socio-economic study

AXIS 3DEVELOPING TRAINING

- Action sheet 1Develop and expand practical training in the specific skills needed to carry out efficient work (DPE levels A and B).
- Action sheet 2Encouraging companies to develop their skills in high-performance renovation through training clauses or networks of professionals
- Action sheet 3Skill real estate professionals in the Ecological Transition: banks, estate agents, notaries, brokers, property managers, etc.
- Action sheet 4Promote MOOCs on efficient renovation and construction
- Action sheet 5Helping construction specialists make the transition to renovation: sharing feedback from companies as part of a Réno Tour and preparing for the retraining of professionals

APPENDIX 5 - GOVERNANCE

- Minutes of COPIL 4
- Minutes of COPIL 5
- Minutes of COPIL 6
- COS 3 minutes

APPENDIX 6 - MINUTES OF THE BUS2 "PROPOSALS AND PROSPECTS" DAY ON 27/03/2024

APPENDIX 7 - SAMPLE LETTER OF SUPPORT

APPENDIX 8 - ONLINE CONSULTATION REPORT



ADEME IN BRIEF

At ADEME - the French Environment and Energy Management Agency - we are resolutely committed to the fight against global warming and the degradation of resources.

On all fronts, we are mobilising citizens, economic players and regions, giving them the means to move towards a resource-efficient, low-carbon, fairer and more harmonious society.

In all areas - energy, the circular economy, food, mobility, air quality, adaptation to climate change, soil, etc. - we advise on, facilitate and help to finance numerous projects, from research to sharing solutions.

At every level, we put our expertise and foresight at the service of public policy.

ADEME is a public body under the authority of the Ministry for Ecological Transition and the Ministry for Higher Education, Research and Innovation.

ALLIANCE VILLES EMPLOI IN BRIEF

Founded in 1993, Alliance Villes Emploi is the national network of local authorities involved in issues of integration, employment and economic development. It brings together more than 200 local councillors of all political hues, united by the conviction that the most appropriate level of intervention is at local level, in living and employment areas.

To this end, the association federates the tools and mechanisms deployed by its members, in particular the Maisons de l'Emploi (MDEs) and the Plans Locaux pour l'Insertion et l'Emploi (PLIEs), and runs the network of social inclusion clause facilitators.



Travaillons ensemble
à la haute performance
de nos bâtiments



#emplois #métiers #formations

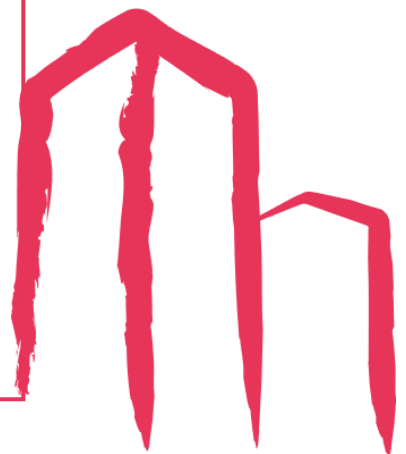
SUMMARY

This document proposes a national roadmap defining a general, shared and objective vision and the associated action plan detailing how to achieve it.

The roadmap that has been drawn up will enable the national targets for renovation and new construction to be met by 2030.

The 17 proposed actions are the result of a consultation process involving all the players in the construction, employment and training sectors, which was extended in collaborative workshops and submitted to an online consultation open to the general public. Interviews were held to identify those who could take action.

Based on the 3 strategic areas, the pilot regions have also defined an action plan tailored to their needs.



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BUILDUPSKILLS
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