

Position Paper

To reach carbon neutrality by 2050, the “Renovation Wave” must foster the decarbonisation of the EU building stock

The French Electricity Industry (UFE) believes the “Renovation Wave” initiative can constitute a great opportunity to relaunch and decarbonise the sector if it adequately tackles the current regulatory and financial barriers to the renovation of public and private buildings.

The renovation of buildings still faces many challenges in Member States. Taking France as an example, in a 2019 report, the French High Climate Council (HCC) pointed out the gap between the effective reduction of GHG emissions and the objective set by the French government for 2050¹. Today, the **absence of quality and result requirements** to assess the effectiveness of renovation works, the **remaining financial barriers** to access dedicated investments and the **lack of criteria to reduce GHG emissions** continue to represent obstacles to the efficient renovation of buildings. A report of the European Court of Auditors published in 2020² emphasised the weak efficiency of public investments in the sector and the need to enhance the visibility of the funds allocated to the building renovation as well as the selection of project financed.

The Renovation Wave must play a key role in fostering the renovation of public and private buildings in the EU as 70% of the existing stock will still be in use in 2050.

In the context of the COVID-19 crisis, the **building industry will be a major driver of a European green recovery, providing quality jobs**. In France, estimations suggest that more than 80,000 jobs (i.e. an increase of 36% compared to 2018 data) related to the renovation of buildings will be created in the French electricity sector by 2030³. Considering the significant potential for jobs in the building sector, UFE supports the place of **the Renovation Wave initiative at the centre of the EU Recovery Plan**.

To reach carbon neutrality by 2050, UFE calls for an increasing role of electricity in the renovation of the EU building stock. The initiative must also focus on increasing energy savings while reducing GHG emissions of buildings as well as improving their comfort.

¹ According to the [report](#) published in June 2019 by the HCC, the building industry is the sector with the highest gap between the targeted and effective GHG emission reduction (16%), compared to for instance the transport sector (gap of 9%).

² European Court of Auditors, [Special Report on the energy efficiency in buildings: greater focus on cost-effectiveness still needed](#), 2020

³ UFE, [In French] [Press release « La filière électrique, 600 000 emplois mobilisés pour contribuer à la relance économique dans les territoires »](#), 2020

To be aligned with the European Green Deal, the Renovation Wave must decarbonise the EU building stock

Complying with a stronger climate-centric approach to reach carbon neutrality by 2050

UFE believes a more **comprehensive climate approach** should be taken to fully decarbonise the building sector. The EC should also encourage **the switch from fossil fuels to low-carbon energies when renovating residential and non-residential buildings**. Until now, EU legislations have focused on saving energy in buildings. In the transport sector, GHG emissions have been the backbone of the decarbonisation (e.g. Regulation (EU) 2019/631 on passenger cars). The implementation of standard CO2 regulation in France has led to a reduction of new cars CO2 emissions by around 16% during the first semester of 2020. **UFE regrets the EU has not also used such an approach for the building sector**. For instance, fuel oil boilers are still authorised in the EU despite their high GHG emission rate and the existence of viable alternatives.

UFE calls for the integration of buildings' GHG emissions throughout their life cycle in the Renovation Wave and all EU building policies. Depending on renovation types, **energy savings do not induce a sufficient reduction in GHG emissions**.

Therefore, the initiative should:

- **Set mandatory requirements for reducing GHG emissions and energy consumption for the renovation of residential and tertiary buildings.**

An **impact assessment should be carried out in the Member States to evaluate GHG emissions at EU level** as part of the transition to carbon neutrality. In France, the French High Council for Climate pointed out in a report in July 2020 **the building sector is the furthest behind on the path to carbon neutrality** (exceeding the 2020 target by 44 million tonnes of CO2 equivalent)⁴. The French national strategy towards carbon neutrality sets a target of 49% reduction of GHG emissions by 2030 compared to 2015⁵.

- **All regulatory policies must introduce criteria to reduce GHG emissions of buildings**. For example, the Energy Performance Certificates should give the same importance to carbon criteria as to energy efficiency (art. 11, Energy Performance for Buildings Directive, 2010/31/EU) and the readability should be improved.

Integrating renewable energies into the building stock

To move towards a decarbonised EU building stock, **it is essential to address the consumption of renewable energies (RES) in buildings as a replacement for fossil-fuels**. Along with the provisions of the revised Renewable Energy Directive 2018/2001/EU (RED II), **the Renovation Wave must support the development of RES applications for existing housings** by encouraging innovative solutions, during renovation works, such as **heat pumps, heating networks, biomass boilers and solar panels**.

⁴ [In French] Haut Conseil pour le Climat (HCC), [Rapport Annuel 2020 "Redresser le cap. Relancer la transition"](#) (p. 21), 2020

⁵ [In French] [France's Low-Carbon National Strategy](#), 2020

UFE believes in this regard that **the indicative increase rate for heating and cooling district systems should be more ambitious and made binding in art. 23(1) of REDII and art. 24(4a).**

UFE also believes this increase in renewable energy will have a significant impact on electricity networks and network management. Thus, **the role of smart grids is essential in bringing renewable energy to the consumer** and injecting locally produced energy into the grid.

The Renovation Wave should:

- **Further recognise and reflect the new and growing role played by building users in the energy system and in the production of renewable energies** in new and existing buildings.
- **Support innovation and investments in power infrastructure** as they strongly contribute to decarbonising the EU building stock.

Building an EU resilient, energy-efficient and decarbonised building stock adapted to changes

Despite the growing measures taken to reach carbon neutrality, **the building sector is already experiencing the negative effects of climate change** and citizens are increasingly sensitive to having healthy and affordable dwellings.

It is crucial that public authorities lead by example. Therefore, the **Renovation Wave should fully tackle the renovation of public buildings**. In this sense, **when reviewing the consolidated Energy Efficiency Directive 2012/27/EU (EED):**

- **Article 5 should be extended to all public buildings (not only those owned and occupied by central governments).**
- **Member States should set national targets on the reduction of energy consumption by 2030 compared to a year of reference in conjunction with the renovation objective.** Taking the example of France, a target of 15% reduction of energy consumption compared to 2010 level was introduced to monitor the global management of the building stock⁶.

A special attention should also be given to air quality and comfort in residential and non-residential buildings in light of the rise of temperatures resulting from climate change. **New controlled heat and cooling solutions adapted to the energy needs of the occupants must be encouraged to increase thermal comfort in all seasons.**

- **The notion of winter and summer comfort should be introduced in the EU legislation, in particular in the Energy Performance Certificates legislation (art. 11(2), Energy Performance of Buildings Directive, 2010/31/EU)** by adding provisions on thermal comfort to the

⁶ [In French] [National Plan of Building Renovation](#) (p. 43), 2019

recommendations (i.e. tools avoiding long periods of extreme-low or high temperatures in the buildings).

- **Regarding summer comfort, the Renovation Wave should prioritise the installation of passive solutions to renovate buildings. If it is not possible low-carbon and efficient technologies must be installed**, e.g. heat pumps rather than mobile air conditioning. It will help increase synergies with renewables and encourage customers to optimise their energy consumption by providing flexibility to the system.

In parallel, **indoor air quality should be addressed as a public health issue**. In France, **citizens spend 90% of their time indoor (at home or at work) where air is eight times more polluted than outdoor**⁷. It is important to tackle buildings hosting vulnerable populations such as hospitals and improve the thermal comfort and air quality in **health establishments**. When renovating **educational buildings** hosting young pupils and students, it is key to improve indoor air quality. A 2019 study conducted by UNICLIMA has indeed concluded that, in schools, calculation skills increase of almost 14% with air circulation system⁸.

Thus, the Renovation Wave should:

- **Integrate indoor air quality criteria** and objectives declined in all Member States.
- **Support the development of ventilation and air handling systems** (such as thermal comfort equipment via VMC double-flow, ventilation systems) in the renovation of existing buildings and in the construction of new ones. These technologies should be **coupled with intelligent equipment** (e.g. CO2 connected sensors) **and air monitor controls**.

[The Renovation Wave must remove the remaining financial barriers and develop aid devices to fight energy poverty](#)

Addressing the remaining obstacles to funding

Funding is a cornerstone of the renovation of buildings. However, in a 2020 Special Report, the European Court of Auditors pointed out the existing gaps in accessing EU funds and issues regarding their cost-effectiveness⁹.

The lack of management and requirements applied to renovation works need to be addressed in the Renovation Wave to **improve the selection and the cost-effectiveness of projects financed by EU funds** (e.g. InvestEU, the Cohesion Fund, the European Structural Investment Funds).

- **In the selection process of projects, the EC should include a criterion for the involvement of the local level** which can offer a better understanding of the renovations needed.

⁷ [In French] [Study « L'électricité au coeur du bâtiment performant, au service de l'utilisateur : une réponse aux enjeux énergétique, climatique et numérique »](#), 2020

⁸ UNICLIMA, [In French] [Study « Tous acteurs de la qualité de l'air dans le tertiaire »](#), 2019

⁹ European Court of Auditors, [Special Report on the energy efficiency in buildings: greater focus on cost-effectiveness still needed](#), 2020

- **Regarding the cost-effectiveness of the projects, the EC should reinforce the synergies between the funds and Energy Performance Contracting (EPCs).** EPCs remain a niche sector supported by a few financial tools, but used on a large scale, they can guarantee further energy savings and GHG emission reduction and be an asset to reach 2030 targets.

The European Structural and Investment Funds (ESIF) also provides opportunities to improve energy efficiency in buildings via delivering loan or guarantee products which could be allocated at preferential conditions and with standardised contracts¹⁰.

In addition, to guarantee the quality and the cost-effectiveness of EU-financed projects, **Member States should set up a post-work diagnosis assessing the energy and GHG emission savings resulting from the renovation. A technical monitoring conducted by independent national bodies could be considered** in order to assess the results of the renovation works in terms of energy efficiency and to examine their consistency with the EU climate and energy targets.

Enhancing the access of low-income households to funding to tackle energy poverty

The Renovation Wave must ensure a fair transition by fighting energy poverty through tailored measures and by guaranteeing low-income households' access to finance. For example, in France, the **Energy Performance Certificates** help promote energy efficiency among households and address energy poverty. The Energy Performance Certificates binds final consumers to energy suppliers who are subject to a specific obligation towards households in a situation of energy poverty.

In addition, to better identify the renovation of buildings inhabited by low-income households, **additional data is needed on the energy poverty situation in the Member States.** In this regard, **the national and local levels play an important role to gather figures.** In France, one of the main missions of the National Housing Agency (ANAH) is to fight energy poverty by providing support and financial tools to low-income owner occupiers, homeowner associations and landlords.

- The EC should encourage the introduction and implementation of similar measures and promote best practices between Member States.
- At local level, the local and regional authorities can help increase the data available by drafting **energy and climate efficiency maps of buildings by census.**

The Renovation Wave offers an opportunity to empower citizens

Improving the access of final consumers to available information on energy consumption

To reduce the energy consumption and energy bills of final consumers, **the EC needs to ensure the Renovation Wave offers more provisions to increase the information available to consumers.**

¹⁰ Fi Compass, Report "[European Structural and Investment Funds \(ESIF\) and Energy Performance Contracting \(EPC\) – Stimulating investments in energy efficiency](#)", 2020

UFE calls for the introduction of a reference to final energy in each EU tool (e.g. Energy Performance Certificates) to guarantee a better understanding the energy bills and energy use, and to accurately describe the performance of the building.

In this regard, UFE believes it is crucial to guarantee a consistent regulatory framework in Europe by ensuring a reference to final energy in all EU legislations. Thus, the **Energy Performance of Buildings Directive 2010/31 (EPBD) should be made consistent with the EED (art.3) and reopened to add a mandatory reference to final energy in the Energy Performance Certificates¹¹.**

The Electricity Directive 2019/944/EU recognises the new role played by citizens as “*prosumers*” or active consumers and within citizen energy communities (cf. art. 15 and art. 16) by notably selling self-produced electricity, thus helping to bring flexibility to the system. **Today, with the development of smart meters supported by the EC, customers have an easy access to their data on final energy consumption.** These solutions increase the information available to the building occupants **by providing a personalised assessment of their energy consumption** and help decision making by **evaluating necessary renovations and afterwards assessing their efficiency** based on smart meters data. They also contribute to creating an enabling environment for a more active role of citizens in the energy system.

Improving energy consumption by developing digital solutions in buildings

The Renovation Wave should encourage the development and use of digital solutions in buildings as **digitalisation can provide long-term benefits to the renovation of buildings and the empowerment of consumers.**

Smart meter solutions can also enhance the active participation of consumers to the electricity markets (Directive Electricity 2019/944/EU) and their development should be thus fostered in articles 19 and 20 as well as Annex II of the Electricity Directive. UFE points out the importance of considering the increasing need of digital experts to process data related to renovation works.

Digitalisation can also improve the living conditions of European households by participating to reducing energy expenses through remote-control options for district heating and cooling systems for instance. **Smart meters provided by DSOs can also offer detailed data on energy consumption, access to energy efficiency and demand response services.** Further information on the opportunities offered by smart meters should be thus supplied to households by the public authorities.

The Renovation Wave is an essential tool to push the roll-out of charging infrastructure in existing building

Given that 90% of electric vehicle (EV) charging takes place at home or in the workplace and that 80% of Europe’s existing building stock will still be in use in 2050, the Renovation Wave will play a key role in addressing the deployment of charging infrastructure for electric vehicles by contributing to accelerating their roll-out in existing public and private buildings. The EC should also examine the

¹¹ UFE, [In French] [Answer to a French consultation on the calculation method for the future energy performance diagnosis](#), 2020

possibility to **re-open article 8 of the EPBD** to facilitate the deployment of charging points compatible with the uptake of the e-mobility market in existing buildings¹².

- **Address the unnecessary exemptions** applied to small and medium-sized enterprises (SMEs).
- **Tackle remaining barriers to install charging points and ensure the right-to-plug.** In France for instance, condominiums still face barriers to implement charging solutions due to non-adapted standards.
- **Enhance the possibilities for the tenant and co-owner to install charging points for an EV in their housings.**

UFE also points out that the electricity system is ready to integrate the important deployment of EVs into the grids already in 2030 and beyond. In France, the Distribution System Operators (DSOs) have assessed their financial capacities to integrate the electromobility into their grids and concluded that these investments will not exceed 10% of their total investments by 2030¹³.

In addition, **the development of smart charging in private buildings is necessary to support the uptake of electromobility and to bring more flexibility.** It will enable not only to improve the experience of EV users but also to reintegrate the surplus into the electricity grid (V2G) and even to reuse electricity in buildings (V2B). In fact, it constitutes a win-win situation as, in addition to the **increased flexibility brought to the grids**, the **EV user can reduce its electricity bill** by scheduling to charge its vehicle during off-peak hours. The French Transport System Operators (TSOs) RTE showed that, **by switching a fossil car to an EV, it is already possible for an EV user to decrease its costs up to 800€ per year.** Moreover, depending on the type of smart charging, the user's bill can be reduced by a further 180€¹⁴. UFE recommends setting **binding targets for smart charging in the private buildings** to stimulate its development.

¹² Platform for Electromobility, [Recommendations on the review of the EPBD](#), 2018

¹³ Enedis, [Report on the integration of electromobility to the public electricity distribution network](#), 2019

¹⁴ [In French] RTE, [Report on what is at stake for the electricity system in the development of electromobility](#), 2019