

November 2021

UFE's position on the revision of the EPBD to support the decarbonisation of the building sector

The climate emergency requires to take bold measures to counter the effects of climate change and to prevent reaching the point of no return. Given the energy consumption and CO₂ emissions it generates, the building sector is a major climate player. Thus, the French electricity industry (UFE) supports a revision of the Energy Performance of Buildings Directive (2010/31/EU, EPBD).

Despite significant EU efforts to reduce the impact of buildings on the climate, buildings still represent 40% of the EU's total energy consumption and 36% of EU's CO₂ emissions. In France, the building sector is the furthest behind on the path to climate neutrality and exceeds by 14 % its 2015-2018 carbon-budget (44 million tonnes of CO₂ equivalent)¹. In the residential housing stock, the number of energy renovations is not increasing sufficiently despite significant aid. In addition, many renovation projects undertaken do not translate into a real energy or climate improvement. Whereas climate neutrality assumes to reduce energy consumption and to phase out fossil fuels out of buildings, the European regulation only focuses on energy efficiency.

In this context, UFE would like to provide its recommendations so that the Directive on the energy performance of buildings meets the needs more effectively.

1. Why CO₂ emissions must become a building performance indicator

In 2019, the French electricity sector led a study focusing on buildings². The latter concluded that the current renovation path deviates significantly from that set in the French Strategy towards a low carbon economy ("Stratégie Nationale Bas Carbone"). In particular, the number of renovation works are insufficient, those carried out suffer from poor quality and the main provisions focus only on the energy consumption: all this leading to an insufficient reduction of energy consumption and CO₂ emissions.

Until now, the Energy Performance of Buildings Directive (EPBD) has only focused on the energy performance of a building based on its primary energy consumption. Given the climate urgency, the limited results obtained so far, and considering the life cycle of buildings, **we cannot afford to leave the carbon criterion outside the objectives and decisions**. The integration of CO₂ emissions as a performance indicator alongside an energy performance indicator would bring significant results. Indeed, **shifting buildings to a low carbon trajectory would lead to a quicker phase-out of fossil**

¹ [In French] Haut Conseil pour le Climat (HCC), [Rapport Annuel 2020 "Redresser le cap. Relancer la transition"](#), p. 21 (2020)

² [In French] FFIE, FIEEC, GIMELEC, IGNES, PROMOTELEC, SERCE, UFE, [Etude "L'électricité au Coeur du bâtiment performant, au service de l'utilisateur – Une réponse aux enjeux énergétique, climatique et numérique"](#) (2020)

energies, which would bring tangible results on the national decarbonisation trajectories³. A similar approach has been put in place for the transport sector in the Regulation establishing CO₂ performance standards for cars and vans, with positive results⁴. In France, the building regulatory framework for new and existing buildings now integrates performance determined by **both carbon and energy criteria, which are the two pillars for achieving an effective decarbonisation of the sector**. To illustrate this, the 2020 Renovation Wave Strategy indicates that the European Commission will propose mandatory minimum energy performance standards (MEPSs) for all types of buildings (public and private) as part of the revision of the Energy Performance of Buildings Directive in order to accelerate the rate of renovation. If UFE welcomes the aim to strengthen the current energy performance requirements by setting harmonised standards at the EU level **in article 4, MEPSs will be insufficient if they stick only to an energy-based approach without also including building climate-performance standards**.

Finally, to ensure complete information for consumers, **UFE recommends setting a clear reference to both final energy and primary energy**.

To do so, concretely this means:

Policy recommendations:

➤ **Article 1 on subject matter:**

- **Par. 1:** the Directive must promote not only the improvement of the energy performance of buildings but also **the climate performance of buildings**.

➤ **Article 2 on definitions:**

- **Replace definition 4. of “energy performance of a building” by a new definition “performance of a building” including both the energy and climate performance** of a building. The ‘climate performance’ is defined as the **GHG emissions related to the amount of energy consumed expressed in kgCO₂/m² per year**. The ‘energy performance’ means the calculated or measured amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting. All articles which currently mention “the energy performance of a building” should be amended to refer to the “performance of building”.

➤ **Article 2a on long-term renovation strategies (LTRS):**

- **Point g:** must include an evidence-based estimate of expected energy and CO₂ savings as well as wider benefits, such as those related to health, safety and air quality.
- **New point h:** MS must include in their LTRS **the strategy followed to ensure the phase-out of fossil-fuel energies in heating and cooling systems and in building equipment, firstly of oil and coal and secondly of natural gas, with 2030 and 2040 milestones**.

➤ **Article 4 on minimum energy performance requirements:**

- When setting minimum energy performance standards for all buildings, these should also **include a carbon performance indicator**.
- For the renovation of buildings (which should be extended to cover other buildings than

³ In France for instance, the massive deployment of efficient and low-carbon electric solutions (such as heat pumps) leads to a faster decrease of GHG emissions of the building sector compared to the French Strategy toward a low carbon economy (– 6 % faster).

[In French] FFIE, FIEEC, GIMELEC, IGNES, PROMOTELEC, SERCE, UFE, [Etude “L’électricité au Coeur du bâtiment performant, au service de l’usager – Une réponse aux enjeux énergétique, climatique et numérique \(2020\)](#)

⁴ The implementation of standard CO₂ regulation in France has led to a reduction of new cars CO₂ emissions by around 13,4% between 2019 and 2020, inverting the CO₂-emission increase that has followed the diesel-gate crisis.

those undergoing major renovations), **the standards should also include a non-deterioration principle of CO2 emissions and an evaluation of its global performance.**

In France, such a principle is now in force for the renovation of non-residential building⁵: the Tertiary Decree states that the change in the type of energy used, must not lead to any increase in the level of GHG emissions.

- For new buildings, the standards should also include a carbon performance indicator.
 - Articles 6 and 7 should be amended accordingly.
- **Article 9 on nearly zero-energy buildings (NZEBS):**
- The **criteria for NZEB should be updated to obtain “nearly zero energy and emission buildings” (NZEEB)**. Accordingly, title should be changed and definition of NZEB in **article 2** as well.
 - **Par. 3: introduce GHG emission targets** alongside restrictions on energy-use.
 - **Par. 3 (a):** use a numerical indicator of **final and primary energy use**. The energy from renewable produced on-site or nearby should not balance the fossil fuel energy consumption.
- **Article 11 on the energy performance certificates (EPCs):**
- The energy performance certificate shall first include and then display at the same level the **energy and climate performance** of a building.
 - **All mentions of “energy performance certificates” should be replaced by “building performance certificates” (BPCs) and the definition 12 in article 2 should be revised** accordingly to set the double criterion of climate and energy performance.
 - **Par. 3:** set an obligation requiring Member States to ensure the compliance of all recommendations included in the BPCs **with the principle of non-deterioration of CO2 emissions set in article 7.**

In France, the “Diagnostic de performance énergétique (DPE)” (French equivalent of the EPC) has been revised and entered into force in July 2021. It now refers to a double criterion which gives information on both the primary energy consumption (also expressed in terms of final energy consumption) and the GHG emissions of the buildings. As a result, the grading performance of 800,000 housings heated by fossil energies (such as gas and fuel oil) has been lowered while the grading of 800,000 housings heated with low-carbon energies (such as wood and electricity) has been improved.

- **Annex I on common general framework for the calculation of energy performance of buildings:**
- **Par. 2, point (a):** an additional numeric indicator of **final energy use** should be inserted.
 - **Annex I, new part B:** define a method for calculating the climate performance of a building in kgCO2eq per m² per year through the definition of a common standard for the CO2 content of energies for all energies and ensuring technology neutrality among renewable energies and low-carbon technologies.

2. New needs and new behaviours of building occupants: how to deal with this transformation

Resilient buildings will improve the quality of life of building occupants while addressing the global

⁵ [In French] [Décret n° 2019-771 of 23 July 2019 related to the obligations to carry out actions reducing the final energy consumption in tertiary buildings](#), article 1, sub-section 2

warming challenge

Europeans spend almost 90 % of their time indoor, but climate change is worsening existing indoor environmental problems as well as indoor air quality. It may also introduce new problems as the frequency or severity of extreme weather events multiply. Buildings constructed now are expected to have a typical lifespan of 50 years or more. New buildings assets must be designed, built, operated, and maintained to consider climate changes that may occur during their lifespan. Existing buildings will need to be modernised and/or managed differently, taking into account climate change. While the current directive already sets several provisions regarding air quality and thermal comfort, the revision of articles 9 and 11 could include **minimum requirements for both the renovation of buildings and the construction of new buildings. It will help encourage the combination of active** (i.e. low-carbon and efficient technologies, such as heat pumps) **and passive solutions** (e.g. wall and ceiling insulation) **in heating and cooling systems.**

Policy recommendations:

➤ *Article 2 on definitions:*

- **Insert a definition of “thermal comfort in all seasons”:** means a maximum duration and intensity of periods of discomfort no to be exceeded in a building, in a context of extremely low temperatures in winter or high temperatures in summer.
- **Insert a definition of “indoor air quality”:** refers to the possibility for any occupant of a building to breathe air that is not harmful to their health.

➤ *Article 4 on minimum energy performance requirements:*

- **Include minimum requirements on indoor air quality and thermal comfort** as referred to in the new definitions inserted in article 2. The development of ventilation and air handling systems (e.g. thermal comfort equipment via VMC double-flow, ventilation systems) should be for example supported and coupled with intelligent equipment (e.g. CO2 connected sensors) and air monitor controls in the renovation of existing buildings and in the construction of new ones.

➤ *Article 11 on energy performance certificates:*

- **Include information on indoor air quality and summer comfort.**

In its new DPE (“Diagnostic de Performance Energétique”) which entered into force in July 2021, France has integrated a rating for summer comfort in buildings making it possible to recommend cooling systems adapted to each building (such as heat pumps).

How and why buildings can and should meet the charging needs of electric vehicle users

Buildings are essential to meeting the needs of electric vehicle (EV) drivers and play a key role in the shift towards electromobility. Indeed, **90% of EV charging happens at home or in the workplace**⁶. While the ongoing implementation of the EPBD is a step in the right direction for the adoption of charging infrastructure, the number of exemptions may limit its scope. If the first part of the Fit for 55 package addresses the rollout of EV charging stations across TEN-T corridors with some technical specifications for private charging stations, to ensure the uptake of electromobility, it is necessary that EV chargers are also deployed in living areas where most of the European population live and commute. **A stronger EU commitment on charging requirements in the private building stock is therefore essential and the EU must seize the opportunity of the revision of the EPBD to ensure that all buildings (new and existing) meet the energy and mobility needs of tomorrow. Strong**

⁶ Figures on the habits of French EV users: Enedis, [“Use and recharging: Survey on the behaviours of EV owners”](#) (February 2021) [In French]

requirements are needed to pre-equip all buildings, including collective ones.

When revising the Directive, the EU should also address the outstanding obstacles to **the installation of a charging point in collective housings** given that it concerns a large part of EV users, (in France **44% of the population lives in a collective residence**⁷.) The right-to-plug must be extended to all EV users and buildings. A clear understanding of the different connection schemes and their implications is fundamental to facilitate the decisions of tenants and co-owners for the recharging installation on the parking of multi-family properties. Since different connection schemes exist, involving the DSOs to advise the building decision-maker(s) can facilitate the implementation of this obligation.

At the same time, EVs represent a real potential for flexibility, providing benefits to both the power system and to EV users. **Indeed, smart charging solutions play a role in grid balancing and support the integration of more renewable energies into the grids. Furthermore, from the point of view of EV users, smart charging will help reduce their energy bills** as they can further optimise their consumption by recharging their vehicles during off-peak hours. Indeed, **smart charging generates savings on average of 140 €/year savings** which limits the annual cost of recharging an electric vehicle to 280€/year (in France). Without smart charging functionalities, the annual cost of recharging is around 420€/year⁸. Therefore, the directive needs to ensure that buildings do not hinder the roll-out of smart charging for relevant use cases, especially for private infrastructure where vehicles are regularly parked and connected to the grid. To fully reach the benefits of EVs and synergies with buildings and more broadly with the network, that exist thanks to smart charging, UFE calls for the possibility to consider smart meters as one of the solutions allowing smart charging for private charging points.

UFE also believes that, during charging operations, **a non-discriminatory access to EV-related static and dynamic data, including at the very least the state of charge of the battery, is necessary and should thus be free from charge and guaranteed for all concerned actors**⁹ (e.g. energy service providers, system operators, fleet operators). Concerning smart charging for instance, available data access is required by third party operators to load control to charge vehicles at the best time and at the lowest cost, as well as electricity reinjection to ensure networks flexibility. UFE points out **that the access to data related to EV batteries is an absolute prerequisite to ensure consistency with article 15 of Directive 2019/944** on common rules for the internal market for electricity.

In this context, UFE proposes the following recommendations:

Policy recommendations:

➤ **Article 8 on technical building systems, electromobility and smart readiness indicator:**

Right-to-plug-in:

- **Par. 2 new point (c)**, introduce an obligation to install recharging points in parking spaces close to buildings open to the public¹⁰, such as railway stations, in line with the new Regulation on the deployment of alternative fuels infrastructure (replacing the Directive 2014/94/EU) to avoid any overlap.
- **Par. 2 and 5: the right-to-plug should be extended to all buildings** and not only to new buildings or buildings subject to major renovation to ensure that it is as simple as a subscription to other

⁷ Enedis, [Report on the integration of electric mobility](#) (2019), p. 33.

⁸ RTE, [In French] [Report on the stakes of the development of electromobility for the electricity system](#) (2019), p.59.

⁹ UFE, CNPA, FFA, Mobivia, Sesam, SNSA, ANEA, Automobile club association, [Connected vehicle : 8 principles for a balanced ecosystem accessible to everyone](#) (2021)

¹⁰ In French legislation, buildings open to the public means buildings in which external people are admitted regardless of whether the access is on a fee-paying basis, free of charges, or open, restricted or by invitation only.

services like internet, phone provider, etc. Furthermore, **the right-to-plug should also apply to non-allocated residential parking spaces, in particular in social housing.** It will ensure that households with no private parking spaces can have access to a charging point nearby.

- **Par. 4: delete the current exemptions applied to SMEs** as it reduces the impact of the provision on the installation of recharging points in non-residential buildings. **Knowing that SMEs represent 99% of all businesses in Europe and employ more than 100 million people¹¹, removing this derogation will strengthen the possibility of installing a recharging point in the workplace.**

Collective recharging infrastructure:

Current paragraph 7 requires Member States to provide measures to simplify the deployment of recharging points in new and existing residential and non-residential buildings as well as to address possible barriers. **The absence of details on the type of measures that need to be implemented has led to a variety of procedures across Member States with low requirements set.** To facilitate the installation of recharging points in multi-dwellings, the revised directive should provide a general framework that Member States will implement taking into account their national specificities.

- **New par. 7a: introduce an obligation to plan collective charging infrastructure projects as well as their sizing in all buildings at least for residential buildings.**
 - **By the date of entry into force of the directive, the obligation of pre-equipment should apply to all new buildings and all buildings undergoing major renovations.**
 - **By 2035, the obligation should apply to the rest of the building stock.**
- **Add a definition of pre-equipment in article 2 to guarantee the complete pre-equipment of all types of buildings,** i.e. technical (cable path, technical sheaths) and electrical pre-equipment in collective electrical installations (switchboard, horizontal electrical column, bus cable).
- **Require that the response to a request for the installation of charging stations in collective properties does not exceed 3 months.**
- **Set a minimum obligation for charging stations to be installed,** expressed in percentage of the number of non-allocated parking spaces to be achieved in **residential buildings** to correspond to the EV market development by 2030, 2035 and 2040.
- **Facilitate the participation of EVs to flexibility procurements thanks to the use of smart chargers** which are able to receive signals from smart meters.

Smart charging:

- **Par. 2 and 5: introduce a requirement to make all new chargers smart charging-ready** in all private buildings.
When meeting the obligations on smart charging (V1X, V2X), set the possibility to consider smart meters as one of the solutions allowing smart charging. This possibility should also be included in the definition of smart charging consistently in all relevant texts (the revision of the EPBD, the new Alternative Fuels Infrastructure Regulation and the revision of the Renewable Energy Directive).
- **New par. 8a: introduce an obligation for all Member States to ensure an open, free from charge and non-discriminatory access to battery-related data to all stakeholders,** which is a

¹¹ [European Commission](#) (2020)

prerequisite for third-party operators of “smart charging services” and for the well-functioning of smart charging technologies.

3. A better access to information on energy consumption is necessary to reach the building renovation objectives

A good understanding of the energy consumption is essential to achieve energy and climate sobriety in buildings and to provide better services to consumers. Indeed, the access of smart meter data enables to provide supply offers that are better adapted to the consumption profiles of consumers. The access to these data combined with the development of monitored equipment (such as heat pumps, electric vehicles) also contributes to improving the grid flexibility. Above all, gaining an understanding of their energy consumption, and carbon emissions will give buildings occupants control over their energy and climate needs and impacts, will encourage them in starting renovation works, and will play a part in increasing their awareness on climate change. Furthermore, the availability of quality information on the real energy performance of buildings, by measuring energy consumption and GHG emissions, helps better identify the buildings which need to be renovated in priority.

In France, the National Agency for the cohesion of territories (ANCT) together with the Enedis (French DSO) launched in 2020, in several French cities, the “Panorama de la thermosensibilité”¹². This tool aims to better target and plan the energy renovation of buildings thanks to the analysis of the energy consumption data produced by Enedis' Linky smart meter and the assessment of the housing sensitivity to temperature variations. It contributes to assisting local public decision-making in identifying the renovations to be prioritised and in fighting energy poverty.

Within this framework, **performing ex-ante and post-work diagnoses would enable to compare the levels of energy performance, GHG emissions and the comfort conditions of buildings before and after works in order to assess the renovation benefits.** Smart meters, which are widely deployed in France, are able to provide these indicators. **Such diagnoses should be used to identify and prioritise the poorly performant buildings inhabited by people affected by energy poverty, vulnerable customers and, where applicable, people living in social housings** in order to be consistent with the article 22 of the revision of the Directive on energy efficiency (2021/0203).

In this context, UFE welcomes the intention of the European Commission to introduce **digital building logbooks** (as described in the Renovation Wave Strategy). In France, the Climate and Resilience Law (Loi Climat et Résilience) which entered into force in August 2021 calls for the establishment of Digital housing notebooks (“carnets numériques du logement”) which will enable the digital gathering of information on the various works carried out in a housing. They will enter into force in January 2023.

Policy recommendations:

➤ **Article 2 on definitions:**

- **a new definition of “deep renovation” should be introduced.** It should include the notion of real performance, which will ensure an actual assessment of the building energy and climate performance and avoid objectives based solely on theoretical calculations (e.g. Energy Performance Certificates). To ensure that the definition complies with carbon neutrality target, **it must include:**

¹² [In French] ANCT, Enedis, “[Panorama de la thermosensibilité](#)” (September 2021). Can also be consulted another project led by Enedis and the Banque des territoires [in French]: Banque des territoires, [Communiqué de presse “Prioréno”](#) (May 2021)

- **A calculation of thresholds in absolute value to evaluate the real energy consumption and GHG emissions of buildings.** This calculation should be carried out before and after renovation works through ex-ante and post-work diagnoses of the building and take into account potential “rebound effect”¹³ due to the improvement of comfort after renovation works.
- **An assessment overtime of the real energy consumption and emissions of the buildings** to ensure that the real performance of the building is increased.

These provisions could be met by the **access to smart meter data on a daily basis¹⁴ and/or by an Energy Performance Contracting.**

Accordingly, references to “major renovation” must be replaced by “deep renovation” to further strengthen the requirements in terms of building renovation.

➤ **Article 7 on existing buildings:**

- **Par. 5:** extend the article to give the possibility to Member States to encourage high-efficiency alternative systems for buildings undergoing **deep renovations**.

➤ **Article 20 on information:**

- Ensure the involvement of all concerned actors (including system operators) in the definition of interoperable standards regarding demand-management and related information exchanges.

¹³ “Rebound effect” means that insulate a housing or install a more efficient heating mode does not result in expected heating consumption decrease, because inhabitants tend to heat their housing more than before to gain in comfort.

¹⁴ In compliance with the principles of the GDPR, data belong to consumers who can decide to give access to a third party. In France this is also regulated by Ministerial Orders on the article 142-1 of the French Energy Code on the requirements on data collection for statistical purposes.