FIEC is the European Construction Industry Federation, representing via its 33 National Member Federations in 29 countries (25 EU, Norway, Switzerland, Ukraine & Turkey) construction enterprises of all sizes, i.e. small and medium-sized enterprises as well as "global players", carrying out all forms of building and civil engineering activities.

Position Paper 02.02.2021

Renovation Wave

Introduction

Given that the current annual renovation rate of residential and non-residential buildings in the EU will not achieve the ambitious goals of the European Green Deal, including the new climate target of 55% reduction in carbon emissions by 2030; and knowing that 85-95% of the buildings that exist today will still be standing in 2050; **FIEC supports the Renovation Wave**, the details of which were published on 14 October 2020. The initiative is a significant opportunity to contribute to the recovery of the European economy, following the ongoing Covid-19 crisis.

In this position paper, we set out our detailed reaction to the Renovation Wave, which contains both promising solutions and other measures that need further discussion with industry stakeholders.

Key messages

For a successful Renovation Wave, FIEC calls for:

1. Deep and holistic renovation approach supported by financial incentives to make it affordable
2. Integration of life-cycle thinking and circularity
3. Measures to be underpinned by green and digital transitions
4. Achievement of existing EPBD goals before revision of the Directive
5. Improvement of Energy Performance Certificates
6. Public sector lead and inclusion of non-residential buildings
7. Support for re-skilling and up-skilling of workforce

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Detailed analysis and comment

1. Deep and holistic renovation approach supported by financial incentives to make it affordable

More than just energy efficiency

Although the "guiding principle" of energy efficiency comes first in the list[1] and although FIEC certainly supports the notion that we should only produce the energy we really need, talking about "energy efficiency first" risks undermining the concept of **holistic renovation**, which appears in general to have been accepted as important, by the policy makers. We would therefore encourage **a stronger emphasis on holistic renovation**, to avoid costly renovation that addresses energy improvements, while leaving other structural and safety problems unresolved. Such problems include the removal of dangerous substances, such as asbestos in insulation, PCB in joints and power cables, petroleum products in workshop floors and plastic carpets with stabilisers. The use of these has now been phased out, but they remain in some existing buildings and should be dealt with during renovation. In most cases, they will need to be removed before renovation begins anyway.

Affordability

Accelerated energy renovation of the building stock requires a very large number of owners to invest, from different segments of the market (e.g. single-family, landlord etc.) Deep renovation, aimed at achieving the maximum possible energy efficiency, **does not always result in a rapid return on investment.** Moreover, in most cases, the owner has to finance the renovation. When a loan is required to finance a renovation, the creditworthiness of the owner or purchaser of an existing building **may prevent optimal improvement in energy performance**, or the renovation/acquisition and renovation project as a whole. In the residential property market, prices often rise significantly faster than the evolution of household income, especially in urban areas. It is important to take this into account in renovation strategies and to encourage innovation that reduces the cost of energy renovation.

Neighbourhood and Portfolio approaches

Combining several buildings for an aggregated renovation project will help to **both speed up the renovation and reduce costs, at the same time minimising the disruption for the building occupants.** The renovation challenge in the EU is so huge that there is room for construction companies, both large and small in this market. Ensuring that both individual building renovation projects and neighbourhood renovation projects are targeted by the Renovation Wave will facilitate **more rapid achievement of the targets**: namely, a doubling of the current renovation rate across the EU and the eventual renovation of 35M buildings. Neighbourhood and district renovation projects should not exclude SMEs, which make up more than 90% of the companies in the EU construction sector. To encourage and support their involvement, **public tenders should aim to offer equal opportunities to both large and small companies.**

As a general approach, FIEC supports the accelerated uptake of industrialised solutions, in order to **scale up renovation of the building stock** across the EU. Industrialisation can speed up renovation and improve resource efficiency and waste reduction. However, **not all industrial**

[1] COM(2020) 662 final "A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives" p.3.

solutions are suitable for all buildings in all regions. Moreover, although there have been many EU funded research projects into this very topic, these have not yet resulted in wide application. Our messages are therefore that **one size does not fit all** on the one hand and we need to allow for the use of **tailor-made solutions** when these are required. Regarding further development of standard industrial solutions **we need to roll out and increase the uptake of recent research results, for example the "Energiesprong" project[2], in the renovation market.** In addition, as an incentive for construction companies that are ready to move towards further industrialisation and the use of prefabricated components, which means a big change in their fundamental processes, we would like to see **financial incentives being made available, to support and accelerate the change.**

Integrated renovation is important and can make the building stock future-proof, not only in terms of climate mitigation but also to **accelerate digitalisation**. Renovation at district level should be based on the concepts of Smart Cities and Smart Buildings. These concepts support a **holistic approach**, which address energy efficiency, comfort, accessibility, digital operation, e-mobility and energy generation. The Smart Readiness Indicator could become a tool to assess and rate buildings.

Well targeted funding and incentives

The **Renovation Wave can only be achieved if it is supported by adequate funding and incentives.** Such funding should not subsidise public sector activities or distort competition between private companies, but it should allow the **participation of SMEs in subsided renovation activities**. It should be targeted to the organisations and individuals that need it to undertake the deep renovation that is necessary to ensure the best results and the highest possible reduction in energy consumption and emissions across the EU.

For example, in Italy the "Superbonus" has been introduced. This scheme is an improvement on previous ones as they only allowed the cost incurred for renovation work to be deducted from taxes and therefore, only people with taxable income could benefit. The Superbonus also allows those who have no income (who could not previously benefit from tax deductions) to benefit from the measure, because they can transfer the tax credit to another recipient, including credit institutions and other financial intermediaries. This incentive helps to fight energy poverty and support renovation, because the Superbonus gives fiscal benefits to all households, to help pay for renovation work.

Strengthening technical assistance at regional and local level

Deep renovation is complicated, **expensive** and can cause considerable inconvenience for building occupants. FIEC agrees that good advice can ensure that the best renovation plan is designed and the most effective solutions installed. It can also ensure that the investment results in the **best eventual returns** and ultimately the **satisfaction and well-being of the client**. Currently, good advice is not always easily accessible.

For example, in the Netherlands, the renovation market is rather fragmented and it can be difficult for people to get advice. Sound technical assistance can facilitate easier and best value for money renovation. Public advisors with energy efficiency competence within municipalities is one way of providing technical advice to real estate owners.

[2] www.energiesprong.eu

Companies also need support.

A good example comes from Sweden, where the Swedish Resource and Waste Guidelines for Construction and Demolition contains easy to understand instructions and templates for planning.

High health and environmental standards

FIEC strongly supports the call for high health and environmental standards to be achieved during renovation. The emphasis in the Communication on air quality, water management, disaster prevention, protection against climate related hazards, removal of harmful substances and fire and seismic safety resonates with our own call for **holistic renovation**. This is the only way to achieve all of these improvements during renovation.

Deep renovation standard

As FIEC has long advocated for deep renovation and a **holistic approach to renovation**, we are enthusiastic about the prospect of a new standard for deep renovation. However, we call for the **full involvement of construction stakeholders** from the entire value chain in the development of such a standard and we insist that this standard must not only be focused on energy efficiency gains, but on **improvements across all aspects of deep renovation**, such as those already mentioned above.

Mandatory minimum energy performance standards

Recently, FIEC responded to the consultation on mandatory minimum energy performance standards and amongst the membership, there was some support for these standards. We agree that these should be linked to national, regional and local incentives and we insist that **industry stakeholders are fully involved in the setting of the standards.**

2. Integration of life-cycle thinking and circularity

Life-cycle thinking and circularity

FIEC supports resource efficiency and circularity and supports further research into materials that can store carbon, thus tackling decarbonisation at the same time as resource efficiency. However, FIEC insists that **certain materials should not be promoted over others**, especially taking into account different national climatic conditions, availability of materials and building traditions. We advocate for **material and technology neutrality** and call for policy makers to leave such decisions to the industry experts involved in the design and construction process. **This also means that minimum amounts of specific materials in buildings (such as wood) must not be enforced by policy makers.**

Reducing whole life-cycle carbon emissions

FIEC **strongly advocates for the whole life carbon approach**. The construction life cycle is composed of several phases, but targeting these phases for emission reduction as separate and distinct fails to address the link between each phase. For example, in the construction phase, products are installed into buildings and infrastructure. These products are not generating emissions at the point of installation, but some, such as heating appliances, will generate emissions during the use phase. Furthermore, products have previously been manufactured before the construction phase and emissions have been generated during the

production process (embodied carbon). **In the end, the construction life cycle needs to be treated as an entire cycle.** FIEC has recently become an ambassador for the #BuildingLife campaign. We therefore strongly support this approach.

Decarbonisation of heating and cooling

Having said the above, as some phases of the life cycle generate emissions that could be reduced and as **heating and cooling is one of the aspects of the use phase where new technologies and the use of renewable energy could make a difference**, we support the approach. However, we repeat that **specific technological solutions selected to be decided by the industry (those involved in the renovation) and not prescribed by regulation.**

An example of where renewable energy has been used comes from Greece.[3] In this case, 9.57kWp of thin film photovoltaics and 5kWh lithium batteries were installed, creating a Nearly Zero Energy Building (NZEB). Funded by the General Secretariat for Research and Technology (GSRT), it was completed after 2 years.

Material recovery targets

A well-functioning **internal market for secondary raw materials is absolutely vital** to the success of the Circular Economy. FIEC was involved in the development of *Level(s), the Circular Economy Principles for buildings design and the EU Construction and Demolition Waste Protocol.* We strongly support these initiatives and we are **committed to the principle of material recovery**. FIEC welcomes the Commission's commitment to introduce measures that promote reuse and recycling platforms.[4] Public institutions could take the lead, by accepting the use of recycled materials in public procurement and by setting clear criteria for their use in calls for tenders. Nevertheless, **we must be involved in the review of material recovery targets** and we urge the Commission to conduct this review in an open and transparent manner, with the full involvement of the industry and all those responsible for ensuring the achievement of these targets.

Finally, targets cannot be set unless secondary raw materials are of a **sufficiently high quality.** Otherwise, there will be a lack of confidence in the market regarding their use. Standardisation at EU level would be the appropriate way to ensure that the industry develops market-driven standards that match the performance needs of the industry and citizens.

Internal market for secondary raw materials

As well as guaranteeing the quality of secondary raw materials, **FIEC strongly advocates for measures that will stimulate the internal market** for these materials, such as allowing the transportation of materials across borders, in order to have fewer recycling facilities, (which after all require investment), that are **optimised by maximum use, resulting in economies of scale**. This would make more sense than, for example, imposing the requirement for all countries to have recycling facilities that might not be economically viable. Please also refer to our paper on the Circular Economy Action Plan.

[3] "Smart Home" of CERTH/IPTIL https://smarthome.iti.gr/dih/mission.htm

[4] COM(2020) 662 final p.16

Circular Building Design

As mentioned earlier, FIEC strongly supports the use of Level(s), the Circular Economy principles for buildings design and Construction and Demolition Waste Protocol.

3. Measures to be underpinned by the green and digital transitions

Digitalisation

FIEC has long been a strong supporter of digitalisation in the construction industry. In our joint manifesto on digitalisation, published with 22 other federations representing the construction industry[5], we said *"The significance of the sector is also reflected in its ability to respond to the main challenges of the European Union: jobs, digital economy,* ***energy efficiency, circular economy, climate change****…health and safety…"* Therefore, we strongly support the creation of Digital Innovation Hubs, as a way of supporting construction companies to adopt digital tools and technologies, including, but definitely not limited to BIM.

FIEC is a partner in the DigiPLACE project. This project is creating a Reference Architecture Framework for a digital platform for the European construction industry, that would enable the seamless connection to a range of applications for digital construction, ensuring full interoperability and open standards. **The framework designed by DigiPLACE should be adopted by the European Commission and the eventual creation of the platform could signficantly support the Renovation Wave.** Therefore, we urge the European Commission to take this into account as a future enabler for this important policy initiative.

One of the use cases being researched by DigiPLACE is digital permitting. Therefore, we strongly support any measures presented under the Renovation Wave to **facilitate an EU framework for digital permitting**.

Digital Building Logbooks

FIEC strongly supports the introduction of Digital Building Logbooks and believes that the approach outlined in the Communication is the right one[6]. It is imperative that these Logbooks integrate the data from Renovation Passports, the Smart Readiness Indicator, Level(s) and Energy Performance Certificates. Where BIM is being used, **there must also be a link between the Logbook and the Building Information Model**, so that the data in the Model, which is constantly updated, is automatically uploaded to the Logbook.

Climate resilience standards for buildings

Until there is a specific proposal, it is difficult to comment on any climate resilience standards for buildings. However, in principle, FIEC believes that it is necessary to support the climate mitigation agenda and this may be a way to do that. As climate resilience becomes ever more important, with the risk of more - and more serious - climate events damaging and even destroying buildings and infrastructure, with the associated loss of lives, **the industry is ready to make climate resilience a normal and automatic consideration in construction**. Indeed, this is already happening.

[5] SMARTER CONSTRUCTION, STRONGER ECONOMY, INCLUSIVE SOCIETY: THE EUROPEAN CONSTRUCTION INDUSTRY MANIFESTO FOR DIGITALISATION

[6] COM(2020) 662 final p.8

For example in Sweden, it is mandatory to include a climate assessment, which addresses both the impact on climate and adaptation to a changing climate in the environment assessment, that must be included in regional and local planning, as well as some applications for environment permits for industry and other activities that are potentially harmful to the environment.

Use of Horizon Europe to support the Renovation Wave

FIEC has been closely involved in the development of the Strategic Research and Innovation Agenda and the **partnership proposal for Built4People**. Assuming this partnership is successful, the available funding must be used to support projects (amongst others) aimed at improving the sustainability and circularity of materials, industrialisation and digitalisation of processes and development of new technologies and processes not yet discovered. Horizon Europe should build on Horizon 2020, which supported projects such as BIM-SPEED[7], which is developing BIM tools for use in the renovation of residential buildings, particularly by small construction companies.

4. Achievement of EPBD goals before revision of this directive

Revision of Energy Performance in Buildings Directive (EPBD)

Although FIEC understands the rationale behind the proposal to re-open the Energy Performance in Buildings Directive (EPBD), with a view to a possible revision; namely to ensure that the EPBD is sufficiently robust and ambitious to meet the new climate target in the European Green Deal, we are nevertheless concerned about this proposal. Firstly, the EPBD was only recently revised and therefore, we believe that **not enough time has been allowed to ensure that the existing targets are achieved.**

Indeed, in Sweden, for example, as verification of energy consumption in new buildings is not done until after the first two years of occupation, no figures are yet available regarding new buildings constructed since the revision of the EPBD in 2018. In Germany a comprehensive law on energy efficiency of building just came into effect from 1 November 2020 with the "Gebäudeenergiegesetz". Its effects on the building and construction sector will only become visible when the new law is applied in the coming years. Likewise, in Wallonia, Belgium, transposition has only just taken effect. Therefore, not enough time has passed to see the results of the last revision of the EPBD in that country.

Secondly, re-opening the EPBD when the industry has only recently been faced with a substantial revision risks causing confusion and a further regulatory burden. Instead of revising this Directive now, we propose to make any further revision conditional on the fulfilment of the obligations in the existing Directive 2018/844. Setting even more ambitious targets when existing ones have not been achieved makes no sense.

5. Improvement of Energy Performance Certificates

Energy Performance Certificates

We strongly welcome the recognition in the Communication that, with regard to Energy Performance Certificates (EPCs) *"Their quality and fair pricing remain an issue, eroding the trust*

[7] BIM-SPEED project www.bim-speed.eu

in this tool".[8] FIEC concurs that the **quality of EPCs is not consistent amongst Member States** and that the credibility of these Certificates as a way of giving an accurate evaluation of building energy performance – or worse, as a tool for assessing the extent to which a renovation has achieved energy savings – is severely **undermined**. Furthermore, recommendations made in EPCs for energy efficiency improvements are currently aimed at low-cost measures in most European countries. These are not always the best measures in terms of achieving regulatory compliance, in particular NZEB[9] standard. Therefore, the recommendations given in EPCs, on both the measures that could be taken and the energy efficiency levels that should be achieved as a result, should be improved. Given the above, **it may be premature to introduce a stronger obligation to have Energy Performance Certificates**.

That said, we welcome the Commission's proposal to update the EPC framework, look at machine-readable data format and introduce provisions on availability and accessibility of databases and repositories for EPCs[10]. We would like the Commission to go further though and we call for rigorous measures to be taken to **improve the quality of EPCs across the entire EU** and to ensure that these Certificates are **completely reliable and fit for their intended use**, before any extension of their use becomes an obligation. Furthermore, we refer to our previous position on the last revision of the EPBD[11], in which we stated that these EPCs must not be used to evaluate "before and after renovation" energy performance levels, unless and until they are **completely reliable as a tool of measurement of such comparisons.**

6. Public sector lead and inclusion of non-residential buildings

Requirement for building renovation at all levels of public administration

FIEC strongly supports this proposal. **The public sector should take the lead**. We also advocated for this in our previous position in 2017. [12] We recall the requirement in the Energy Efficiency Directive for a renovation rate of public buildings of 3%. [13]In order to support this challenge, we call for this requirement to be linked to the national Recovery and Resilience Plans.

Going beyond residential buildings

Non-residential buildings are, on average, **40% more energy intensive than residential buildings**. Therefore, these buildings also need to be considered for renovation efforts.

For instance, in Germany, one third of the energy consumed by buildings is consumed by 1.7M non-residential buildings. This potential energy saving should not be excluded from the Renovation Wave.

[8] COM(2020) 662 final p.7.
[9] Nearly Zero Energy Building
[10] COM(2020) 662 final pp.7-8.
[11] "Yes to revised EPBD but not all provisions are smart!" 15.03.2017

[12] "Yes to revised EPBD but not all provisions are smart!" 15.03.2017

[13] Directive 2012/27/EU Article 5
Exemplary role of public bodies' buildings

7. Support for re-skilling and up-skilling of workforce

Skills

The current **shortage of skilled workers** existed before the Renovation Wave. Existing vocational education and training (VET) systems need to be adapted and Member States should seize all existing opportunities from the EU budget for this purpose. **The appeal of the sector to young talent can be improved by the green and digital transitions.**

An example of good practice is the Construction Blueprint project (Erasmus +), in which FIEC is involved. This project aims to update VET to meet the needs of energy efficiency renovation, circular economy and digitalisation.

We welcome the fact that the Commission wants to build on this initiative with the updated EU Skills Agenda, in particular the EU Pact for Skills. Finally, the Health & Safety aspect of (deep) renovation – in particular linked to the removal of asbestos – is a very serious issue which will need to be carefully monitored. To ensure that the skills challenge of the Renovation Wave is met we call on the European Commission **to closely cooperate with construction social partners.**

Conclusion

FIEC stands ready to support the implementation of the Renovation Wave by the construction industry.

We call on EU policy makers to ensure the financial conditions are right for the adoption of the new materials, processes and technologies and the development of skills in the workforce that can accelerate the renovation of the EU building stock. We look forward to contributing to the creation of the right policy framework to complement this initiative.

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