

CONSTRUCTION NEWS

by Aris Chatzidakis, ECCE President

11 June 2021





European Council
of
Civil Engineers

ECCE participates in the following forums related with the Construction Industry:

- **New High Level Construction Forum (HLCF)**
- **Construction 2050 Alliance**





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High Level Construction Forum





Why: Making the green, digital and resilient transitions actionable

- The European Commission has underlined the importance of carrying out a twin transition – i.e., a **green and digital transition** – to bring Europe into the future. This is reflected in two of its main priorities: the European Green Deal¹ and Europe fit for the digital age. With the COVID-19 pandemic and the NextGenerationEU recovery plan, **resilience** was added as a third key strategic target.
- The updated EU Industrial Strategy confirmed the need to further accelerate the **green and digital transitions and increase the resilience of EU industrial ecosystems**.
- The design and implementation of transition pathways will set out the scale of actions to accompany the industry's transition towards 2030 and 2050. **Construction was identified by the Commission as one of the priority ecosystems for the transition.**





HLCF's mission

- The proposed mission of the HLCF is **to provide a forum for the construction ecosystem to co-create and implement a roadmap for the transition pathway towards a green, digital and resilient construction ecosystem that contributes to the wider EU goals.**

Question 1:

What is your vision for a digital, green and resilient construction ecosystem? What should the construction ecosystem and the built environment look like in 2030 and 2050 to help achieve EU targets?





What: A roadmap towards a green, digital and resilient construction ecosystem

- The HLCF is invited to adopt a **mission-oriented approach and develop a roadmap towards a green, digital and resilient construction ecosystem**. The roadmap is expected to provide concrete actions and targets for 2030 and 2050, and identify potential opportunities and barriers. The targets could include:
 - reducing the whole life cycle carbon of buildings and infrastructure by at least 60%, supporting EU 2050 climate neutrality objectives and the Renovation Wave;
 - accelerating the digitalisation of data across the ecosystem, supporting improved productivity and sustainability performance of the built environment, as well as the emergence of novel services.
 - strengthening the resilience of the ecosystem, including its innovation capacity, productivity, overall skills base and the health and wellbeing of those working in it.





High Level Construction Forum

- The roadmap should **build synergies with other EU policy initiatives** that contribute to a transition for the construction ecosystem. It is expected to **indicate the enabling frameworks at European and Member State level** that would support the transformation of the ecosystem and, where needed, propose new, broadened or deepened frameworks.
- The roadmap will contain an action plan that **identifies and develops the main short- to long-term actions that the construction ecosystem might take to accelerate the transition.**

Question 2: What type of targets should the pathway include?

Question 3: Which stakeholders are essential to accomplish these targets?

Question 4: Which actions should be planned?





How: A bottom-up approach to foster co-creation

- The **construction ecosystem is invited to participate in the HLCF**. The HLCF will convene in plenaries and thematic cluster meetings to define a roadmap for the transition pathway, commit to actions and oversee their implementation. The roadmap should be **co-created in partnership with all actors in the construction ecosystem**.
- Steps to be followed:
 - 1. Define visions, aims, and ambitions** in line with the overall EU targets for 2030/2050.
 - 2. Identify gaps**, taking stock of progress made and ongoing initiatives; identify opportunities and challenges as well as synergies.
 - 3. Identify and select the instruments available and needed** to achieve the aims and ambitions ('intervention options'); and
 - 4. Create an action plan** – how can we use the intervention options to achieve our ambitions?

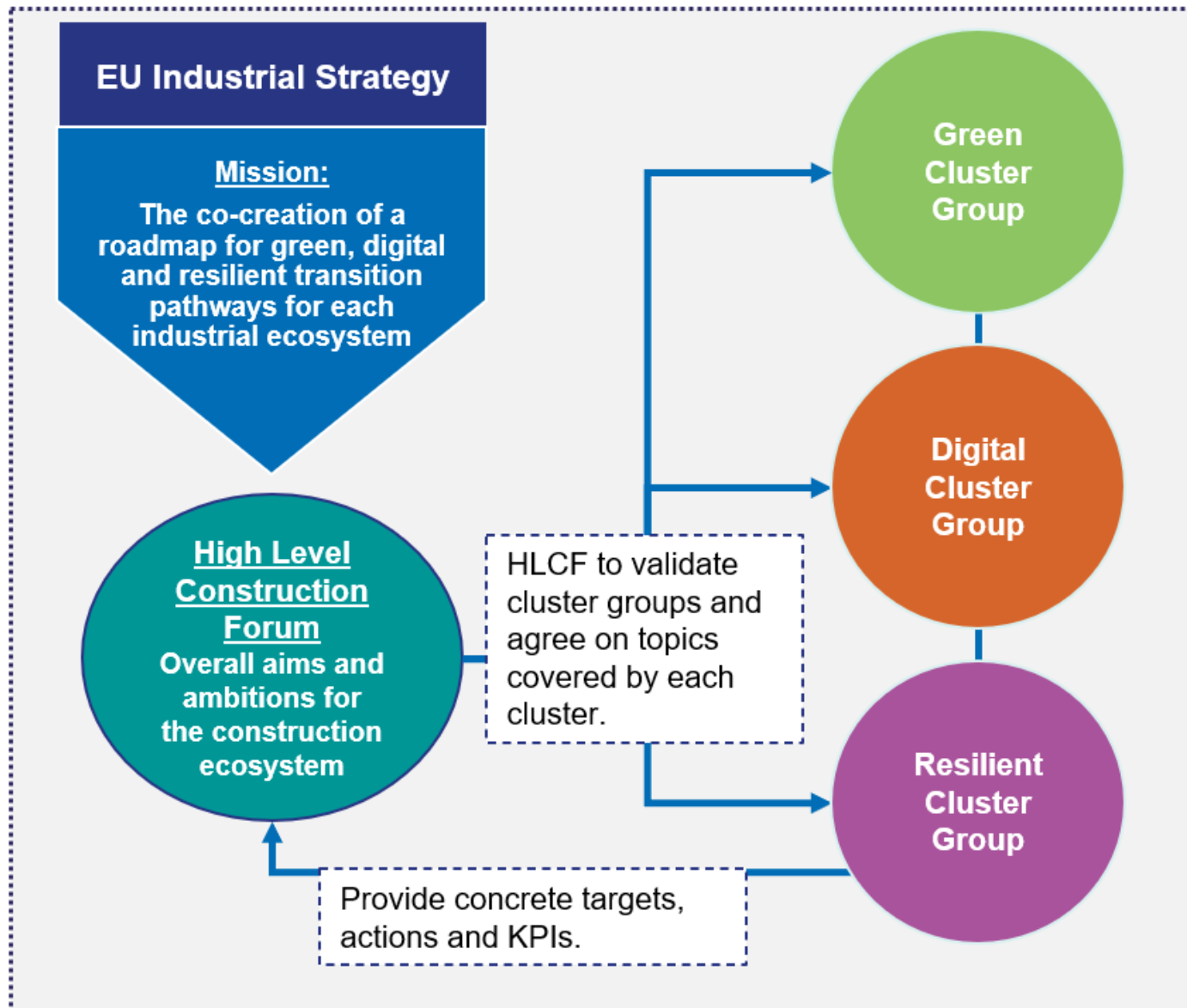


New structure for the HLCF

- **Digital Cluster Group:** To enable a digital and innovative construction ecosystem.
- **Green Cluster Group:** To enable are source and energy efficient, decarbonised construction ecosystem.
- **Resilient Cluster Group:** To enable a resilient construction ecosystem (e.g. developing skills, better regulation of the internal market and ensuring international competitiveness).
- The HLCF will provide the **overall direction, ambitions and goals, and frame the thematic focus of the three cluster groups**. Meetings of the cluster groups will be additional to meetings of the HLCF and will enable more focused discussions on key topics for the digital, green, and resilient transition of the construction ecosystem.
- Discussions will start in the first HLCF meeting on 28 September 2021 and agreement is expected to be reached mid-2022.



High Level Construction Forum





Question 5:

Which existing initiatives are related to the construction ecosystem transition pathway? How can these feed and steer this work?

Question 6:

How should the work of the HLCF and the cluster meetings be operationalised? Any suggestions on working methods?

Question 7:

What topics should be covered cross-clusters?

Question 8:

How can you contribute to the discussions under the cluster groups and to developing and implementing a transition pathway?

Question 9:

What type of commitments are you willing to make? What support would you need?



ECCE's remarks on the new High Level Construction Forum

- We think it is **crucial that the topics covered by the former Thematic Groups** "Stimulating investment in building renovation, infrastructure and innovation", "Skills & Qualifications", "Sustainable use of natural resources", "Internal Market" and "International Competitiveness" are somehow **integrated in the new structure of the HLCF under the Cluster Groups**.
- It is important to try to **safeguard and promote a holistic approach in its real dimension when we talk about "Green" focusing not only on the energy efficiency aspect of the built environment but also on safety and sustainability**.





First meetings of the new Cluster Groups

- Tuesday 19 October: Digital Cluster Group meeting
- Wednesday 20 October: Resilience Cluster Group meeting
- Friday 22 October: Green Cluster Group meeting
- The purpose of the meetings is to follow-up from the initial dialogue held at the High Level Construction Forum and have more focused discussions on relevant topics for construction in the areas of digital, resilience and green topics.





First meetings of the new Cluster Groups

- **Digital:** The first Digital Cluster Group meeting will cover three main topics, namely: i) supporting the implementation of digital technologies such as digital twins and BIM; ii) the role of digital platforms and data governance, as well as; iii) the digitalisation of construction SMEs.
- **Resilience:** The first Resilience Cluster Group meeting will cover three topics, namely: i) providing the labour force with the right skills; ii) building a resilient construction industry; and iii) enhancing climate resilience and adaptation of the built environment.
- **Green:** The first Green Cluster Group meeting will cover four topics, namely: i) reducing whole-life-carbon emissions; ii) enhancing facilities for circularity and secondary raw material markets; iii) increasing the service life of built assets, and; iv) enabling carbon storage and nature-based solutions.



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1st Meeting of the HLCF

28th September 2021, online

The first meeting of the High Level Construction Forum took place on 28th September 2021.

About 220 representatives from industry, Member States, European Commission, social partners and other stakeholders joined to exchange on the main priorities and themes of the HLCF.

ECCE Vice President/ President Elect Andreas Brandner participated in the first HLCF meeting representing ECCE.





Summary of the morning session

- The **construction ecosystem is recovering from the COVID-19 pandemic, but faces many challenges:** the **climate crisis**, the **renovation ambition**, **digitalisation**, the need to invest into people and the construction material shortages being just some of them.
- An overall challenge is to find the **economic and business case for a more green, digital and resilient construction ecosystem** – and move towards a carbon neutral future while taking into account the **enormous complexity of the construction ecosystem**.
- A range of European initiatives set the scene for the transformation of the ecosystem: the Fit for 55 package, the Renovation Wave, the National Recovery Plans, the Energy Performance of Buildings Directive, the Construction Products Regulation, the Circular Economy Action Plan, the Climate Adaptation Strategy, the Pact for Skills, the New European Bauhaus, etcetera. **Now the time has come to look at this broad set of initiatives in an integrated and holistic way.**





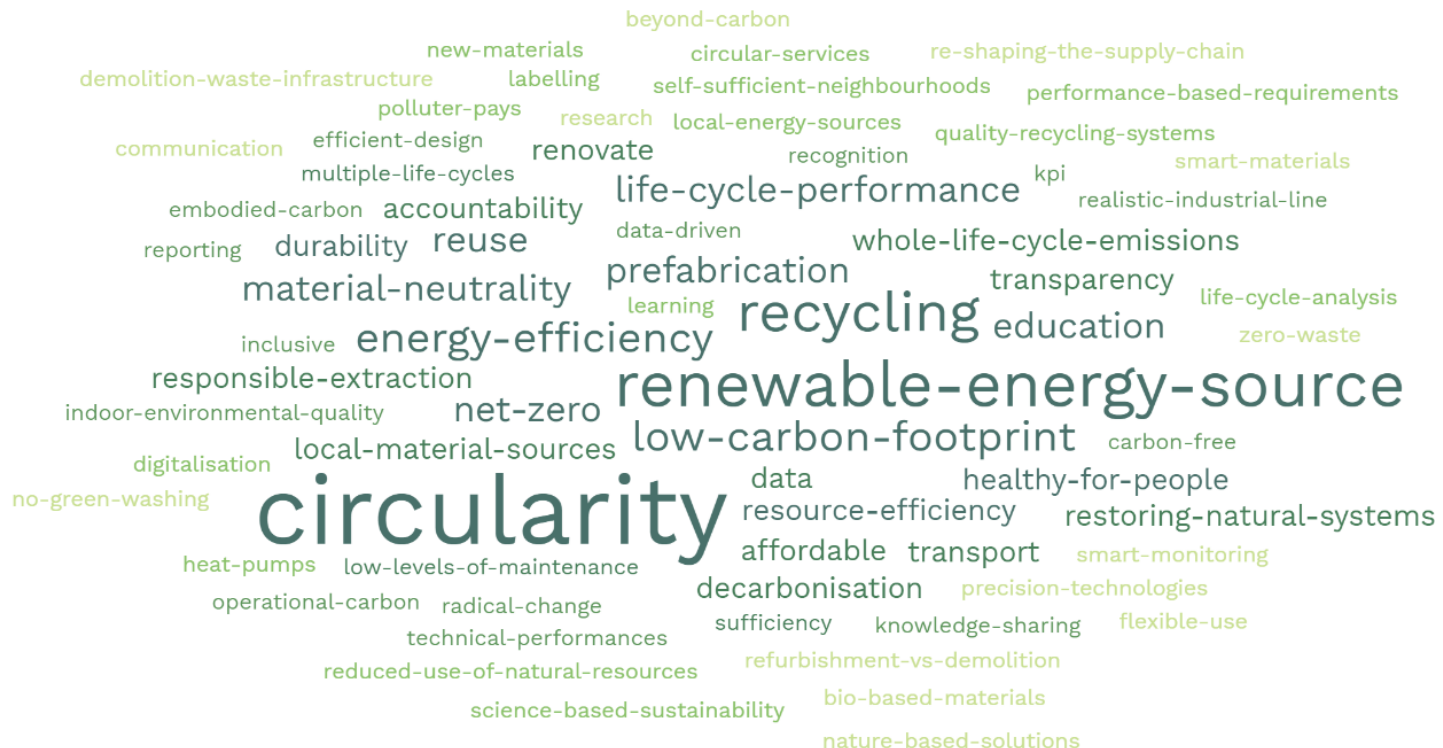
Summary of the morning session (cont.)

- The **active participation of the public sector** (national, regions, municipalities) is **key to create demand for digital, green and resilient built environment through procurement.**
- The transition has to **keep humans in the centre** and support a high quality of life for European citizens, through an attractive, affordable and climate-neutral built environment.



Summary of the afternoon session

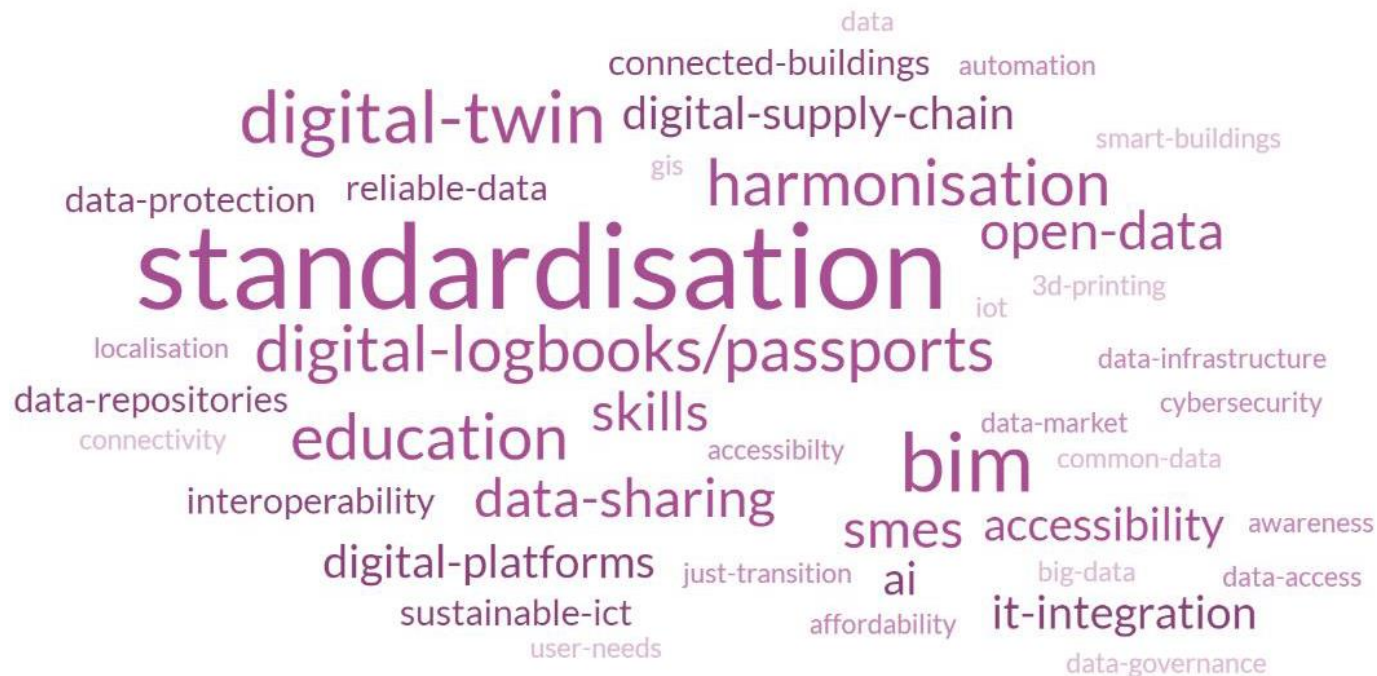
- **Green session** - Going beyond energy efficiency, setting Life Cycle Assessment (LCA) based targets, and enabling circularity was the principal consideration, also linked with the availability of secondary materials and products. Alignment along the value chain, certification mechanisms and the creation of infrastructure and conditions, are needed.





Summary of the afternoon session (cont.)

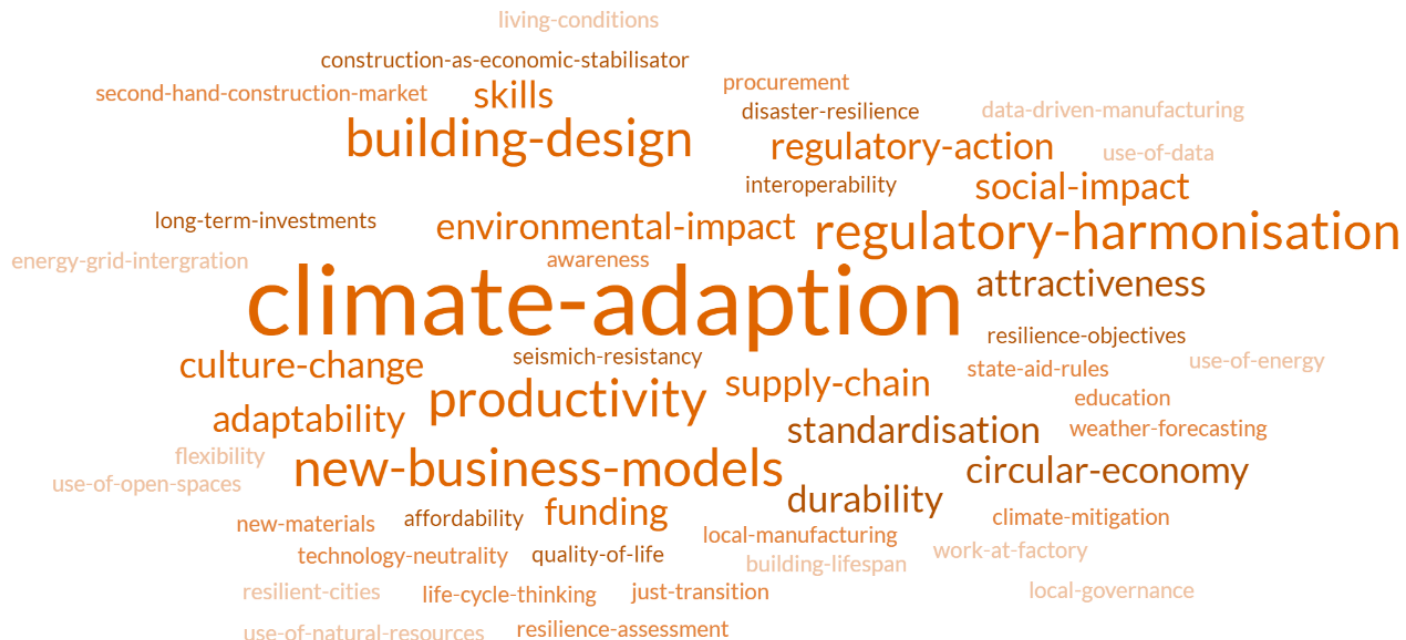
- **Digital session** - Digital transition benefits and connects all steps in the building life cycle. In order to advance, it requires regulation. The EU Data act that can help level the playing field. Trust, collaboration and interoperability can allow better sharing of data and as a result support greening and resilience. Public demand through public procurement as a lever for innovation and standardisation (e.g. open BIM).





Summary of the afternoon session (cont.)

- **Resilience panel** - Stakeholders and colleagues call for a skilled construction workforce that can implement the transition. Shortage of materials is a principal concern for the industrial stakeholders, that point out to risks implementing EU strategies (e.g. renovation) in these conditions. Increasing the resilience of the built environment who suffers the pressure of the climate crisis requires involvement of municipalities and willingness from the industry to propose new approaches.





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Construction 2050 Alliance



- The “**Construction 2050 Alliance**” is a partnership established in 2020 made of more than 50 European organisations representing the actors of the built environment working together to advance the needs and priorities of the wider construction and built-environment sector at EU level.
- The European Council of Civil Engineers is a member of the C2050 Alliance.





European Council
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Construction 2050 Alliance

Latest activity

C2050 Alliance Event on the Construction Sector as an opportunity for new talent

SAVE THE DATE!

The European Construction Sector
**Opportunities for
new talent**



Online event
1 July 2021
10.00-12.00 CET

#EUConstruction2050





Construction 2050 Alliance

Latest activity

C2050 Alliance Event on the Construction Sector as an opportunity for new talent

On 1 July 2021, the Construction 2050 Alliance organized their second public event which gathered 200 participants, showed that construction is a sector that can offer many opportunities to new talent.

Construction is still perceived as physically difficult, dirty, dangerous, often related to illegal situations (corruption, undeclared work, etc.). Young people usually don't consider construction as their main priority for a professional career, but rather the last alternative.

The discussions proved that in light of the EU Green Deal and of the Recovery and Resilience plans, **construction can contribute positively to restore and create better and safer jobs for European citizens.**

Significant efforts are already being deployed by the actors of the sector for investing in lifelong learning, in better working conditions and social protection, in a healthier and safer working environment and in better promotion of career opportunities.





Construction 2050 Alliance

Latest activity

C2050 Alliance Event on the Construction Sector as an opportunity for new talent

However, in order to strengthen and accelerate the process, the Construction 2050 Alliance asks the policymakers to:

1. Ensure that the “Reskill and upskill” flagship is respected in the national recovery Plans that Member States will need to implement.
2. Ensure that public money that will be made available in the context of the Renovation Wave and the Recovery packages should go towards the creation of quality jobs.
3. Provide tailored financial and technical support to boost green and digital skills and deliver the objectives of the EU Green Deal and Renovation Wave (e.g. use of Digital Innovation Hubs also for skills).
4. Carry out outreach targeted initiatives for the construction ecosystem to promote its attractiveness among youngsters, women, migrants and professionals coming from other sectors with relevant skills for new construction activities.





Construction 2050 Alliance

Latest activity

C2050 Alliance provides feedback on the new HLCF

In view of the meeting of the new High Level Construction Forum that took place on 28/9, DG GROW asked the C2050 Alliance to provide them with the views/suggestions/comments of the C2050 Alliance on this new initiative.

An internal C2050 Alliance meeting was organized for this reason and following the contributions of the C2050 Alliance members the final document was formed.

C2050 Alliance was asked to respond to the following questions:

- Do you agree with the proposed structure and role of the new High Level Construction Forum and its thematic groups?
- Which stakeholders should be included?
- What type of commitments are you willing to make?
- What support and partnerships would you need from the EC?
- How the roadmap should be drafted? What should be its aim and targets?
Which are the elements that the roadmap should include?

The C2050 Alliance feedback on the new HLCF to which ECCE contributed is accessible [here](#).





Renovation Wave Initiative

(1)



- The **Renovation Wave initiative** is a priority under the European Green Deal and the recovery plan for the EU, aimed at **increasing the rate and quality of renovation of existing buildings and thereby help decarbonise the building stock**.
- Given the relatively labour-intensive nature of renovation work and the way in which this matches the “green, digital and resilient” ambition of the Commission recovery package, the Next Generation EU Communication talks of regulatory and financial support to “at least doubling the annual renovation rate of existing building stock”.
- The Renovation Wave Initiative is one of the main fields of focus for ECCE as well as for the Construction 2050 Alliance.



Renovation Wave Initiative

(2)

- ECCE contributed to the Public Consultation on the Renovation Wave Initiative. ECCE's response to the Public Consultation can be accessed [here](#).
- ECCE has also addressed an additional [Statement on the Renovation Wave Initiative](#) to the DG ENERGY which highlighted the need of a holistic approach to the buildings' renovation following the Sustainable Structural Design (SSD) methodology principles.
- The statement is presented in the following slides.





ECCE's statement regarding the EU Commission's "Renovation Wave Initiative"

The European Council of Civil Engineers (ECCE) welcomes the new initiative of the European Commission to launch a 'Renovation Wave' for public and private buildings to address the twin challenge of energy efficiency and affordability.

As the communication states "An integrated approach to building renovation means boosting energy performance of buildings by applying the 'energy efficiency first' principle, deploying renewables, preparing for climate impacts, deploying urban green and blue infrastructure and incorporating circular economy, waste treatment and pollution prevention principles."

Although we agree with the concept of a wider and integrated approach of renovation, we have to remark that it is still far from a holistic view of the problem of maintaining and upgrading the performance of existing buildings and infrastructure. We would like to state that renovation and retrofitting works need to be done in parallel with other necessary interventions so that the essential requirements established in the construction products Directive are also respected.





Renovation Wave Initiative

ECCE's Statement

(4)

We would like to remind that according to the existing Directives structures shall fulfill the following essential requirements:

- Structural resistance and stability
- Safety in case of fire
- Hygiene, health and the environment
- Safety and accessibility in use
- Protection against noise
- Energy economy and heat retention
- Sustainable use of natural resources

The vast majority of the existing European building stock has been built without modern provisions for earthquake resistance and energy efficiency, resulting in seismic vulnerable and low energy performance buildings.

Europe's basic traffic (road and railway) infrastructure was built mainly between the years 1950-1980. It counts already 40-60 years of life. When the infrastructure was designed and constructed, technical knowledge was quite different as far as several factors of outmost importance in designing are concerned. That is durability matters, earthquake risk and seismic loads, analysis methods and modeling facilities, pollution impact on ageing process of structures and completely different, less heavy, traffic loads.



Renovation Wave Initiative

ECCE's Statement

(5)

These assets of European countries need urgent maintenance and retrofitting to keep their value and meet today's functional and safety standards. They need to be upgraded if Europe wants to maintain its productive and human life respect standards.

This represents a huge renovation and maintenance volume which Europe has to deal with during the next years. And what is more, this has to be carried out in a sustainable and innovative way. The application of research based, advanced asset and risk management methodologies, is necessary in order to further increase the efficiency of interventions.

Additionally, in the Directive (EU) 2018/844 of 30 May 2018, in Article 7, it is stated that:

'Member States shall encourage, in relation to buildings undergoing major renovation, high-efficiency alternative systems, in so far as this is technically, functionally and economically feasible, and shall address the issues of healthy indoor climate conditions, fire safety and risks related to intense seismic activity.'



Sustainability has become one of the most ambitious challenges for Europe's growth, according to 2020 Europe Strategy. The construction sector bears a huge responsibility in relation to sustainable development because of several impacts that derive from its three dimensions: environment, economy and society.

A building has to fulfill its own performance not only in the abovementioned common triple-bottom line of sustainability, but also in usability, capacity, reliability, safety and comfort. In this context, designing a sustainable construction turns out to be a very complex issue and therefore a holistic approach is the key for sustainability in the construction sector.

The construction sector needs to develop new ways and methods from the conception to the construction of structures, aiming to achieve a competitive sustainable building market. In order to obtain this European objective, a new design methodology is needed, focusing on a multi-performance and life-cycle oriented approach. Sustainable Structural Design (SSD) methodology addresses the possibility to include environmental aspects from the very beginning of the project in structural design, so that proper decisions with regard to design options can be made in the most influential stages of design. The new generation of Eurocodes will enlarge our understanding for sustainability.



Renovation Wave Initiative

ECCE's Statement

For existing buildings SSD means that when renovation projects of a certain scale are undertaken, structural upgrade should be considered and funded jointly with functional and energy efficiency upgrade.

It is reasonable to state that investing in siloed energy efficiency renovation schemes overlooking building's safety is unwise to say the least, even more in seismic hazard regions, where the first seismic episode after renovation may bring down all the energy-efficient renovated unsafe buildings.

So, we would like to state that this renovation wave shall promote and fund interventions according to the holistic approach of upgrading the existing buildings and infrastructure and of course structural safety shall be the first target of renovation.



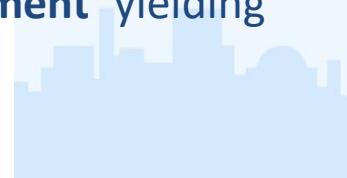


Infrastructure maintenance among G20 top priorities



At the July G20 Finance Ministers and Central Bank Governors meeting in Venice the ***“G20 Policy Agenda on Infrastructure Maintenance”*** was endorsed. Maintenance itself tends to be invisible when it is working well, only to become newsworthy when failure or disasters strike.

The endorsed ***“G20 Policy Agenda on Infrastructure Maintenance”*** embraces the idea that there is much more to maintenance than just “the wide range of activities aimed at keeping the infrastructure/asset in a serviceable condition”. In a nutshell, the G20 calls for a shift in perspective: it invites to look at spending on infrastructure maintenance **not just as the cost of keeping assets in good order, but rather as an investment** yielding significant benefits both in the short and long-term.





Infrastructure maintenance among G20 top priorities

Infrastructure maintenance can boost prosperity

Along with the above-mentioned Policy Agenda and accompanying reports, G20 members and observer countries collected examples of how they have achieved either project level benefits (e.g. cost efficiency, asset's life extension) or positive impacts on the environment and the economic system as a whole. The 45 initiatives are presented in the ["Annex of Infrastructure Maintenance Case Studies"](#).

Direct costs imposed to firms, in low- and middle-income countries

Losses due to power outages



USD 82 billion a year

Disruptions to the water supply infrastructure



USD 6 billion a year

Reduced utilization rates of transportation due to disrupted infrastructure



USD 107 billion a year

Investing in higher resiliency of infrastructure is a cost-effective and robust policy choice





Infrastructure maintenance among G20 top priorities

Well-maintained infrastructure will be more resilient to shocks

The OECD's report ["Building Resilience – New Strategies for Strengthening Infrastructure Resilience and Maintenance"](#) illustrates that **infrastructure systems are increasingly exposed to a combination of old and new challenges**. Increasingly frequent extreme weather events are a serious concern (storms, floods, earthquakes, and other natural hazards are responsible for 10 percent to 70 percent of all disruptions, depending on the country and sector), but so are past maintenance negligence, the lack of risk preparedness, and/or the inadequacy of decades-old structures to withstand present usage. Besides, different demand patterns and increasingly complex supply chains are making infrastructure systems more interdependent (e.g. widespread digitalization, and de-carbonization efforts are increasing the reliance of the economy on telecommunication and electricity networks).

Many promising initiatives are underway

The World Bank Group's report ["Well Maintained: Economic Benefits from more Reliable and Resilient Infrastructure"](#) effectively documents how **good and timely maintenance boosts prosperity, enabling growth and well-being of people, firms and economic systems as a whole**.



Infrastructure maintenance among G20 top priorities

What is next? Ensuring maintenance becomes a priority and is systematically addressed

Under the Italian G20 Presidency, the Infrastructure Working Group carried out a substantive effort to explain why and document how prioritizing infrastructure maintenance (and allocating adequate resources for it) can yield significant benefits in the short and long-term. Below are three fundamental messages that are worth highlighting:

- 1. Embracing a long-term vision.** “Life-cycle costing”, “risk preparedness”, “preventive maintenance”, etc. ultimately have one thing in common: a long-term vision. Most of the cases mentioned above reveal a forward-looking approach to infrastructure design and management aimed at preserving the planet’s natural resources and meeting future generations’ needs.
- 2. Envisioning a possible “re-branding” of maintenance.** Perhaps a “re-branding” of maintenance is needed to increase widespread awareness of its significance. Granting the deserved priority to caring for existing assets hinges on the availability of better and systematically collected data on infrastructure (e.g. assets’ location, status, risks, performance, impacts).
- 3. Fostering coordination with local entities.** Efforts should be made to reconcile the tension between an oversight that has to be strategically centralized, versus an attention to needs/opportunities/constraints that benefits from being localized.



Infrastructure maintenance among G20 top priorities

What is next? Ensuring maintenance becomes a priority and is systematically addressed

- 3. Fostering coordination with local entities.** In a workshop earlier this year, the Mayor of Freetown put it very clearly: “Cities are very often the recipients of issues, but they don’t necessarily have the mandate to address the root causes of problems” (e.g. the pressure on infrastructure systems of rapid urbanization is just the symptom of wider phenomenon of rural-urban migration). Of course, the optimal level at which infrastructure services are planned, regulated and delivered depends on many factors, but efforts should be made to reconcile the tension between an oversight that has to be strategically centralized, versus an attention to needs/opportunities/constraints that benefits from being localized.



More than \$2 trillion in transport infrastructure investments will be needed globally each year until 2040.

Key trends impacting transport infrastructure demand in the long term

Growing passenger and freight transport demand

From ~53 trillion pkm¹ in 2015 to 105 trillion–125 trillion pkm in 2050;
from ~135 tkm² in 2015 to ~280–350 tkm in 2050

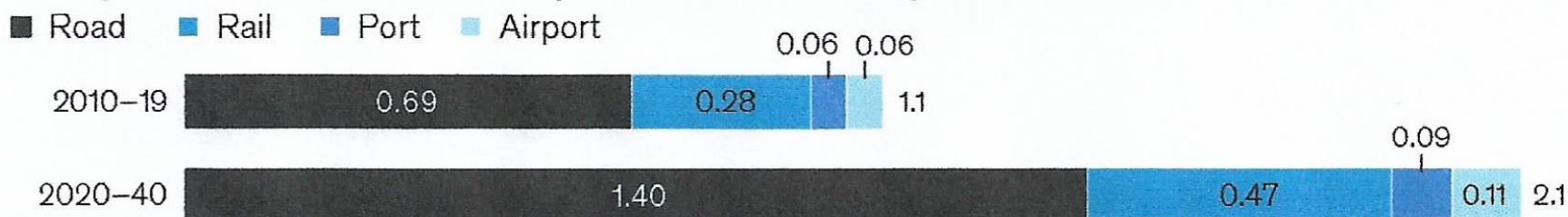
Urbanization

From ~30% of urban population in 1950 to ~55% in 2018 and ~70% in 2050

Stimulus plans

\$2 trillion in US, €672.5 billion in Europe, \$500 billion in China

Average annual investment in transport infrastructures required, \$ trillion



¹ Passengers per kilometer.

² Ton-kilometer.

Source: Global Infrastructure Outlook, data extracted in July 2021; OECD (International Transport Forum 2021); press search; 2018 Revision of World Urbanization Prospects, United Nations



ECCE Position Paper on Infrastructure Inadequacy in Europe

The European Council of Civil Engineers recognizes the broad extent of the problem of the aging and under-maintained infrastructure in Europe, as well as the consequences that stem from this inadequacy on the health, safety and financial prosperity of the society. Therefore, we propose the elaboration of a Position Paper that will raise awareness on the importance of safe and resilient infrastructure and will propose solutions for the enhancement of the current situation.

Please get involved and let's make it happen!



THANK YOU

