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Reshaping the future

Engineering consultants deliver climate resilience and sustainable solutions

The single most urgent issue of our time is the climate emergency. We all need heroes to protect us from the consequences of our overheating planet. Never keen to take the limelight, consulting engineers are nevertheless stepping up as the quiet champions, playing a vital role by designing in resilience to physical structures. Their work goes beyond serving their clients, to serving wider society as a whole, as the impact will benefit all of us as we go about our daily lives, in our homes, workplaces, schools and on our journeys to these places. Here Franziska Mohr, Policy and Communication Adviser, European Federation of Engineering Consultancy Association (EFCA), details how the Federation is addressing these issues.

The science of construction

Engineers must completely rethink the technical profile of physical structures, to not only withstand increasingly-common climate events, but to also minimise their ecological impact. Furthermore, we now need a built environment that itself is part of the solution. As experts in using science to combat the threats posed by aging infrastructure, consulting engineers have the knowledge and expertise to adapt to climate change and reinforce resilience.

Acknowledging the significance of this issue, EFCA's recent international conference in Rome firmly put the spotlight on climate change and resilience. In the daily operation of EFCA, the European Green Deal Committee, under its new leadership,

has established its priorities for the upcoming year, aimed at driving positive change in the industry.

Delivering climate resilience

EFCA's international conference featured three panels exploring in more detail the central theme of *Delivering Climate Resilience: How the European Green Deal, Digitalisation, and Harmonised Standards Present Opportunities for Engineering Consultancies*. These panels showcased the expertise of distinguished speakers from diverse backgrounds, including representatives from the European Commission, the engineering community, academia and various other stakeholders. Their combined insight provided a comprehensive and thought-provoking perspective, fostering engaging and enlightening discussions.

During the conference, the red thread



Søren Adamsen, Chair, EFCA European Green Deal Committee.

was the inseparability of the digital and green transitions and the fact that both are crucial for progress. The digital transition empowers the sector to expand its carbon handprint by implementing technical design solutions for a carbon-neutral built environment, while also assisting citizens in reducing their own carbon footprint during usage.

Consulting engineers play a pivotal role in designing for circularity, incorporating the use of secondary materials with end-of-life in mind and a specific focus on deconstruction rather than demolition. However, to enable the twin green and digital transition, the establishment of an enabling framework with harmonised standards is essential.

EFCA European Green Deal Committee

With one of the heaviest agendas among the EFCA committees, the European Green Deal Committee has recently updated its programme, under the leadership of the Chair, Søren Adamsen, Executive Business Development Director at COWI (Denmark), and Vice-Chair, Andreas Gyllenhammer, CSO of Sweco (Sweden). By advocating for sustainable practices, fostering innovation, and collaborating with relevant stakeholders, the committee aims to drive meaningful change and create a built environment that aligns with Europe's sustainability goals. In particular, the committee will mainly focus its work on three key issues over the next year: EU taxonomy, embodied carbon, and EU energy independence.

Taxonomy provides a classification system that directs finance towards environmentally-sustainable projects. As the sector faces increasing complexity in assessment and certification, driven by requirements such as the upgraded Energy Performance in Buildings Directive (EPBD) and the circularity demands of the Sustainable Products Initiative, the expertise of scientific minds becomes indispensable. Addressing these challenges will require scientific knowledge and expertise to navigate the evolving landscape and ensure compliance with rigorous standards.

The EFCA European Green Deal Committee brings these experts together, to work on relevant, emerging EU policy and regulation, and to drive sustainable progress within the sector. One recent task was the European Commission's public consultation on the EU Taxonomy Delegated Acts, which closed in May 2023. In its feedback on the use of concrete in civil engineering, EFCA stressed the importance of prioritising material options that lead to the lowest CO2 emissions. The federation specifically highlighted that, while recycled materials are often seen as environmentally-friendly, their climate-friendliness may vary depending on the distance they need to be transported.

In the latest meeting, the committee members exchanged views on the taxonomy's impact on the consulting engineering sector, with representatives from the European Commission and other industry stakeholders. The discussion highlighted the central role of engineers in performing the calculations for taxonomy reporting. Therefore, it is crucial for our members to actively engage in these discussions and ensure that the taxonomy is well-suited for our profession.

EFCA remains fully committed to actively collaborating with policymakers and industry stakeholders to ensure that the implementation of the taxonomy acknowledges the unique challenges and requirements of the consulting engineering sector. By actively participating in these dialogues, EFCA strives to contribute to the development of a taxonomy that is equitable, inclusive, and supportive of

the industry's transition towards sustainability.

As the construction industry is responsible for a significant portion of global greenhouse gas emissions, addressing embodied carbon is another key priority for the committee. The committee is working on a position-paper focused on embodied carbon. This paper will outline EFCA's stance, recommendations and proposed actions to effectively tackle the issue.

Engineers play a crucial role in reducing the carbon footprint associated with construction and infrastructure projects. By implementing sustainable design practices, optimising material selection and promoting circularity in the built environment, engineers can minimise the embodied carbon of structures. This is essential in combating climate change and achieving Europe's sustainability goals.

The third focus area of the committee is European energy independence. "Europe faces a dual crisis - one of security and energy due to Russia's war in Ukraine, as well as an ongoing climate crisis. In this situation, we must not waste the opportunity and accelerate our progress towards European energy independence based on fossil-free sources. As consulting engineers, we aspire to be ambitious dialogue partners with European

institutions to find solutions to this crisis," emphasises Søren Adamsen.

Consulting engineers play a crucial role in achieving energy independence through the development and implementation of sustainable energy technologies. They have the ability to diversify Europe's energy mix, optimise renewable energy systems and incorporate energy storage solutions. Moreover, engineers contribute to enhancing energy efficiency by utilising smart grid systems, efficient designs and promoting decentralised energy production.

By actively collaborating with policymakers and stakeholders, consulting engineers are at the forefront of driving the transition towards a sustainable and resilient energy future for Europe. EFCA is the federation that represents consulting engineers, recognising their crucial role in driving positive change. By facilitating dialogue and supporting their efforts, EFCA actively promotes collaboration and innovation to accelerate the progress of a sustainable and resilient built environment.

Building a sustainable Europe that benefits its communities and preserves the planet for future generations requires a collective commitment to creating a brighter future. Only by joining forces and working together can we achieve this shared vision, fostering sustainability, resilience and wellbeing for all. ■



Benoit Clocheret, immediate past-President, EFCA, addressing delegates at one of the sessions during the EFCA conference in Rome.