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WFEO contribution to Global Climate Change Mitigation

The atmosphere is a global shared resource. Greenhouse gas emissions contribute to the global problem of climate change. The negative impact of climate change on forests, species, water supply and human health is immeasurable, and frequent extreme weather events have added many uncertainties to the life of human society.

As a common interest of human society, global climate change issues not only require the effective control of each country, but also the effective cooperation of international communities. It requires not only awareness raising and policy control, but also scientific research and innovative engineering practices.

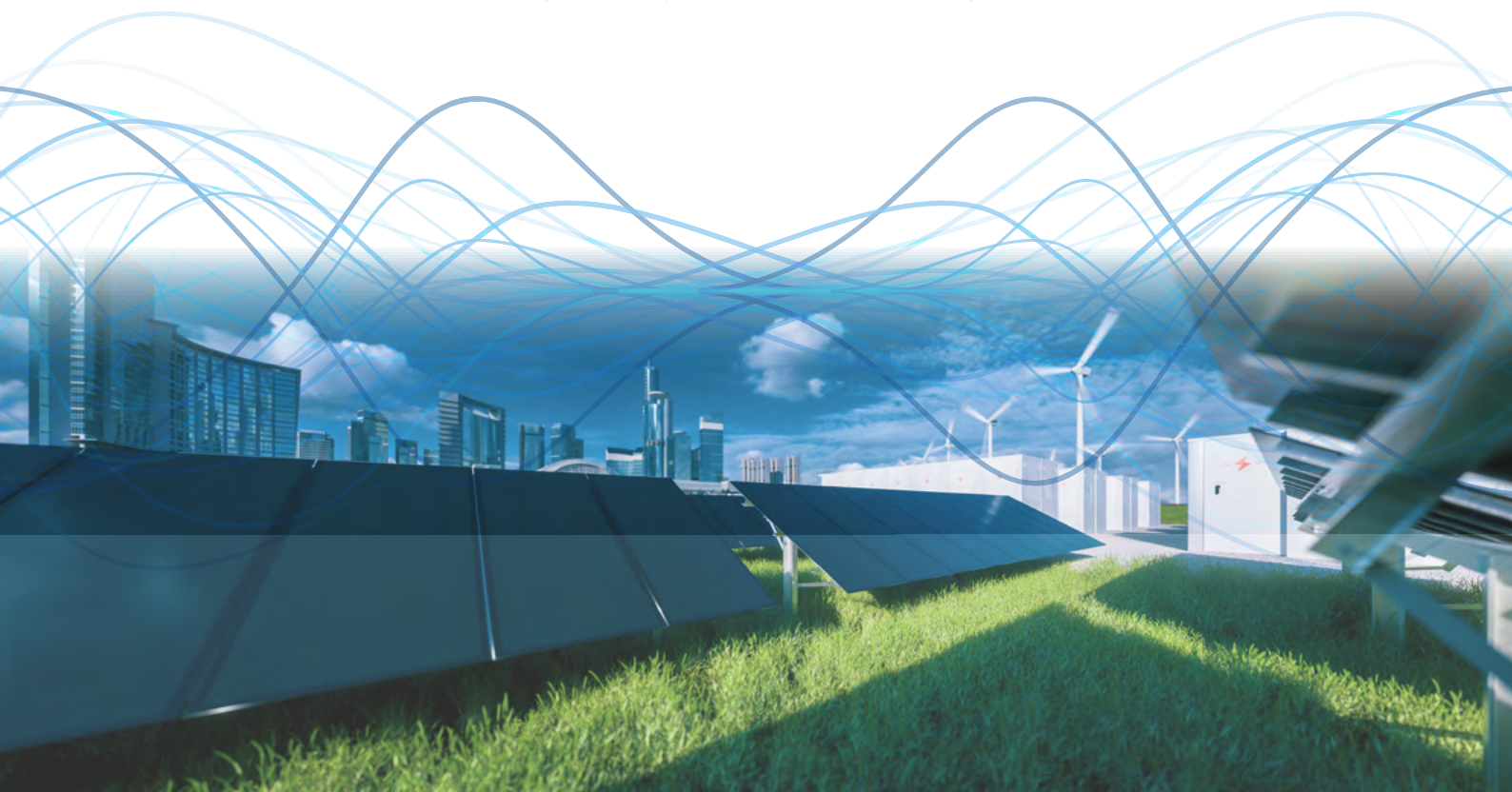
This report highlights the challenge we face as an industry but also how technology is going to play an increasing role in how we deliver projects. This influence will not only affect clients, contractors and consulting engineering business but also individual engineers whose digital skill set will need to adapt to meet the challenges going forward.

The World Federation of Engineering Organizations (WFEO) is an international non-governmental organisation representing global engineering experts, with more than 100 national or international members and about 30 million engineers from all over the world. WFEO and its member institutions are committed to engineered solutions for global climate change mitigation and adaptation, resilience and sustainability which is why we are pleased to contribute to this important piece of research by FIDIC.

Like FIDIC, WFEO is also having to adapt and undertake research to ensure we can meet the climate challenges of the future. Under the guidance of the goal and mission to global climate change mitigation, the WFEO Climate Change Mitigation Best Practice Project was set up as part of the WFEO Committee on Engineering and Environment (CEE).

The aim of the project is to seek and promote the best engineering solutions to address climate change mitigation. The project includes the following tasks:

1. The project will solicit successful engineering projects, plans and ideas from all WFEO member countries, and build a “WFEO Climate Change Mitigation Best Engineering Practices Database”. The database will open to all members, partnering institutions, relevant UN organisations and agencies, allowing the sharing of different countries’ climate change mitigation technologies, methodologies and engineering experiences.
2. The database will be regularly updated based on the best practice engineering project data and a report of practices will be published regularly. The intention is to share the successful engineering applications and best projects to mitigate global climate change and help to drive some of the change required and highlighted in this State of the World research.
3. Technical guidelines for climate change mitigation on the basis of systematic analysis of successful experiences, advanced technologies, methods and projects of various countries will be produced in line with regional culture, economic conditions and scientific and technological levels, and make the engineering and technical guidelines suitable for different countries to cope with global climate change.
4. International conferences and workshops will be held to promote exchange of the best strategies, experiences, technologies, methodologies and engineering projects for global climate change mitigation.
5. Provide relevant training courses on climate change mitigation and innovative practices to Member States and their cooperators, by accredited international experts.



The buildings and construction sector are key actors in the fight against climate change as they contribute 36% of global final energy use, and 39% of energy and process related emissions (2017 figures). The WFEO Climate Change Mitigation Best Engineering Practices project will focus in particular on civil engineering and construction sectors. As this report highlights, bringing together data is only part of the story and how we use technology to harness that data going forward to enable cultural change and a shift in skill sets to deliver practical results on the ground will be important.

Considering data collection from WFEO member countries we intend to cover the following 7 aspects: Design, Building materials, Construction, Operation, Reconstruction, Wastes, and Macro Indicators. This we believe will provide the project with a good base and encourage the information and data exchange that will be needed to meet the challenges highlighted in this report.

Preliminary data analysis results based on the 3 member countries' (China, Peru and Malaysia) data reveals that different countries focus on different aspects of climate change mitigation engineering activities based on their regional culture, life habits, economic conditions and scientific and technological levels. Many of these technologies and successful engineering practices will provide very precious experiences to be shared with other countries.

The WFEO CEE project team had great support from China Association of Science and Technology (CAST) and Tsinghua University during the early stage of this project. As we stated at the beginning of this contribution and as is made clear by this research, climate change is a global issue and change is inevitable and is increasing in speed.

WFEO by contributing to this state of the world report and by highlighting the synergies in how the industry could better work together would encourage stakeholders from across the infrastructure space to engage in both FIDIC's and WFEO's ambitious projects, which success will make great contributions to climate change mitigation.

In today's fast-paced business environment, organisations require more agile and responsive procurement approaches, climate adaptation, innovation and technology

