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**Build Better Now - Empowering young people to become
the climate-aware built environment professionals of the
future: What do we need to do now?**

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COP26 Event Panel



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What skills will the climate-aware Built Environment and Infrastructure professionals of the future need to have that lead to sustainable change and meet net zero goals?

These Professionals -1

- ♣ Should be able to **respond to societies' concerns about the impact of human activity on the environment** while seeking to attain a **balance between environmental, social, and economic outcomes in the context of political, interdisciplinary, global, and other dimensions, including ethics and environmental justice.**
- ♣ **Be aware of the implications of climate change, international protocols associated with climate change, and the low-carbon agenda and how these impact on engineering design, construction, operation, and deconstruction.**
- ♣ **Be aware of resource scarcity, embodied energy, low energy/impact material choices, and the design choices that can reduce energy dependence.**

These Professionals - 2

- ♣ Develop a holistic approach to design, understand the relation between sustainability, climate change and the circularity of the built environment and provide solutions which are profoundly interdisciplinary in nature.
- ♣ Appraise build options, maintenance, operation, demolition, and deconstructions in the context of the sustainability agenda.
- ♣ Look beyond mere technical design solutions and consider impacts on local stakeholders, including adaptability and other measures that ensure the completed construction remains fit for purpose over a considerable useful lifespan.

What are the barriers identified by young professionals that need to be addressed and what is required from today's industry leaders to bring about these changes?

Barriers identified - 1

11 Participants: Chairs of national or regional committee of ICE, NIC, CIAT, CIHT, RTPPI, and EIC, or receivers of various awards.

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- ♣ Skills shortages of a multidisciplinary and interdisciplinary nature required to address these challenges
 - ♣ Remove the barriers to innovation – innovation revolution, not evolution
 - ♣ Nature based solutions
 - ♣ Climate change solutions across sectors and across borders require partnership
 - ♣ Challenge the resistance to change

Barriers Identified -2

- ♣ Integration between professional recognition - understanding of each other profession across the industry.
- ♣ Industry collaboration not fragmentation that damages progress.
- ♣ Young professionals have knowledge that are unutilised. They are enthusiastic and would like to use this knowledge.
- ♣ The younger generation wants to be better than the previous generation and are prepared to take more risk addressing the existing challenges.
- ♣ Standard approaches in tackling these challenges that can be measured and compared.
- ♣ Investment decisions based on addressing climate change challenges and environmental concerns not on budgets.
- ♣ New built vs re-use, refurbish and change of use, etc.

The Stakeholders

- ♣ The industry needs to make sure that it has the knowledge required to address these challenges and remove the barriers mentioned above. Some industry representatives wrongly believe that to address climate change challenges and mitigate against these challenges in their design or projects would bring the cost up and make them not competitive.
- ♣ Professional Institutions have an important role in this, too. Compulsory CPD needs to be required from their members to ensure that this knowledge is continuously developed.
- ♣ Clients, public and private, need to be more demanding and clearly specify in their brief the carbon reduction the project must achieve.

How will higher education in the Built Environment and Infrastructure fields need to evolve, to enable these future professionals to get the skills they need?

Higher Education should integrate Sustainable Development & Climate change as core knowledge into existing teaching and learning throughout the education programme not a 'bolt on or added to'.

The Knowledge - 1

- ♣ in sustainable development,
- ♣ sustainable engineering,
- ♣ addressing the climate change impacts in general and on the built environment in particular,
- ♣ the resilience of the built environment (buildings and infrastructure),
- ♣ reuse, upcycle, LCA,

The Knowledge - 2

- ♣ the circularity of the built environment (demolition vs reuse of the built asset)... and other important topics are insufficient, or not addressed at the required level in the curricula, the JBM decided to make sure that this will happen in the future.
- ♣ A need to 'educate' the educators has also been identified by the JBM visiting panels. There is still a perception that this knowledge is not as important as other core knowledge our students need to have to meet industry and societal needs and the significant challenges we are facing. In some cases, the course delivery team do not understand that this is a multi and interdisciplinary type of knowledge that requires internal collaboration of the traditional areas of engineering expertise with external knowledge outside of the engineering expertise.

Conclusion

Therefore, the JBM Accreditation Guidelines for Developing Degree Programmes Version 2 Revision 1 – 05 March 2020 are an important step forward to achieve this.

These Guidelines were well received by representatives of the Construction Industry, Atkins, Arup, Arcadis, AECOM, Mott Macdonald, Jacobs and WSP, to mention but a few, due to their emphasis on the skills graduates needed to tackle climate change.

The timing of enacting such changes is urgent and graduates completing their respective engineering courses in 2025 must be equipped for a world where every project is being engineered radically towards net zero and a net positive gain to Natural Capital.

This will require a Professional common language, and the removal of the Barriers of the profession.

Thank you for Listening

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