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ice

Institution of Civil Engineers

Scotland



2021

Engineering Climate Conference, online

'Improving the environment through engineering'

15th June - Transportation

16th June - Energy



UK

ENGINEERS

WITHOUT BORDERS

ABOUT

The Engineering Climate Conference is an event that has been organised as a collaborative effort between groups of volunteers from the Institution of Civil Engineers, the Institution of Engineering and Technology and Engineering Scotland. As volunteers from each respective organisation came together to plan the conference we realised an opportunity to pull together engineers from a variety of disciplines and diverse backgrounds to stimulate cross disciplinary collaboration. With the UN Climate Change Conference (COP26), Glasgow taking place later this year in November, the Engineering Climate Conference will look to establish pan-sectoral aspirations in advance of this.

The conference will seek to answer a central question,

“Do engineers have an obligation to adopt and develop practices to influence the direction of climate change where possible?”

ICE President Rachel Skinner will speak on initiatives for personal responsibility on the first day of the conference, that has the theme of ‘Transportation’. Other speakers include former ICE Scotland chair, Graham Edmond, who has recently retired from Transport Scotland, and Scott Hammond from Shetland Space Centre, speaking on the future of the UK space industry.

The second day will highlight progress within the energy sector, with speakers including Professor Gareth Harrison from the Institute for Energy Systems at the University of Edinburgh and Professor Mercedes Maroto Valer from the UK Industrial Decarbonisation Research and Innovation Centre.

We look forward to welcoming you as we come together online to learn how we can all improve the environment through engineering.

PARTNERS

CHARITY PARTNER



Engineers Without Borders UK engages and galvanizes the engineering community to serve all people and our planet better than ever before.

‘Part of a global movement of over 60 Engineers Without Borders organizations, we inspire, enable and influence the engineering community to take action to put global responsibility at the heart of engineering.’

CONFERENCE PARTNER



SCAPE Scotland is a public sector organization, dedicated to creating efficiency and social value via the built environment. Since 2006, SCAPE has accelerated over 12,000 projects across the UK with their direct award frameworks, property services and innovative architectural designs.

Working with SCAPE is all about partnership, bringing together the brightest talent from the construction industry and the local economy. SCAPE projects are collaborative, compliant and fully performance managed to ensure delivery efficiency, taxpayer value, targeted local economic enrichment and offer a direct response to the climate emergency.

SCAPE operates with a buying power of £13bn and is actively performance managing over 1,800 live projects. SCAPE is a member of the National Association of Construction Frameworks (NACF) and in 2020 was named in ‘The Sunday Times Top 100 Best Not-For-Profit Organizations to work for’ in the UK.

DAY ONE

Transportation

9:30AM - 10:55AM — Session 1 - Climate Emergency

'Breaking down borders and initiatives for personal responsibility in the challenge of carbon reduction.'

10:55AM - 11:05AM — Break

11:05AM - 12:40PM — Session 2 - High-tech Transport Innovation

'From moving goods around the country to moving people into space, this session explores innovations in high tech transport forms and the opportunities these bring for the future of more sustainable transport.'

12:40PM - 1:10PM — Break

1:10PM - 2:25PM — Session 3 - Transport Network Carbon Reduction Initiatives

'With a focus on the major highway and rail networks, this session explores innovations across our transport sector and what they mean in the context of net-zero.'

2:25PM - 2:35PM — Break

2:35PM - 4:30PM — Session 4 - Tackling the Infrastructure Carbon Challenge through Integrated Design and Innovation

'Exploring the carbon cost link in the design and construction of transportation infrastructure project, together with a look at blue-green infrastructure initiatives underway, this session will involve representatives from consultant, contractor and client organisations in a discussion that challenges current practices and addresses what can be done to ensure sustainable climate resilience in future projects.'

6:00PM - 7:00PM — Informal Networking Session

'A Microsoft Teams link will be provided to conference attendees for a chance to discuss each session with other attendees, coming together to explore the themes and main talking points of the day, in contribution to the Engineering Policy Group Scotland Report of the conference.'



Image Sources:

[1] <https://www.hs2.org.uk/why/connectivity/>

[2] <https://www.ed.ac.uk/edit-magazine/supplements/hyped-students-keep-up-momentum>

SPEAKERS

Transportation Sessions - Breakdown

- 9:30AM - 10:00AM** — *Opening Remarks*
Emma Crichton - Engineers Without Borders
- 10:00AM - 10:40AM** — *Keynote Speaker*
Rachel Skinner - President of the Institution of Civil Engineers
- 10:40AM - 10:55AM** — *Questions and Answers Session*
Hannah Smith - Director of ICE Scotland
- 11:05AM - 11:35AM** — *HYPED - Hyperloop Edinburgh*
Innovations in passenger and freight transportation by using magnetically levitating pods
- 11:35AM - 12:20PM** — *Shetland Space Hub - Future of the UK Space Industry*
Scott Hammond - Operations Director of Shetland Space Centre
Kristina Tamane - Scottish Space Leadership Council
- 12:20PM - 12:40PM** — *Questions and Answers Session*
Hosted by Dr Carol Marsh OBE
- 1:10PM - 1:40PM** — *Transport Scotland Presentation*
Graham Edmond - Transport Scotland
- 1:40PM - 2:10PM** — *HS2 Presentation*
Neil Wait - High Speed 2 Railway
- 2:10PM - 2:25PM** — *Questions and Answers Session*
Hosted by Gavin Smith
- 2:35PM - 4:30PM** — *Presentations from Triskelion, Balfour Beatty, Scape Scotland and Scottish Local Authorities*
Hosted by Roger Steeper - SCAPE - Head of Civils
Kirsten Leggatt - Carbon and Sustainability Consultant, Triskelion/Sweco
Poul Wend Hansen - Balfour Beatty
Ben Harris - Triskelion/Acadis
Stephen Knox - City of Edinburgh Council
Craig Baxter - Highland Council - Town Planner
Questions and answers discussion provided by SCAPE Scotland

Image Sources:

[1] <https://shetlandspacecentre.com/portfolio/lamba-ness-launch-site-aerial/>

[2] <https://www.intelligenttransport.com/transport-articles/85955/scotland-moving-sustainable-public-transport/>

DAY TWO

Energy

9:30AM - 12:00PM

Session 5 - Climate Change - Energy Systems and Advances in Energy Engineering

'Hear from leading experts in climate science for an insight into the research and development of innovative approaches to energy provision'

12:00PM - 12:30PM

Break

12:30PM - 1:30PM

Session 6 - Hydrogen

'Pure energy talk about the future of hydrogen power in the UK'

1:30PM - 1:40PM

Break

1:40PM - 3:20PM

Session 7 - Energy Industry Insights for Carbon Reduction

'Can fossil free living become a reality? Hear about the latest developments from representatives from the energy industry including Scottish Power Renewables and Vattenfall'

3:20PM - 3:30PM

Break

3:30PM - 4:00PM

Session 8 - Engineers Without Borders

'Engineers without Borders discuss their strategy and how you can continue to play a crucial role in achieving the change we need to see in the sector'

6:00PM - 7:00PM

Informal Networking Session

A Microsoft Teams link will be provided to conference attendees for a chance to discuss each session with other attendees, coming together to explore the themes and main talking points of the day, in contribution to the Engineering Policy Group Scotland Report of the conference.

Image Sources:

[1] <https://group.vattenfall.com/press-and-media/newsroom/2021/hybrid-parks--new-opportunities-with-multi-technology-facilities>



SPEAKERS

Energy Sessions - Breakdown

9:30AM - 10:00AM	Opening Remarks <i>Andy Mace - Arup</i>
10:00AM - 10:40AM	Overview of Climate Impacts and Adaptation in Energy Systems <i>Professor Gareth Harrison - Institute for Energy Systems</i>
10:40AM - 10:55AM	Questions and Answers Session
11:05AM - 11:45AM	Research and Innovation for Engineering the Transition of Industrial Clusters to Net-Zero <i>Professor Mercedes Maroto Valer - UK Industrial Decarbonisation Research and Innovation Centre (IDRIC)</i>
11:45AM - 12:00PM	Questions and Answers Session <i>Hannah Smith - Director of ICE Scotland</i>
12:30PM - 1:15PM	Hydrogen for Heating <i>Elizabeth Johnston MBE - Pure Energy Centre</i>
1:15PM - 1:30PM	Questions and Answers Session <i>Hosted by Iain White - President of Engineering Scotland</i>
1:30PM - 2:20PM	Presentation from Scottish Power Renewables <i>Kate Turner - Policy, Regulation and Communications Director</i>
2:20PM - 3:00PM	Presentation from Vattenfall <i>Paul Steen - Regional Director (Vattenfall)</i>
3:00PM - 3:20PM	Questions and Answers Session
3:30PM - 4:00PM	Closing Remarks from Engineers without Borders <i>Emma Crichton - Engineers Without Borders</i>



Image Sources:

[1] <https://pureenergycentre.com/hydrogen-storage/>

[2] <https://www.bbc.co.uk/news/uk-scotland-48097897>