



Climate Smart Engineering Conference Tuesday 16 November - Wednesday 17 November 2021 Virtual Event						
Program as at 16 November 2021						
Tuesday, 16 November 2021						
1	2	3	4	5	6	7
08:30 Plenary Day 1 Session 1						
08:30 Opening						
08:45 World Economic Forum – Global Risks Report 2021 Emilio Granados Franco						
09:30 Responsible and Sustainable Business Models for the Future Paul Polman (recording available 30 days only post-CSE)			Meet the Plenary Speaker Emilio Granados Franco			
10:00 30 minute break						
10:15 Raising Demand from Global capital for Climate Smart Engineering Brett Mitsch MIEAust, Katharine Tapley, Nicole Bradford, Mike Atkinson						
11:45 15 minute break						
12:00 The Case for Optimism on the Climate Crisis AI Gore (recording available 7 days only post-CSE)						
13:00 30 minute break			Meet the Plenary Speakers Finance Panelists			
13:30	T2 Buildings and Infrastructure delivery	T5 Leadership	T4 Education	T5 Structural	T5 Corporate Sustainability 1	T2 Transport
13:30	Achieving a resilience dividend through infrastructure delivery Adam Davis	Engineering Leadership – shaping effective responses to address the challenges of climate change Marlene Kanga AM	Integrating Sustainability into Higher Education Curricula Elisa Lumentana	Working together to crush concrete emissions Grant Viljeen, Kerry Wilson	Utilising the whole organisation to mitigate and adapt to Climate Change Penny Joseph	Australia's potential in low emissions vessel development Peter Symington
13:45	Designing Sustainable Future for Heritage Buildings - The Shine Dome Ali Hammerschlag, Michael Jasper	Engineering leadership as the climate changes David Rice	Integrating Sustainable Development Goals into the engineering curriculum. Helen Fairweather	Navigating the engineering of safe, secure and sustainable systems in an ever evolving socio-technical environmental context characterised by the acceleration of interconnectedness, interdependencies and interoperability. Kerry Lunney	Utilising Value Management Principles and Tools to Support Organisational Climate Change Impact Assessments Christian Virgil	Transport Australia Society professional practice recommendations for reducing emissions Scott Eliaurant
14:00	Building for climate resilience and human health at Paramatta Square Daniel Fernandes		Sustainability Engineering Undergraduate Program– A Futuristic Design Arumugam Sathesivan	Sustainable Construction Project Management Challenges and Solutions Franco Williams		
14:15	Life Cycle Assessment – shining a light on the unseen, emerging markets and opportunities, and pitfalls to valuation in infrastructure and building. Melissa Gaspari, Jessica Holz	Energy leadership and governance at Seqwater Nayim Kabir, Romulo Cabalse	Meet the Speaker	Meet the Speaker	A corporate ESG framework for leadership and influence Phil Duthie	Atmospheric Pollution Reduction By Shifting Freight/Container Movement from Road to Rail Aditi Sachdeva
14:30	Meet the Speaker		Meet the Speaker	Meet the Speaker	Meet the Speaker	Meet the Speaker
15:00 30 minute break & Meet the Speaker						
15:30	T2 Structures	T1 Energy 1	T2 & T4 SDGs	T5 Transport	T5 Corporate Sustainability 2	T5 Resilience
15:30	Decreasing Impact of Humanitarian Disaster Through Future Proofing Assets Anne Gibbs	How Renewable Energy Industrial Precincts will re-energise Australian manufacturing Tom Quinn	Engineering for a Living Planet Chris Buntine	Ensuring Cross River Rail Resilience to Climate Change Glenn Hedges, Jeremy Kruger	Creating Carbon Neutral Organisations Armando Aragon	Supporting an engineering workforce to respond and adapt to a changing Canberra climate. Adrian Piani
16:00	From transparency to impact: Findings from Australia's first carbon neutral ready-mix concrete and Environmental Product Declaration Evan Smith	A System Engineering Approach to Local Energy Storage Systems Greg Paulsen	A Sustainable City: How engineers will ensure long-term sustainable prosperity James Gleeson, Elise Brown	How to adapt engineering practice to climate change: the case of transport engineering Michael Taylor	Illustrating the Practical Integration of Sustainability in Engineering through ISO-LCA, in the Resource, Power Generation, Heavy and Process Industries. Nolan Nel	Climate resilient materials for infrastructure assets Jacqueline Balston
16:15	Meet the Speaker	Moving the delivery of hydropower projects to a unified digital delivery platform: benefits and challenges William (Bill) Hakin	How to build a nimble yet enduring ESG-focused engineering company Marni Punt, Peter Georgiou	New reference guides for the use of recycled materials in road and rail infrastructure Samantha Taylor	Engineering leadership in innovative international sustainable energy technology projects in oil refineries Abdul Qader	The role of engineers in addressing climate action Lisa Ly & Scott Daniel
16:30	Meet the Speaker	An Innovative Novel Approach to Sustainable Coal Mining by Commercialising Incidental Waste Gas Daria Korobchuk, Alex Wood	Herding the cats - using the OnePlanet platform for tracking, recording and reporting on SDGs David Galloway	Meet the Speaker	Meet the Speaker	
16:45	Meet the Speaker	Meet the Speaker	Meet the Speaker	Meet the Speaker	Meet the Speaker	Meet the Speaker
17:00 - 17:30 Networking Session & Meet the Speaker						
Themes						
Theme 1: How new technology and innovations are reshaping engineering (SDG 1, 6, 7, 9, 12, 13, 14, 15)				aurecon		
Theme 2: Engineering for humanity: responsive design for greater liveability (SDG 1, 2, 3, 4, 10, 11, 12)				LDBW		
Theme 4: Preparing the next generation of engineers (SDG 4, 17)				LDBW		
Theme 5: Engineering leadership, governance and influence (SDG 1, 4, 5, 8, 12, 13, 16, 17)				LDBW		

Join this session for direct access to Bronwyn Evans (CEO), Jane MacMaster (Chief Engineer), Mark Bonner (Climate Lead) and Tom Mortimer (position). You will be able to ask questions and interact directly with these EA Executives.



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08:30	Day 2 Opening						
08:30	Plenary Day 2 Session 2 - Partnering for the Planet - Collaborative Engineering Solutions for Climate Impact						
08:30	Managing Governance and Risk Exposures in Collaborative Climate Approaches Sarah Barker						
09:00	Collaborative Partnerships for Innovation and Environmental Sustainability Roch Cheroux			Meet the Plenary Speaker Sarah Barker			
09:30	The Leadership Challenge – Harnessing Creativity, Digitisation and Collaboration Fiona Cousins						
10:00	Shifting the Global Engineering Paradigm on Climate Action Dr Cris Liban			Meet the Plenary Speaker Fiona Cousins			
10:30	30 minute break						
11:00	The Decade to Deliver – Vision, Action and Transition Terence Jeyaretnam Fieaust Peng Engexec, Susan Krumdieck, Ruby Heard Cpeng, Greg Bourne						
11:55	Thank you for participating						
12:00	30 minute break						
12:30	<b>T1 Energy 2</b> New design methods for subsea power cables are helping reduce cost and improve reliability of marine renewable energy across the globe Terry Griffiths	<b>T1 &amp; T2 Structural 1</b> Embedding consideration of climate change into asset management Alan Kindworth, Frederic Blin	<b>T1 Transport</b> Smart LED Road Lighting (SLRL) Project – Sustainable Road Lighting Ronald Elunai, Kruno Leskarac	<b>T1 &amp; T2 Water</b> New thinking is required for net-zero in the water industry Marco Van Winden	<b>T4 Diversity</b> How diversity can help us achieve Sustainable Development - A personal take on retention of women of colour in Engineering Roshini Sriram, Saima Hussein	<b>T5 Climate Frameworks</b> Climate Change Within a National Security Framework Neil Greet	Meet Members of EA's Executive and Policy Team's 2  Join this session for direct access to Bronwyn Evans (CEO), Jane MacMaster (Chief Engineer), Mark Bonner (Climate Lead) and Tom Mortimer (position). You will be able to ask questions and interact directly with these EA Executives.
13:00	Large scale battery storage technology - Reshaping power system engineering to combat climate change Steve Wilson	Case Study: Asset Management as a means to achieve Sustainable Resilient Infrastructure supporting the UN SDGs Caroline Elms, Kaitlin Shilling	Lifecycle sustainability assessment for innovative pavement materials, designs and processes Brook Hall	Transitioning the heart of Melbourne into a climate resilient, water sensitive city Andrew Chapman	Company board gender diversity as an indicator of profitability in construction contractors Stephen Urquhart	National Resilience - Beyond the COVID-19 Response and Addressing Climate Change John Blackburn	
13:15					Engineers: Vision of Savours - our choice Steve Posselt		
13:30					<b>T2 &amp; T5 Fire</b>		
13:30	Turning the tables on supply and demand in our future energy mix Steven Bondio	Enhancing resilience of critical infrastructure using recycled rubber concrete Gary Bullock, Alex Remennikov	The Easing Sydney Congestion's Program office. An example of pavement sustainable practices Carlos Solis-Navarro	Integrated water planning for a cooler, greener and more resilient Western Sydney Peter Gillam	Effect of Hydrocarbon Gas Seepage and Flooding on Australian Bushfires Alan Teilmoor	Redefining engineering: Transforming technical professionals into technology stewards George Goddard	
13:45		Upcycling Of End-of-Life Photovoltaic Panels Glass Into Concrete Massoud Sofi, Elisa Lumantarna		A case study in purified water recycling from industrial liquid trade waste Bruce Atkinson	Empowering engineers to mitigate against the impact of catastrophic bushfires on built and natural assets with best practice technology Andrew Sturtess	Climate governance and the role of engineers Jenny Selway	
14:00	Hydrogen – When it is the solution to our problems... and when it isn't Thom Cameron	Meet the Speaker	Maritime autonomy and the blue economy Daniel Roberts	Flood Risk Colorado – Providing flood risk identification for future mitigation Rigel Rucker, Isaac Allen	Integrating fire engineering and sustainability a philosophy and approach Chris Macdonald	Bridging the gap between policy and expertise – an essential place for engineering Jonathan Armstrong	
14:15			Development of a New Recycled Plastic Noise Wall Specification Scott Taylor	Investigating the significance of water sensitive urban design and its related guidelines Parinaz Motealleh	Meet the Speaker	Engineering + Leadership + Innovation = Climate Smart Engineering Anne Hellstedt	
14:30	30 minute break & Meet the Speaker			Glasgow's Smart Canal - Innovative thinking and smart technology provide climate resilience and economic regeneration in Scotland Debbie Hay-Smith, Peter Robinson	30 minute break & Meet the Speaker		
14:45				15 minute break & Meet the Speaker			
15:00	<b>T1 Energy 3</b> Integrating data analytics, distributed energy and demand resources with wholesale electricity supply models to reduce emissions and costs. Garrett Mann	<b>T1 &amp; T2 Structural 2</b> How do you create Net Zero precincts? Paul Godden, Adolfo Fernandez	<b>T1 &amp; T2 Systems</b> Developing a new framework for global catastrophic risk using a systems engineering approach Tom Carney	<b>T2 Energy</b> Managing urban heat under climate change: identifying optimum solutions and their pathways of implementation Fahim Tonmoy	<b>T1 Carbon</b> Regenerative engineering to avert catastrophic climate change Brian Kirks, Adrien Vigoulette	<b>Panel Discussions</b> <b>Panel Discussion: Decarbonisation of the Built Environment</b> The building industry is responsible for some 39% of CO2 emissions and must offer significant reductions to emissions. If we are to mitigate the effects of climate change this panel discussion will examine how four practitioners are approaching sustainability in the design and construction of the built environment and will examine the challenges, opportunities, barriers, and enablers for outcomes that lead to low carbon footprints.	
15:00	Creating the REZILient and climate smart energy system of the future Ben McGarry	Net zero energy vs net zero carbon buildings – how far can we go? Quentin Jackson, Jeffrey Robinson	Using a human lens to support the Pacific in adapting to Climate Change Induni Senarath	Keeping the end in sight: Circularity in the wind sector Katrina Swatwell	Winning Team - YEA Case Competition, 2021: CCUS (Carbon Capture, Utilisation, and Storage) <b>T1 &amp; T2 SDGs</b>		
15:45					Application of recycled materials in transport infrastructure (Ecolog program) Benjamin Evans, Phil Brunson		
16:00	Nuclear for net-zero - the role of small modular reactors in a fully decarbonised world Ben Heard	How emerging technology like digital twins can improve efficiencies and reduce our CO2 footprint Nurul Driver	Climate Change Adaptation in Indigenous Housing: A Case Study of Bourke, NSW Jessica Taylor, Aaron Opydke	Thermo-economic analysis of a solar-geothermal hybrid generator with multi-effect desalination and its viability for Winton, Queensland Theresa Qin	Panel Discussion: Smart Grids Considerable interest in the community for generating own power with solar panel installations needs to be encouraged as an important contribution to mitigating climate change. There are risks with widespread availability of interconnecting large amounts of solar generation capacity with the grid without being able to manage, by employing appropriate Information and Communications Technologies (ICTs), the interaction and grid stability. There are also related issues of managing battery storage (including that supplying electric vehicles) associated with community generated power. The panelists in the discussion will dive into these matters and outline the engineering solutions which are being developed and implemented, part of the conference where engineers can show that they are an essential part of the solution to climate change and reducing our dependence on the carbon economy.		
16:15	How advances in renewable gas production and utilisation pathways can contribute to decarbonisation Neville Tawona	Sustainable design of precast concrete elements for civil infrastructure Marcus Edwards	Future of Sustainable Food Systems Anne Kovachevich, Amelia Tomlins	ENERGY Efficiency and Overvoltage: The Hidden Electricity Thief Ty Christopher	A design approach for developing scalable, equitable and sustainable technologies that benefit all Angus Mitchell		
16:30		Implementing "Green" Concrete – A Case Study Shawn Grima	A resilience framework for complex engineered systems in an ever evolving socio-technical environmental context. Thomas Manley, Jawahar Bhalla	Meet the Speaker	Virtual design for a more sustainable future - a structural engineering perspective Ross Whiteside		
16:45	Meet the Speaker		Systems Thinking, Modelling and Simulation - foundational enabling competences for engineering contemporary and future systems for a safer, secure, sustainable and resilient world Jawahar Bhalla		Sustainable Engineering in an Era of Climate Change Kavya Santhosh		
16:45		Meet the Speaker					
17:00 - 17:30	Meet the Speaker						

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