



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

Themes	Theme 1: How new technology and innovations are reshaping engineering (SDG 1, 6, 7, 9, 12, 13, 14, 15)	
	Theme 2: Engineering for humanity: responsive design for greater liveability (SDG 1, 2, 3, 4, 10, 11, 12)	
	Theme 4: Preparing the next generation of engineers (SDG 4, 17)	
	Theme 5: Engineering leadership, governance and influence (SDG 1, 4, 5, 8, 12, 13, 16, 17)	



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08:30	<b>Plenary Day 2 Session 2 - Partnering for the Planet - Collaborative Engineering Solutions for Climate Impact</b>					
08:30	Managing Governance and Risk Exposures in Collaborative Climate Approaches <b>Sarah Barker</b>					
09:00	Collaborative Partnerships for Innovation and Environmental Sustainability <b>Roch Cheroux</b>					
09:30	The Leadership Challenge – Harnessing Creativity, Digitisation and Collaboration <b>Fiona Cousins</b>					
10:00	Shifting the Global Engineering Paradigm on Climate Action <b>Cris Liban</b>					
10:30	<b>Morning Tea</b>					
11:00	The Decade to Deliver – Vision, Action and Transition <b>Terence Jeyaretnam Fieaust Cpeng Engexec, Susan Krumdieck, Ruby Heard Cpeng, Greg Bourne</b>					
12:00	<b>Lunch Break</b>					
12:30	<b>T1 Energy 2</b>	<b>T1 &amp; T2 Structural 1</b>	<b>T1 Transport</b>	<b>T1 &amp; T2 Water</b>	<b>T4 Diversity</b>	<b>T5 Climate Frameworks</b>
12:30	New design methods for subsea power cables are helping reduce cost and improve reliability of marine renewable energy across the globe <b>Terry Griffiths</b>	Embedding consideration of climate change into asset management <b>Allan Klindworth, Frederic Blin</b>	Smart LED Road Lighting (SLRL) Project – Sustainable Road Lighting <b>Ronald Elunai, Krno Leskarac</b>	New thinking is required for net-zero in the water industry <b>Marco Van Winden</b>	How diversity can help us achieve Sustainable Development - A personal take on retention of women of colour in Engineering <b>Roshini Sriram, Salma Hussein</b>	Climate Change Within a National Security Framework <b>Neil Greet</b>
13:00	Large scale battery storage technology - Reshaping power system engineering to combat climate change <b>Steve Wilson</b>	Case Study: Asset Management as a means to achieve Sustainable Resilient Infrastructure supporting the UN SDGs <b>Caroline Elms, Kaitlin Shilling</b>	Lifecycle sustainability assessment for innovative pavement materials, designs and processes <b>Brook Hall</b>	Transitioning the heart of Melbourne into a climate resilient, water sensitive city <b>Andrew Chapman</b>	Company board gender diversity as an indicator of profitability in construction contractors <b>Stephen Urquhart</b>	National Resilience - Beyond the COVID-19 Response and Addressing Climate Change <b>John Blackburn</b>
13:15					Engineers: Villains or Saviours - our choice <b>Steve Posselt</b>	
13:30					<b>T2 &amp; T5 Fire</b>	
13:30	Turning the tables on supply and demand in our future energy mix <b>Steven Bondio</b>	Enhancing resilience of critical infrastructure using recycled rubber concrete <b>Gary Bullock, Alex Remennikov</b>	The Easing Sydney Congestion's Program office. An example of pavement sustainable practices <b>Carlos Solis-Navarro</b>	Integrated water planning for a cooler, greener and more resilient Western Sydney <b>Peter Gillam, Phillip Birtles</b>	Effect of Hydrocarbon Gas Seepage and Flooding on Australian Bushfires <b>Alan Teimoori</b>	Redefining engineering: Transforming technical professionals into technology stewards <b>George Goddard</b>
13:45		Upcycling Of End-of-life Photovoltaic Panels Glass Into Concrete <b>Massoud Sofi, Elisa Lumantarna</b>		A case study in purified water recycling from industrial liquid trade waste <b>Bruce Atkinson</b>	Empowering engineers to mitigate against the impact of catastrophic bushfires on built and natural assets with best practice technology <b>Andrew Sturgess</b>	Climate governance and the role of engineers <b>Jenny Selway</b>
14:00	Hydrogen – When it is the solution to our problems... and when it isn't <b>Thom Cameron</b>		Maritime autonomy and the blue economy <b>Daniel Roberts</b>	Flood Risk Colorado – Providing flood risk identification for future mitigation <b>Rigel Rucker, Isaac Allen</b>	Integrating fire engineering and sustainability - a philosophy and approach <b>Chris Macdonald</b>	Bridging the gap between policy and expertise – an essential place for engineering <b>Jonathan Armstrong</b>
14:15			Development of a New Recycled Plastic Noise Wall Specification <b>Scott Taylor</b>	Investigating the significance of water sensitive urban design and its related guidelines <b>Parinaz Motealleh</b>		Engineering + Leadership + Innovation = Climate Smart Engineering <b>Anne Hellstedt</b>
14:30	<b>Break</b>			Glasgow's Smart Canal - Innovative thinking and smart technology provide climate resilience and economic regeneration in Scotland <b>Debbie Hay-Smith, Peter Robinson</b>	<b>Break</b>	
14:45	<b>Break</b>					
15:00	<b>T1 Energy 3</b>	<b>T1 &amp; T2 Structural 2</b>	<b>T1 &amp; T2 Systems</b>	<b>T2 Energy</b>	<b>T1 Carbon</b>	<b>Panel Discussions</b>
15:00	Integrating data analytics, distributed energy and demand resources with wholesale electricity supply models to reduce emissions and costs. <b>Gareth Mann</b>	How do you create Net Zero precincts? <b>Paul Godden, Adolfo Fernandez</b>	Developing a new framework for global catastrophic risk using a systems engineering approach <b>Tom Carnev</b>	Managing urban heat under climate change: identifying optimum solutions and their pathways of implementation <b>Fahim Tonmoy</b>	Regenerative engineering to avert catastrophic climate change <b>Brian Kirke, Adrien Vigoulette</b>	Panel Discussion: Decarbonisation of the Built Environment
15:30	Creating the REZilient and climate smart energy system of the future <b>Ben McGarry</b>	Net zero energy vs net zero carbon buildings – how far can we go? <b>Quentin Jackson, Jeffrey Robinson</b>	Using a human lens to support the Pacific in adapting to Climate Change <b>Induni Senarath</b>	Keeping the end in sight: Circularity in the wind sector <b>Katrina Swalwell</b>	YEA Case Competition	
15:45					<b>T1 &amp; T2 SDGs</b>	
16:00	Nuclear for net-zero - the role of small modular reactors in a fully decarbonised world <b>Ben Heard</b>	How emerging technology like digital twins can improve efficiencies and reduce our CO2 footprint <b>Nurul Driver</b>	Climate Change Adaptation in Indigenous Housing: A Case Study of Bourke, NSW <b>Jessica Taylor, Aaron Opdyke</b>	Thermo-economic analysis of a solar-geothermal hybrid generator with multi-effect desalination and its viability for Winton, Queensland <b>Theresa Qin</b>	Ecologiq supporting implementation of the Recycled First policy <b>Benjamin Evans, Phil Brunson</b>	Panel Discussion: Smart Grids
16:15	How advances in renewable gas production and utilisation pathways can contribute to decarbonisation <b>Neville Tawona</b>	Sustainable design of precast concrete elements for civil infrastructure <b>Marcus Edwards</b>	Future of Sustainable Food Systems <b>Anne Kovachevich, Amelia Tomkins</b>	A design approach for developing scalable, equitable and sustainable technologies that benefit all <b>Gaetano Romano, Angus Mitchell</b>	A design approach for developing scalable, equitable and sustainable technologies that benefit all <b>Gaetano Romano, Angus Mitchell</b>	
16:30		Implementing "Green" Concrete – A Case Study <b>Shawn Grima</b>	A resilience framework for complex engineered systems in an ever evolving socio-technical environmental context. <b>Thomas Manley, Jawahar Bhalla</b>	ENERGY Efficiency and Overvoltage: The Hidden Electricity Thief <b>Ty Christopher</b>	Virtual design for a more sustainable future - a structural engineering perspective <b>Ross Whiteside</b>	
16:45			Systems Thinking, Modelling and Simulation - foundational enabling competencies for engineering contemporary and future systems for a safer, secure, sustainable and resilient world <b>Jawahar Bhalla</b>		Sustainable Engineering in an Era of Climate Change <b>Kavya Santhosh</b>	
17:00 - 17:15	<b>Official close</b>					

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