










8.00am	Registration and Coffee
	Session 1 Conference Opening and Welcome Batten Room
9.00am	Mihi Whakatau NORMA STURLEY NGĀTI WHAKAUE
9.15am	Welcome TE RADAR MC
9.20am	Welcome to Rotorua – A District Positioning Itself for a Low Carbon Economy MAYOR STEVE CHADWICK MAYOR OF ROTORUA
9.25am	Ministerial Address HON JAMES SHAW MINISTER OF CLIMATE CHANGE, ASSOCIATE MINISTER OF ENVIRONMENT
9.55am	Genesis of Change: Land Intertwined with the Sea KIM MCCOY OCEANOGRAPHER Since antiquity, winds have transformed their energy into waves, crossing oceans and dying away upon distant shores. Today, our ocean and atmosphere flow differently, cascading with newfound waves of energy. Coral reefs and beach faces protect our coastal homes, crops, infrastructure and centres of commerce. These are challenged by seawater - degrading soils and spoiling aquifers - while upstream watershed dynamics is altering coastal erosion and sedimentation.
10.40am	Uncommon Sense: How to Create Value Through Your Customers using Less of Your Product PETER KENNEDY CHIEF DIGITAL OFFICER, GENESIS New Zealand presents a unique decarbonisation puzzle to solve, with low-carbon electricity supply alongside a sometimes carbon intensive, agriculturally focussed economy. In a market where "one size does <u>not</u> fit all" Peter Kennedy shares Genesis's attempt at scaling a relevant energy and carbon services product suite.
11.05am	Morning Tea, Networking, Industry Exhibition – Proudly Sponsored by Toitu 
	Session 2 Batten Room
11.35am	Understanding Transport Choices and Behaviour: An Interdisciplinary Approach to Transport and the Impact on GHG Emissions KATE BROMFIELD PRINCIPAL CONSULTANT CARBON & CLIMATE RESILIENCE, EDGE ENVIRONMENT As cities and countries set to reduce their GHG emissions, transportation choices and behaviour become key focus areas for governments around the globe. Prices are influenced by the long-term social and environmental costs of transport choices and the costs associated with running each form of transportation. Although cost is seen to play a part in transport choices, research findings relating to pricing strategies, such as congestion pricing and vehicle-purchase restrictions have not been as effective as anticipated. Full abstract available here
12.00pm	How to Accelerate Decarbonisation in a Skills-Short World CLARE FEENEY THE STRATEGIC ENVIRONMENTAL TRAINER Aotearoa New Zealand faces a critical shortage of the skills needed to address our infrastructure deficits and create the Government's desired "Just Transition to a climate-resilient, sustainable and low-emissions economy while building back from Covid-19". Full abstract available here
12.25pm	EXHIBITOR FLASH SESSIONS
12.40pm	Lunch, Networking, Industry Exhibition – Proudly Sponsored by Worley 
	Session 3 Batten Room
1.40pm	The Roadmap to Net-Zero with Geothermal Resources KENNIE TSUI CHIEF EXECUTIVE, NEW ZEALAND GEOTHERMAL ASSOCIATION Reaching net carbon zero is an enormous task that requires deep systemic change with authentic purposes. Geothermal is a domestic energy source that will unlock net zero solutions, improve wellbeing, and improve economic standing throughout the regions. Full abstract available here
2.10pm	10% of Consumer Energy Already Comes from Biomass and we are on a Path to Treble That BRIAN COX EXECUTIVE OFFICER, BIOENERGY ASSOCIATION
2.40pm	What comes after GIDI? Launching EECA's 2022/23 Programme and Sharing our Regional ETA Pilot NICKI SUTHERLAND GENERAL MANAGER, INVESTMENT AND ENGAGEMENT, EECA GIDI was tremendously successful. It marked a turning point in EECA's leadership role as we work with industry and consultants to tackle the decarbonisation goal. We've had to scale up, change direction, prioritise, and consequently have been trusted by government through (we hope) receiving more funding and political mandate in Budget 2022. Full abstract available here
3.10pm	STUDENT POSTER PRESENTATIONS Modelling the Long-term Impacts of Increased Demand Response within a 100% Renewable New Zealand Power System ALEIDA POWELL UNIVERSITY OF OTAGO Carbon Negative Geothermal: Boosting Renewable Electricity with Negative Emissions KARAN TITUS THE UNIVERSITY OF CANTERBURY Integrating Material Cycles into the Analysis of an Accelerating Energy Transition for Aotearoa - New Zealand ISABELLA PIMENTEL PINCELLI VICTORIA UNIVERSITY OF WELLINGTON Dairy Farm Demand Flexibility JEFFERSON DEW UNIVERSITY OF OTAGO
3.30pm	Afternoon Tea, Networking, Industry Exhibition – Proudly Sponsored by Toitu 
	Session 4 Batten Room
4.00pm	From Carbon Neutral to Net Zero: The Evolving Global Ambition BELINDA MATHERS GENERAL MANAGER TECHNICAL, TOITU ENVIRO CARE In order to minimise the likelihood of catastrophic climate change, it is now widely accepted that deep decarbonisation is needed, with emissions targets needing to align with climate science. As more organisations recognise the need for climate action, there is rapid evolution in both ambition and the terminology used to describe it. Are you aiming to be carbon neutral, net carbon zero, carbon balanced or climate positive? Are these all the same thing and if not, which is better? Should your targets be science based (and what does that mean anyway)? Full abstract available here
4.30pm	Where Might the NZ ETS Price be Heading? MATTHEW COWIE DIRECTOR, CLIMATE CHANGE AND SUSTAINABILITY SERVICES GROUP, EY NEW ZEALAND The NZ ETS price has risen substantially and consistently over the last decade on the back of a series of market reforms. From its low point in May 2013 of less than \$2 per unit, the NZ ETS price has traded over \$70 in early 2022. At current prices, the question about where this market will head in the future is now a multi-billion-dollar topic. Full abstract available here
5.00pm	HON SCOTT SIMPSON OPPOSITION SPOKESPERSON- CLIMATE CHANGE, ENVIRONMENT AND ASSOCIATE TRANSPORT
5.30pm	Day's Wrap and Invitation and Welcome to Cocktail Function
5.35pm - 7.30pm	Cocktail Function - Proudly Sponsored by Lumen 

DAY 2: THURSDAY 2 JUNE 2022

Novotel Rotorua Lakeside, Rotorua

7.30am	Registration and Coffee	
8.00am	Carbon and Energy Professionals New Zealand Annual General Meeting – Open to CEP Members Only Batten Room	
	Session 5 Batten Room	
9.00am	Housekeeping	
9.07am	Sponsor Introduction ARA AKE	
9.10am	Tackling Climate Change with Machine Learning DAVID ROLNICK ASSISTANT PROFESSOR OF COMPUTER SCIENCE AND CANADA CIFAR AI CHAIR, MCGILL UNIVERSITY AND THE MILA QUEBEC AI INSTITUTE; CO-FOUNDER AND CHAIR, CLIMATE CHANGE AI Machine learning and AI have seen great advances in recent years and are increasingly being applied across society. In this talk, we will see how machine learning can be a powerful tool in helping reduce greenhouse gas emissions and adapt to a changing climate. From grid optimisation to resilient infrastructure, we will explore high impact problems where existing gaps can be filled by machine learning. We will also consider common pitfalls and broader societal considerations involved in working within this space.	
10.00am	New Zealand's Future Energy Centre's Role in Transitioning Aotearoa to a Sustainable Energy Future CRISTIANO MARANTES CHIEF EXECUTIVE, ARA AKE Aotearoa New Zealand is on a journey of energy innovation; a journey to decarbonise our nation so we can begin to realise the environmental, social and economic benefits of doing so. Ara Ake is an independent organisation working with businesses to facilitate demonstration projects of new and emerging emission lowering technologies. Dr Marantes will discuss various innovations that are in the pipeline for our nation.	
10.30am	Ministerial Address HON DR MEGAN WOODS MINISTER OF HOUSING, MINISTER OF ENERGY AND RESOURCES, MINISTER OF RESEARCH, SCIENCE AND INNOVATION	
11.00am	Morning Tea, Networking, Industry Exhibition – Proudly Sponsored by Toitu 	
	Session 6a Batten Room	Session 6b Rutherford Room
11.30am	How Does Certification Fit in with and Drive a Lower Carbon Aotearoa ANDREW EAGLES CHIEF EXECUTIVE, NEW ZEALAND GREEN BUILDING COUNCIL NABERSNZ in Australia has delivered \$1bn in energy savings. This presentation will provide an update on the NABERSNZ regime in New Zealand, including the rise in uptake and the increase in clients specifying it. It will include a summary of the steps being taken to get greater uptake in New Zealand on office buildings and other building types.	Innovation in Energy and Carbon Measurement and Reporting – IoT, Cloud Services and Machine Learning LINCOLN WATSON CHIEF EXECUTIVE, ESP Technology continues to deliver new levels of productivity in all industries. Cloud, IoT and machine learning is now an important part of the toolkit for operations, property and sustainability managers. This presentation will update you on technology innovations for energy and carbon managers. The focus will be on the collection, enrichment and processing of data for sustainability leaders to deliver productivity and timely reporting and enable business planning, measurement of results and continuous performance verification.
12.00pm	Reducing the Demand on the Electricity Grid in a Carbon-Neutral New Zealand: The Opportunity for Ground-Source Heat Pumps in Smart Building Designs ANYA SEWARD GEOTHERMAL GEOPHYSICIST, GNS SCIENCE As New Zealand transitions away from burning fossil fuels for space heating and cooling, more demand will be placed on the electricity grid. With smart use of the earth's natural heat resources these demands can be greatly reduced. Geothermal or ground-source heat pump (GSHP) technologies take advantage of this freely available, naturally occurring underground heat and can reduce electricity demand by up to 50%. Full abstract available here	Getting it done... JONATHAN POOCH FOUNDER AND MANAGING DIRECTOR, DETA CONSULTING We all understand the time pressure the world faces to decarbonise – we also all know that at the current direction of travel, individuals and businesses aren't doing enough. This presentation will focus on practical business strategies that ensure Decarbonisation Plans are developed, integrated with broader business strategies, and deliver real outcomes in a timely way. As well as minimising risk, this presentation will also focus on the opportunities presented by decarbonisation, and their important role in ensuring engagement and implementation.
12.30pm	Is There a Demand-Side Solution to New Zealand's Dry-Year Problem? MICHAEL JACK DIRECTOR - ENERGY PROGRAMME, OTAGO UNIVERSITY One of the key challenges to achieving high-percentages of renewable electricity supply in New Zealand is the seasonal mismatch between renewable supply and peaks in electricity demand. Current policies emphasise supply-side solutions that could result in underutilised supply, storage and transmission infrastructure, and significantly increased decarbonisation costs. As a demand-side alternative we show that wide-spread uptake of high-performance buildings could reduce the winter peak by 75% from business as usual by 2050 and give rise to a myriad of other benefits.	Accelerating Emission Reduction Using Local Emission Rates CLIVE PINFOLD DECARBONISE GHG Protocol states that "The methods used to calculate and report scope 2 emissions critically impact how a company assesses its performance and what mitigation actions are incentivized." Our use of the MOE grid-average emission factor provides a simple but ultimately poor measure of real emissions. A carbon tracing analysis of real network power flows shows that emissions are highly localised within the grid. This granular location and time dependent data offers an opportunity to accelerate decarbonisation by targeting mitigation measures more directly to regions that consume higher emission electricity.
12.55pm	Lunch, Networking, Industry Exhibition – Proudly Sponsored by Worley 	
	Session 7a Batten Room	Session 7b Rutherford Room
2.00pm	Cutting through the BS – Speeding up Decarbonisation with Open Dialogue JOSH ELLISON REWIRING AUSTRALIA Climate conversations are riddled with false solutions and doom and gloom. Our tendency to go in both of these directions slows down our decarbonisation and takes the public dialogue to a place of divided uncertainty. It's time we painted a clear picture in people's minds of how we act on climate, so we stop wasting time and get on with it.	Smarter Electrification for Net-Zero Hospitals ANDY LOGUE and JACK YOUNG DIRECTOR AND SENIOR ENERGY CONSULTANT, ENERGY NZ Recent work at four major New Zealand hospitals has found clear retrofit options via targeted electrification and heat recovery heat pumps. This approach subverts the historical norm of 'bigger is better' centralised utilities, and drastically reduces site emissions. But the implications of this would typically be eye-watering investment in new electrical capacity. The ideal solution considers best-practice analysis and smart peak demand management, with wide applicability across industry sectors.
2.30pm	Decarbonisation Through Electrification - How Close are we to Integrating Distributed Energy and Building Load into the Electricity Ecosystem? Very! TERRY PADDY MANAGING DIRECTOR, CORTEXO This presentation will look at the practical electricity industry work being done today to meet New Zealand's decarbonisation goals that will enable commercial and consumer level distributed energy (solar, battery, EV and building load) to supplement traditional generation and support grid resilience. Full abstract available here	Demonstrating a Pathway for Local Government to Achieve Net-Zero JONATHAN LINDERS ENERGY AND CARBON ADVISOR, HUTT CITY COUNCIL Decarbonisation is frequently discussed, often overcomplicated and, therefore, ultimately delayed. Emission reductions are required immediately: the necessary technologies and market incentives already exist. There is no sensible reason not to proceed. Lower Hutt City is currently on track to suffer catastrophic infrastructure damage due to our changing climate. Full abstract available here
3.00pm	Assisting Clients Evaluate Bioenergy Heating Options LLOYD MCGINTY DIRECTOR, ENERGY MANAGEMENT, AHIKĀ CONSULTING As businesses plan their decarbonisation strategies, process heat or hot water offer good carbon reductions especially with GIDI funding. Bioenergy is seen	Decarbonising Heat with Renewable Thermal Energy: A Case Study of the proposed Taupo East District Thermal Energy System YALE CARDEN

	as the preferred choice when switching fuels. But bioenergy has its limitations too so it's important to understand where it makes sense to select bioenergy. This presentation will be a mix of practical examples and thoughts on the key consideration when evaluating heating options. It will cover topics such as existing infrastructure, long term considerations, coal boiler conversions and energy efficiency.	Alongside electrical vehicles, decarbonisation of heating is a key component of the electrification transition. Traditional heating systems mostly burn fossil fuels in the form of gas, kerosene, diesel, coal etc. Aside from the carbon and methane emissions, fossil fuel sourced heating systems can have a health impact associated with particulates. Full abstract available here
3.25pm	Afternoon Tea, Networking, Industry Exhibition – Proudly Sponsored by Toitu	
		
	Session 8 Batten Room	
3.55pm	How a Circular Economy could Accelerate Decarbonisation in New Zealand DEBBIE O'BYRNE AND SARAH BACON BECA The world is changing and a massive transition from a linear to a circular economy is underway. This presentation will focus on how a circular economy approach is essential in accelerating decarbonisation in NZ. Examples of how and why this approach has been successful internationally will be outlined including the Kalundborg Eco-Industrial Park in Demark, and Special Activation Precincts (SAPs) in Australia. We'll explore how these learnings could be applied to NZ to tackle our decarbonisation challenges, and how this could support your organisation in meeting your carbon reduction targets. Full abstract available here	
	Presentation Proudly Sponsored by Signify 	
4.25pm	The Emerging Circular Economy for Lighting BRYAN KING MANAGING DIRECTOR, STRATEGIC LIGHTING PARTNERS Bryan will explore the emerging circular economy for lighting products which has been accelerated by European Commission eco-design regulations. This will show how international standardisation is bringing structured methodologies for design and manufacture of sustainable lighting products as well as techniques for quantifying circular economy outcomes. The current New Zealand situation will be assessed, and insights proposed, on ways that New Zealand circular economy practice can be accelerated.	
4.55pm	Conference Reflections / Wrap up	
5.00pm	Conference Close	

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