



**ACCELERATING DECARBONISATION
CEP CONFERENCE 2022**

1st & 2nd JUNE

ROTORUA



In association with



PROGRAMME

30 MAY 2022



In Association with







DAY 1: WEDNESDAY 1 JUNE 2022

Novotel Rotorua Lakeside, Rotorua

TE RADAR | CONFERENCE MC *Te Radar appears by arrangement with Johnson & Laird Management*




8.00am	Registration and Coffee
	Session 1 Conference Opening and Welcome Batten Room
9.00am	Mihi Whakatau NGĀTI WHAKAUE
9.12am	Welcome TE RADAR MC
9.17am	Welcome to Rotorua – A District Positioning Itself for a Low Carbon Economy MAYOR STEVE CHADWICK MAYOR OF ROTORUA
9.22pm	Welcome from CEP CEP BOARD MEMBER
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 & carbon services product suite.
11.05am	Morning Tea, Networking, Industry Exhibition <i>Proudly Sponsored by</i> 
	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.
12.00pm	How to Accelerate Decarbonisation in a Skills-Short World CLARE FEENEY THE STRATEGIC ENVIRONMENTAL TRAINER Aotearoa faces a critical shortage of the skills needed to address our infrastructure deficits and transition to a climate-resilient, sustainable and low-emissions economy. The narrow window for action means we must lift the skills of the people we have – and fast. The quickest way to do this is to focus on the continuing professional development of the experienced professionals already in our workforce, on the topics they know they need. Clare sets out a straightforward training strategy that builds the business case for Government to fund targeted training to deliver on its climate change, infrastructure and other sustainability goals.
12.25pm	MEET THE EXHIBITOR’S SESSION <ul style="list-style-type: none">- Apricus Eco - MARCUS BAKER- Engineering New Zealand - MARTIN PRATCHETT- ESP - NIC VAN DER WESTHUIZEN- Mitsubishi Electric - JOHN GREAVES- Spirax Sarco - SHARON SHAH- Waterware - DAVID RONAYNE- 2Plus New Zealand - GAVIN CHERRIE- Worley – MIKE CROSS

12.40pm	Welcome to Lunch MIKE CROSS GENERAL MANAGER – PROJECT AND DELIVERY AND ENGINEERING, WORLEY	
12.40pm	Lunch, Networking, Industry Exhibition <i>Proudly Sponsored by</i>	
	Session 3 Batten Room	
1.40pm	From Carbon Neutral to Net Zero: The Evolving Global Ambition BELINDA MATHERS GENERAL MANAGER TECHNICAL, TOITU ENVIROCARE As more organisations recognise the need for climate action, there is rapid evolution in both ambition and the terminology used to describe it. Toitū's GM Technical, Dr Belinda Mathers will discuss how the global voluntary carbon market is evolving and some of the global initiatives that will provide a framework for ambitious climate action. She will describe some of the key mechanisms available for target setting and the role of compensation/offsetting in achieving carbon neutrality.	
2.10pm	9% of Consumer Energy Already Comes from Biomass and we are about to Treble that to 27% BRIAN COX EXECUTIVE OFFICER, BIOENERGY ASSOCIATION As the bioenergy sector expands to replace fossil fuels it is important that bioenergy facility operators understand where their solid biofuels will come from over the next three decades. There will be adequate biomass available throughout New Zealand but in some regions, there is a need for better information on biofuel demand intentions so that suppliers can ensure that there is the right quantity, of the right fuel, in the right place, and at the right price.	
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.	
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 <i>Proudly Sponsored by</i>	
	Session 4 Batten Room	
4.00pm	Sponsor Introduction MARCUS BAKER MANAGING DIRECTOR APRICUS ECO HOT WATER	
4.03pm	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 to in the future is now a multi-billion dollar topic. This presentation will seek to provide some perspectives on the future NZ ETS price by exploring three topics. Firstly, what drives people to deliver forecasts for future carbon prices that are so high? The process of forecasting carbon prices tends to mean that the more analytical, quantitative and responsible that the forecaster is, the higher the carbon price that they will predict – and this might be a problem. Secondly, who are these speculators in the NZ ETS market that we hear so much about? It is very easy to point to new	

	participants in the market and call them speculators, but might this be the pot calling the kettle black? Lastly, some perspectives on the future NZ ETS price from looking at the volume fundamentals of the scheme. Too little attention has been paid to these fundamentals in the past as commentary about the NZ ETS price has tended to focus on what people want the price to be, what people assume that the price will get to and what the price trends are in other markets overseas.
4.33pm	HON SCOTT SIMPSON OPPOSITION SPOKESPERSON- CLIMATE CHANGE, ENVIRONMENT AND ASSOCIATE TRANSPORT
5.03pm	PANEL DISCUSSION <ul style="list-style-type: none"> - JONATHAN POOCH FOUNDER AND MANAGING DIRECTOR, DETA CONSULTING - DEBBIE O'BYRNE CIRCULAR ECONOMY PRINCIPAL, BECA - BOBBY SHEN BUSINESS DEVELOPMENT MANAGER - EXISTING BUILDINGS, NEW ZEALAND GREEN BUILDING COUNCIL - NICKI DOUGLAS NGĀTI RANGIWEWEHI, NGĀTI WHAKAUE, NGĀTI TANGATA, NGĀTI POROU, ENVIRONMENT MANAGER, TE ARAWA LAKES TRUST
5.45pm	Day's Wrap and Invitation and Welcome to Cocktail Function PAUL FARRELLY PRINCIPAL CONSULTANT, LUMEN
5.48pm - 7.45pm	Cocktail Function <i>Proudly Sponsored by</i> 

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
9.10am	New Zealand's Future Energy Centre's Role in Transitioning Aotearoa to a Sustainable Energy Future PAM WALKLIN HEAD OF COMMERCIALISATION, 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. Pam will discuss various innovations that are in the pipeline for our nation.
9.40am	Ministerial Address HON DR MEGAN WOODS MINISTER OF HOUSING, MINISTER OF ENERGY AND RESOURCES, MINISTER OF RESEARCH, SCIENCE, AND INNOVATION
10.15am	Presentation Proudly Sponsored by 
10.15am	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.
11.00am	Sponsor Introduction KANCHANA MARASINGHE ENERGY TRANSITION PROGRAMME MANAGER, EECA 
11.03am	Morning Tea, Networking, Industry Exhibition <i>Proudly Sponsored by</i> 

	Session 6a Batten Room	Session 6b Rutherford Room
11.30am	<p>How Does Certification Fit in with and Drive a Lower Carbon Aotearoa BOBBY SHEN BUSINESS DEVELOPMENT MANAGER - EXISTING BUILDINGS, 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 NZ on office buildings and other building types.</p>	<p>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.</p>
12.00pm	<p>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 and provide warm, efficient, sustainable, and healthy, living and working environments.</p>	<p>Innovation in Energy and Carbon Measurement and Reporting – IoT, Cloud Services and Machine Learning LINCOLN WATSON CHIEF EXECUTIVE OFFICER, 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.</p>
12.30pm	<p>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.</p>	<p>Accelerating Emission Reduction Using Local Emission Rates CLIVE PINFOLD CHIEF EXECUTIVE OFFICER, DECARBOINSE 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.</p>
12.55pm	<p>Welcome to Lunch PAUL MINCHIN, LOCATION DIRECTOR NZ, WORLEY</p>	<p>Welcome to Lunch NICK STONIER ENERGY TRANSITION MANAGER, WORLEY</p>
12.58pm	<p>Lunch, Networking, Industry Exhibition <i>Proudly Sponsored by</i></p>	

	Session 7a Batten Room	Session 7b Rutherford Room
2.00pm	<p>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.</p>	<p>Smarter Electrification for Net-Zero Hospitals ANDY LOGUE AND JACK YOUNG DIRECTOR AND SENIOR ENERGY CONSULTANT, ENERGY NZ Recent work at four major NZ 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.</p>
2.30pm	<p>Decarbonisation Through Electrification - How Close are we to Integrating Distributed Energy and Building Load into the Electricity Ecosystem? Very! TERRY PADDY MANAGING DIRECTOR, CORTEXO Finally, we are close to a standardised product model that allows buildings with flexibility around how and when they use load, generation or storage to offer those distributed energy resources to the distribution, transmission and energy markets. This presentation will cover the practical electricity industry work being done to meet New Zealand's decarbonisation goals by enabling the provision of flexibility services across the electricity supply chain.</p>	<p>Demonstrating a Pathway for Local Government to Achieve Net-Zero JONATHAN LINDERS ENERGY AND CARBON ADVISOR, HUTT CITY COUNCIL Hutt City Council produces a significant portion of the city's net emissions and is well-positioned to reduce these, in line with current global targets. Hutt City Council have demonstrated that this is largely achievable by 2030 by utilising available technologies. The 2020s will be a decade for deep emission cuts through rapid electrification and efficiency gains. Business-as-usual inertia is the greatest barrier to the global climate mission. However, Hutt City Council have shown that this can be overcome.</p>
3.00pm	<p>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 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.</p>	<p>Decarbonising Heat with Renewable Thermal Energy: A Case Study of the proposed Taupo East District Thermal Energy System YALE CARDEN FOUNDER AND MANAGING DIRECTOR, GEOEXCHANGE AUSTRALIA Renewable thermal energy is a decarbonised alternative to traditional fossil fuel sourced heating systems. Thermal (energy) potential relates to the available thermal energy in a given location that can be utilised for heating / cooling a building or group of buildings. This thermal energy can be renewable and can be used directly (eg high temperature geothermal) or indirectly using heat pumps. This presentation utilises the work of a recent case study for a District Thermal Energy System (DTES) for the Taupo East Development to outline the technical and economic case for renewable thermal energy as a way of accelerating decarbonisation.</p>
3.25pm	<p>Afternoon Tea, Networking, Industry Exhibition <i>Proudly sponsored by</i></p>	



	Session 9 Batten Room
3.55pm	<p>How a Circular Economy could Accelerate Decarbonisation in New Zealand DEBBIE O'BYRNE AND SARAH BACON CIRCULAR ECONOMY PRINCIPAL AND ASSOCIATE – INDUSTRIAL SUSTAINABILITY CONSULTANT, BECA</p> <p>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.</p>
	<p>Presentation Proudly Sponsored</p> 
4.25pm	<p>The Emerging Circular Economy for Lighting BRYAN KING MANAGING DIRECTOR, STRATEGIC LIGHTING PARTNERS</p> <p>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 NZ situation will be assessed, and insights proposed, on ways that NZ circular economy practice can be accelerated.</p>
4.55pm	Conference Reflections / Wrap up
5.00pm	Conference Close

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