

# Conference Programme

## 2017 CONFERENCE

ELECTRICITY CHALLENGES:  
INDUSTRY SOLUTIONS

WEDNESDAY, 21 JUNE 2017	
11.30am	AGM - ROOM 3
12.30pm	TRADE EXHIBITION OPENING - LUNCH
ROOMS 2 TO 4	
1.30pm	<b>Bob Taylor</b> EEA President
1.45pm	<b>Graham Ault (IET UK)</b> <b>Smarter Grid Solutions, UK</b> Decentralising Electricity - Meeting the challenge with innovative DER management solutions
2.30pm	<b>Dr. Edvina Uzunovic (IEEE PES)</b> <b>Worcester Polytechnic Institute</b> Reinventing US Power Education
3.15pm	AFTERNOON TEA

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	<b>ASSET SAFETY &amp; SECURITY</b>	<b>FIRE ENGINEERING</b>	<b>RELIABILITY &amp; RESILIENCE</b>	<b>STRATEGIC ENABLERS - BATTERY STORAGE</b>
4.00pm	<b>The application of risk based safety principles to the coordination of power and buried metallic pipelines</b> Rodney Urban, Beca Ltd	<b>Manapouri Power Station Fire Life Safety and Asset Upgrade</b> Gilbert Gordon, Holmes Fire	<b>Network reliability – Comparison of two different Electrical Distribution Businesses</b> Bradley Singh, Wellington Electricity	<b>Opportunities for Battery Energy Storage Systems in New Zealand</b> Harshal Patel, Beca Ltd
4.30pm	<b>Developing robust corrosion maps for use in the transmission and distribution industry</b> Rhys Vertue, LineTech Consulting	<b>Islington Substation SVC9 Fire Investigation</b> Matthew Gnad & Michael Dalzell, Transpower NZ Ltd	<b>Wellington Electricity Response to 14 November Kaikoura Earthquake</b> Geoff Thorburn, Wellington Electricity	<b>Possible Risk Based Approaches to Large Designing Electrical Storage Facilities (EECON 2016 Award)</b> Michael Erskine, Ghd Pty Ltd
5.00pm	<b>Cyber security in process automation</b> Jack Vanderhorst, ABB Australia	<b>Use of a Nitrogen/Water Mist Hybrid (Vortex) Mist Fire Extinguishing System in a Hydroelectric Generator in New Zealand.</b> Gilbert Gordon, Holmes Fire	<b>M7.8 November 2016 Earthquake - Wellington's Response and Recovery (Lessons Learned and Things We Can Improve for Next Time)</b> Simon Fleisher, Wellington City Council	<b>Alkimos Battery Energy Storage Project – A taste of things to come? (EECON 2016 Award)</b> Andrew Wearmouth, Synergy

5:30-7.00pm TRADE EXHIBITION SOCIAL HOUR

THURSDAY, 22 JUNE 2017				
DAY 2	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	<b>DESIGN PROJECT APPROACH &amp; MANAGEMENT</b>	<b>DATA MANAGEMENT - ANALYTICS</b>	<b>DISTRIBUTED GENERATION - GRID CAPACITY</b>	<b>SECONDARY SYSTEMS</b>
8:30am	<b>Haywards Transformer Replacement – A Story of Synchronous and Asynchronous Collaboration</b> Rebecca Marx, Mitton Electronet Ltd	<b>Analytics-Driven Cost versus Risk Continual Improvement in the Power Industry</b> Robin Platfoot, Covaris & Ying Wang, Consulink	<b>What's my Rating? Asset Capacity Utilisation with a Smart Grid</b> Thahirah Jalal, Unison Networks Ltd	<b>Addressing the Challenge of Coordinating Protection Between Transmission and Distribution Networks</b> Mark Mundell & Vijay Bendre, Transpower NZ
9am	<b>How Good Design Can Protect the New Zealand Falcon and Improve Network Safety</b> Laurence Barea, Dept of Conservation & Rob Douglas, Energyedge Ltd	<b>Field Data to Fleet Investments - A Connected Asset Lifecycle Management Approach</b> Ravi Kiran, ABB Australia Pty. Ltd	<b>Grid capacity released analysis and DG incremental addition computation for distribution system planning in smart grid</b> Michael Emmanuel, Victoria University of Wellington	<b>Hardware-in-Loop Protection Emulation for Active Distribution Network with High Penetration of PV</b> Divya Malhotra & Nirmal Nair, University of Auckland
9.30am	<b>The Upper Hutt 33 kV Outdoor-to-Indoor Conversion - An Overview of our Innovative Approach</b> Kieran Kennedy, Mitton Electronet Ltd	<b>Common Network Asset Indices - An Open Source Asset Management Tool</b> Paul Blackmore, EA Technology	<b>Decentralised In-feeds Influence on Grid Power Quality</b> Hakan Menekse, OMICRON	<b>IEC61850 GOOSE based Arc Flash Protection Scheme Design</b> Hayden Nikolajenko & Aman Bajracharya, Mitton Electronet Ltd
10am	<b>Manage risks of project budgets in the electricity industry</b> Johan Hendriks, Alpine Energy Ltd	<b>Power Transformers – A quantified benefits approach to asset management planning</b> Lewis Toman, Transpower NZ Ltd	<b>Assessing California's Distribution Resources Plan approach for New Zealand Distributors</b> Nirmal Nair, University of Auckland	<b>Synchronism-Check Application Over a Wide-Area Network</b> Brett Hampson, Schweitzer Engineering Laboratories, Inc.
10.30am	<b>MORNING TEA</b>			
	<b>KEYNOTE SPEAKERS (ROOMS 2 TO 4)</b>			
11am	<b>Phil Gibson, General Manager Hydro &amp; Wholesale, Mercury Energy</b> 'Optimising New Zealand's Renewable Advantage'			
11.45am	<b>Zia Emin (CIGRE), Power Systems Consultants, UK</b> 'Electricity Supply Systems of the Future'			
12.30pm	<b>LUNCH</b>			
	<b>DISTRIBUTED GENERATION - GRID STABILITY</b>	<b>PEOPLE &amp; PERFORMANCE LEADING CHANGE IN SAFETY &amp; INDUSTRY CULTURE</b>	<b>DATA MANAGEMENT</b>	<b>TRANSFORMER DESIGN &amp; INNOVATION</b>
2pm	<b>Renewable Generation in the NZ Power System - a Look at Costs and Predicting Future Uptake</b> Brad Henderson, Mitton Electronet Ltd	<b>Remembering Our Safety Learnings</b> Harvey O'Sullivan, Harvey O'Sullivan Consulting	<b>Temperature Dependent Power Flow Analysis with Integrated Distributed Generation</b> Arif Ahmed, Robinson Research Institute, Victoria University	<b>Flexible Spare Transformer - An Engineering Challenge</b> Arun Mathur, Wilson Transformer Company
2:30pm	<b>Transmission security during large disturbances with high penetration of Inverter based Energy System (IES) in Distribution</b> Nasser Usman Faarooqui, University of Auckland	<b>Leading our safety performance in the right direction</b> Marion Sorez, Electricity Engineers' Assn	<b>Managing SF6 Assets and Legislative Compliance: Implementing a Data Management Solution</b> John Pringle, PBA	<b>Tools for Advanced Dynamic Short Circuit Design of Power Transformers</b> Rob Milledge, ABB Australia Pty Ltd
3.00pm	<b>Next Generation Distribution Network Restoration</b> Fraser Young, GE	<b>Our Future Workforce - Engaging the Kids</b> Frank Lewis, IET	<b>Electricity Grid Asset Online Condition Monitoring</b> Campbell McDiarmid, EPECentre, University of Canterbury	<b>Use of Safety in Design techniques to ensure transformer safety risk is thoroughly considered at design phase</b> Guy Barnsley, Wilson Transformer Company

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DAY 2 CONTINUED				
THURSDAY, 22 JUNE 2017				
3:30pm	AFTERNOON TEA			
DAY 2	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	<b>ENERGY MARKETS &amp; LOAD MANAGEMENT</b>	<b>EARTHING</b>	<b>ASSET MANAGEMENT - CONDUCTORS</b>	<b>DISTRIBUTED GENERATION - RESIDENTIAL SOLAR</b>
4pm	<b>National Market for Instantaneous Reserves</b> Phil Yao & David Katz, Transpower NZ Ltd	<b>How Remote is Remote Earth? Testing a Zone Substation Earth Grid that is Bonded to an MEN System</b> Shaun McCarthy, Jacobs NZ Ltd	<b>Audible Noise Management of Newly Reconductored Transmission Lines</b> Jitesh Raniga, Transpower NZ Ltd, Andrew Laphorn, University of Canterbury & Rodney Urban, Beca	<b>Initial Lessons from St Kilda, Cambridge, a 100% Photovoltaic Subdivision</b> Pete Armstrong, Waipa Networks
4.30pm	<b>Dry years, peak demand and the electricity market</b> Bryan Leyland, Leyland Consultants	<b>Earth Testing Application Case Study: Creating an intuitive, mobile application for data entry and decision making in the field.</b> Rob Orange, Mitton Electronet Ltd	<b>Trial of Smart Aerial Image Processing (SAIP) for conductor and earthwire inspections</b> Natalie Mitchell-Lowe, Transpower NZ Ltd	<b>Effects of time-scale on householder PV economic analyses: over-estimation of self-consumption</b> Daniel Brown, EPECentre, University of Canterbury
5pm	<b>Low Load Voltage Management on the New Zealand Power System</b> Duncan Buchanan & Carl de Haan, Transpower NZ Ltd	<b>Mitigating Earthing Hazards</b> Gavin Austin, Mitton Electronet Ltd	<b>Dynamic Thermal Monitoring and Control of MV Cables</b> Rajeev Chand, Transpower NZ Ltd	<b>Residential PV &amp; Battery Storage Trial</b> Edwin Leong, Wellington Electricity
5.30 - 6.30pm TRADE EXHIBITION SOCIAL HOUR - SPONSORED BY PLP ELECTROPAR & S&C ELECTRIC COMPANY				
7.30pm PRE-DINNER DRINKS				
8pm CONFERENCE DINNER - SPONSORED BY ORION NZ LTD				

# Conference Programme

FRIDAY, 23 JUNE 2017				
DAY 3	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	<b>KEYNOTE SPEAKERS (ROOMS 2 TO 4)</b>			
8.30am	Martin Richardson, Director, Audit Services			
9.15am	Nicole Rosie, CEO, WorkSafe NZ			
10.00am	<b>MORNING TEA</b>			
	<b>EMERGING APPLICATIONS FOR RENEWABLE ELECTRICITY</b>	<b>DISTRIBUTED GENERATION - VOLTAGE MANAGEMENT</b>	<b>ADVANCES IN EQUIPMENT TECHNOLOGY</b>	<b>ASSET MANAGEMENT - DIAGNOSTICS</b>
10.30am	<b>Transitioning New Zealand to Renewable Energy</b> Harry Gates & Ian Mason, EPECentre, University of Canterbury	<b>Power Quality improvement across the network with existing and emerging technologies</b> Kelvin Chong, ABB Australia Pty Ltd	<b>Advances in Vacuum Technology, the solution to faster and safer temporary switching points in the Medium Voltage Overhead Distribution Network</b> Tony Stacey, Siemens	<b>Optimised Substation Asset Testing</b> Maryam Khallaghi, OMICRON
11.00am	<b>Network Integration of Electric Buses</b> Johnathon Fulcher, Wellington Electricity	<b>The Impact of Solar PV Generation on Voltage Management in The New Zealand Transmission System</b> Andrew Ward, Carl Rouppe van der Voort & Nabil Adam, Transpower NZ Ltd	<b>A Safety Review of Overhead Disconnects and Switches on a Distribution Network</b> Rob Douglas, Energyedge Ltd	<b>Assessment of On-Line Diagnostic Sensors for Distribution Transformers in an Experimental Test Facility</b> Michael Davies, Robinson Research Institute
11:30am	<b>Electrical Vehicle Storage Technologies and Range</b> Leatham Landon-Lane, Dept of Chemical & Process Engineering, University of Canterbury	<b>ETEL Smart Transformer: One Year of Operation</b> Bhaba Das, ETEL Transformers Ltd	<b>Rapid-start generators in an Energy Storage System: Influence of fluid selection on the components of a hydraulic drive-train</b> Efim Sturov, Robinson Research Institute, Victoria University of Wellington	<b>The Future of Vibration Analysis</b> Henrico Van Niekerk, Meridian Energy
12.00pm	<b>An evaluation of electrolytic hydrogen as an aviation fuel for New Zealand</b> Ian Mason, University of Canterbury	<b>Voltage Regulating Distribution Transformer (VRDT) - Experiences from use in Grid Planning and Operation in Germany</b> Thomas Smolka, Reinhausen Australia Pty Ltd	<b>Purchasing and Operating Modern Francis Turbines</b> Tony Mulholland, Andritz Hydro	<b>Beyond Line of Sight UAVs for Vegetation Inspection Trial</b> Simon Murrow, Transpower NZ Ltd
12.30pm	<b>LUNCH</b>			
	<b>PANEL SESSION (ROOMS 2 TO 4)</b>			
2pm	<p><b>"We never could have seen that coming!" Exponential Changes &amp; the Electricity Industry</b></p> <p>Peter Armstrong, Mitton Electronet - Panel Convenor Graham Ault, IET, UK Dr Edvina Uzunovic, IEEE (PES), US Dr Zia Emin, CIGRE, UK Andrew Renton, Transpower Greg Skelton, Wellington Electricity</p>			
3:30pm	<b>BEST PAPER AWARD - HELD IN ROOMS 2 TO 4</b>			
4pm	<b>CLOSE OF CONFERENCE - HELD IN ROOMS 2 TO 4</b>			