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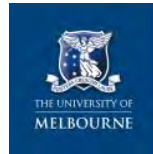
GRATTAN
Institute



European Union Centre on
Shared Complex Challenges



GLOBAL ENVIRONMENT AND ENERGY 21



AUSTRALIAN-GERMAN
CLIMATE &
ENERGY COLLEGE



Forum:

Australia's Electricity System Transition to 2030

27 – 28 September 2016
Melbourne Business School
University of Melbourne

In the wake of the Paris COP21 and the outcomes of the Federal election, Australia's emissions pathway and the policies that will guide the energy sector are gradually becoming clearer.

Current policy settings will see a significant increase in the sourcing and use of renewables, but it is not yet clear what the emerging policies will be to drive the required rapid decline in carbon emissions to meet the Paris COP commitments. To add to this complexity, State governments are also developing climate and energy policy frameworks.

In the short term, new generation capacity will likely be wind and solar PV technologies. As the penetration of renewables increases and more existing fossil generation exits the market, increased market volatility will occur. As a result, it is likely the role for storage and dispatchable renewables will become more important.

Transition of the energy system will have implications for energy pricing, transmission and distribution systems as well as for those communities whose local economies have relied on fossil fuel generators. These new dynamics will profoundly change interactions with consumers and require the adaptation of novel and innovative business models impacting both energy producers and consumers.

Bringing together experts from sectors across business, government, academia, civil society, including from the European Union, this 2-day symposium provides an opportunity for policymakers and researchers to share new insights and to identify knowledge gaps required to inform policy design and development.

Day One – Tuesday, 27 September

Program - 9:00am – 4:30pm

8:30	<i>Registration tea and coffee</i>	Venue: LT1, Melbourne Business School
9:00	Welcome and Symposium Objectives	Symposium Chair: Tony Wood Program Director, Energy Grattan Institute
9:10	Keynote: <i>Australia's climate & energy policy post-Paris & Federal Election: what are the policy settings; what will they achieve?</i>	Prof Ross Garnaut Professorial Fellow, Melbourne Institute
9:30	Keynote: <i>The European Context: What lessons can be learned and what is the path forward following Paris COP21?</i>	<i>Speaker TBC</i>
9:50	Keynote: <i>Challenges facing the electricity industry in the transition to a low carbon future - policy implications</i>	Mark Feather Executive Director Energy Policy Victorian Department of the Environment, Land, Water and Planning
10:10	Discussion	
10:30	<i>Morning Tea</i>	
11:00	Panel Session 1: Managing the electricity energy market under a new paradigm. <i>In the near term, the less expensive renewables will likely dominate new capacity. The increase in volatility driven by the variable nature of wind and solar PV will create challenges and opportunities for the market operator, incumbents and new entrants.</i> <i>Will the energy-only market provide the economic signals required to promote investment confidence? Is it time to consider a capacity market?</i>	Dr Roger Dargaville Deputy Director Melbourne Energy Institute Prof Michael Brear Director Melbourne Energy Institute Mark Stedwell Manager - Systems Capability AEMO Fiona Orton Manager - Energy Policy and Research AGL Energy
12:30	<i>Lunch</i>	

1:30	<p>Panel Session 2: Implications and impacts of the transition to a low carbon energy system – on energy prices, social equity and the economy.</p> <p><i>A shift to more renewables and a mechanism to promote retirement of carbon intensive generation will likely lead to some increases in energy prices.</i></p> <p><i>How might higher costs for essential services cause discriminatory effects?</i></p> <p><i>On the other hand, building more infrastructure may create opportunities for employment and stimulate the economy.</i></p> <p><i>Will the government have the social license to push through the reforms or will the negative aspects make this too challenging?</i></p>	<p>Andrew Stock Councillor Climate Council</p> <p>Gavin Dufty Manager, Social Policy Unit (Vic) St Vincent de Paul</p> <p>Prof Sara Bice Director, Research Translation and Research Fellow Melbourne School of Government</p>
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3:00	<i>Afternoon tea</i>	
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3:30	<p>Panel Session 3: Disruptive business models/demand-side management/virtual power stations.</p> <p><i>The shift towards a low carbon economy will see dramatic changes as incumbents either exit the market or revolutionise their business models as they compete with novel and innovative approaches.</i></p> <p><i>What are the emerging approaches to facilitating greater community participation in the energy market?</i></p>	<p>Dr Leslie Martin Centre for Market Design University of Melbourne</p> <p>Ed McManus CEO Powershop</p> <p>Martin Hablutzel Head of Strategy SIEMENS</p> <p>Adam Zaborszczyk Melbourne Energy Renewable Project Melbourne City Council</p>
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4:45 – 6:00	<i>Reception for Forum participants</i>	Dr Graeme Pearman GEE 21
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Day Two – Wednesday, 28 September

Program - 9:00am – 2:30pm

8:30	<i>Welcome tea and coffee</i>	
9:00	Panel Session 4 Emerging technical innovations: what are the technologies that are not yet viable, but may have a significant effect? <i>As the demand for low carbon electricity generation increases, technologies that previously have not been viable in competition with fossil fuels will begin to gain some advantage.</i> <i>What technologies that have the potential to have a significant effect? What are the mechanisms that help these technologies become commercial?</i>	Dr. Tom Campey LETR Project Lead CSIRO Futures Alex Zapantis Global Carbon Capture and Storage Institute Dr. Keith Lovegrove Head, Solar Thermal ITP Renewables
10:30	<i>Morning tea</i>	
11:00	Panel Session 5: What are the policy options: for carbon pricing, regulatory levers, state-based options, reverse auctions? <i>Policy makers have a large number of options for providing incentives or penalties to reduce the emission intensity of the electricity sector.</i> <i>These policies include (but are not limited to); carbon pricing, regulatory levers and reverse auctions.</i> <i>These policies can be implemented at both a national and state level.</i> <i>What are the challenges facing policy makers in finding the best course of action?</i>	Prof Michael Brear Director Melbourne Energy Institute Shayleen Thompson CEO Climate Change Authority Chloe Munro Chair Clean Energy Regulator
12:30	Conference Summing Up	Tony Wood Program Director, Energy Grattan Institute
1.00	<i>Close and Light Lunch</i>	

Speaker Profiles



Dr Sara Bice, Director – Research Translation, Melbourne School of Government

With a decade of experience assisting private firms, non-profit organisations and agencies to plan and advance their sustainable development agendas, Sara's research explores social responsibility and sustainability in light of community, corporate and government interactions, with a strong focus on mining and extractives industries. Sara is committed to creating shared value for communities and companies through evidence-based decision-making, risk management and strong engagement.



Prof Michael Brear, Director, Melbourne Energy Institute

Prof. Michael Brear works in transport and energy systems, with a particular focus on low emission technologies and energy efficiency. Much of Michael's work is collaborative, involving work with industry and government as well as with specialists from other disciplines. Michael runs the University's contribution to ACART and works with the Ford Motor Company, the Australian Energy Market Operator (AEMO) and Princeton University, amongst others. He is also the originator and Coordinator of the University's Master of Energy Systems, which is a multi-disciplinary degree that examines the technology and business of energy.



Dr Tom Campey, LETR Project Lead, CSIRO Futures

Tom is currently leading the Low Emissions Technology Roadmap for the Australian Government, identifying technologies in the energy sector that will allow Australia to meet its carbon emission reduction commitments, and identifying the commercial opportunities for Australian industry presented by these technologies. Tom has a Bachelor of Engineering (Mechanical and Space), a Bachelor of Science (Physics) and a PhD (Physics) from the University of Queensland.



Dr Roger Dargaville, Deputy Director, Melbourne Energy Institute

Dr. Roger Dargaville works in the fields of climate change, carbon cycle and energy. One of his current research themes is modelling of energy systems, looking particularly at optimisation of renewable energy systems under Australian conditions. This work will help find ways to achieve the maximum reduction in carbon emissions at the lowest cost, and will reduce uncertainty in renewable energy output estimations. Roger has a background in atmospheric science and currently studies the impacts of changes in stratospheric chemistry on the climate of the Southern Hemisphere, especially the Antarctic Ozone Hole. Roger is the lead of the MEI Energy Futures Group, a group of active researchers with interests in energy technologies and the economic and legal aspects of the energy system.



Gavin Dufty, Manager – Social Policy Unit (Vic), St Vincent de Paul

Gavin Dufty currently works for the St Vincent de Paul Society, as Manager of the Policy and Research unit. Gavin writes regular publications on the changing nature of the energy market with a particular focus on its development and impacts on domestic energy consumption. Gavin is also a member of a number of Distribution and Transmission companies customer councils, AEMO's market leaders forum AEMC's east coast gas review and reliability panel and the AER's Customer Consultative group.



Mark Feather, Executive Director – Energy Policy, Department of the Environment, Land, Water and Planning

Mark is Executive Director of the Energy Policy and Programs Branch of the Victorian Government's Department of Environment, Land, Water and Planning (DELWP). This branch provides policy advice and support to the Minister for Energy, Environment and Climate Change on the governance and regulation of the electricity and gas sector. Prior to working at DELWP, Mark was the Director of the Australian Energy Market Commissions' wholesale, environment and transmission division.



Prof Ross Garnaut, Professorial Fellow, Melbourne Institute

Prof Ross Garnaut is a Vice Chancellor's Fellow and Professorial Fellow of Economics at the University of Melbourne. Prof Garnaut's career focus is on analysis of and practice of policy connected to development, economic policy and international relations in Australia, Asia and the Pacific. Previously serving as Senior Economic Advisor to Prime Minister Bob Hawke (1983 – 1985) and Australia's Ambassador to China (1985 – 1988), he led the Garnaut Climate Change Review, which examined the impacts of climate change on the Australian economy and made recommendations for long term policies and policy frameworks to improve sustainable prosperity.



Martin Hablutzel, Head of Strategy, Siemens

Martin Hablutzel is the head of strategy for Siemens Ltd working across all Siemens divisions along the electrification value chain that extends from generation, transmission, distribution and smart grid to the efficient application of electrical energy through automation and digitisation. Martin began his career at the (then) Hydro Electric Commission in Tasmania, joining Siemens in 1997 as the protection and control engineer. Subsequent roles in project engineering, project management, asset management, sales, marketing and executive management have given Martin broad exposure in diverse industries including utilities, resources, infrastructure, transportation and manufacturing.



Dr Keith Lovegrove, Head – Solar Thermal, ITP Renewables

Keith is a leading expert in concentrating solar power (CSP) and has more than 20 years' experience in leading solar thermal research, including 15 years at ANU as leader of the Solar Thermal Group. A major achievement was leading the design and construction of the largest concentrating solar dish in the world (500m²) in 2010. Keith has won a number of prestigious research awards, was a Member of the Australian Prime Minister's Science, Engineering and Innovation Council working group on Energy Water Carbon intersections, has advised the Australian Office of Chief Scientist on Solar Thermal Power and edited the 2012 book, Concentrating Solar Power Technology – Principles, Developments and Applications.



Dr Leslie Martin, Centre for Market Design, University of Melbourne

Leslie Martin is Assistant Professor in the Department of Economics at the University of Melbourne. Her primary fields are environmental economics and energy economics. Her research currently focuses on consumer responses to the availability of smart meter data in markets with retail competition, and interactions between regulation, firms, and environmental outcomes in industrialising countries. She spent several years as a research scholar at the International Institute for Applied Systems Analysis, studying the impact of climate change related disasters on developing countries, and as a consultant for the World Bank in Bolivia working on productivity and competitiveness, pension reform, and hydrocarbon taxes.



Ed McManus, CEO, Powershop

Ed became the Chief Executive Officer of Powershop Australia and Meridian Energy Australia in January 2016. Beginning his career as a medical research scientist, Ed then spent several years working for one of the world's largest pharmaceutical companies, GlaxcoSmithKline. This was followed by a move into the media industry, working for realestate.com.au in roles across sales and marketing, operations and pricing strategy. Born in Dublin, Ireland, Ed now calls Australia home and lives in Melbourne.



Chloe Munro, Chair, Clean Energy Regulator

Chloe Munro has had a distinguished career leading business and government organisations, with particular expertise in infrastructure and natural resources. Prior to her appointment as Chair of the Clean Energy Regulator, Ms Munro was Chair of the National Water Commission, Chairman of AquaSure and a director of Hydro Tasmania. Previous roles included senior executive positions at Telstra and in the Victorian public sector. Ms Munro graduated in mathematics and philosophy from Cambridge University and holds an MBA from the University of Westminster. She is a Fellow of the Academy of Technological Sciences and Engineering and of the Institute of Public Administration Australia.



Fiona Orton, Manager – Energy Policy and Research, AGL Energy

Fiona is the Manager Energy Policy and Research at AGL Energy, one of Australia's largest integrated energy utilities. She is responsible for energy policy development, energy market analysis and economic research. Previously, Fiona has managed AGL's compliance with a range of mandatory and voluntary greenhouse gas programs, and prior to joining AGL she was a climate change and sustainability consultant. She has authored many policy related papers that have been influential in the development of Australian energy and greenhouse policy.



Graeme Pearman, GEEs 21

Graeme Pearman was trained as a biologist at the University of Western Australia and joined CSIRO in 1971 where he was Chief of Atmospheric Research, 1992 – 2002. He contributed over 150 scientific journal papers primarily on aspects of the global carbon budget. In 2004 he left CSIRO to run his own company, consulting for both private and public sectors. He is an Adjunct Senior Research Fellow at Monash University.



Andrew Stock, Councillor, Climate Council

Andrew Stock brings over 40 years experience in senior management and executive roles in energy businesses, spanning traditional energy suppliers and emerging energy technologies and renewables. He is a present and past Director of numerous energy companies, a Board Member of the Clean Energy Finance Corporation, and Chair of resources and energy Institute Advisory Boards and the University of Adelaide and University of Melbourne. He was the founding National President of the Australian Business Council for Sustainable Energy (now Clean Energy Council) and has served on CSIRO's Energy and Transport Sector Advisory Committee as well as other research and energy advisory committees to the South Australian Government.



Shayleen Thompson, CEO, Climate Change Authority

Shayleen Thompson has extensive experience in international and domestic climate change policy with both state and Commonwealth governments. She has served as a lead negotiator on land issues for the Kyoto Protocol and has worked on the National Greenhouse Gas Inventory, the Government's National Greenhouse and Energy Reporting Scheme and the Renewable Energy Target. More recently, Shayleen led work on the Carbon Farming Initiative and the Emissions Reduction Fund before being appointed as the Acting CEO of the Climate Change Authority.



Tony Wood, Program Director – Energy, Grattan Institute

Since midp 2011 leading the Energy Program, Mr. Tony Wood and his team have delivered seven major reports on energy and climate change and developed a strong profile with governments and industry. From 2009 until midp 2014, Mr. Wood had a role as Program Director of Clean Energy Projects at the Clinton Foundation. Previously spent 14 years working at Origin Energy in senior executive roles covering retail and LPG line management and corporate affairs. In 2008, seconded to provide an industry perspective to the first Garnaut Review, and has widespread relationships within the energy sector and is an adviser to government.



Alex Zapantis, General Manager – Asia Pacific, Global Carbon Capture and Storage Institute

Alex joined the Global Carbon Capture and Storage Institute as General Manager – Asia Pacific in 2016. Between 2006 and 2016, Alex held a number of roles in Rio Tinto Energy and Rio Tinto Coal Australia with a focus on energy and climate policy, energy efficiency, greenhouse gas management and product stewardship as applied to coal and uranium. During his time at Rio Tinto, Alex developed and led the implementation of Rio Tinto Energy's Product Stewardship Strategy and served on the boards of the Energy Policy Institute of Australia, Australian Coal Association Low Emissions Technology Ltd, the World Coal Association and the Coal Industry Advisory Board to the International Energy Agency.