Wealth from Waste: Resource Productivity and Innovations

Co-hosted by
The Institute for Sustainable Futures, University of Technology Sydney
Centre for Sustainable Materials Research & Technology (SMaRT@UNSW), UNSW Australia
The World Resources Forum is the global platform for sharing knowledge about the economic, political, social and environmental implications of global resource use. The forum promotes innovation for resource productivity by building bridges between policymakers, researchers, business leaders, entrepreneurs, NGOs and civil society.

www.wrforum.org

The Institute for Sustainable Futures (ISF) was established by the University of Technology Sydney in 1996 to collaborate with industry, government and the community to develop sustainable futures through inter-disciplinary research. Our mission is to create change toward sustainable futures that protect and enhance the environment, human wellbeing and social equity. We partner to create change, build talent for research excellence and deliver strategic insights to inform future policies and practices.


The Centre for Sustainable Materials Research and Technology (SMaRT@UNSW) brings together researchers from the Faculties of Science, Engineering, and Built Environment to work with industry on the development of innovative, sustainable materials and manufacturing processes. The centre has 30 personnel, state-of-art furnaces and laboratories, and sophisticated analytical equipment. SMaRT brings together the distinctive research capabilities of UNSW’s academics, and a track record of delivering research and technology suitable for rapid implementation.

www.smart.unsw.edu.au
Welcome to the World Resources Forum Asia-Pacific, held for the first time in Australia at the Aerial UTS Function Centre (1-2 June) in conjunction with the International Sustainability Symposium (3 June) at the Australian National Maritime Museum.

Addressing the issues of resource productivity and innovation are paramount to the future prosperity of Australia and our Asia-Pacific region. We invite you to use the privilege of us being assembled here together to exchange ideas and catalyse action in our organisations, our networks and areas of influence.

This forum is about connecting people from different backgrounds and disciplines to grow new ideas and new partnerships. In this way we can shape an agenda for positive change through collaboration between industry, government, researchers and the community – including the launch of an action agenda for the circular economy on 2 June.

Timed to coincide with Vivid – Sydney’s exciting festival of lights, music and ideas – you will also experience the visual spectacular of this event during the harbour cruise and conference dinner. Please explore the broader program of ideas at www.vividsydney.com

As co-chairs of the forum we extend to each of you a very warm welcome. We look forward to speaking with you all and hearing your ideas in both keynote sessions and interactive workshops, and more widely across social media.

A/Prof Damien Giurco, Research Director, Institute for Sustainable Futures, University of Technology, Sydney

Prof Veena Sahajwalla, Director, SMaRT@UNSW, UNSW Australia

Bas de Leeuw, Managing Director World Resources Forum
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:15-8:45 am</td>
<td>Registration</td>
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<tr>
<td>8:45-9:15 am</td>
<td>Welcome Remarks</td>
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<tr>
<td>9:15-10:15 am</td>
<td>Keynote Session: The Resource Revolution</td>
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<tr>
<td>10:15-10:45 am</td>
<td>Morning Tea</td>
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<tr>
<td>10:45-12:00 pm</td>
<td>Keynote Session: Opportunities in Australia and the Asia-Pacific</td>
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<tr>
<td>12:00-12:45 pm</td>
<td>Lunch</td>
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<td>2:15-2:45 pm</td>
<td>Afternoon Tea</td>
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**Welcome Remarks**

Co-chairs: A/Prof Damien Giurco, Institute for Sustainable Futures, UTS and Prof. Veena Sahajwalla, Director, SMaRT@UNSW

- Prof Attila Brungs, Vice-Chancellor and President, University of Technology Sydney
- Aunty Joan Tranter, University of Technology Sydney, Elder in Residence, Acknowledgement of Country
- Bas de Leeuw, Managing Director, WRF
- Prof Mary O’Kane, NSW Chief Scientist and Engineer

**Keynote Session: The Resource Revolution**

- Dr Alex Wonhas, Executive Director, Energy and Resources CSIRO
  Working together – A vision for collaborative innovation in the region
- Prof Masamichi Yoshimura, Toyota Technological Institute, Japan
  Fabrication of nanocarbons for future life and green technology

**MORNING TEA**

**Keynote Session: Opportunities in Australia and the Asia-Pacific**

- Janet Salem, UNEP Regional Office for Asia and the Pacific
- Panel Discussion and Overview of Interactive Workshops and Presentations: Chair of Scientific Committee, Dr Heinz Schandl, CSIRO

**LUNCH**

**Wattle Room**

- Dimensions of Resource Productivity
  - Dr Ruth Lane, Monash University
  - Dr Glen Corder, University of Queensland
  - Dr Mathias Schluep, World Resources Forum, Switzerland
  - A/Prof Akbar Rhamdhani, Swinburne University of Technology
  - Dr Mark Jackson, A Prince Consulting
  - Dr Nyoman Puspa, WR Supratman University, Indonesia

**Thomas Room**

- Industrial Symbiosis in the Asia-Pacific
  Workshop in partnership with CSIRO and the Australasian Industry Ecology Network
  - Chair: Sarah King, CSIRO
  - Robin Branson, Quubator
  - Colin Barker, Australasian Industry Ecology Network
  - Dick van Beers, Sustainability Engineer

**Broadway Room**

- Zero Waste and Community Benefits
  Workshop in partnership with Zero Waste International Alliance
  - Chair: Gerry Gillespie, Resource Recovery Australia
  - Rick Anthony, Zero Waste International Alliance, USA
  - Colleen Foster, City of Oceanside, California
  - Dale Selvam, Alguita

**Jones Room**

- Business Models for a Circular World
  Workshop in partnership with UTS Business School
  - Chair: Melissa Edwards, UTS Business School
  - James Moody, Sendle
  - Jason Graham-Nye, g-Diapers
  - Monique Retamal, Australian National University
  - Samantha Sharpe, ISF, UTS
  - Candice Quartermain, Circular Economy Australia

**Afternoon Tea**

**Transition Pathways (I)**

- Dr Longlong Tang, NIES Japan
- A/Prof Kazuyo Matsubae, Tohoku University, Japan
- Dr Thon Weinbruch, Ruhr-University Bochum, Germany
- Dr Xuan Zhu, Monash University
- Tim Werner, Monash University
- Simon Wright, Institute for Sustainable Futures, University of Technology Sydney

**What Does the Goal of ‘Regenerative’ Development Mean for Building Materials?**

- Workshop in partnership with ISF
  - Chairs: Caitlin McGee and Kerryn Wilmot, ISF
  - Andy Marlow, Envirotec
  - Steve Morris, Close the Loop
  - David Bagg, Global Green Tag
  - Redmond Lloyd, Boral Concrete
  - Scott Clarkson, CSR Innovation

**Resourcing Future Generations: What Will Surprise Us?**

- Workshop in partnership with CSIRO
  - Anna Littleboy, CSIRO
  - Saleem Ali, University of Queensland
  - Ben McLellan, Kyoto University
  - John Finnigan, CSIRO
  - Stephen Hatfield-Dodds, CSIRO

**Is Australia Ready for the Circular Economy?**

- Workshop in partnership with Sustainable Business Australia
  - Ralph Jorissen, Tarkett Australasia
  - Kari Herlevi, SITRA Finnish Innovation Fund
  - Rhys Huett, Fuji Xerox
  - Rob Pascoe, Closed Loop
  - David Singh, ReGroup
  - Alice Cahill, NSW OEH
  - Suzanne Benn, UTS Business School

**Walk to Convention Jetty, Darling Harbour**

**Forum Dinner at Luna Park**

**FORUM DINNER AT LUNA PARK, SPEAKER: DR JAMES MOODY, FOUNDER AND CEO OF SENDLE AND TUSHARE**

- 4:15 pm
- 5:00 pm
- 6:30 pm
# Transition Pathways @ Aerial UTS Function Centre

**DAY 2**

**Tuesday 2 June 2015**

**Transition Pathways @ Aerial UTS Function Centre**

## Keynote Session: Transition Pathways

- Reinhard Kaiser, German Federal Ministry for the Environment
- Christine Gibbs Stewart, CEO, Austmine
- Prof Markus Reuter, Chief Technologist, Outotec
- Pauline Gregg, General Manager, Environment, Telstra
- A/Prof Damien Giurco, Research Director, Institute for Sustainable Futures, UTS – Launch of an Action Agenda for the Circular Economy

**Panel Discussion:** including presenters and Stan Krpan, CEO Sustainability Victoria and Geoff Brooks, Pro-Vice Chancellor (Future Manufacturing), Swinburne University of Technology

### MORNING TEA

**10:30-11:00 am**

<table>
<thead>
<tr>
<th>Wattle Room</th>
<th>Thomas Room</th>
<th>Broadway Room</th>
<th>Jones Room</th>
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<tbody>
<tr>
<td><strong>Transition Pathways (II)</strong></td>
<td><strong>Investment Decision Making for an Energy Productive Australia</strong></td>
<td><strong>De-Growth</strong></td>
<td><strong>Wealth from Waste: Unlocking the Value of Urban Ores</strong></td>
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<tr>
<td>- Prof Yasushi Kondo, Waseda University, Japan</td>
<td>Workshop in partnership with the Australian Alliance to Save Energy</td>
<td>Workshop in partnership with Centre for the Advancement of the Steady State Economy</td>
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<tr>
<td>- A/Prof Eiji Yamase, Kyoto University, Japan</td>
<td>Chair: Tony Westmore, A2SE</td>
<td>- Anna Schunke, CASSE</td>
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<td>- Dr Keisuke Nansai, NIES, Japan</td>
<td>Graham Bryant, Simplot</td>
<td>Robert Perey, UTS Business</td>
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<td>- Dr Kenichi Nakajima, NIES, Japan</td>
<td>Mary Stewart, Energetics</td>
<td>Haydn Washington, Institute for Environmental Studies UNSW</td>
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<td>- A/Prof Ben McLellan, Kyoto University, Japan</td>
<td>Mike Smith, Australian National University</td>
<td>Dick van Beers, Sustainability Engineer</td>
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<td>- Rick Anthony, Zero Waste International Alliance, USA</td>
<td>Dick van Beers, Sustainability Engineer</td>
<td>- Dr Zhongguang Ji, Swinburne University of Technology</td>
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### LUNCH

**12:30-1:30 pm**

<table>
<thead>
<tr>
<th>Lunch</th>
<th><strong>Future Metals</strong></th>
<th><strong>Transition Pathways for Carbon-Based Energy and Materials</strong></th>
<th><strong>The Case for Material Efficiency</strong></th>
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<tbody>
<tr>
<td>- Dr Zhongguang Ji, Chinese Academy of Sciences, China</td>
<td>Workshop in partnership with WWF</td>
<td>Workshop in partnership with The University of Sydney</td>
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<td>- Eleonore Lebre, University of Queensland</td>
<td>Toby Gray, WWF</td>
<td>Chairs: Nick Florin, Institute for Sustainable Futures and Ali Abbas, University of Sydney</td>
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<td>- Sazzad Ahmad, Swinburne University of Technology</td>
<td>Ross Davies, Steel Stewardship Forum &amp; Bluescope Steel</td>
<td>James Goodman, UTS</td>
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<td>- Muhamad Firdaus, Swinburne University of Technology</td>
<td>Fiona Solomon, Aluminium Stewardship Initiative</td>
<td>Geoff Bell, Microbiogen</td>
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<td>- Hossaini Shuva, Swinburne University of Technology</td>
<td>Mark Cooksey, CSIRO</td>
<td>Mark Glover, Eco Waste and Renewed Carbon</td>
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<tr>
<td>- Amy Quinton, University of Queensland</td>
<td>Mark Cooksey, CSIRO</td>
<td>Andrew Lawson, MBD Energy</td>
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### AFTERNOON TEA

**3:00-3:30 pm**

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<tr>
<th><strong>High Impact Ideas by Students</strong></th>
<th><strong>Resource Governance, Geopolitics &amp; Social Responsibility: The Case of Phosphorus</strong></th>
<th><strong>New Business Models in Waste with the Rise of Social Enterprise</strong></th>
<th><strong>Circular Thinking</strong></th>
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<tr>
<td>Come along to hear rapid-fire insights from the latest thinking on resource innovation by tomorrow’s research leaders</td>
<td>Workshop in partnership with ISF</td>
<td>Workshop in partnership with Resource Recovery Australia</td>
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<tr>
<td>Organised by Simon Wright, Institute for Sustainable Futures, University of Technology Sydney</td>
<td>Chair: Stuart White, ISF</td>
<td>Chair: John Weate, Resource Recovery Australia</td>
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<td>Richard Boele, Banarra and UN Global Compact Network Australia</td>
<td>Jess Moore, Green Connect</td>
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<td>Jemima Garrett, ABC Radio</td>
<td>Bill Dibley, Soft Landing</td>
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<td>Dana Cordell, ISF and Global Phosphorus Research Initiative</td>
<td>Ruth Lane, Monash University</td>
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<td>Chair: Yolanda Sztarr, Sustainability Victoria</td>
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<td>Rod Clare, NSW Office of Environment and Heritage</td>
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<td>Gary Foster, Edge Environment</td>
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### Presentation of Art Prize and PhD Awards

**In Harris Room**

**Networking Drinks at Penny Lane, UTS** (Enter via laneway with green wall between building 10 and 11)

**5:00 pm**

**5:10 pm**
Radical innovation through collaboration @ Australian National Maritime Museum

Registration
8:30-8:55 am

INTERNATIONAL SUSTAINABILITY SYMPOSIUM KEYNOTES
8:55-10:20 am
Session chairs: Angelos Frangopoulous, CEO Sky News, Stephen Beaman, Director Resource Recovery Branch, NSW EPA and Prof Veena Sahajwalla Director SMaRT@UNSW

• Dr Fiona Cameron, Executive Director, Australian Research Council
  University/industry collaboration
• John Barbagallo, CEO of Mining Consumables, Arrium
  Green Steel and the journey with UNSW over the past 10 years
• Steve Mouzakis, National Energy & Sustainability Manager, Brickworks
  Benefits reuse recycle materials within building products

MORNING TEA
10:20-11:00 am

GREEN MANUFACTURING
11:00-1:15 pm
Session chairs: Steve Mouzakis, Brickworks and John Barbagallo, Arrium
Keynote speaker: Johan Eriksson Swerea Mefos AB, Sweden
• Dr James Tickner, CSIRO, Australia
• Paul O’Kane, OneSteel, Australia
• Dr Ivan Cole, CSIRO, Australia
• Dr S.C. Roy, Indian Institute of Technology Madras, India
• Dr Aditya Rawal, UNSW Mark Wainwright Analytical Centre
Questions & discussion

LUNCH
1:15-2:15 pm

TECHNOLOGY AND INNOVATION
2:15-4:30 pm
Session chairs: Prof Paul Munroe, Head, School of MSE, UNSW Australia and Daniel Miles, OneSteel
• Dr Yuta Nishina, Okayama University, Japan
• Dr Gemma Rius, Nagoya Institute of Technology, Japan
• Prof K.P. Singh, GB Pant University, India
• Dr Hewitt Park, South Korea
• Dr Rian Dippenaar, University of Wollongong, Australia
• Russ Martin, Global Product Stewardship Council
Questions & discussion

AFTERNOON TEA
4:30-5:00 pm

BUILDING MOMENTUM THROUGH COLLABORATION: WHERE TO FROM HERE?
5:00-5:30 pm
Session chairs: Professor Veena Sahajwalla and Associate Professor Damien Giurco
Panel discussion
• Mathias Schluep, World Resources Forum; Anna Littleboy, CSIRO; Grant Musgrove ACOR; Tristram Travers, AusIndustry;
  Stephen Beaman, NSW EPA and Daniel Miles, OneSteel

CONFERENCE CLOSE AND NETWORKING AT AUSTRALIAN NATIONAL MARITIME MUSEUM
5:30 pm
Aerial Function Centre, UTS
Level 7, Building 10, 235 Jones Street, Ultimo

Aerial Function Centre is located on the edge of the Sydney CBD within the University of Technology, Sydney. Aerial is located a 5 minute walk from Central Railway Station, and 15 minutes to Sydney CBD. Public buses run regularly to the Sydney CBD from Broadway.

On arrival, enter at 235 Jones St Ultimo Foyer, take the lift to level 7 and proceed to the Function Centre.

Free wifi is available at the conference venue:
Network: UTS Function Centre
Username: aerial / Password: midmay15

Australian National Maritime Museum
2 Murray Street, Sydney

The Australian National Maritime Museum is Australia’s national centre for maritime collections, exhibitions, research and archaeology. Located on Darling Harbour, the Australian National Maritime Museum is walking distance from Sydney’s CBD and UTS. It is easily accessible by car, bike, ferry, bus or train. The museum is a 15 minute walk from Town Hall Station over the Pyrmont Bridge or a 20 minute walk through China Town and Darling Harbour from Central Station.
KEYNOTE SPEAKERS

DR ALEX WONHAS  Executive Director Energy and Resources, CSIRO
Dr Alex Wonhas is the Executive Director Energy & Resources at CSIRO, Australia’s national science agency. As Executive Director he has responsibility for approximately 620 researchers who aim to provide science and technology solutions for the energy and mineral resources industry. In addition to his strong R&D background, Dr Wonhas also possesses a deep understanding of the private sector. In his former position as a consultant at McKinsey & Company, Dr Wonhas spent several years advising national and international energy and resources companies on questions of strategy and operations.

PROF MASAMICHI YOSHIMURA  Toyota Technological Institute, Japan
Prof Masamichi Yoshimura is the group leader of the Surface Science laboratory at Toyota Technological Institute Nagoya Japan and a fellow of the Surface Science Society of Japan. He is well-known for his pioneering research in the field of scanning probe microscopy and nanocarbon materials. He has published over 200 papers in the international journals and delivered numerous invited and keynote lectures. He has BS, MS, and PhD in applied physics, all from the University of Tokyo Japan. He was visiting scientist at Lawrence Berkeley National Laboratory USA for one year and Associate Professor at Hiroshima University prior to joining Toyota Institute Nagoya. He was the president of surface science society and on the editorial board for several journals.

JANET SALEM  UNEP Regional Office for Asia and the Pacific
Janet Salem has been working on sustainable resource management with the United Nations Environment Programme for the past eight years. She currently coordinates policy support on resource efficiency and sustainable consumption and production in the Asia Pacific region. Previously she worked with UNEP’s International Resource Panel, a global science policy interface on resource issues. Before joining UNEP, Janet worked with the United Nations Industrial Development Organisation on development and implementation in renewable energy and energy efficiency in the industrial sector and global forum activities. Prior to working with the United Nations, Janet worked in consulting in the area of Life Cycle Assessment and Material Flow Accounting.
JAMES MOODY  CEO Sendle and TuShare
James Chin Moody is the Founder and CEO of Sendle, Australia’s first carbon-neutral parcel delivery service. He is the co-author of The Sixth Wave: How to Succeed in a Resource-Limited World and CEO of TuShare, Australia’s fastest-growing giving community. Previously James has held roles as Executive Director, Development at the CSIRO, Australian National Commissioner for UNESCO, member of the Australian Bureau of Meteorology Advisory Board and Trustee for the Australian Museum. He sits on the Australian Bureau of Statistics Advisory Council and is a member of the World Economic Forum’s Global Agenda Council on the Future of Software and Society. From 2004-11 he was a panellist on the ABC TV television program The New Inventors. James has a PhD in innovation theory from the Australian National University and was Chief Systems Engineer for the Australian Satellite FedSat, the first Australian satellite to be launched in 30 years.

REINHARD KAISER  Deputy Director-General, Ecological Resource Efficiency, Soil Conservation, German Federal Ministry for the Environment
Reinhard Kaiser has worked at the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety for over 15 years. Since 2010 he has been the Deputy Director-General of Ecological Resource Efficiency and Soil Conservation. Previously he had various responsibilities including parliamentary and cabinet affairs, political planning and coordination, climate protection and ecological aspects of energy policy, environment and transport policy and renewable energy. He has university degrees in mathematics and history.

CHRISTINE GIBBS STEWART  CEO, Austmine Limited
Chris is the CEO of Austmine, the peak industry association representing the Australian mining equipment, technology and services (METS) sector. She has over 25 years of experience in international business, industry development and general management. Chris has worked across a number of different industries including mining, food and beverage, HVAC, IT, design, construction, aviation and automotive. Clients have included leading small, medium and large Australian companies, State and Commonwealth Government Departments and foreign governments departments including in China, Thailand, Brazil, China, Chile and the USA. Chris has a BA in Political Science from the University of Michigan, USA, and an MBA in International Management from the University of Technology, Sydney.
KEYNOTE SPEAKERS

PROF MARKUS REUTER  Chief Technologist, Outotec
Prof Dr Markus A Reuter is the Director of Technology Management at Outotec Finland, named the 3rd most sustainable corporation in 2014. Prof Dr Reuter has over 400 publications in books, encyclopedias, journals and conference proceedings and is a main author of the book “Metrics of Material and Metal Ecology” (Elsevier). He is the lead author of the report “Metal Recycling: Opportunities, Limits, Infrastructure” for the UNEP International Resources Panel, which has been downloaded 50,000 times.

PAULINE GREGG,  General Manager. Environment, Telstra
Pauline Gregg is a senior corporate sustainability practitioner with over 20 years experience in sustainability in both the public and private sectors. She has been the architect of sustainability programs in ASX corporations, with a focus on driving corporate environmental strategies, and sustainability reporting. As General Manager, Environment at Telstra, she has led the development and implementation of Telstra’s first comprehensive enterprise Environment Strategy. Prior to joining Telstra, Pauline held a number of senior sustainability positions in the finance sector, including the Westpac Group and Insurance Australia Group. She is also a Board Member of the Environment Institute at the University of Adelaide.

DR FIONA CAMERON  Executive Director, Australian Research Council
Dr Fiona Cameron joined the ARC in July 2012 as Executive Director for Biological Sciences and Biotechnology. Prior to this, Dr Cameron led the Innovation & Consulting Unit at the University of Western Sydney (UWS) as the Associate Director. In this role, she worked closely with the University Executive, academics, active researchers and the University Research Office at UWS to identify opportunities to protect, develop and commercialise Intellectual Property and to build relationships with Industry and Government. Between 1986 and 2007 Dr Cameron worked at the CSIRO, where she was appointed a Principal Research Scientist of its Division of Molecular Science, and a member of the executive team of the CSIRO National Research Food Futures Flagship. Dr Cameron was also a key developer of the CSIRO Nanotechnology Centre. Active in gene control research, Dr Cameron’s work at CSIRO included the development of molecules for better gene delivery into cells and gene therapy.
STEVEN MOUZAKIS  National Energy, Environment & Sustainability Manager, Brickworks

Steven has been involved in various aspects of the energy industry over the last 15 years. This includes energy and greenhouse gas abatement, implementing strategies associated with a price on carbon and commercials roles with two of Australia’s largest energy retailers. Prior to this Steven held line management roles within the Manufacturing Industry. He is a Mechanical Engineer with a Master Degree in Business and Technology.

JOHN BARBAGALLO  CEO, Mining Consumables, Arrium

John is a chemical engineer with an MBA from the University of Queensland. He commenced his career with MIM Holdings researching the extraction of antimony through leaching and solvent extraction technologies. John progressed his career through a variety of management roles across the aluminium, coal and steel sectors having spent time with Xstrata (Glencore), Rio Tinto and most recently Arrium. John has worked in the UK, New Zealand and across Australia. His current role as Chief Executive – Mining Consumables encompasses business operations across North America, South America and the Asia Pacific in the supply of market leading products into the global mining sector. John’s focus is extracting the full capability of his organisation to maximise business outcomes whilst creating long-term sustainability.

JOHAN ERIKSSON  Swerea Mefos AB, Sweden

Mr Johan Eriksson is Research Manager for Process metallurgy department at Swerea MEFOS, Luleå, Sweden. He coordinates the collaborative Swerea project on Industrial Recycling. He is member of working group Planet within European Steel platform (ESTEP) and the technical area “Steel production residues” within Swedish Steel producers Association, Jernkontoret. Johan previously worked at the Minerals and Metals Recycling Centre (MIMER) at Luleå University of Technology with recycling management for the Swedish iron- and steelmakers. He has also six years industrial experience at SSAB a Swedish steel producer.
DIMENSIONS OF RESOURCE PRODUCTIVITY
Mon 1st June, 12:45–2:15pm
Dr Ruth Lane, Monash University
Barriers and incentives for organisations collecting and processing used electronics in Australia

Dr Glen Corder, University of Queensland
Developing a Typology to Identify Recycling Potential of Metal Products

Dr Mathias Schluep, World Resources Forum, Switzerland
Roundtable on Sustainable Recycling Industries: Guidance Principles on the sustainable management of secondary metals

A/Prof Akbar Rhamdhani, Swinburne University of Technology
Industrial Processing of Electronic Waste – Insight on Technical Challenges

Dr Mark Jackson, A.Prince Consulting
What are businesses throwing away in NSW – overview of the largest audit of business waste in Australia

Dr Nyoman Puspa, WR Supratman University, Indonesia
Utilization of waste cooking oil for biodiesel production using alumina supported base catalyst

TRANSITION PATHWAYS (I)
Mon 1st June, 2:45–4:15pm
Dr Longlong Tang, NIES Japan
Estimating land transformation area related to global metal mining

A/Prof Kazuyo Matsubae, Tohoku University, Japan
The evaluation of supply chain risks from the perspective of resource logistics: A case study focusing on Phosphorus

Dr Thon Weinbruch, Ruhr-University Bochum, Germany
Learning Factory for holistic resource-efficiency as an innovative concept to raise the awareness for efficient resource usage

Dr Xuan Zhu, Monash University
Spatially enabling aboveground resource analysis to support better decision making

Tim Werner, Monash University
Mineral resources of indium and long term supply from wastes

Simon Wright, Institute for Sustainable Futures, UTS
Integrating insights from the fields of networks and innovation – the case of industrial ecology

TRANSITION PATHWAYS (II)
Tue 2nd June, 11:00am–12:30pm
Prof Yasushi Kondo, Waseda University, Japan
Simultaneous material and substance flow analysis: An extension of WIO-MFA

A/Prof Eiji Yamasue, Kyoto University Japan
Priority analysis between resource and impact decoupling in terms of total material requirement and CO2 emissions

Dr Keisuke Nansai, NIES, Japan
Dynamic changes in the global flows of critical metals

Dr Kenichi Nakajima, NIES Japan
Local consumption of nickel accelerates global land use change

A/Prof Ben McLellan, Kyoto University, Japan
Critical minerals and energy impacts and limitations of moving to unconventional resources

Rick Anthony, Zero Waste International Alliance, USA
Zero Waste approach to managing world resources
### RADICAL INNOVATIONS

**Tue 2nd June, 1:30pm–3:00pm**

Dr Zhongguang Ji,  
*Chinese Academy of Sciences, China*  
Treatment of heavy-metal wastewater by ultrafiltration and membrane distillation

Eleonore Lebre,  
*University of Queensland*  
Mine waste or potential future resource: integrating Industrial Ecology thinking into a mine project

Sazzad Ahmad,  
*Swinburne University of Technology*  
Challenges on the Processing of Low Grade and Weathered Minerals as Alternative Resources

Muhamad Firdaus,  
*Swinburne University of Technology*  
Review of High Temperature Recovery of Nd/Dy from Magnet Waste

Hossaini Shuva,  
*Swinburne University of Technology*  
Partitioning of germanium during secondary copper smelting process: A preliminary study

Amy Quinton,  
*University of Queensland*  
System analysis and simulation modelling for Australia’s low carbon energy transition

### GREEN MANUFACTURING

**Wed 3rd June, 11:00am–1:15pm**

Prof Johan Eriksson,  
*Swerea Mefos AB, Sweden*  
Industrial Metal Recycling – Swedish Perspective

Dr James Tickner,  
*CSIRO, Australia*  
Putting a value on waste – a mining approach

Paul O’Kane,  
*OneSteel Australia*  
Sustainable EAF steelmaking through the use of polymer technology

Dr Ivan Cole,  
*CSIRO, Australia*  
Detoxification of metallic coatings and new metal fabrication processes

Dr S. C Roy,  
*Indian Institute of Technology Madras, India*  
Recycling carbon dioxide through photo-catalysis: a small step but giant leap towards sustainability

Dr Aditya Rawal,  
*UNSW Mark Wainwright Analytical Centre*

### TECHNOLOGY AND INNOVATION

**Wed 3rd June, 2:15pm–4:30pm**

Dr Yuta Nishina,  
*Okayama University, Japan*  
Mass production of 2-dimensional nanocarbons from natural graphite

Dr Gemma Rius,  
*Nagoya Institute of Technology, Japan*  
Science, technology and innovation standpoint of nanotechnology

Prof. K. P. Singh,  
*G.V. Pant University, India*  
New ways for production of bio-hydrogen from agro-based industrial waste

Dr Hewitt Park,  
*South Korea*  
Recycling of waste gold trainings by pyrometallurgical approach

Dr Rian Dippenaar,  
*University of Wollongong*  
Russ Martin,  
*CEO, Global Product Stewardship Council*
### Workshops Details

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#### Industrial Symbiosis in the Asia-Pacific

Mon 1st June, 12:45pm–2:15pm

Through industrial symbiosis businesses can reduce costs and generate new business, while reducing pollution, greenhouse gas emissions and waste to landfill. Industrial symbiosis is the concept that the material and energy wastes of one business can become the inputs for another, reducing waste disposal costs for the first business and the raw material costs for the second.

The workshop ‘Industrial Symbiosis in Asia-Pacific – promise or practice?’ will include presentations on innovative implementation of industrial symbiosis across the globe, featuring examples from the UK, USA, China and Europe and emerging initiatives in Australia.

- Sarah King, CSIRO
- Robin Branson, Director, Qubator
- Colin Barker, Australasian Industrial Ecology Network
- Dick van Beers, Sustainability Engineer, Germany

#### Zero Waste and Community Benefits

Mon 1st June, 12:45pm–2:15pm

Waste in the Pacific Rim presents both extraordinary resource recovery opportunities and significant environmental threat. Recent research shows that around 8 million tonnes of plastic waste find their way into our oceans every year, choking our seas and our wildlife.

Members of the Zero Waste International Alliance will present and discuss solutions and benefits of resource recovery from all sides of the Pacific. The panel will present on-the-ground case studies from proactive businesses leading the way to zero waste in the US by treating waste as a resource for delivering economic and employment opportunities.

- Rick Anthony, Zero Waste International Alliance, USA
- Gerry Gillespie, Resource Recovery Australia
- Colleen Foster, City of Oceanside, California
- Dale Selvam, Alguita

#### Business Models for a Circular World

Mon 1st June, 12:45pm–2:15pm

Answering four big questions this panel workshop explores the what, how and why of operating business in a circular world. As the circular economy gains continued prominence in Europe and China, this session is designed to discover how businesses are implementing circular business models in Australia, the Asia Pacific and the United States. Panel members will draw on their experience and knowledge as practitioners, researchers and advocates working for a circular economy and audience members will contribute to the discussion. An overarching aim is to generate insights regarding how we might optimise business models to enable a valuable circular economy in the Asia-Pacific.

- Melissa Edwards, UTS Business School
- James Moody, CEO Sendle and TuShare
- Jason Graham-Nye, CEO and Co-Founder gDiapers / gNappies
- Monique Retamal, Australian National University
- Sam Sharpe, Institute for Sustainable Futures, UTS
- Candice Quartermain, Founder and joint CEO, Circular Economy Australia

#### What Does the Goal of ‘Regenerative’ Development Mean for Building Materials?

Mon 1st June, 2:45pm–4:15pm

The premium end of the construction industry understands what sustainability means and how to deliver it. Regenerative development is the next generation of thinking, but what does ‘regenerative’ mean, and what impact might such a goal have on the design and delivery of buildings? This session will focus on the selection and use of construction materials in this context.

Are zero or positive impact materials a possibility? What life cycle criteria should be considered? How do the various certification options contribute to zero impact, if at all? What are the issues for materials producers, specifiers and contractors? What changes does the industry need to make and how do we get them to happen?
• Caitlin McGee and Kerryn Wilmot, ISF
• Andy Marlow, Envirotecture
• Steve Morris, Close the Loop
• David Bagg, Global Green Tag
• Redmond Lloyd, Boral Concrete
• Scott Clarkson, CSR Innovation

RESOURCING FUTURE GENERATIONS: WHAT WILL SURPRISE US?
Workshop in partnership with CSIRO and University of Queensland
Mon 1st June, 2:45pm–4:15pm

This workshop led by CSIRO and the University of Queensland will provide an overview of Australian and international initiatives grappling with the question of understanding and shaping future resource use. These include the work of the International Resource Panel, Future Earth, Resourcing Future Generations and Australia’s Future Outlook. In addition to identifying points of overlap and common themes, the interactive workshop will ask—what are the social and technological disruptors which could surprise us the in the coming decades?

• Anna Littleboy, CSIRO
• Saleem Ali, Director, Centre for Social Responsibility in Mining, University of Queensland
• Ben McLellan, Kyoto University
• John Finnigan, CSIRO
• Stephen Hatfield-Dodds, CSIRO

IS AUSTRALIA READY FOR THE CIRCULAR ECONOMY?
Workshop in partnership with Sustainable Business Australia
Mon 1st June, 2:45pm–4:15pm

When the who’s who of business and world leaders met at last month’s World Economic Forum in Davos in 2015 a different industrial model was on the agenda: the circular economy. The circular economy addresses unnecessary resource losses. For Australia, rethinking the productivity of materials holds promise at what is a challenging time for traditional manufacturing. The circular economy offers the potential of job creation and innovation and a pathway to a resilient economic growth. But does it? This session will unpack the role that the circular economy model can play for an economy and for business, and explore whether it is right for Australia.

• Ralph Jorissen, Tarkett Australasia
• Kari Herlevi, SITRA Finnish Innovation Fund
• Rhys Huett, Fuji Xerox
• Rob Pascoe, Closed Loop
• David Singh, ReGroup
• Alice Cahill, NSW OEH
• Suzanne Benn, UTS Business School

INVESTMENT DECISION MAKING FOR AN ENERGY PRODUCTIVE AUSTRALIA
Workshop in partnership with the Australian Alliance to Save Energy.
Tue 2nd June, 11:00am–12:30pm

Investment Decision Making for an Energy Productive Australia is a workshop developed by the Australian Alliance to Save Energy (A2SE), an independent not-for-profit company working to double Australia’s energy productivity. Speakers will introduce a range of related topics including the energy productivity opportunity; decision making frameworks for investment; international perspectives on emerging business models; leveraging energy benefits from capex and technological innovation. There will be plenty of time for a conversation.

• Tony Westmore, A2SE
• Graham Bryant, National Environmental Manager, Simplot
• Mary Stewart, General Manager, Energetics
• Mike Smith, Research Fellow, Australian National University
• Dick van Beers, Sustainability Engineer, Germany
• Anita Stadler, A2SE

DE-GROWTH
Workshop in partnership with Centre for the Advancement of the Steady State Economy
Tue 2nd June, 11:00am–12:30pm

The basic rationale behind the circular economy, degrowth economy and steady state economy is that society needs to operate within ecological limits. The circular economy industrial model is compatible with an economy during planned degrowth or at steady state. This workshop looks at how supporters of the three models can work together to defeat the dominant industrial model (linear) and economic paradigm (continual growth).

• Anne Schlunke, CASSE
• Robert Perey, UTS Business
• Haydn Washington, Institute for Environmental Studies, UNSW

WEALTH FROM WASTE: UNLOCKING THE VALUE OF URBAN ORES
Workshop in partnership with the Wealth from Waste Cluster
Tue 2nd June, 11:00am–12:30pm

Wealth from Waste (WfW) is a three-year collaborative research program across five universities that focuses on ‘mining’ above ground resources – the metals contained in collections of discarded manufactured products and consumer goods. In its second year, significant progress has been made across the research projects and we are now looking to the future of the program and progressing the circular economy agenda in Australia.
This workshop incorporates the latest findings from WfW program leaders with an interactive session where participants can input to the future agenda for Circular Economy research in the Australian metal resource industries. Topics include:
1. Establishing the potential and characterising stocks of metals available for recycling and reprocessing in Australia
2. Key barriers and enablers to establishing a circular economy
3. Innovative business and delivery models facilitating new value for metals from aboveground resources
4. Future vision and key pathways for enabling a circular economy

• Anna Littleboy, CSIRO
• Damien Giurco / Samantha Sharpe, Institute for Sustainable Futures, University of Technology Sydney
• Ruth Lane, Monash University
• Akbar Rhamdhani, Swinburne University of Technology
• Glen Corder, University of Queensland

**FUTURE METALS**
*Workshop in partnership with WWF*
**Tue 2nd June, 1:30pm–3:00pm**

This workshop run in partnership with WWF will focus on the future of metal production. Key questions for the workshop include:
1. Why do we need to reduce the footprint of metal production?
2. What technological advances are available to reduce the footprint of metal production?
3. What is a metal certification scheme and do certification schemes drive change on ground?
4. What is the business case for metal certification?
5. Challenges and opportunities in improving the footprint of metals production.

• Toby Gray, Market Sustainability Analyst, WWF
• Ross Davies, Steel Stewardship Forum & Bluescope Steel
• Fiona Solomon CEO, Aluminium Stewardship Initiative
• Mark Cooksey, CSIRO

**TRANSITION PATHWAYS FOR CARBON-BASED ENERGY AND MATERIALS**
*Workshop in partnership with The University of Sydney*
**Tue 2nd June, 1:30pm–3:00pm**

Broad and diverse strategies have been proposed internationally for transitioning towards a carbon-constrained future economy. While large-scale emission reduction strategies are the focus of national governments around the world, contributions on the small scale (local and regional) that often embrace an industrial ecology agenda are also important. This workshop explores challenges and opportunities across the different scales from technological barriers to community and cultural acceptances. This workshop will consider the need for new thinking about carbon mitigation that also gives consideration to recycling carbon in energy and materials systems powered by renewable energy.

• Nick Florin, Institute for Sustainable Futures
• Ali Abbas, University of Sydney
• James Goodman, UTS
• Geoff Bell, Microbiogen
• Mark Glover, Eco Waste and Renewed Carbon
• Andrew Lawson, MBD Energy

**THE CASE FOR MATERIAL EFFICIENCY**
*Workshop in partnership with Sustainability Victoria and NSW OEH*
**Tue 2nd June, 1:30pm–3:00pm**

The case for materials efficiency is compelling but often the opportunities are under-realised. In this workshop we will hear about the progressive approaches being taken locally and internationally that are helping businesses realise substantial savings and achieve environmental benefits. We will discuss the facilitative role of governments and others to help unlock the opportunities by addressing barriers such as information and innovation. Locally, learnings will be shared from state based Australian programs run by Sustainability Victoria and NSW Office of Environment and Heritage. An international perspective will be shared of the UK’s National Industrial Symbiosis Programme (NISP). This workshop will also share key insights from the recent Forum on Materials Efficiency, hosted by Sustainability Victoria.
Yolanda Sztarr, Project Lead Business Productivity, Sustainability Victoria
Rod Clare, Project Officer, Sustainability Advantage, NSW Office of Environment and Heritage
Gary Foster, former Regional Director (South) for NISP, current Associate Director, Edge Environment

RESOURCE GOVERNANCE, GEOPOLITICS & SOCIAL RESPONSIBILITY: THE CASE OF PHOSPHORUS
Workshop in partnership with the Institute for Sustainable Futures
Tue 2nd June, 3:30pm–5:00pm

One of the world’s most critical and strategic resources, phosphorus, is also one of the most under-discussed. Without phosphorus, we could not produce food. All nations and farmers need access to phosphorus resources for fertilisers to ensure high crop yields. Yet the world’s main source, phosphate rock, is finite and inequitably distributed, both geographically and in terms of access to the resource. Five countries control 85% of remaining phosphate reserves – Morocco alone controls three-quarters. Further, Morocco’s illegal occupation of Western Sahara includes exploitation of the territory’s rich phosphate reserves. Despite the criticality, supply risks and inequity, there is no international or national body taking a leadership role to ensure phosphorus is available and accessible in the long term to feed humanity.

Stuart White, Director, Institute for Sustainable Futures, UTS
Richard Boele, Managing Director and Founder, Banarra, UN Global Compact Network Australia and Centre for Social Responsibility in Mining
Jemima Garrett, Pacific Economic & Business Reporter, ABC Radio Australia
Dana Cordell, Research Principal, Institute for Sustainable Futures, UTS & Global Phosphorus Research Initiative

NEW BUSINESS MODELS IN WASTE WITH THE RISE OF SOCIAL ENTERPRISE
Workshop in partnership with Resource Recovery Australia
Tue 2nd June, 3:30pm–5:00pm

Social enterprises are emerging across Australia using waste in new ways to create jobs, improve social outcomes, and help the environment. Learn from three innovative social enterprises that are transforming communities across NSW.

John Weate, founder of Resource Recovery Australia, is leading this workshop. You’ll hear how they transformed a $50,000 tip contract into a multi-faceted re-use and recycling business park at Great Lakes Resource Recovery Park in Tuncurry, NSW that is now turning over more than $2 million pa.

You will also hear from two social enterprises experiencing significant growth in industrial regions that are shedding jobs. Bill Dibley of Soft Landings will talk about a social enterprise built around the re-use and reprocessing of mattresses that has created 300 full time jobs over the last five years and is now driving product stewardship with key manufacturers.

John Weate, Resource Recovery Australia and CEO of Great Lakes Community Resources
Jess Moore, Manager, Green Connect
Bill Dibley, NSW Operations Manager, Soft Landing
Ruth Lane, Monash University

CIRCULAR THINKING: MODELS FOR DRIVING POSITIVE OUTCOMES THROUGH COLLABORATION
Workshop in partnership with NSW Office of Environment & Heritage, Sustainability Advantage
Tue 2nd June, 3:30pm–5:00pm

OEH’s Sustainability Advantage program is unique in that it fosters new models of collaboration and supports innovation to tackle systematic challenges that can drive change and improve environmental performance. The panel will show how the program has helped members broaden their network, meet and share ideas with others in the same industry or region, and enable collaborative models to overcome barriers and hurdles and share learnings around circular models.

Sustainability Advantage helps businesses save money and improve productivity, integrate environmental strategies with business planning, use resources more efficiently, manage environmental risk and ensure compliance, gain government support and resourcing and receive the latest advice from business and government specialists. The program has 550 members who are together saving $95 million a year through improved productivity and reduction in the use of raw materials.

Richard Wilson, Sustainability Manager, IKEA
Justin Merrell, Group Env. Manager, Qantas
Nick Palousis, Founder & CEO, 2XE
Dylan Gower, CleanCowra
HARBOUR CRUISE AND FORUM DINNER, MONDAY 1ST JUNE

4.15pm: Walk to Convention Jetty, Darling Harbour to board Vivid Sydney Harbour Cruise

5.00pm: Set sail and enjoy Sydney Harbour illuminated by the lights of Vivid Sydney

6.30pm: Dinner at the Crystal Ballroom, Luna Park

VIVID SYDNEY IS A UNIQUE ANNUAL EVENT OF LIGHT, MUSIC AND IDEAS.
Vivid Sydney features many of the world’s most important creative industry forums, a mesmerising free public exhibition of outdoor lighting sculptures and installations and a cutting-edge contemporary music program.
See vividsydney.com for details.

LUNA PARK
Luna Park is an iconic amusement park located on the Sydney Harbour foreshore, under the northern end of the Sydney Harbour Bridge. Dinner will be held in the heritage listed Crystal Palace building, which has been restored to its unique former glory and features spectacular city views.

Luna Park is easily accessible by train, bus or taxi. The easiest way to get back to Central Station after dinner is to take a taxi (approximately $25) or a train from Milsons Point station (10 minute walk up Alfred St). Trains depart every 10 – 15 minutes and take 10 minutes to Central, single fare is $4. To plan your return trip and view public transport timetables visit transportnsw.info.

UTS has recently appointed Tony Kelly as Adjunct Professor at the Institute for Sustainable Futures to support its research in water, sanitation and international development. Tony was formerly Managing Director of Yarra Valley Water and Director of WaterAid International.

To support the work of WaterAid in providing clean water and safe sanitation to people in need visit www.wateraid.org
You’re never far away from convenient transport options when it comes to getting to and from Vivid Sydney.

PLAN YOUR TRIP TO VIVID SYDNEY IN 2015

SYDNEY HARBOUR BRIDGE
See the illuminated western side of the Harbour Bridge

WALSH BAY
Light Walk and views of the illuminated side of the Harbour Bridge

THE ROCKS AND CAMPBELL’S COVE
Light Walk and 3D-mapped projections

MCA
3D-mapped projections and Vivid Ideas Exchange

SYDNEY OPERA HOUSE
Lighting the Sails and the Vivid LIVE music program

CIRCULAR QUAY
More than 60 lighting installations on the Light Walk and skyscraper lighting

CUSTOMS HOUSE
Lush projections based on Sydney’s beautiful flora and fauna

AUSTRALIAN NATIONAL MARITIME MUSEUM
Rooftop lighting

MUSEUM OF SYDNEY
Lighting installation

PYRMONT & THE STAR
Interactive game zone and light installations

MARTIN PLACE
Vivid Light installations and a multimedia food & beverage pop-up

DARLING HARBOUR
Vivid Laser-Fountain Water Theatre

HARBOUR LIGHTS
LED-lit vessels on the harbour travel through ‘colour precincts’

More than 60 lighting installations on the Light Walk and skyscraper lighting

Please note: Locations are correct at time of printing, but should be used as a guide only and are subject to change. For more information go to vividsydney.com

The maps used are a representation only and not to scale. Please see back cover for full disclaimer.
**NSW Trade & Investment**

NSW Trade & Investment is the lead economic development agency in New South Wales, responsible for driving sustainable economic growth across the state. We work with local, national and international customers and strive for a strong customer service focus in all areas of service delivery. We achieve results by collaborating with and supporting businesses, industries and communities to advance investment, trade, innovation, productivity and regional growth across all sectors.

**CSIRO**

At CSIRO we shape the future. We do this by using science to solve real issues. Our research makes a difference to industry, people and the planet. As Australia’s national science agency we’ve been pushing the edge of what’s possible for over 85 years. Today we have more than 5000 talented people working out of 55 centres in Australia and internationally. Our people work closely with industry and communities to leave a lasting legacy. Collectively, our innovation and excellence places us in the top ten applied research agencies in the world.

We ask, we seek, we solve. We are CSIRO.

**Telstra**

Every day Telstra helps millions of customers connect to the people and things that matter most to them. We are Australia’s leading telecommunications and information services company, offering a full range of communications services and competing in all telecommunications markets.

At Telstra, our purpose is to create a brilliant connected future for everyone. The success of our business relies on it, and our sustainability agenda is key to achieving it. Our sustainability ambition is to embed social and environmental considerations into the heart of the business in ways that create value, and to achieve this, we’re focused in areas of Employee Involvement, Everyone Connected programs and Environmental Leadership.

Tim O’Leary, Chief Sustainability Officer sustainability@team.telstra.com www.telstra.com

**Johnson Matthey**

Johnson Matthey is a speciality chemicals company and a world leader in sustainable technologies including emission control technology, process technology, precious metal products, fine chemicals, battery technology, fuel cell technology, and water technologies.

Lydia Tang, Commercial Manager (APAC), Water Technologies
lydia.tang@mattheyasia.com www.matthey.com
Sustainable Business Australia

Sustainable Business Australia is the peak body in Australia for the low carbon and environmental goods and services sector. The organisation is also a think tank focusing on ‘new markets, new industries and new jobs’.

SBA represents a rapidly growing coalition of members who will be the backbone of the next era of wealth generation by providing commercial solutions to environmental challenges.

SBA's membership is drawn from many sectors and includes investors, bankers, technology and infrastructure developers, consultancy and engineering companies involved in all areas of the economy.

Wealth from Waste

Research to inspire smarter Australian resource industries of the future

The Wealth from Waste Cluster is an international collaboration of research groups led by the University of Technology Sydney (UTS), with Monash University, the University of Queensland, Swinburne University of Technology and Yale.

In partnership with CSIRO and enabled by support from the Flagship Collaboration Fund, the Cluster is charting a pathway to enable Australia's metals and minerals industries to prosper in a future circular economy. The research is about helping Australia expand its resource base from being a leader in primary resource production to also being a frontrunner in enabling the emerging secondary resource markets, technologies and practice.
The findings of WRF Asia-Pacific 2015, held in Sydney, June 1-3, 2015, will be reported to the World Resources Forum 2015, to be held in Davos, October 11-14, 2015. The overall theme of this year’s conference is “Boosting Resource Productivity by adopting the Circular Economy”.

Key topics:
• Circular economy and decoupling
• Technological innovation, business and finance
• Targets, indicators, and benchmarks for resource use
• Lifestyles and education

As has become a good particular tradition of the WRF events, the program will incorporate lively plenary sessions, as well as engaging workshops and scientific sessions dedicated to the theme. And of course all the fruitful discussions and presentations will be complemented with a social program that includes the exquisite WRF Gala Dinner on 13 October and a cocktail reception, amongst others. Kindly refer to the provisional agenda on our website for a more detailed overview.

Amongst the crown jewels of the conference are the enlightening participation of the Ellen MacArthur Foundation and WBCSD, back-to-back meetings and plenary talks of UNEP International Resource Panel and Club of Rome, and the 4th Resource Efficient and Cleaner Production (RECP) Global Conference. Additionally, we expect to co-host an Informal Ministerial Dialogue on Circular Economy and Innovation.

For further information we invite you to take a look at our newly refurbished website (www.wrforum.org) where you will also find highlights from the previous WRF events as well as details about the WRF 2015 Steering and Scientific Expert Committees.

On behalf of the WRF, the Government of Switzerland as well as our other esteemed partners, it would be our honour to welcome you to the World Resources Forum 2015 in Davos!

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**ISF IS LAUNCHING AN ACTION AGENDA FOR A CIRCULAR ECONOMY ON 2 JUNE**

New collaborations between business, government and universities are needed to secure the significant opportunities for Australia in the transformation toward resource productivity in a circular economy.

**IDEAL CIRCULAR ECONOMY**

- Technical limitations
- Current activities

**CIRCULAR ECONOMY OPPORTUNITIES**

- Replenish stocks & rethink value
- Design for renewable energy & resource cycles
- Harness disruptive innovation for production & consumption 2.0
- Leverage existing know-how for new networks & markets

**LINEAR ECONOMY**

For more details, see: [www.wrfasiapacific2015.net](http://www.wrfasiapacific2015.net) and [wealthfromwaste.net](http://wealthfromwaste.net)
We would like to thank the scientific committee and the organising committees for generously lending their time, expertise and support which has been invaluable to the success of the forum.

**SCIENTIFIC COMMITTEE**
Dr Heinz Schandl, CSIRO (Chair of the Scientific Committee)
Dr Dick van Beers
*Independent Sustainability Consultant, Germany*
Mr Souvik Bhattacharjya
*The Energy and Resources Institute, India*
Prof Dr Stefan Bringezu
*Director, Material Flows and Resource Management, Wuppertal Institute, Professor for Sustainable Resource Management, University of Kassel, Germany*
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*Chinese Academy of Sciences, Institute of Policy & Management*
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*National Institute for Environmental Studies, Japan*
Mr Kazunobu Onogawa,
*Institute for Global Environmental Strategies (IGES), Japan*
Prof Dr Markus A Reuter
*Director - Technology Management, Outotec, Finland, Adjunct Professor Aalto University Helsinki, Finland, Guest Professor Central South University Changsha, China, Professorial Fellow Uni Melbourne, Australia*
A/Prof M Akbar Rhamdhani
*Swinburne University of Technology, Australia*
Dr Samantha Sharpe
*Institute for Sustainable Futures, UTS, Australia*
Prof Hiroki Tanikawa
*Graduate School of Environmental Studies, Nagoya University, Japan*

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*Director, SMaRT@UNSW, UNSW Australia* (Conference co-chair)
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*Director, Catalyst Event Solutions Pty Ltd*

and with thanks to:
Andrew Petersen, CEO, Sustainable Business Australia
Rod Clare, NSW Office of Environment and Heritage

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Designed by Ian Chong

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