AUSTRALIAN BIOECONOMY CONFERENCE 2024

Profiting from biogenic carbon as we move towards net zero

Wed 11 & Thu 12 September 2024 | Rydges Newcastle, NSW

Thank you to our conference partners & sponsors

BMH TECHNOLOGY

AIEN
Catalyst to achieving a circular economy

ANZ BIOCHAR INDUSTRY GROUP

Victorian Bioenergy Network

The improved management of carbon across our economy – or our 'bioeconomy' – is critical if we are to mitigate the impacts of climate change and increase renewable electricity production as we move away from fossil fuels in an increasingly carbon-constrained world

Invitation

The Australian Industrial Ecology Network (AIEN) takes great pleasure in inviting you to join us at the 2nd Australian Bioeconomy Conference to be held on 11 and 12 September 2024 at the Rydges Newcastle.

This two-day event is themed *Profiting from biogenic carbon as we move towards net zero*, where we will explore opportunities for industry and business in Australia in managing carbon better as our economy transitions to a future with net zero emissions.

The enormity of the challenge in transitioning our economy to net zero emissions by 2050, as set out in the Paris Agreement, is just being realised. The Australian Government has made a commitment under the *Climate Change Act 2022* to achieve net zero emissions by 2050 – meaning that all fossil fuel carbon emissions will be offset by abatement programs or no emissions technologies, resulting in no "new" fossil fuel carbon being released into the atmosphere by 2050.

Whilst Government can set the policy framework and ambitious targets to help drive progress towards a future with less carbon dioxide to reduce the impacts of climate change – investment by business and industry in low carbon emissions technologies, clean manufacturing, sustainable farming systems, renewable fuels and green electricity is fundamental. Without this investment, net zero is likely to be extremely difficult to achieve by 2050.

Our conference will help highlight and explore the business case and new technologies to drive change to a low emissions future. Successful case studies from Australia and overseas will be explored to help highlight practical and relevant new investment opportunities to reduce emissions. Managing carbon as part of the wider 'bioeconomy' is critical if we are to mitigate the impacts of climate change and increase renewable electricity production as we move away from fossil fuels in a world moving towards net zero.

AIEN recognises that national leadership is critical in connecting key players and capabilities across the value chain and is striving to build partnerships with key stakeholders to frame this dialogue in developing a path for a circular bioeconomy in Australia.

We look forward to meeting you at the 2nd Australian Bioeconomy Conference in Newcastle

Dr Mark Jackson
Chair, Australian Bioeconomy Conference

Colin Barker
Chair, Australian Industrial Ecology Network

About the conference

The enormity of the challenge in transitioning our economy to net zero emissions by 2050, as set out in the Paris Agreement, is just being realised. The Australian Government has made a commitment under the Climate Change Act 2022 to achieve net zero emissions by 2050 – meaning that all fossil fuel carbon emissions will be offset by abatement programs or no emissions technologies, resulting in no "new" fossil fuel carbon being released into the atmosphere by 2050.

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Key themes for 2024 include:

- Emerging industries in Australia and overseas taking on the net zero challenge.
- Market reform and government policy needed to accelerate low carbon investments or abatement projects in Australia.
- Opportunities for government co-investment in carbon abatement projects through reforms under the *Nature Repair Act 2023*, Nature Repair Market, Australian Renewable Energy Agency (ARENA) and the Clean Energy Finance Corporation (CEFC).
- Climate change benefits from managing carbon from biogenic sources across the bioeconomy.
- Techniques, processes and industries seeking the improve the management of carbon in sustainable energy generation.
- How can we fast track investment in anaerobic digestion, to provide green electricity and provide a solution for urban food and garden organic wastes.
- Role of oceans, soils and sustainable farming systems in carbon abatement and bioeconomy opportunities.
- Green manufacturing technologies and potential contribution to a low emissions future.
- Regional planning and bioeconomy precincts to help support new industries seeking to help in the transition to a low emissions future.
- New green fuels, such as biofuels and hydrogen – how can these be used to help in the transition to low or zero emissions electricity.
- Getting the balance right in planning and regulatory approvals, whilst giving confidence to communities living near green technologies.
- Climate change policy to drive down future emissions from new development proposals.
- Exploring principles, commercial drivers and benchmarks that might shape the development of the bioeconomy going forward.

Host organisation

AIEN
Catalyst to achieving a circular economy

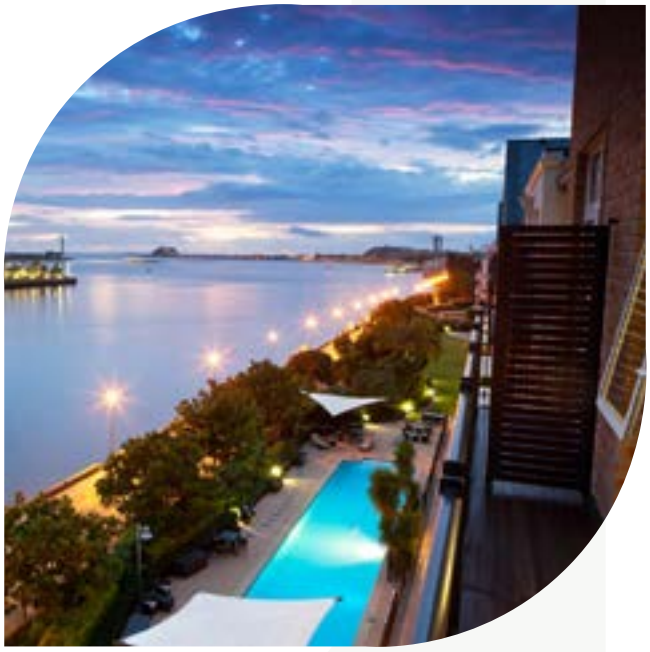
The Australian Industrial Ecology Network (AIEN) is a vibrant network of like-minded individuals, companies, and institutions with a common interest in sustainable development through the study and practice of industrial ecology.

AIEN aims to bring industry, government, and community stakeholders together to capitalise on Industrial Ecology opportunities and resolve emerging issues with coordinated solutions.

aien.com.au

Organising committee

- Dr Mark Jackson, Jackson Environment and Planning
- Dr Abi Sudharsanam, The University of Newcastle
- Mike Haywood, Verdant Earth Technologies
- Colin Barker, Plastech Recycling
- Mark Glover, Ecowaste
- Veronica Dullens, AIEN



Venue

Rydges Newcastle
Wharf Rd &, Merewether St
Newcastle NSW 2300

Sitting amongst the waterfront boutiques, cafés, bars and eateries of the iconic Honeysuckle promenade, Rydges Newcastle is the ideal destination to take this lively city head on. With sweeping views of the stunning harbour and only moments from the major tourist attractions, this premium Newcastle hotel is the perfect blend of vibrant coastal city and luxury holiday escape.

Rydges Newcastle is conveniently located in the heart of Newcastle's Honeysuckle precinct, only a short 30-minute drive from Newcastle Airport, and only two hours drive from Sydney.

Contact

For all queries regarding sponsorship, please contact the Australian Industrial Ecology Network

T: 0400 449 100
E: info@aien.com.au

Thank you to our partners + sponsors

AIEN would like to acknowledge the generous support of our sponsors and partners:

BMH Technology

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BMH TECHNOLOGY

BMH Technology delivers Waste Processing plants and Solid Biomass Handling systems with decades of experience and a comprehensive global reference base.

Its robust solutions guarantee industrial scale capacities for Chemical Recycling and Green Electricity production. Waste and biomass are reborn as raw materials and renewable energy with BMH.

bmh.fi

Victoria Bioenergy Network

CONFERENCE PARTNER

Victorian Bioenergy Network

The Victorian Bioenergy Network (VBN) is a grassroots initiative focused on enhancing bioenergy's role within Victoria's energy sector. It supports economic development, decarbonization, and a circular economy by aligning with industry, government, and community efforts. The network aims to transform organic waste into valuable resources, meet energy demands sustainably, and merge economic growth with environmental regeneration.

vicbioenergy.com.au

ANZ Biochar Industry Group

CONFERENCE PARTNER

ANZ BIOCHAR INDUSTRY GROUP

The ANZ Biochar Industry Group (ANZBIG) assists companies, governments and institutions in the effective use and production of Biochar. ANZBIG focuses and streamlines biochar education, research, collaboration and commercialisation activities to provide better outcomes for the societies of Australia and New Zealand.

anzbig.org

SPONSORSHIP OPPORTUNITIES AVAILABLE NOW

With an already well established and strong network of members and collaborators, the AIEN would like to invite you to be a vital part of the conference by partnering with us as a conference sponsor.

There is a variety of opportunities available providing the ideal platform to promote your organisation and its services whilst supporting a major professional event for participants at the forefront of advancing Australia's shift away from fossil fuels towards a greener and more sustainable future.

If your organisation wants to stand out as being an innovator in the bioeconomy sector, you can't afford to miss out on this opportunity.

Pre-conference tour

Tuesday 10th September 2024

Global Centre for Environmental Remediation (GCER) at University of Newcastle

Limited spaces available.
Enclosed shoes required.

Meet at Rydges Newcastle @ 2:00pm, tour to return at approximately 4:00pm

As part of the Bioeconomy Conference, we invite you to an exclusive tour of Global Centre for Environmental Remediation at the University of Newcastle. This tour offers a unique opportunity to explore cutting-edge environmental practices and innovations in environmental remediation and bioeconomy.

Tour Highlights:

- **Visit State-of-the-Art Facilities:**
  - Explore research labs focused on solving critical environmental challenges.
  - Discover how these facilities are equipped to handle advanced research in environmental remediation.
- **Engage with Leading Researchers:**
  - Interact with top researchers and discover innovative projects in soil and water remediation, pollution reduction, and sustainable land management.
  - Gain insights into ongoing research and its potential impact on environmental sustainability.
- **Sustainable Cultivation Processes:**
  - Explore the GCER's closed-loop algal farm, a versatile resource for bio-based products and environmental solutions.
  - Understand the processes involved in sustainable algae cultivation and its role in supporting the bioeconomy.
- **Live Demonstrations:**
  - See live demonstrations of algal production systems and learn about their applications in decarbonization and soil health improvement.
  - Experience practical examples of how these systems contribute to environmental remediation and sustainability.

Why Attend: This tour provides a unique opportunity to:

- Gain practical insights into the integration of algae-based solutions and environmental remediation techniques.
- Experience firsthand how the sustainable innovations @ University of Newcastle that support the bioeconomy.

Preliminary program

Wednesday 11th September 2024

0800 Registration, tea and coffee

SETTING THE SCENE

0845 Welcome and housekeeping
Colin Barker, Chair - Australian Industrial Ecology Network

0850 Opening address
The Hon Yasmin Catley MP, Minister for the Hunter

0900 KEYNOTE PRESENTATION: Charred futures: Accelerating biochar innovations for net zero
Ross Fox, Fishburn Watson O'Brien

Explore the critical policy and regulatory reforms needed to accelerate the adoption of biochar technology in NSW. Learn how the approvals process and financial incentives could be streamlined to drive innovation and investment, helping Australia achieve its net zero carbon emissions target by 2050.

0930 KEYNOTE PRESENTATION: Bioenergy FAQs and common misconceptions
Henry Poole, Verdant Earth Technologies

Whilst bioenergy is a well-established energy source, it is not well understood compared to other renewables. The broader uptake of bioenergy will be largely dependent on public perception. We will address some of the FAQs about bioenergy and address some common misconceptions.

1000 Questions and discussion

1030 Morning tea break

NAVIGATING THE REGULATORY AND PLANNING ENVIRONMENT

1100 The Legislative Balancing Act - Achieving the right balance for 'green' projects
Kim Glassborow, G&B Lawyers

Never before has it been more important to get the balance right between approving and supporting critical State developments for renewables, ensuring the assessment process remains rigorous and managing the community expectations of those living near emerging green technology precincts.

1120 Measuring economic and employment benefits of biomass energy projects
Nick Behrens, Australian Economic Advocacy Solutions

This presentation will demonstrate the significant financial, economic, employment and environmental benefits of secure and sustainable feedstock supply to biomass powered electricity generators.

1140 Planning and regulatory frameworks for bioeconomy projects in NSW
Erik Larson, Jackson Environment and Planning

Taking bioeconomy infrastructure from concept to starting operations can be a complicated and winding road – in no small part due to the planning and regulatory process in NSW. This presentation will help to unravel the knot of legislation and approvals that underpin these projects, and to formulate a clear strategy to get through the planning system.

1200 Adhering to Carbon Regulations: A driving force for the bioeconomy
Daniela von Rabenau, Circulr &
Shadi Kafi Mallak, University of Queensland

This presentation will draw the link between legal carbon obligations and the potential these create for the bioeconomy. In particular, we explore how the bioeconomy is the potential answer to many questions bought about by the rising demand for carbon mitigation solutions.

1220 Questions and discussion

1245 Lunch

ADVANCING SUSTAINABLE ENERGY SOLUTIONS

1330 Refining waste and biomass into specified fuels for H2 and chemicals production
Minna Vilkuna, BMH Technology

This presentation will discuss the importance of utilising appropriate technologies needed for converting mixed waste and woody biomass feedstocks into specified fuels for the production of hydrogen, methanol, ethanol and SAF.

1350 XROPS – Regional organics processing solution
Dr Marc Stammbach, HZI Australia &
Philip Parekalam, NALG

XROPS transforms organics into high-quality compost, renewable gas, electricity, heat, carbon dioxide and biochar from woody organics. Those will feed a co-located intensive horticulture complex and enable truly circular carbon cycling. Hence, the presented solution is sustainable and carbon-negative with the production of biochar.

1410 Embracing low carbon liquid fuels as we transition to decarbonise on the path to net zero
Cliff Kemmett, Refuelling Solutions

Refuelling Solutions is an Australian owned National fuel supply and logistics company committed to bioenergy and Australia reducing its reliance on foreign oil by developing localised production and supply pathways for home-grown low carbon alternatives to fossil based fuels, creating domestic jobs and economic growth whilst improving the environment

1430 Carbon Offsets - Emitter's Perspectives
Ken Chan, Decarbonisation Solutions Australia

This session will explore the diverse strategies large Australian emitters use to comply with the Safeguard Mechanism under the Clean Energy Regulator. We'll focus on how these emitters navigate the acquisition of Australian Carbon Credit Units from both the primary and secondary markets to meet their obligations.

1445 Questions and discussion

1515 Afternoon tea break

REGIONAL SUSTAINABILITY AND INNOVATION PRECINCTS

1545 Introducing the Cobar Biohub Project: A vanguard bioeconomy in the making
Mark Glover, Renewed Carbon

Update on the Cobar BioHub Project, where there has been the need to develop the entire supportive supply/value chain and address and overcome the myriad of "first of type" bioeconomy centric interface and regulatory issues that have been experienced and subsequently overcome.

1605 Circular Economy Precincts for the Hunter Region - 12 months on
Tim Askew, Hunter Joint Organisation

Since the last Australian Bioeconomy Conference the Hunter Joint Organisation has progressed work on developing Circular Economy Precincts for the Hunter Region. The presentation will outline the progress made since the last conference, outline the next steps and engage the audience in opportunities for participation

1625 The Regional Renewable Organics Network
James Moverley, Barwon Water

The RRON provides a collaborative solution to a regional waste problem, uniquely utilising two proven technologies. Together, Plug Flow Anaerobic Digestion and Carbonisation maximise the potential of the organic waste generating renewable energy whilst creating biochar.

1645 Circular and Regenerative Bioenergy – Pathways for CO_2 Removal and Renewable Energy for Net Zero via the Australian Biochar Industry 2030 Roadmap
Craig Bagnall, ANZ Biochar Industry Group

Carbonising biowastes can provide valuable circular carbon products in solid, liquid and gas forms that can concurrently provide CO_2 Removal (CDR), emissions reduction and renewable bioenergy for the critical energy transition, whilst addressing emerging contaminants which can hinder biological recovery pathways.

1705 Questions and discussion

1730 Close day 1

1830 Networking function

Thursday 12th September 2024

0800 Registration, tea and coffee

PANEL: ADVANCING THE BIOECONOMY SECTOR IN AUSTRALIA

0900 **The panel session aims to identify challenges and opportunities within the bioeconomy industry, explore successful strategies for growth, discuss policy recommendations to support the sector, encourage research and development investment, foster partnerships between industry stakeholders, and develop actionable steps to drive progress and growth in the bioeconomy sector.**

Facilitated by:

Dr Mark Jackson, Jackson Environment and Planning

Panelists include:

- **Ragini Prasad**, Victorian Bioenergy Network
- **Craig Bagnall,** Australia New Zealand Biochar Industry Group
- **Lauren Randall,** ANZ Biosolids Partnership
- **Mark Glover**, Australian Industrial Ecology Network
- **Angus Johnston**, Australian Organics Recycling Association

1030 Morning tea break

CARBON INNOVATION: SUSTAINABLE SOLUTIONS FOR INDUSTRY

1100 **FSC Standard & beyond, principles and practices**

James Felton-Taylor, Australian Sustainable Timbers

As we transition from fossil, to biogenic carbon stocks, the competition for our biosphere's carbon is only going to increase. How do we manage our forests so they are multi-use whilst supplying carbon feed stocks, regenerating degraded forests and growing our social licence? The Forest Stewardship Council (FSC®) is an international certification system designed to deliver.

1120 **Sustainable biomass supply for green ironmaking**

Dr Joe Herbertson AM, Skye Point Innovation

Principles, challenges and opportunities for securing access to biomass at the scale required to support renewable carbon utilisation in the transition to net zero emissions steel.

1140 **DRI-ESF Process Route for Steel Industry Decarbonisation**

Khadijeh Paymooni, BHP Centre for Sustainable Steelmaking Research, University of Newcastle

The world's steel industry is challenged to decarbonise, requiring rapid technological change to provide alternatives to the conventional Blast Furnace process. Hydrogen reduction of medium grade ores followed by electric smelting to separate the contained gangue is proposed as a viable future process for Australia's Hematite-Goethite resources.

1200 **Microalgae's utility in decarbonizing the ironmaking industry**

Brody Brooks, Centre for Ironmaking Materials Research, University of Newcastle

Previous work has demonstrated that microalgae performs exceptionally well in maintaining metallurgical coke quality upon partial replacement of coal in coking blends. This work shines light on the mechanisms by which microalgal biomass achieves such synergy with coal, which is otherwise lacking in blends with lignocellulosic biomass species.

1220 **Questions and discussion**

1300 Lunch

SOLUTIONS FOR SUSTAINABLE AGRICULTURE

1400 **Forest residues for renewable carbon in the Australian bioeconomy**

Dr Leanda Garvie, University of the Sunshine Coast

This presentation will summarise the work developed in a recently published PhD thesis. This presentation will explore three separate research themes that considered environmental benefits (eg carbon emission mitigation), and economic factors (eg drivers and barriers) of converting forest residues to products such as bioenergy for a more sustainable future.

1420 **Innovative carbon reducing technology to produce biofertiliser**

Johan Nortier, Natural Waste Solutions

Offering on-site composting solutions for diverse biowaste sources. This product not only minimises your carbon footprint by diverting waste from landfill but also contributes to carbon emission reduction by upgrading existing sequestration processes with innovative technology. It can be designed to suit every purpose and budget.

1440 **Microalgae based eco-innovative model for Sustainable Wine Production: A Low-Carbon Solution for Agriculture**

Prof. Megh Mallavarupu, Global Centre for Environmental Remediation, University of Newcastle

This study highlights the potential of algae-based Phycosol systems in wine production, emphasizing their role in reducing carbon emissions through biogenic carbon capture and resource recovery. By integrating algae into winery operations, we present a sustainable approach that aligns with agricultural bioeconomy goals and enhances environmental resilience.

1500 **De Iuliis Vineyard Pokolbin - Soil improvement program**

Mark Johnson, Cha Cha Char

Over the next six years De Iuliis intend to use biomass from the vineyard, biochar made on their vineyard and high nitrogen biomass to make compost that will introduce a web of life within the soil. Internationally this is known as the Soil Food Web Method.

1520 **Questions and discussion**

1550 **Closing remarks**

Dr Mark Jackson, Deputy Chair - Australian Industrial Ecology Network

1600 Conference close

Keynote speakers

ROSS FOX

Principal at Fishburn Watson O'Brien Lawyers and Accredited Specialist in Planning and Environment Law

Ross is recognised as a leader in providing legal advice to emerging green tech projects including for biochar. Ross has a background advising senior executives of the NSW EPA and other environmental agencies on high profile regulatory and planning issues.

His experience in government provides a unique perspective and understanding of what is required for a project to succeed. A Law Society Accredited Specialist in Environmental Law, he now advises industry and project proponents. He also advises eminent industry associations such as the Australian Organics Recycling Association (AORA).

HENRY POOLE

Corporate Finance & Business Development – Sustainable Energy, Verdant Earth Technologies

Henry is leading Business Development at Verdant Earth Technologies, owners of the 151MW Redbank Power Station in the Hunter Valley, targeting the roll out of up to 2,000MW of biomass based generation throughout Australia.

Henry has a background in Strategy and Transactions at EY with a strong track record in capital markets transactions and project management. He has worked on the development of greenfield and brownfield energy projects and has a strong commercial skill set.

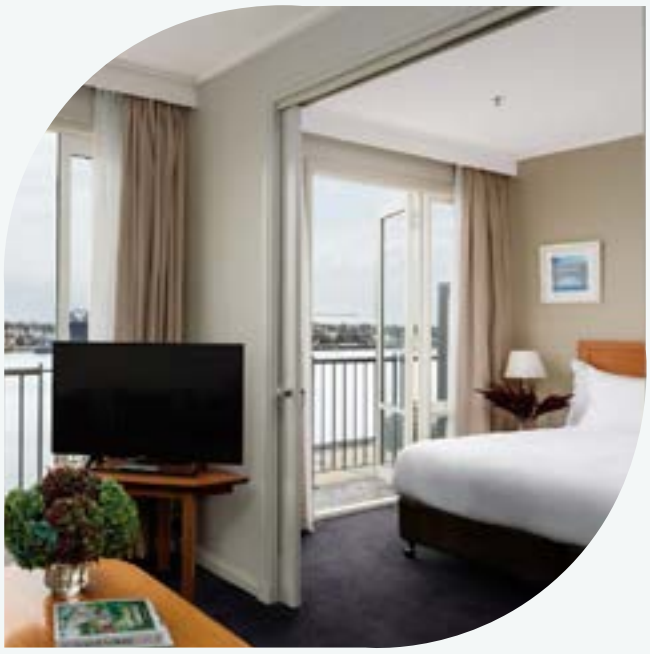
Accommodation

Rydges Newcastle is offering ABC24 attendees 15% off their best flexible rate to book and confirm instantly online

To view the room options available and make a booking, simply click the link below, select the dates you wish to stay followed by the number of rooms and people.

Valet car parking is available for in-house guests for a charge of $29.00 per vehicle, per day. Buffet Breakfast is available for in-house guests for a charge of $32.00 per person, per day.

To book accommodation, please go to: https://www.rydges.com/private-page/rydges-newcastle/



General information

HOW TO REGISTER

Registration can be completed through either the online or pdf form available at bioeconomy.au.

On receipt of your completed form, you will receive a confirmation email and tax invoice. Please note, registrations are not confirmed until payment is received in full.

AIEN Members: Please click "Register", enter your email address in the Access Code field and click on "Apply" to see the AIEN member tickets.

VBN and ANZBIG Members: Please click "Register", enter the code supplied by the respective orgnisation in the Access Code field and click on "Apply" to see the corresponding member tickets.

CONFERENCE REGISTRATIONS CANNOT BE SHARED. STRICTLY ONE DELEGATE PER REGISTRATION ONLY.

Payment

Registration will not be confirmed until payment is received in full. All fees are in Australian Dollars $AUD and are inclusive of 10% Goods and Services Tax (GST)

Cancellations

Cancellation of your registration must be advised in writing to info@aien.com.au. Cancellations received on or before 31 July 2024 will receive a full refund less a $165 administration fee, cancellations received after this date will not receive a refund, however, we will accept delegate name changes at any time leading up to the event (differences in registration fees may be applicable).

Dress Code

The dress standard for the event is business/smart casual including sessions and the networking function.

Registration inclusions

Full registration includes:

- Attendance at conference sessions (Wed 11 & Thu 12 Sep)
- Morning and/or afternoon tea and lunch as per the program
- 1 x Networking Function Ticket (Tue 11 Sep)
- Access to conference papers and presentations following the conference (subject to speakers approval)

Two-day registration includes:

- Attendance at conference sessions (Wed 11 & Thu 12 Sep)
- Morning and/or afternoon tea and lunch as per the program
- Access to conference papers and presentations following the conference (subject to speakers approval)

Day registration includes:

- Attendance at conference sessions on selected day
- Morning and/or afternoon tea and lunch as per the program
- Access to conference papers and presentations following the conference (subject to speakers approval)

Accommodation

Rydges Newcastle is offering ABC24 attendees a 15% discount on their accomodation rates. Please visit https://www.rydges.com/private-page/rydges-newcastle/ to view the available room options.

Parking

Valet parking is available to in-house guests at the Rydges Newcastle at $35 per car per day and is subject to availability.

Non-secure public metered parking is available within a short walking distance of the hotel.

In addition, there are several parking stations a short walk from the Rydges Newcastle. Further details are available at: https://bioeconomy.com.au/about-2/faqs/.

Disclaimer

Every effort has been made to present all the information contained in this brochure as accurately as possible. The organisers reserve the right to change, without notice, any or all of these details.

Privacy

In registering for this event relevant details may be incorporated into a delegate list for the benefit of all delegates (name, organisation and title) and may be made available to parties directly related to the event including AIEN and sponsors (subject to conditions). If you do not wish to be included in the delegate list please email info@aien.com.au.

Photography/recording

By registering for the Australian Bioeconomy Conference you consent and grant permission to AIEN, its agents and others working under its authority, to take and to have full and free use of video/photographs containing your image/likeness. These images and recordings may be used for promotional, news, online/multimedia, research and/or educational purposes by and for AIEN. Copies of the event photographs will be made available to the attendees after the event.

Contact

If you have any questions about the event, registration or the AIEN please contact:

Australian Industrial
Ecology Network Pty Ltd
PO Box 965
Paradise Point QLD 4216
T: 1300 446 303
E: info@aien.com.au

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