

Innovation in the Circular Economy 2022

Conference Report

*Industry, government and universities
working together to produce a roadmap
to develop the world's best circular
economy precinct.*

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Innovation in the Circular Economy 2022

Foreword

The NSW Smart Sensing Network (NSSN) is proud to have facilitated this conference in a compelling area of technological innovation.

In NSW's drive towards net-zero and smarter approaches to building a circular economy, this conference proved there is both the will and the capability across industry, government and universities to drive change.

This is one conference that didn't just repeat the same mantras about the need to innovate and translate, it did an outstanding job of presenting highly original science and technology, bringing new groups of people together, and allowing time for socialisation and discussion of ideas.

The enthusiasm and buzz in the room across the two days was palpable.

We hope the following brief report will help provide all participants and observers of the conference with continued impetus to move from ideas and discussion to developing tangible projects to deliver outcomes that aid the important transition to a circular economy.

Nick Haskins

Chief Operating Officer
NSW Smart Sensing Network
November 2022

Throughout our 30-year history, HunterNet Cooperative has supported new industries and innovations. Over the last few years this included the establishment and support for a Circular Economy Hunter Region. We connect and collaborate as part of this journey.

The result of just connecting two professionals, Granville Taylor and Don McCallum, resulted in this outstanding 2-day conference.

We were pleased that the event had such great reception and follow up response from attendees.

It is the 'power of many' that will focus the next steps to be taken from the conference. HunterNet Cooperative, and especially our members, will be an important part of this initiative.

The NSW Smart Sensing Network should be congratulated for putting their faith towards sponsoring this conference.

We cannot wait until the next event in 2023!

Peter Morrissey

Industry Adviser
HunterNet Cooperative
November 2022

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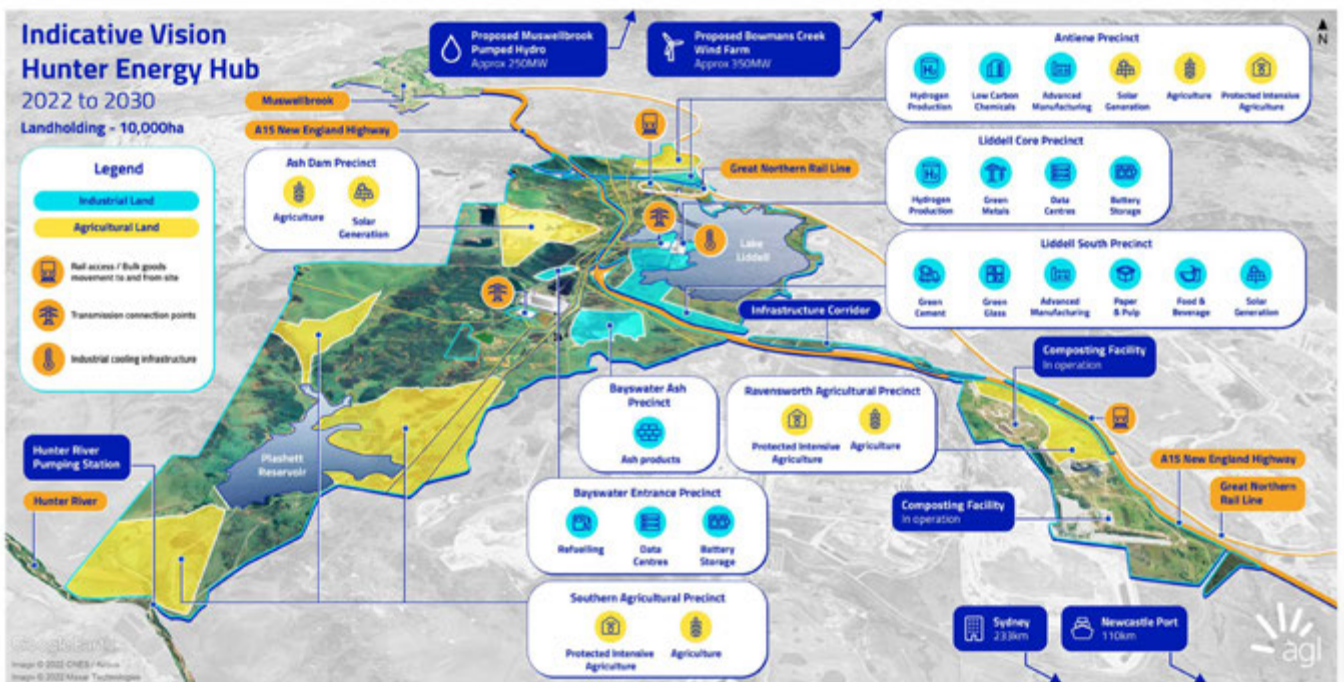
A note from AGL

AGL is very proud to have been part of this unique conference, which was an amazing gathering of circular economy academics, entrepreneurs and industry leaders. Our congratulations and thanks to the NSW Smart Sensing Network, in particular Dr Don McCallum, along with Granville Taylor and Peter Morrissey.

We appreciated the opportunity to participate, learn from industry experts and present our vision for the transformation of our Liddell and Bayswater power station site in the NSW Hunter Valley, into a low emissions integrated industry energy hub.

We look forward to further engagement with conference attendees and contributing to the emerging circular economy industry in Australia.

Rob Cooper
Senior Manager – Corporate Affairs
AGL Energy



Innovation in the Circular Economy 2022

Review of Day 1 - the “University Day”



We can simply say the day was a great success. While some incredible scientific research was presented, the day also gave airtime to small businesses, early and middle career researchers. Government and agency presentations created the framework to guide research to real outcomes.

I acknowledge all distinguished speakers, but dare not highlight any single one, as all talks were brilliant, and benefited from the enthusiasm of a highly engaged audience.

Don McCallum

Industrial Futures Theme Leader
NSW Smart Sensing Network



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Review of Day 2 – the “Industry day”



The enthusiasm engendered on the first day continued with opening and closing presentations from the highest levels of the newly-formed Circular Australia. AGL provided a detailed summary of the Bayswater & Liddell power station site which was followed by transport and logistical solutions to deliver waste streams to this site from the Hunter and further afield in NSW.



Distinguished experts in technologies such as anaerobic digestion, waste to energy, a pilot biorefinery, microfactories and plastics recycling demonstrated collaboration between industry, academic researchers and Circular Economy (CE) specialists.

A review of NSW Special Activation Precincts established the foundation to commence further analysis of this Hunter site for a major expansion of CE activities with consequent decarbonisation benefits. IITCE2022 can confidently be described as a resounding success.

Granville Taylor
Hunter Circular Economic Zone



Innovation in the Circular Economy 2022

Gallery



Startups offer a whole society view
bridging research and industry
to activate new realities
and lead the transition to new
sustainable industries



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NSSN Grand Challenges: Clean Tech

The NSW Smart Sensing Network (NSSN) is calling on research, industry and government stakeholders to form collaborative proposals and apply for funding under round three of the NSSN Grand Challenges Fund. The applications are open now and close in late February 2023. Grants of up to \$100,000 per project will support the development of R&D projects that link industry or government partners with NSSN member universities to translate world-class research into impactful smart sensing solutions, either through commercialisation or operationalisation.

The Fund has been established to promote the development of innovative, collaborative research projects that advance smart sensing solutions. In previous years the Grand Challenges have included COVID-19 and mining. The 2023 NSSN Grand Challenges will be: Ageing, Water, Smart Places and Buildings, and Clean Tech.

It is to this Clean Tech Grand Challenge that many of the project ideas of the *Innovation in the Circular Economy* conference can be pitched.

NSSN Co-Directors Professor Benjamin Eggleton and Professor Julien Epps said: “The fund provides a unique opportunity for industry and government partners to team up with researchers from across NSW and ACT and develop sensing solutions with a defined pathway to impact. As an innovation network, the NSSN is committed to translating world-class research occurring in NSW universities into compelling solutions that create value for the economy, environment and society of NSW.”

Eligibility: To be eligible, funding proposals must meet the following eligibility criteria:

- **Leadership:** be led by an NSSN member university.
- **Collaboration:** involve a minimum of two NSSN member universities (incl. the lead).
- **Partnership:** partner with at least one industry or government partner.
- **Co-investment:** attract cash co-investment from industry or government partners at least equal to the requested amount.

Proposals that do not meet these criteria will not be assessed.

Assessment criteria: Proposals will be assessed on the following criteria:

- **Significance:** how the proposal represents a significant and novel approach to addressing the defined Grand Challenge.
- **Collaboration:** how the proposal integrates and fosters genuine collaboration between NSSN member universities.
- **Partnership:** how the proposal integrates genuine partnership with industry and government partners and responds to a defined industry or government need.
- **Governance:** how the proposal defines a realistic research plan and the measures that will ensure delivery on milestones.
- **Impact pathway:** how the proposal defines a pathway to subsequent funding, commercialisation and/or operationalisation.
- **Diversity:** Commitment to diversity, equality and inclusion.

Find out more at nssn.org.au/grand-challenges





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Just announced – The 2022 Small Business Innovation & Research Program (SBIR)

The 2022 Small Business Innovation & Research program (SBIR) Round Two Challenges have been announced and the Office of the NSW Chief Scientist & Engineer (OCSE) is now accepting Feasibility study grant applications.

SBIR program challenges are well-defined problems currently faced by the NSW Government, which require innovative technologies that are not yet commercially available. The SBIR program will assist challenge agencies to identify solutions, assess technology feasibility and pilot, trial and demonstrate the solution to develop a commercial product.

Up to \$12 million is allocated for the 2022 SBIR program round. Companies will first apply for a Feasibility study grant of up to \$100,000 for a project of up to three months.

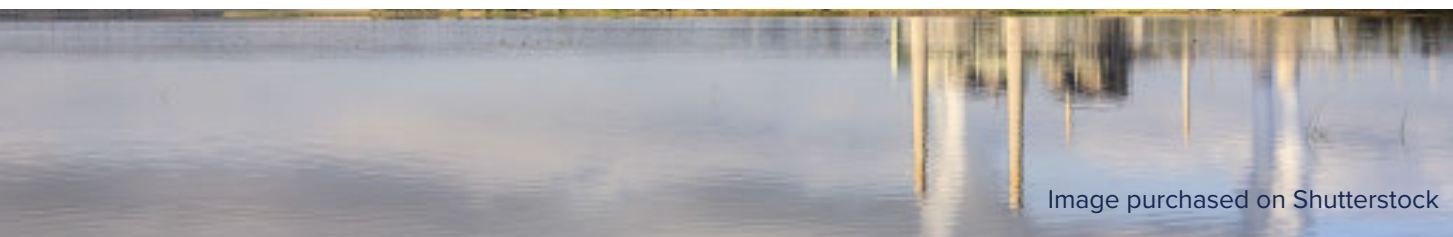
Companies that successfully complete a feasibility study will then have the opportunity to apply and be assessed for a further proof-of-concept grant of up to \$1,000,000 to carry out a more in-depth demonstration of their solution's ability to meet the needs of the challenge agency through a project of up to 15 months.

Proposed solutions address one of the 2022 SBIR challenges. Each challenge describes a current NSW Government agency problem requiring an innovative solution.

Seven challenges have been defined for the 2022 SBIR round. These include subjects particularly pertinent to the circular economy:

- [Waste Recovery and Management](#)
- [Recycled Content Verification](#)

More information can be found [here](#)



Get in touch

NSSN Industrial Futures Theme Leader

The NSSN Industrial Futures Theme Leader, Dr Sam Ashby is responsible for NSSN projects in the circular economy and will be pleased to scope out project proposals with you.

NSSN University Coordinators

Our network of NSSN Coordinators based in each university are all highly experienced in the scoping and delivery of collaborative industry, government and academic projects. If you are part of a university or already have an established university contact, please contact:

Australian National University

Sean Downes

Charles Sturt University

Amber Marks

Macquarie University

Jodie Hatfield

The University of Newcastle

Monique Moore

The University of Sydney

Andrew Kemp

The University of Wollongong

Zahra Shahbazian

UNSW Sydney

Anthony Morfa

UTS

Petra Becker

Western Sydney University

Dr Andre Urfer



Conference Organisers

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