



# The Sustainable Engineering Society

...engineering in harmony with ecology

## SENG-WA Newsletter – October 2023

In this edition of the SENG-WA newsletter, we present two upcoming conferences to be held in Perth: Engineers Australia's Climate Smart Engineering Conference, and the Australian Hydrogen Conference (West), as well as a review of the recent event looking at First Nations culture and how it connects to the Australian Fire Danger Rating system. Also coming up in November is an exciting industry seminar looking at reuse of construction and demolition waste and the latest work on lifecycle carbon analysis in the land development and building industry.

We invite members to contribute to the SENG Accessible Sustainability Collection by submitting any relevant sustainability and climate change material useful for research, project work, policy development and education by emailing suggested links to [seng.library@gmail.com](mailto:seng.library@gmail.com).

WA businesses are also invited to let us know how they are being Sustainability Champions in their industry. Please [get in touch](#) if sustainability is at the heart of your business, or a business you know.

### QUESTIONS AND ANSWERS

A 'Climate Change Challenges' series of webinars and forums was run in 2021 by the WA Division of Engineers Australia, in conjunction with the University of WA and Murdoch University.

During the series, over 100 questions or comments were submitted from around 1000 attendees. A 'Q&A' of the most pertinent, together with suggested answers, was put together by a group of senior EA members. The answers are NOT official EA answers; they are possible answers provided by the group as thought provokers.

In our Newsletter we will be publishing one Question and one possible Answer in each edition. We invite comments from our readers, a summary of which will be published in the following edition. Simple comments, such as agree/disagree are welcome, as are more detailed comments. These may be emailed to the [Q&A reply email](#).

This month, our question and possible answer is:

**Q**

*The media messaging, particularly from NewsCorp, seems to have shifted the narrative from general climate change scepticism to the acknowledgment that climate change is evident. However, the narrative now seems to communicate climate change as more of a financial proposition that is too expensive for society. Is there an overall strategy or policy from Engineers Australia for approaching/engaging with sceptical stakeholders?*

**A**

EA's focus is on practical action to facilitate meaningful change in practices and engineered solutions. This includes evidence-based information to better inform and equip engineers and decision makers. While we will not withdraw from the ongoing debate, we believe that practical action is likely to achieve a better result for society and contribute to shifting opinions.

## PAST EVENTS

### FIRST NATIONS CULTURE AND HOW IT CONNECTS TO THE AUSTRALIAN FIRE DANGER RATING SYSTEM

By Patrick Coffey (SENG-WA Treasurer)

The EA-Ten Series events are held monthly (ten times a year) at Engineers Australia Auditorium, Perth. Several SENG members attended the 9 August 2023 presentation by Mark Anderson from the Foundation for Indigenous Sustainable Health, and Bradley Santos from the Australian Bureau of Meteorology. It was a fascinating and engaging look into the subject delivered by two passionate speakers.

Mark introduced the topic and spoke about the different way in which First Nations peoples and non-indigenous Australians relate to land. For First Nations peoples the concept of land or country is relational – steeped in their cultural and custodial practices and belief systems; whereas for other Australians land is typically viewed as transactional (to be bought, sold, leased, conserved, developed etc). This difference in mindset flows through to how traditional owners and peoples practice fire management and control.



Mark gave a brief overview of First Nations fire management practices and the advances made in communicating these ‘cool burn’ techniques to non-indigenous audiences and practitioners. Western Australian indigenous rangers are practicing these techniques in many areas of WA presently and have been active in promoting the approaches throughout Australia and even in Africa. Differing from the ‘controlled burn’ approach practiced by forest management agencies in Australia and elsewhere, there is emerging evidence that the techniques provide better biodiversity outcomes and are highly effective in controlling bushfire risk and reducing bushfire intensity when events do occur.

Bradley then addressed the topic of the revised Australian Fire Danger Rating System and how indigenous art has been used to more effectively communicate it to both indigenous and non-indigenous audiences. The artwork designed by artist Emma Bamblett (among others) incorporates cultural motifs and representations to connect the hazard ratings with well understood and deeply held indigenous beliefs and understandings of country. It also presents an attractive and engaging medium for pictorially representing the new rating system.

For the interested reader, an image of the artwork and the artist’s explanation can be discovered at:

[AFDRS Caring-for-Mob Poster A1 2023 3 6 v1.0 WEB.pdf](#)

More information on the revised fire danger rating system is at:

[AFDRS – Australian Fire Danger Rating System](#)

## EVENTS

### THE POWER PANEL: GLOBAL LESSONS ON BUILDING SUSTAINABLE CITIES

#### Event by Committee for Perth

Date: 2 November 2023

Time: 11:30 AM - 2:00 PM AWST

Location: Pan Pacific Perth, 207 Adelaide Terrace Perth, WA 6000

The Power Panel: Global Lessons on Building Sustainable Cities will bring together mayors and key city developers from the [World Energy Cities Partnership](#) to share their experiences in managing the energy transition as part of [Committee for Perth's](#) Future Ready Forum.

As home to the world's biggest energy companies and focused on building a sustainable future, Perth will host the annual meeting of the World Energy Cities Partnership. Committee for Perth provides an independent platform to hear the good, the bad and the honest insights on what works and the lessons to be learnt.

The lunch-time panel discussion will let you hear how leaders from different corners of the globe are tackling the challenge of future proofing their cities.

Registration: <https://www.eventbrite.com.au/e/the-power-panel-global-lessons-on-building-sustainable-cities-tickets-718340003287>



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## CLIMATE CHANGE AND NATURAL AREA MANAGEMENT

### Free Event by City of Armadale - Environmental Services

Date: 8 November 2023

Time: 6:00 PM - 8:00 PM AWST

Location: City of Armadale, 7 Orchard Ave Armadale, WA 6112

Join Associate Professor Judy Fisher as she discusses key ideas on how to move forward as a community to improve outcomes for the natural world and people and gain an understanding the interactions between climate change and the natural environment during a period of rapid change.

A rapid shift is occurring in how people are viewing and desiring interactions with the natural environment. As people become more closely connected to the natural environment, it is important that the importance of the natural environment, and mechanisms to maintain and enhance its function, are communicated to wider and wider audiences.

Our most robust science identifies the need to consider both climate change and biodiversity, in particular its loss, in an interconnected manner while also considering positive influences of nature on society. Approaches which consider climate alone have been shown to often have negative impacts on biodiversity.

Registration: <https://www.eventbrite.com.au/e/climate-change-and-natural-area-management-tickets-727315669747>

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## **CONSTRUCTING SUSTAINABLY: HARNESSING CONSTRUCTION AND DEMOLITION RESOURCES IN WA**

**Free Event by Murdoch University, Earthcare Recycling, and DevelopmentWA**

Date: 10 November 2023

Time: 12:30 PM - 6:00 PM AWST

Location: Building 360 (360.4.003), Boola Katitjin, Murdoch University, South Street, Murdoch

Earthcare Recycling are presenting an industry seminar in partnership with DevelopmentWA and Murdoch University, focusing on research on use of recycled Construction & Demolition waste as road base, along with other industry speakers who will be presenting the latest work on lifecycle carbon analysis in the land development and building industry.

It will be great to see you there and an opportunity to extend your networks as well.

It is located in Boola Katitjin, the new timber building at Murdoch Uni, which is well worth a visit to view – quite stunning. It also has pretty impressive sustainability credentials and use of technology-aided learning experiences for the students.

Registration: <https://www.eventbrite.com.au/e/industry-seminar-tickets-740624195907>

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## **AUSTRALIAN HYDROGEN CONFERENCE (WEST)**

Date: 21-22 November 2023

Location: The Crown Perth, Great Eastern Highway, Perth, 6104

The Australian Hydrogen Conference (West) returns to Perth this November at the Crown Perth, bringing together the hydrogen sector's most eminent energy leaders to help shape the future of the industry across the nation and overseas.

Key topics include:

- The latest Government announcements on the country's hydrogen plans.
  - A showcase of new developments in the sector, including the [Hydrogen Headstart](#) program.
  - Western Australia's plans for a new hydrogen strategy.
  - Key project updates from Western Australia's hydrogen proponents, and many other players from across Australia.
  - An in-depth look at the IRA debate and its impact on Australian investment.
  - An analysis of the [European Union's new renewable hydrogen mandate](#) and what this will mean for Australian exports.
  - Boosting green hydrogen industries to achieve commercially viable green hydrogen by 2030.
  - Creating and developing electrolyser manufacturing opportunities.
  - The latest advances in hydrogen mobility, and refuelling networks being established across Australia.
  - The latest advances in new pipeline technologies that will facilitate storage and transportation of green hydrogen.
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- Water management and utilisation technologies and strategies for this new industry.
- Fuelling the decarbonisation of iron ore shipping between West Australia and East Asia.
- The future of green steel.

More information: <https://australianhydrogenconference.com.au/>

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## CLIMATE SMART ENGINEERING 2023 (CSE23)

### Conference by Engineers Australia

Date: 29 – 30 November 2023

Location: Melbourne Convention and Exhibition Centre

Introduction video (click to view):



Since its foundation in 2021, CSE has become a focal point for debate and knowledge sharing. Last year, CSE22 explored the ways engineers can navigate the complexities of achieving net zero emissions and drive the transition to a clean energy economy.

This year, a full technical program will support the plenary sessions. CSE23 has a Plenary Program Advisory Council, chaired by EA CEO Romilly Madew and a Technical Program Advisory Team chaired by Engineers Australia Chief Engineer Jane MacMaster and comprising the input of 19 Engineers Australia colleges and technical societies.

CSE23 will bring you the latest in world-leading views and engaging debate on solutions to address climate change, responding to extreme events, biodiversity loss, boosting the circular economy and upholding the principles of sustainable practices in engineering.

More information and registration: <https://www.engineersaustralia.org.au/learning-and-events/conferences-and-major-events/climate-smart-engineering>

## NEWS

### NET ZERO INITIATIVE - THE NEXT PHASE OF OUR CLIMATE ACTION

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The global demand for zero and low emissions technology, infrastructure, materials, products and services will drive industries and economies for decades to come. Already we are seeing an enormous shift in global expenditure with an estimated US\$2.4 trillion to be invested every year for the next 15 years to limit global temperature rise to 1.5° C.

This presents a significant economic opportunity for Australia. But navigating this new and rapidly changing landscape is complex, requiring deep collaboration and partnerships between research, industry, policy makers and the community.

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The University of Sydney's Net Zero Initiative (NZI) recently released the [Path to Net Zero](#), a white paper which outlines technologies and market-ready solutions it is developing, to contribute to Australia's targets for emissions reductions of 43 percent by 2030 and net zero by 2050.

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### **NET ZERO MOBILISATION REPORT: HOW TO MAKE NET ZERO HAPPEN**

The new report, [How to make net zero happen](#), builds upon the final modelling results of the [Net Zero Australia](#) study and explores what governments, business and households should do to accelerate towards net zero, tackling questions such as:

- Which net-zero options should we accelerate? Onshore wind and solar are well underway; should we also support offshore wind, carbon capture and storage, and nuclear? How?
- What role in global decarbonisation do we want to play? How can we phase out fossil fuel exports while building exports of clean hydrogen and minerals, often to the same customers?
- How should we share net zero's costs and benefits among Australians? Net zero will increase costs for all energy consumers and affect different groups differently. How do we minimise these impacts and share benefits with all Australians fairly?
- How can we roll out renewables while improving the environment? Renewables and networks will change landscapes and clear land. How can we reach net zero emissions whilst protecting and potentially even improving biodiversity and agriculture?
- What more should governments, businesses, communities, and households do? And should they work together better? How?

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### **INAUGURAL CARBON INNOVATION GRANTS PROGRAM RECIPIENTS REVEALED**

The Western Australian Government has announced the first round of grant recipients under the Carbon Innovation Grants Program (CIGP). The program focuses on cutting-edge technologies to remove, reduce or offset emissions from industrial processes.

Nine organisations will share \$4.24 million in funding to embark on projects in WA which have demonstrated benefits to heavy industry and mitigation of hard-to-abate emissions.

The nine organisations set to receive funding are:

- Aurizon Operations Limited
- CSBP Limited
- CSIRO
- Airbridge Pty Ltd
- First Mode Pty Ltd
- Australia VRFB ESS Company Pty Ltd
- Wallis Drilling Pty Ltd
- Tronox Limited
- Sea-Quester Offshore Pty Ltd

The grants will be used to support the organisations' technologies to progress to market readiness and commercialisation in line with the [WA Climate Policy](#).

Press release: <https://www.wa.gov.au/government/media-statements/Cook-Labor-Government/Inaugural-Carbon-Innovation-Grants-Program-recipients-revealed--20231019>

More information: <https://www.wa.gov.au/service/community-services/grants-and-subsidies/carbon-innovation-grants-program>



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