



The Sustainable Engineering Society

...engineering in harmony with ecology

SENG-WA Newsletter – April 2023

In this edition of the SENG-WA newsletter, we present events discussing policies for energy transition and the future of sea transport. Green Building Day is also coming up next month to discuss the latest in Green Star construction. Two recently released reports detail the value of the Australian biodiversity market and a roadmap towards a sustainable industry with better environmental outcomes.

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.

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

How do we take action when budgets for projects are governed by non-engineers, mostly deniers?

A

Engineers are not the only profession who are concerned and activated by climate change. However, engineers are likely to be in the best position to understand their project's impact, and the changes and mitigations that are possible. Engineers with the appropriate competence can develop the project evaluation criteria that the community and investors require in the climate conscious world. Develop your own confidence in talking about climate change, such as becoming familiar with reputable sources, and then displaying leadership by raising the need for sustainability/climate change improvements. Develop your designs creatively to meet both financial and non-financial objectives. Arguments include improving the company's social licence to operate, the increasing adoption of ethical investments by major financiers, and your own desire to operate within the EA Code of Ethics. Demonstrate in your professional environment how the non-financial objectives are just as important for you company or organisation.

EVENTS

PRIORITISING POLICIES FOR THE ENERGY TRANSITION

Hybrid Event by the College of Leadership & Management (CLM-WA) and SENG-WA

Date: 27 April 2023

Time: 05:30 – 06:30 PM AWST

Location: Beeliar Auditorium, Level 10, Allendale Square, 77 St Georges Terrace, Perth

This event is a response to the climate change challenge of achieving net zero by 2050. We are currently in an energy transition, needing to understand the ecosystem and interlinks with industry, regulators and government to determine how to achieve this energy transition, prioritising actions and policies.

In this presentation you will learn about:

- the current state of the energy transition,
- current policy changes,
- the ecosystem and interlinks with industry, regulators and government,
- policy priorities to achieve effective energy transition, and
- how hydrogen contributes to the energy transition.

More information: <https://www.engineersaustralia.org.au/event/2023/03/prioritising-policies-energy-transition-47791>

THE FUTURE OF SEA TRANSPORT

Event by The Hub on SX

Date: 27 April 2023

Time: 4:30 – 7:00 PM AWST

Location: WA Maritime Museum, Victoria Quay Road, Fremantle

Join The Hub on SX for their next event featuring three speakers from Oceania, Svitzer and Electro Ventures who are driving the change towards a more sustainable future for the sea transport industry.

Learn about the latest technologies and practices, from decarbonisation to developing all-electric hydrofoil watercraft, these innovators are at the forefront of the movement to a greener future.

More information: <https://events.humanitix.com/the-future-of-sea-transport>

GREEN BUILDING DAY

Event by The Green Building Council Australia

Date: 23 May 2023

Time: 8:30 AM - 7:00 PM AWST

Location: WA Museum Boola Bardip

Green Building Day is back for 2023! Join the Green Building Council for an immersive experience that will deep dive into key strategy areas through a local and national lens.

Learn about the latest updates in Green Star and discover how they are working in practice, listen to the latest and most innovative case studies from around the country and hear from industry experts who will share their experience and learnings on key challenges in the built environment.

From embodied carbon, electrification, nature and biodiversity and more, this is your chance to connect, engage and further your knowledge on all things Green Star.

Note: The early bird rate ends on Friday, 28 April 2023.

More information: <https://new.gbca.org.au/courses-events/events/green-building-day/>

APPLICATIONS OPEN FOR ISC ANNUAL AWARDS

The 2023 Infrastructure Sustainability Council Awards continue the Council's well-established tradition of advancing leadership in sustainability by celebrating best practice across the Australia and New Zealand infrastructure sectors by:

- Encouraging best practice.
- Acknowledging leadership.
- Recognising role models.
- Rewarding valuable contributions.
- Promoting leading organisations.

This year's awards will exemplify excellence in sustainability across environmental, social, governance, and economic quadruple bottom line outcomes and outstanding contributions to market transformation at organisational, systemic and societal levels.

More information: <https://www.iscouncil.org/isc-annual-awards/>

NEWS



A NATURE-POSITIVE AUSTRALIA

PWC's latest report "[A nature-positive Australia: The value of an Australian biodiversity market](https://www.pwc.com.au/environment-social-governance/nature-positive-australia-value-of-australian-biodiversity-market.html)" explores ways in which government, landowners, First Nations peoples, industry and philanthropic partners could work together to address the decline in the nation's biodiversity ecosystems, and examines the possibility of a market to complement existing conservation efforts.

The report's key findings include:

- A biodiversity market could unlock \$137 billion in financial flows to advance Australian biodiversity outcomes by 2050.
- Real estate, agriculture and mining as well as tourism and hospitality are well placed to capitalise on nature positive opportunities.
- A biodiversity market is not a silver bullet, and continued investment in conservation, restoration and protection of species and ecosystems must continue.

More information: <https://www.pwc.com.au/environment-social-governance/nature-positive-australia-value-of-australian-biodiversity-market.html>



WABSI RESTORATION ECONOMY REPORT RELEASED

The Western Australian Biodiversity Science Institute (WABSI) have just released their [Restoration Economy report](#), presenting a roadmap towards a sustainable industry with better environmental outcomes. They define the restoration economy as the market that encapsulates businesses, investors and consumers engaging in economic activity related to rehabilitation and restoration.

The roadmap identifies actions to lift Western Australia's ability to deliver meaningful, large-scale ecological restoration across the State – as individuals and collectively.

More information: <https://wabsi.org.au/our-work/programs/restoration-economy/>

BIG CONCERN FOR SLOWING OCEAN

Scientists are sounding the alarm on the slowdown of deep ocean currents.

Melting ice in Antarctica is likely to cause a rapid slowdown of a major global deep ocean current by 2050, according to new research from Australian scientists.

The team found that the current in the deepest parts of the ocean could slow down by 40 per cent in just three decades if greenhouse gas emissions continue at current levels.

This could lead to a series of impacts including sea level rise, altered weather patterns and the potential long-term extinction of a vital water mass.

The research, [published in the journal Nature](#), examined the deep ocean current below 4,000 metres which originates in the cold, fresh and dense waters that plunge down off Antarctica's continental shelf and spread to ocean basins around the globe.

Full article: <http://www.watercareer.com.au/news/big-concern-for-slowing-ocean>

BHP LAUNCHES RENEWABLE DIESEL TRIAL, RAISING CONCERNS OVER BIOFUEL IN NET ZERO TRANSITION

Mining giant BHP has launched a "renewable diesel" trial to reduce carbon emissions at a Pilbara iron ore mine, but an environmental engineer says the company may be better off with the real thing. Hydrotreated vegetable oil (HVO) blended with diesel will be supplied to the site by BP and used to power mining equipment including haul trucks, loaders, and bulldozers.

Yandi's general manager of operations Yanni Kotsos said the three-month trial was part of BHP's efforts to reduce diesel fuel carbon emissions while it waited for battery electric equipment to become available.

Full article: <https://www.abc.net.au/news/rural/2023-03-14/bhp-yandi-biodiesel-hydrotreated-vegetable-oil-trial-concerns/102059364>

MUSSELS LIFT SWAN QUALITY

Mussels are helping clean up WA's Swan River. A large-scale shellfish reef has been constructed in the Swan River, with research from Murdoch scientists demonstrating the tremendous capacity of these aquatic vacuums to improve water quality.

“Shellfish provide a range of ecosystem services for coastal environments and communities,” explains Dr Alan Cottingham, who led the research.

“They provide habitat and prey for fish and crustaceans, enhance the biodiversity of marine ecosystems, and improve water quality through filter feeding.”

It is this last benefit which scientists at the Harry Butler Institute have explored in detail, with a study of the mussel reef in the Swan Canning Estuary restored by The Nature Conservancy Australia (TNC).

Full article: <http://www.watercareer.com.au/news/mussels-lift-swan-quality>

FIRST CHARGERS GO LIVE IN REGIONAL WA AS PART OF THE WA EV NETWORK

Tourists heading north and residents in the Mid-West can now charge their EVs in Geraldton and Northampton with the first chargers in the WA EV Network operational.

The fast chargers, which will provide up to 150kW, will allow drivers to recharge their EVs in as little as 20 minutes.

In Geraldton, two 150kW fast chargers will be located on the Marine Terrace, while Northampton will have a 150kW fast charger and a back-up charger at the Visitors Centre in the centre of town.

Construction has also begun in Albany, Manjimup, Walpole and Williams with the chargers expected to be operational by the middle of the year.

Full media release: <https://www.mediastatements.wa.gov.au/Pages/McGowan/2023/04/First-chargers-go-live-in-regional-WA-as-part-of-the-WA-EV-Network.aspx>

NSW CIRCULAR DESIGN GUIDELINES FOR THE BUILT ENVIRONMENT

The NSW Government has recently released their design guidelines for the built environment, aimed at encouraging and equipping government and industry to adopt smart, innovative and sustainable strategies to:

- reduce embodied carbon,
- minimise the generation of waste,
- improve materials efficiency,
- increase the circularity of materials used in projects.

Download the guidelines here: <https://www.energy.nsw.gov.au/business-and-industry/courses-and-guides/technology-guides/circular-design-guidelines-built>



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