



# The Sustainable Engineering Society

*...engineering in harmony with ecology*

## SENG-WA Newsletter – May 2022

In this edition of the SENG WA newsletter, we have included an invitation for you to get involved with SENG WA by joining the committee, an opinion piece on determining a shadow carbon price, and events including an oil spill conference, a breakfast discussing diversification of WA's economy and a workshop on food system sustainability.

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.

We hope you enjoy!

## SENG WA: CALL FOR EXPRESSIONS OF INTEREST

### GET INVOLVED WITH SENG!

The Sustainable Engineering Society (SENG) WA Chapter Committee has extended the expressions of interest (EOI) for Committee members for the 2023/2024 term (1 January 2023 - 31 December 2024). Once confirmed, successful applicants will be invited to commence their role for the remainder of this year (2022).

The Sustainable Engineering Society (SENG) is a technical society of Engineers Australia, open to all engineers and other professionals working towards sustainability. SENG provides a forum to:

- advance sustainability and environmental outcomes for all society,
- enable all engineers to implement sustainability in their work in accordance with the EA Code of Ethics,
- advance the profession of environmental engineering.

As a SENG WA Chapter Committee member, you will:

- Get the opportunity to assume a particular role (e.g: Treasurer, Advocacy Lead, Events Lead).
- Develop board/committee experience and leadership experience.
- Contribute to the organisation and delivery of SENG CPD events, focused on sustainability.
- Support advocacy work on relevant policies and technical standards.
- Earn CPD points for relevant SENG activities.
- Network with other professionals across SENG, and our partner organisations.
- Contribute to SENG's broader national strategy, objectives, and activities.

### Who are we looking for?

SENG WA is looking for diversity across age and gender. Applicants are not required to be engineers or sustainability practitioners. We welcome expressions of interest from both students and graduates. Nominees must be members of SENG.

### How to nominate

You will need:

- Your Engineers Australia ID
  - A short form CV
-

- A candidate statement no longer than one page, setting out what you can contribute and why you would like to be on a SENG Chapter Committee.

**EOIs close at 10.00 pm AEST on Sunday, 22 May 2022.** Any EOIs received after this deadline will be ineligible and not considered.

All eligible EOIs will be considered by the SENG WA Chapter Nominations Committee and successful candidates will be notified as soon as possible. Please submit your nomination at [Submit an EOI](#).

Please note: If you have already submitted an EOI, you do not need to do so again.

Enquiries: For more information, please refer to the SENG website. Please email us at [seng@engineersaustralia.org.au](mailto:seng@engineersaustralia.org.au) if you have any questions. We look forward to receiving your EOI.

## OPINION: VALUING EXTERNALITIES

The [WA Government Policy on Climate Change](#) has a target of net zero greenhouse gas emissions by 2050. There are a number of state government initiatives and programs in support of the Climate Change Policy – one of these is [Low Carbon Transition](#) and requires development of sectoral emissions reduction strategies. However, an important aspect of making this transition is to assign value to the carbon impact of design alternatives so that options comparison efficiently selects low carbon alternatives.

### Monetising externalities

Monetising external cost of Greenhouse Gas (GHG) emissions requires a shadow (or internal) carbon price for options assessments. A shadow price is a theoretical value that can be set (voluntarily) to cost carbon emissions for the purpose of internal decision-making. A well-designed carbon price is an indispensable part of a strategy for reducing emissions in an efficient way.

A disadvantage of linking the shadow carbon price to a market price such as Australian Carbon Credit Units (ACCUs) is daily volatility, even though there is a general trend of price increasing over time.

A potential starting point for selecting a non-volatile price appears to be the [High level Commission on Carbon Prices](#) that was set up in 2016. This uses a range of prices, with price increasing over time. The Commission concluded that the carbon-price level consistent with achieving the Paris temperature target is at least:

- 2020 price from \$US40 to \$US80/t CO<sub>2</sub>-e
- 2030 price from \$US50 to \$US100/t CO<sub>2</sub>-e

Although a range of prices can be used as a sensitivity analysis, it is often convenient to have a defined value.

The question is: how to select a value?

A possible thought process is:

- Not zero - Not setting a shadow carbon price implies the price is zero, which is contrary to the hierarchy of controls where offsets are considered a last resort to be used where mitigation is not possible/practical.
- Not equal - Setting a shadow carbon price at the price paid for offsets would imply that they are equal, which is also contrary to offsets being considered a last resort.
- Must be significantly more than – The shadow carbon price needs to be set at significantly more than the price of offsets. In order for this to be clearly distinguishable from “equal” and to be discernible against the level of accuracy of the cost estimates used during concept design, it is suggested that a premium of 50% be applied to the price of offsets.

The low end of the Commission’s range of prices is similar to the historical high price for ACCUs, and the high end of the range is similar though slightly lower than the historical high price for EU carbon permits.

---

Adopting a 50% premium on the low-end results in the shadow carbon price being between the ACCU price and the EU carbon permit price.

Although this could be used as the initial basis for determining a shadow carbon price, it may need to be re-visited in the future to consider what price and price trajectory would be suitable for achieving WA's interim and long-term emissions reduction targets.

---

This opinion piece was provided by SENG member Barrett Moulds. It does not necessarily represent the views of EA or SENG, but is intended to promote discussion. If you have comments on the article or any suggestions on important considerations for designing a shadow carbon price or for principles to consider when valuing any other externalities (e.g. native vegetation clearing; and social impacts such as noise pollution) then please respond using this [Reply Link - Valuing Externalities](#). Responses may be included in summary form in future newsletters unless you request otherwise.

## 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**

*Does the Code of Ethics preclude engineers from working on fossil fuel projects?*

**A**

No; as long as they are abiding by the Code's four tenets: demonstrate integrity, practice competently, exercise leadership and promote sustainability. In fact, it is highly beneficial to have ethical people in the fossil fuel industry if they are exercising leadership and promoting sustainability with the sincere aim of leading a rapid transition to net zero GHG across the whole value chain. Further they need to be part of the full transition of energy to zero GHG emissions (regardless of offsets).

We know many of the traditional fossil fuel industry corporations are on this transition. We may argue that the transition is not fast enough and that we should advocate for rapid transition.

What is totally unethical is the practice of knowingly slowing down the transition from GHG emitting industries by giving false information such as attacking reputable science or making false claims. This is known as 'predatory delay' because it is preying on future generations of people, flora and fauna for short term personal gain.

It is also important that we distinguish between fossil fuel that produces GHGs when burnt and the use of coal, oil and gas as feedstock for other industries, such as chemicals and plastics.

*SENG WA would love to hear from you about these questions and answers.*

Contact us here: [Q&A reply email](#)

---

## EVENTS



### WATER QUALITY AND HEALTH NETWORK OIL SPILL CONFERENCE

#### Conference by Water Quality and Health Network

**Date:** Thu, 12 May 2022

**Time:** 7:00 AM – 2:30 PM AWST

**Location:** WA Maritime Museum, Peter Hughes Drive, Fremantle, WA 6160

Held in person (face to face) at the WA Maritime Museum, Victoria Quay, Peter Hughes Dr, Fremantle, Western Australia and via virtual platform, the WQHN Oil Spill Conference will feature a high quality technical program designed for a multi-discipline audience, delegates will be able to review and compare past oil spill incidents, be able to implement future-risk plans, remain updated with industry regulation, learn from other disciplines - and be inspired by technological solutions of today, for tomorrow.

More information: <https://www.eventbrite.com.au/e/wqhn-oil-spill-conference-2022-tickets-256521271027>

---

### BIODIVERSITY AND SUSTAINABLE FOOD SYSTEMS

#### Online Workshop by CERES School of Nature and Climate

**Date:** Fri, 20 May 2022

**Time:** 8:00 AM – 2:00 PM AWST

Through a mix of theory, demonstrations and design activities, attendees will explore biodiversity, habitat, connection to nature and sustainable food systems, as well as learning how CERES teaches biodiversity, explore other biodiversity programs, resources and have the opportunity to design your own environmental education activity.

Topics covered on the day:

- Understanding of global and Australian biodiversity
- Measuring Biodiversity – Habitat Quality Audit - Bird Surveys - Tree Measuring
- Biodiversity Organisations and Volunteer Opportunities
- Ways of making a difference in your backyard
- Sustainable Food Systems – small & large scale and urban systems – Guest Speaker – Chris Ennis, Manager CERES Fairfood

Registration: <https://events.humanitix.com/biodiversity-and-sustainable-food-systems-2022>



## DIVERSIFYING WA'S ECONOMY THROUGH SUSTAINABLE NEW MARKETS

### Breakfast and Panel Discussion by the University Club of Western Australia

**Date:** Wed, 8 Jun 2022

**Time:** 7:00 – 9:00 AM AWST

**Location:** Banquet Hall, Entrance 1, Hackett Dr, Crawley WA 6009

The world's increasing climate consciousness is prompting a global transition from a carbon-intensive economy to encompass greener alternatives.

To meet this global trend, Western Australia faces a persistent question as to how to best open its economy to seize upon emerging markets and opportunities while still optimising the benefits of the mining sector. Western Australia's many thousands of active mine sites will move towards closure in the next two decades, creating a natural pivot towards greater economic diversification.

In this panel discussion, we'll hear from industry experts, government representatives and UWA researchers on the new and sustainable economic ways of the future, and what should be done now to accelerate change.

More information: <https://universityclub.uwa.edu.au/events/diversifying-was-economy/>

## SUSTAINABILITY CHAMPIONS



WA SENG is giving companies a free opportunity to showcase their sustainable, innovative practices in our newsletter.

For a chance to be featured, please complete [this form](#).

## NEWS

### OPINION: HOW QUICK WINS FOR OUR CLIMATE COULD ALSO HELP OUR HIP POCKETS

**When it comes to meaningful climate action, WA is a laggard state of a laggard nation. The time for climate action is now.**

While Australia was singled out recently by the UN Secretary General as a climate “holdout”, it is WA that is performing worst. WA is the only Australian state with rising greenhouse gas emissions, the only state without an emissions reduction target or renewable energy target, and we continue to expand fossil fuel investment.

Full article: <https://www.watoday.com.au/environment/climate-change/how-quick-wins-for-our-climate-could-also-help-our-hip-pockets-20220411-p5acp7.html>

---

## WA GOVERNMENT PROVIDES HELP FOR HOSPITALITY VENUES TO BECOME "PLASTIC FREE PLACES"

**With the single-use plastic ban coming into effect on 1 July, the Government is partnering with the Boomerang Alliance to work with local businesses to choose the best reusable items and alternatives to plastics.**

Hospitality venues, including cafes, bars, restaurants, markets and sporting arenas, are being offered help to transition to plastic free places ahead of the single-use plastics ban commencing on July 1, 2022.

The ban applies to the supply of single-use plastic items including straws and stirrers, cutlery, plates and bowls. Straws will continue to be available for people in the community who require them to meet their life needs. From October 1, 2022 Western Australian businesses can no longer supply disposable plastic cups for cold drinks.

To support businesses to make the change and find alternatives, the McGowan Government is teaming with Boomerang Alliance, a not-for-profit organisation working on waste minimisation and recycling. The alliance works with businesses' existing local suppliers to choose the best reusable items and alternatives to plastics.

More information: <https://www.mediastatements.wa.gov.au/Pages/McGowan/2022/04/Help-for-hospitality-venues-to-become-Plastic-Free-Places.aspx>

### MEDIA

#### HAVE WE TIME TO SAVE OUR WAY OF LIFE - SOME BASIC ARITHMETIC

Three sources of reliable information are considered in addressing this question. The answer is that we have very little time left, and we need to act now.

This is a presentation made by a professional engineer, designed to improve the knowledge of engineers and other professionals including politicians.

<https://www.youtube.com/watch?v=QAAsQIsIu58>



Follow us on LinkedIn for the most up to date news and events



*The information contained in this newsletter is for general guidance on matters of interest only. No claim is made as to the accuracy or authenticity of the content of this email. Information, data, and advice is provided on the basis that readers undertake responsibility for assessing the relevance and accuracy of its content.*

---