



## The Sustainable Engineering Society

*...engineering in harmony with ecology*

# SENG Quarterly Newsletter September 2022

Welcome to the September 2022 edition of the Sustainable Engineering Society (SENG) quarterly newsletter.

In this edition, we share with you updates from the SENG regional chapters and a message from the SENG chair.

Please contact us if you would like to contribute content to future editions or have any feedback. We look forward to hearing from you.

The SENG executive committee

## Message from the chair

Dear SENG members,

Time has flown and we are already in September 2022!

Sustainability continues to become an increasingly important topic in the engineering profession and across our society.

From 1 October, Michelle Bruce will be taking over my role as SENG Chair for the remainder of the year. Since this is my last message as Chair, I'd like to say an enormous thank you to our SENG members and volunteers for your support and contribution over the past two years.

I'm very proud of what SENG has achieved despite the impacts of a global pandemic across areas of education, networking and advocacy relating to sustainable engineering. All we have achieved would not have been possible without you.

Take care and we hope you enjoy this newsletter.



Benjamin Hanley

SENG Chair

## SENG regional chapter updates

### SA/NT/OS

The Committee has several events planned and would like to hear from members about the types of events they would like in 2023.

Committee applications will be opening later in 2022. Further information will be sent to members

### NSW

SENG NSW continues to build following a recent quiet period. The committee positions for the upcoming period will be voted on. Several ideas are being pursued for possible future CPD events as well as with collaborations with organisations who share our objectives and provide opportunity for greater impact.

## Upcoming events

### Meet and greet (in person)

Date: TBD in November

Synopsis: An opportunity for SA SENG members to meet one another and talk about plans for 2023.

### Build a greener Adelaide: sustainability workshop (in collaboration with YEA)

Date: 22 October

Synopsis: A sustainability themed event organised and run in collaboration with Young Engineers Australia. [Register now.](#)

### Exporting renewables (online only)

The SA/NT/OS Committee will host Suncable in October to discuss the opportunities and challenges in planning for large-scale solar energy export to Singapore. This webinar presentation

will focus on the sustainability objectives for the project, engineering and environmental challenges. [Register now.](#)

Keep an eye on the Engineers Australia and SENG events for further details.

## Articles of interest

### Implementing sustainability from an Indigenous perspective

#### BACKGROUND

The 'implementing sustainability from an Indigenous perspective' forum was held at the Perth auditorium of Engineers Australia on 26 July 2022. Engineers Australia already has sustainability principles<sup>1</sup> but Indigenous perspectives could enrich these principles.

The forum was a collaboration by the WA College of Leadership and Management (CLM), the WA Sustainable Engineering Society (SENG) and the Indigenous Engineers Group (IEG).

There were 34 attendees including presenters Sharon Wood-Kenney (community engagement and co-design consultant), Grant Maher (National Chair, Indigenous Engineers Group), Jodey Brockhurst (outgoing WA Division President), Tiina Ratamo (CLM) and David Rice (SENG).

After each presentation their ideas were discussed in break-out groups, followed by a panel discussion involving all attendees.

#### KEY IDEAS

The key ideas that arose in the table discussions were:

1. Caring for Country as a custodial species
2. Eco-centric co-design
3. Modify Engineers Australia Charter
4. Journey together
5. Time to consult

An explanation of each idea follows.

#### Caring for Country as a custodial species

**Caring for Country** includes 'care for Country', 'look after Country' and 'designing with Country'. It also includes leaving a footprint to make the world a better place, treading lightly and promoting rejuvenation.

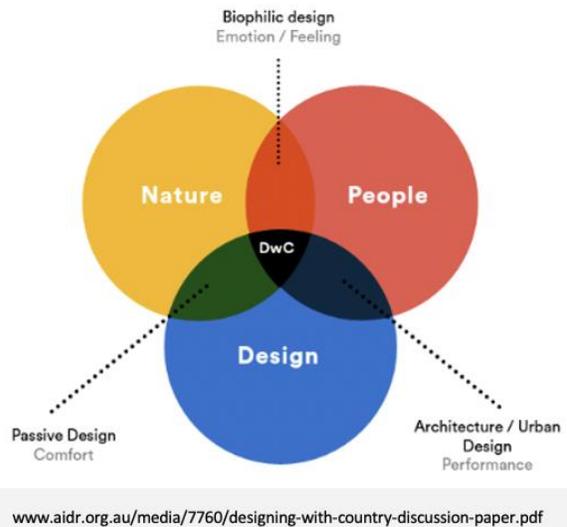
Clearly 'Country' has strong Indigenous cultural meaning and needs to be recognised. 'Country' means all that is within the area inhabited by a particular Indigenous group including people, animals, plants, water, earth, and sky.

Designing<sup>2</sup> with Country (DwC) is illustrated by:

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<sup>1</sup> Key EA sustainability principles are embedded in the EA Royal Charter, Strategy, Code of Ethics, and guidelines *Implementing Sustainability: Principles and Practice*, 2017

<sup>2</sup> *Designing with Country*, Discussion Paper by the Government Architect, NSW, 2020, is a good reference: <https://www.aidr.org.au/media/7760/designing-with-country-discussion-paper.pdf>



There were suggestions that, for Indigenous input, there should be some form of standard/guidelines/MoU/inclusion in the Engineers Australia Code of Ethics. These need to recognise that Indigenous input must be from informed Indigenous representatives and that input from non-informed people can be harmful. How to find the right Indigenous representatives, those with the cultural authority for a particular geographic and knowledge area, should be followed up.

It was also suggested that 'Country' might replace 'environment' in Engineers Australia's approach to sustainability. It is the forum organisers' view that 'environment' is already embedded in top documents, it is already a term in broad public use and is included in much Federal and State legislation, so 'environment' should remain. Adding an explanation of 'Country' when talking about 'environment' in Engineers Australia documents should be considered.

**Custodial Species** relates to the Indigenous view that we are here as a custodial species: as carers of everything; to look after all life including ourselves, fellow humans, animals, plants, insects, soil, water, and air. That is why we are here.

Care for Country and being a custodial species are fundamentally the same and have been combined.

### **Eco-centric co-design**

**Eco-centric** means understanding what is needed for a project before design concepts have begun, by gaining knowledge from the local people about what local materials, land use, air and water flows can be incorporated into the project.

It means eco-centric rather than ego-centric and this principle is illustrated by:  
Eco-centric



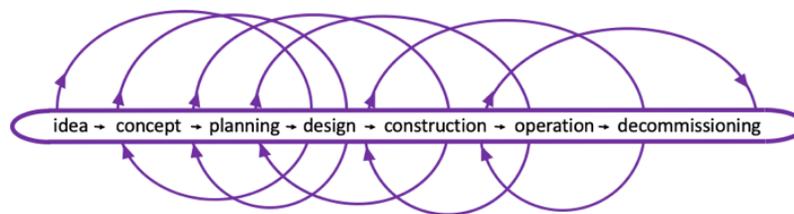
Ego-centric



It was noted that ego-centric engineering has been around since 1920, when engineering was ‘for the benefit of mankind’ and this anthropocentric view is still current.

**Co-design** is included in this idea. It refers to gaining knowledge from all community and stakeholders, particularly those in the Indigenous community with specific local knowledge. Co-design input, while vital at the concept stage, should be sought throughout a project. This is illustrated by:

### Co-design throughout



### Modify Engineers Australia’s Charter

The current Royal Charter states that Engineers Australia’s purpose is ‘for the benefit of the community’. This should be modified to ‘for the benefit of the community **and the environment**’ if it is to match the Indigenous concept of caring for Country.

This idea flows through to modifying the strategy to ‘advancing society **and the environment**’. It also flows through to the Code of Ethics being ‘for the benefit of the community **and the environment**’ and ‘balancing the needs of the present with the needs of future generations **of all species**’.

These modifications would not only bring the high-level Engineers Australia documents in line with Indigenous wisdom, but also make them consistent with another part of the Code of Ethics that already recognises we should ‘Practice engineering to foster the health, safety and wellbeing of the community and the environment’, and the organisation’s Sustainability Policy that already states: ‘Sustainability means that future generations will enjoy environmental, social and economic conditions...’ Specific ideas for adding to Engineers Australia’s *Implementing Sustainability: Principles and Practice* guidelines were also raised.

The forum participants showed significant support for institutional and structural changes and considered these proposals would be positive changes to Engineers Australia as an institution.

### Journey together

This includes collective journey, inclusive journey, working together and collaboration.

There was a strong feeling of being welcomed by the Indigenous speakers<sup>3</sup> at the forum.

‘Together’ means both Indigenous and non-Indigenous people. It means making connections with a mixture of people in a respectful manner with the aim of benefitting generations to come.

### **Time to Consult**

This includes the need for time to listen, to engage, and to build on capability.

This is difficult when many projects are time critical, but ways of doing this include planning in advance of detailed design and construction. One example provided was major roads in the Perth Metropolitan area where advanced planning, including community consultation, are often done many years, sometimes decades, before-hand. Another example was town planning, where the plan may be drawn up well before land use physically changes.

Some form of standard/guidelines/MoU for Indigenous input (see Caring for Country above) could also assist.

### **Referenced in article:**

1. Key EA sustainability principles are embedded in the EA Royal Charter, Strategy, Code of Ethics, and guidelines Implementing Sustainability: Principles and Practice, 2017
2. Designing with Country, Discussion Paper by the Government Architect, NSW, 2020: <https://www.aidr.org.au/media/7760/designing-with-country-discussion-paper.pdf>
3. Indigenous speakers were Sharon Wood-Kenny, Grant Maher and Jodey Brockhurst.

## **Australia and sustainability**

The 2022 Federal Election saw members of the 47th Parliament of Australia elected to office, following an election where climate change and sustainability was of high importance to voters... and rightly so.

Over the last few years, Australians have experienced the localised and more subtle effects of a warming climate as well as extreme bushfires and flooding that have had catastrophic impacts on biodiversity and all areas of the environment. Against a backdrop where 2030 is rapidly approaching (the date for full implementation of the UN Sustainable Development Goals) and the Paris Agreement, which is looking increasingly unachievable, Australia needs more climate action sooner, and needs to assert itself as a global leader in mitigating climate change.

The new climate bill passed by the Australian House of Representatives has seen targets for Australia to reduce greenhouse gas emissions by 43 per cent by 2030, and a reduction to net zero enshrined into law with an emphasises on these targets being the minimum.

This is a great step forward, but attention must now turn to how Australia can realise, and exceed, these targets. The sustainability strategy to achieve these cuts and ultimately net zero by 2050 will require input from and collaboration across all areas of Australian society, in particular engineers.

The role of engineers in the future of sustainability in Australia was highlighted at Engineers Australia’s Climate Smart Engineering 2021, the success of which is sure to see [Climate Smart Engineering 2022](#) be as important. This event that we should use to help guide Australia on its path of achieving, and exceeding, its climate change targets.

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<sup>3</sup> Indigenous speakers were Sharon Wood-Kenny, Grant Maher and Jodey Brockhurst

## Further reading

The SA/NT/OS committee has collated a list of links to interesting projects and technology developments related to sustainable engineering. These are updated regularly, and can be found on our website at <https://www.seng.org.au/node/857>

## Contact

We welcome your feedback, ideas, and comments on the SENG newsletter.

You can contact us via the [contact form on our website](#) or by emailing [info@seng.org.au](mailto:info@seng.org.au).

Please visit our [website](#) and [LinkedIn](#) for updates regarding SENG events, news and more.