



Circular Economy Think Tank

10th May 2021

Outcomes Report



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CONTEXT

Since 2010, the circular economy has moved beyond a niche topic, to a priority area of investment, strategy, research and practice. The circular economy is gaining rapid traction both nationally and internationally, however, to further accelerate this momentum, awareness and collaboration are needed.

To this end, the 10 Hunter Central Coast (HCC) Councils seized the opportunity of the Hunter Innovation Festival to draw attention to the circular economy by organising a half-day Circular Economy Think Tank in collaboration with Lake Macquarie City Council, University of Newcastle (Hunter Research Foundation Centre), Sustainability Advantage, Hunter Joint Organisation (HJO), GoCircular and Coreo.

The Hunter Central Coast region is already well on its way to creating a more circular economy. Last year, the Hunter Joint Organisation completed two foundational projects - Hunter Central Coast Ecosystem project and the Hunter Central Coast Material Flow Analysis (HCC MFA) – in collaboration with Sustainability Advantage - and this year, Lake Macquarie City Council started using the City Scan Tool to discover and prioritise circular opportunities for the region.

As such, the Circular Economy Think Tank was seen as a collaborative way to educate and inspire people whilst generating potential circular economy solutions to priority materials in the region.

THE DAY

The Circular Economy Think Tank ran from 10 am to 2.30 pm on Monday 10th of May.

The goals of the event were to enable participants to:

- Learn about the material flows in the region and the benefits that a true Circular Economy can bring over the next 5-25 years
- Identify opportunities from the HCC MFA and the new 'Circle City Scan' projects to identify value for the region from resource saving and untapped market development.
- Build relationships among those in businesses, industry, research and government to share information and identify catalytic projects with the aim to drive innovative initiatives to build the circular economy
- Identify gaps in knowledge and resourcing that can be addressed by the CE community to inform future projects; and,
- Plan a process for turning outputs into action – how are we going to move forward in our respective sectors and organisations?

118 participants from the business (65%), government (28%) and academia (9%) sectors attended.

Eleven priority materials had been selected based upon their importance to the region. Each table was assigned a priority material and was made up of nine selected participants and one facilitator.

The day was divided into two parts:

- **Theory** (from 10 am to 11.30 am)
- **Practice** (from 11.30 am to 2.30 pm)

To begin the day, Coreo shared their story from founding Australia's first, community-scale, circular economy pilot project to today where they have delivered over 85 circular economy projects for some of the world's largest organisations. This story was shared as a means to inspire participants to think big. Following this, Coreo shared foundational education on the circular economy including the key principles and business models as well as relevant case studies. Participants then heard from Jonathan Wood, Tim Askew, and Will Rifkin about the progress to date; the present action; and future ambitions for the circular economy in the Hunter Region.

Key learnings for the audience were the three guiding principles and five supporting business models of a circular economy as stated below.

Circular Economy Principles

- Designing out waste and pollution
- Keeping products and materials at their highest value for as long as possible
- Regenerating natural and social systems

Circular Economy Business Models

- **Circular supplies:** Replace traditional material inputs with bio-based, renewable, or recovered materials. Reduce demand for virgin resource extraction in the long run
- **Resource Recovery:** Leverage technology to recover and reuse resource outputs. Aim to eliminate material leakage and maximise economic value
- **Sharing platforms:** Sharing of underutilised products can reduce the demand for new products and their embedded raw materials
- **Product life extension:** Extend the life cycle of products and assets to ensure they remain economically useful
- **Product as a service:** Customers use products through a lease or pay-for-use arrangement versus the conventional approach to ownership

Moving from theory to practice each table was then asked to ideate three circular economy ideas for their table topic with the help of their table facilitator.

When lunch came, Coreo's experts, Jaine Morris and Ashleigh Morris, provided feedback, support and guidance to enhance each of the circular economy ideas generated. The goal was

to help the participants refine and prioritise their ideas as well as inviting them to think more profoundly about the system and desired outcomes. During this portion of the day, it was encouraging to note that all tables had ideated at least two systems level circular economy solutions. It is also important to note that although the survey conducted at the beginning of the day revealed that “recycling” was the word that most people associated with circular economy, the circular economy solutions that most teams ideated were much more focused on systems level changes higher up the supply chains including designing out waste by utilising different business models.

After lunch, participants were tasked to select one idea only and further develop the concept, particularly focusing on the realities and practicalities. Following this, each table was then asked to develop a 90-second pitch and deliver it to the room explaining what the idea was, what made it circular and what could make it happen.

The table below is an overview of the ideas that emerged.



MATERIAL	NAME OF THE IDEA	DESCRIPTION	FEEDBACK
Food	Paddock to patient	Integrated localised food system that would use products from local farms to create healthy meals for patients in hospitals and to generate healthy soils with the food waste.	<ul style="list-style-type: none"> • Excellent approach to connecting up different parts of an ecosystem • Love the focus on environmental and human health
Batteries	Swap'N'Go EV batteries	Low-cost model for the retrofit of diesel trucks with EV batteries using a product as a service model via existing fuelling networks.	<ul style="list-style-type: none"> • Great benefits to the economy, to people and to trucking • Good to leverage existing system infrastructure / fuelling networks (because often with circularity, it is hard to create a fully integrated model because not all parts of the system are there yet)
Furniture	Furn and return	Furniture buyback scheme that provides economic benefit to consumers for returning reusable / resalable office furniture.	<ul style="list-style-type: none"> • Good to focus on low toxin products (in a circular economy, we don't want to circulate toxins) • Good use of local sourcing, and focus on local regeneration
Plastics	PACS (Plastic as a Circular Service)	Recycled plastic pallets and crates as a service to the Hunter / Central Coast region in partnership with CHEP.	<ul style="list-style-type: none"> • Good to leverage existing system or operators such as CHEP • Being able to connect feedstock into local governments collection to manufacture products, use local business to do it and then circulate those pallets => very powerful

Textiles	Hunter uniform collective	A system designed to loan school uniforms to local families. In this system uniforms would be made from high quality, locally sourced fabric that would be maintained and washed in a collective arrangement and replaced at the end of use ensuring a life extension and a full recovery of the material.	<ul style="list-style-type: none"> • Addresses a very real problem • Very realistic solution to design out textile waste
Water	Peer to peer water trading	Generation of tradeable water saving certificates through water reduction and reuse.	<ul style="list-style-type: none"> • Building credit so people can actually do something meaningful with the water = > very powerful
Wood	ENT timber "Engineering non-toxic timber"	Non-toxic treatment for softwood framing replacing toxic treated timber and enabling modular products designed for disassembly and replacement.	<ul style="list-style-type: none"> • Good initiative that aims to design out the problem • Good focus on low/no toxins
Tyres	Pumped about tyres	Tyre care as a service where instead of paying the upfront cost of a tyre, customers would pay for tyres and their care on a km basis.	<ul style="list-style-type: none"> • Partnership with key companies and insurance providers: major potential customers
E-Waste	Dr Who (Disassemble, Recirculate Waste Hunter Operation)	Cascading value model for e-waste which provides components of a device with a blockchain record, rewarding consumers for bringing back pieces and reusing these components.	<ul style="list-style-type: none"> • Good focus on incentives for people • Cascading value model • Using the tools of the 21st century (cryptocurrency and blockchain): good for strategic growth

Soil, sand and rock	Hunter circular concrete	Combination of recycled and manufactured products to replace natural quarried sand and aggregate.	<ul style="list-style-type: none"> • Bold and ambitious approach of using by-products • Good value proposition particularly for Governments but also to the broader industry
Ash coal	Coal Washery Tailing	Combination of washing tailings and ash from coal fired power stations to improve soil health and improve productivity by creating biochar from waste streams.	<ul style="list-style-type: none"> • 60% cost reduction: value for the customers • Co-location thinking => good way to leverage the system



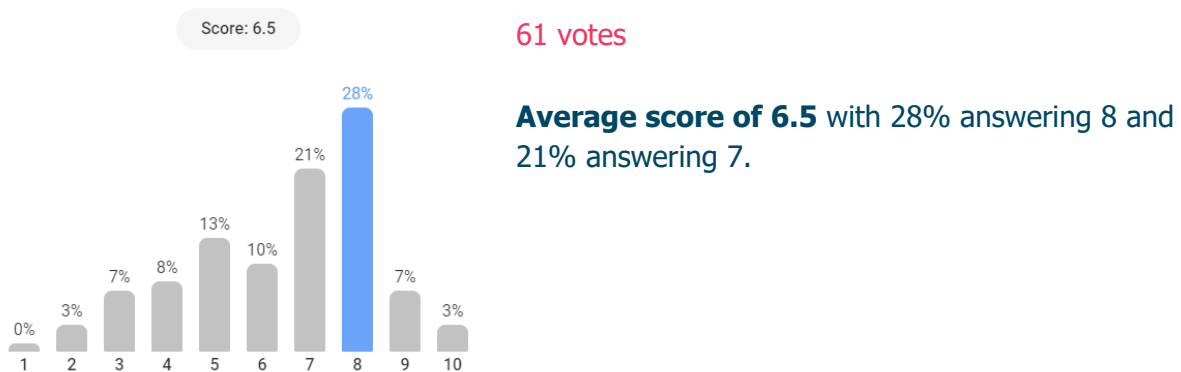
It is interesting to note that collaboration and partnership were often mentioned as ways to make these ideas happen along with starting with pilot projects to trial their viability.

RESULTS FROM THE SURVEY

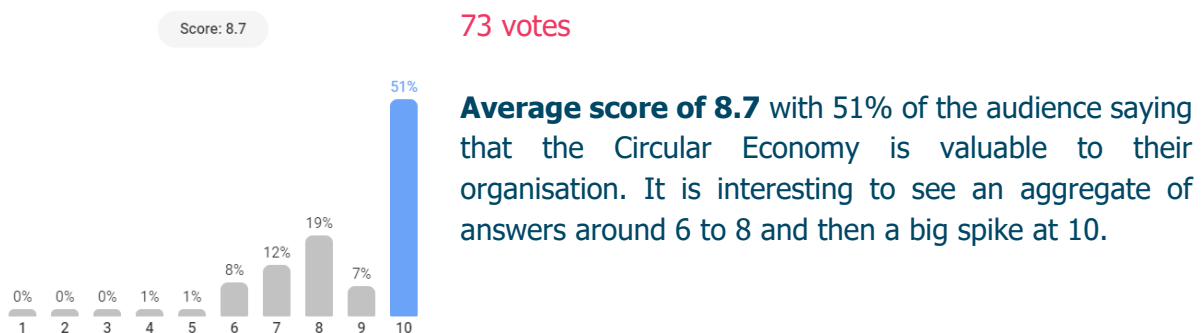
Considering that the circular economy is still an emerging concept it was important to gauge the audience's knowledge of the circular economy before starting the workshop as well as measuring the progress and overall satisfaction at the end. Coreo used Slido, an interactive app used to engage with the audience via polls.

A total of five questions were asked, three at the beginning and two at the end. All results were presented live at the time, apart from the last question. It was thought that keeping the results and feelings about the workshop itself hidden would allow more honest answers.

1st question: What is your current level of CE understanding? (from 0 to 10)



2nd question: In your opinion how valuable is the circular economy to your organisation?



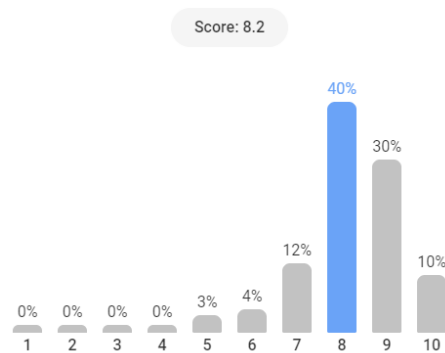
3rd question: What is a word synonymous with the circular economy?



70 votes

The results of this question were particularly interesting given that most audience members responded that they had a good understanding of what the circular economy is (28% and 21% of them answered 8 and 7 respectively to the first question).

4th question: After today's Think Tank, how would you now rate your current level of CE understanding? (from 0 to 10)



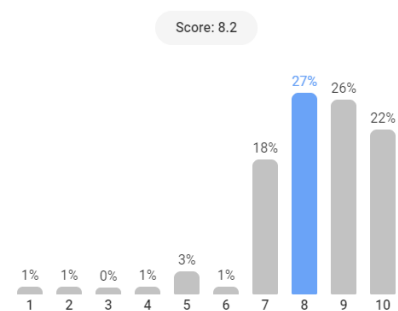
Score: 8.2

67 votes

Average score of 8.2 with 40% of respondents answering 8 and 30% answering 9.

Here it is important to note the 26% improvement in terms of knowledge compared to the results of the same question at the beginning of the event. So, people either knew more or were more confident about what they previously perceived about the circular economy.

5th question: How would you rate this event? (from 0 to 10)



Score: 8.2

74 votes

For this question only, results were hidden so as to allow people to be honest about their feedback without being affected by peers' responses.

Average score of 8.2 with 27% of respondents answering 8, 26% answering 9 and 22% answering 10.

TESTIMONIALS

Testimonial #1

"It was really relevant for me as I work in smart cities.

It was very interesting to see people having recycling as a key word and to see the shift through the event and people moving away from that concept. I knew that but it was fascinating to see others learn that. And even with the polls seeing people increase their knowledge about CE. Because that's a big thing, knowing what it is: if you don't know what it is, how can you tackle it?"

Testimonial #2

"It was such a supportive environment because sometimes you come to these events, and people are put on the spot, there is pressure. Some people don't like public speaking, but today, there was a real collective and community feeling."

Testimonial #3

"Collective intelligence is a superpower. Well done to all stakeholders for the fantastic Circular Economy Think Tank Event, a great step for the shift from a linear to a circular economy in the Hunter. Thanks to everyone involved in this amazing work."

Testimonial

"I was blown away at the calibre of the ideas that came out of our CE Think Tank event. Great job Coreo for wrangling a group of over 120 people from a huge diversity of backgrounds to deliver really great tangible ideas, together we are more than the sum of our parts :-). We want to keep that collaborative spirit going to drive the CE momentum forward in our region."

WHERE TO FROM HERE FOR THE IDEAS?

This event showcased the potential of collaboration across organisations and across sectors in both delivery and participation in the event. It also highlighted a collective willingness in the region to transition toward a more circular economy.

Based on growth potential, systems thinking, and ease of implementation four ideas have been highlighted as particularly promising:

- Hunter Uniform Collective
- Furn and Return
- Paddock to Patient
- Swap'N'Go EV batteries

With innovative ideas, the mistake often made is to realise it in isolation. Yet, it is often through collaboration and partnerships that the likelihood of success is the strongest. To this end, there are a few recommendations the above ideas could take into consideration in order to move their idea from theory to reality.

Hunter Uniform Collective

At first, it is important to understand from those who would be taking advantage of this service, that is, parents, what problems they are currently facing? What is the main pain point parents' experience with school uniforms? What would they expect from a service such as the Hunter Uniform Collective? In addition to engaging with parents, it would be useful to get feedback from schools and reflect on the role they could play in this service model. Could a partnership be trialed? Garnering answers to these questions would be a good starting point and help refine the Hunter Uniform Collective idea. Companies who are working in a similar space in Australia and who would be worth learning from include:

- [Sustainable Schoolwear](#) who specialise in making eco school uniforms. It would be of immense value to engage with this organisation and explore the idea of trialing an 'as a service' model.

Furn and Return

The buy back and resell model is gaining momentum and large retailers such as [Ikea](#) are also currently pioneering the model. To this end, Furn and Return would have a lot to learn from Ikea, specifically around the responsiveness of the Australian market, the incentives required to attract consumers as well as the partnerships they may have to form, and the challenges encountered. Given the largely developed second-hand market in Australia, it would be useful to contact organisations such as the [World's Biggest Garage Sale](#). First to enquire about their model and specifically about the furniture component of it. Secondly, to explore the idea of a partnership in the Hunter region.

Paddock to Patient

Food tastiness in hospitals is often questioned and to this day, there is no overarching system around the handling of food waste in Australian hospitals. To further progress this idea, it is important to look at the key stakeholders in this initiative: Farmers and Hospitals. For farmers, a mapping study of the region would be critical in identifying the actors ready to play a role. Additionally, enquiring with hospitals about the feasibility of such an initiative is also encouraged. Is it something they would be willing to pilot? Which hospitals would be the most inclined to trial this idea? Interestingly, in 2017, a Westmead local farmer started a similar initiative. Aaron Brocken started [a farmers market at the Children's Hospital](#) at Westmead enabling staff, patients and their families to access healthy food directly from farms. Whilst Brocken's initiative doesn't include food waste, it would be useful for the Paddock Patient team lead to make contact with this local farmer and garner further information on what it takes to organise a fortnightly market. Questions around the origin of the idea, the reason for a market instead of providing food directly to hospitals would be useful to have answers for.

Swap'N'Go EV batteries

In a similar vein to the buy back and resell model, the 'as a service' model is one that is getting a lot of attention lately. Companies like Philips with their [lighting as a service](#) or Kaer with their [air conditioning as a service](#) are proof of its success. Currently, there are a few companies already in the battery as a service market such as [Nio](#), a Chinese smart electric vehicle manufacturer and [Epiroc](#), a mining and infrastructure equipment provider. What these companies have in common is that they both provide batteries as a service as a complement to their core business. In this sense, Swap'N'Go EV batteries model would be different, yet the process would be replicable and is a good way for Swap'N'Go EV batteries to build from it.

NEXT STEPS

Below are a few ways to stay connected and learn more.

- In the coming weeks, the organisers of the Circular Economy Think Tank will reach out to all the participants of the event to ask preferences around the best way to keep the conversation alive.
- Lake Macquarie City Council will run an event in the second half of the year where the full findings from the City Scan and the scenario modelling will be presented.
- Follow [Go Circular webpage](#).
- And for anyone keen for a deeper dive into the Circular Economy, please feel free to check out Coreo's [Circular Economy Masterclass](#).



APPENDIX

Companies present on the day

In the circular economy, you can't do it all, and you can't do it alone. This is why it was an immense privilege to have such a diverse group of individuals all working together for the Think Tank. Thank you everyone for taking the time!

<p>Advitech Pty Ltd Ai Group Ampcontrol SWG PTY LTD ARL Program Manager ARTC ASR Recruitment Austmine Australian Bedding Stewardship Council Battery Stewardship Council (BSC) Benedicts recycling Bib n Brace Blue Tribe Co. Pty Ltd Business Drivers Business NSW Business NSW, Central Coast Central waste Station Circular Design Co City of Newcastle Close the Loop Colas NSW Committee for the Hunter Compass Housing Services Concrush Cross Connections CSIRO Delta Electricity Eighteen04 Engineers Australia Entrepreneurs Programme Environmental Resilience Planning EPA Fulton Hogan GECA (Good Environmental Choice Australia) GHD Go Circular HCCDC Housing Industry Association Hunter Business Chamber Hunter Commercial Services Hunter New England Health</p>	<p>Hunter Water Corporation HunterNet Cooperative HunterNet Future Leaders Committee I + E Society IQ Renew Jackson Environment and Planning Kumalie Kurri Kurri Community Services Lilli Pilli Consulting Lincom Group MGA Thermal Mitchell Shire Molycop Monash Sustainable Development Institute NET Modular Newcastle City Council NSW Department of Regional Development NSW Trainlink Nu-Rock Technology ONE-STOP ENGINEERING Planet Ark - Australian Circular Economy Hub Plate to Paddock Port of Newcastle Robotic Systems Sanitarium SAPHI Singleton Council St Vincent de Paul Stockmarket Analysis Corporation SUEZ SwitchDin TAFE NSW The Crucible Group The University of Newcastle Transport for NSW Upcycle Newcastle UTS Underground Your Food Collective</p>
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Organisers and supporters

