CIRCULAR CITIES WEEK

28 OCT - 3 NOV 2019

No city left behind the circular economy revolution

#CircularCities

CIRCULAR ECONOMY
CLUB

Who are we?

CIRCULAR ECONOMY VICTORIA

CIRCULAR ECONOMY CLUB Melbourne

CIRCULAR ECONOMY CLUB

CEC is the largest international network in the circular economy field with over 4,000 professionals and organizations in more than 130 countries.

Nonprofit | Global

Anyone can join online for free



Vision: We envision a new era where all cities worldwide function through a circular model, setting the end to an age of waste.

Mission: We aim to bring the circular economy to cities worldwide by building strong local networks to design and implement circular local strategies, embed the circular economy in the education system and help circular solutions scale.



What do we do?

CIRCULAR ECONOMY VICTORIA

CIRCULAR ECONOMY CLUB Melbourne

CIRCULAR ECONOMY CLUB Melbourne

We work to raise awareness about the circular economy in Melbourne:

- Host meetups to connect people
- Host information events on the wide range of areas covered by the circular economy
- Run workshops to engage the community with council and state level circular economy initiatives

CIRCULAR ECONOMY CLUB Melbourne

Join us!

Circular Economy Club Melbourne

- https://www.meetup.com/en-AU/Circular-Economy-Melbourne/

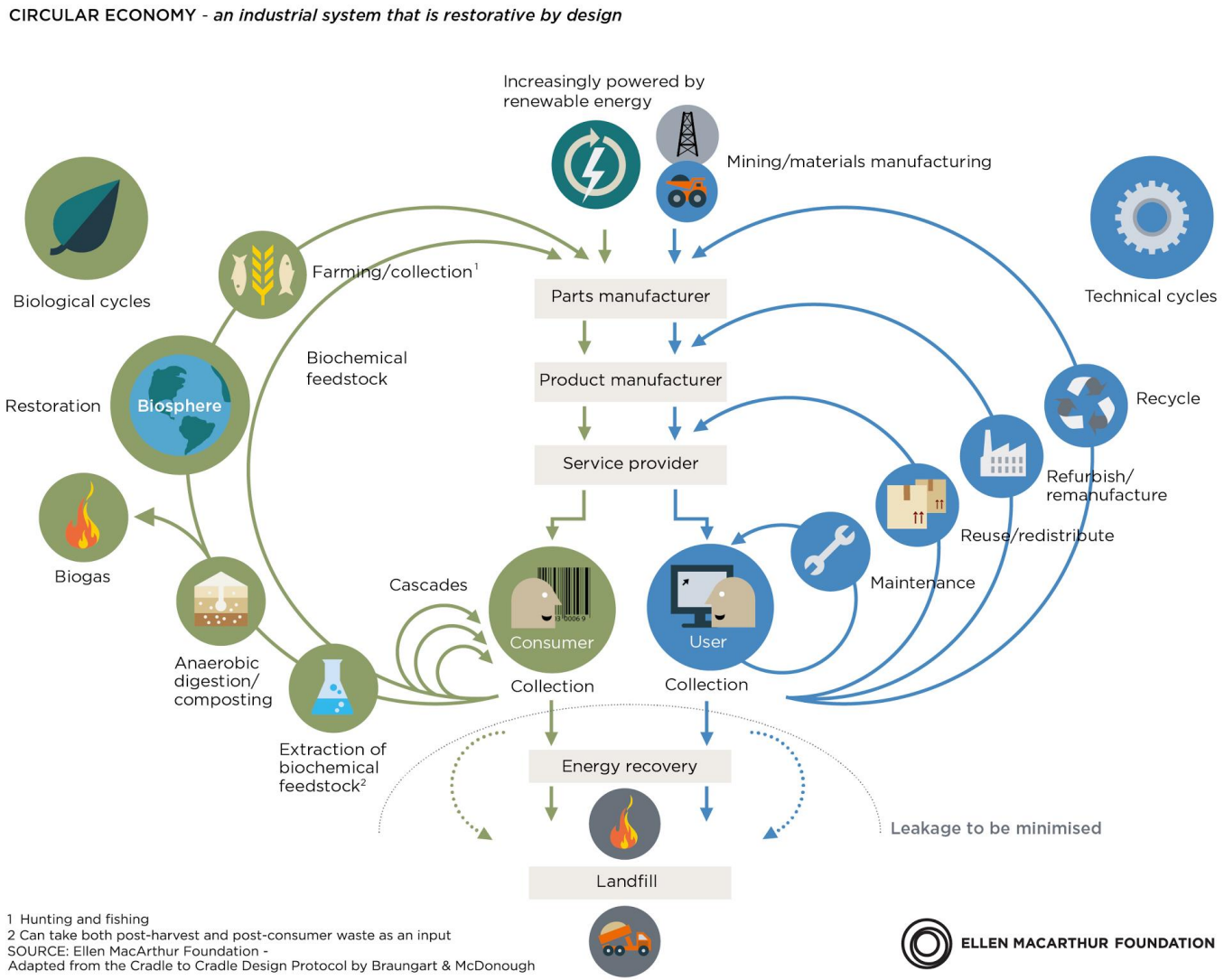
Circular Economy Victoria

- https://www.linkedin.com/company/circular-economy-victoria/
- https://www.facebook.com/CircularEconVIC/

Circular Economy Victoria

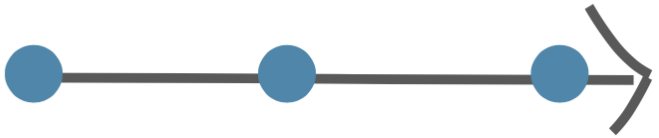
- www.cev.org.au

What is a circular economy?



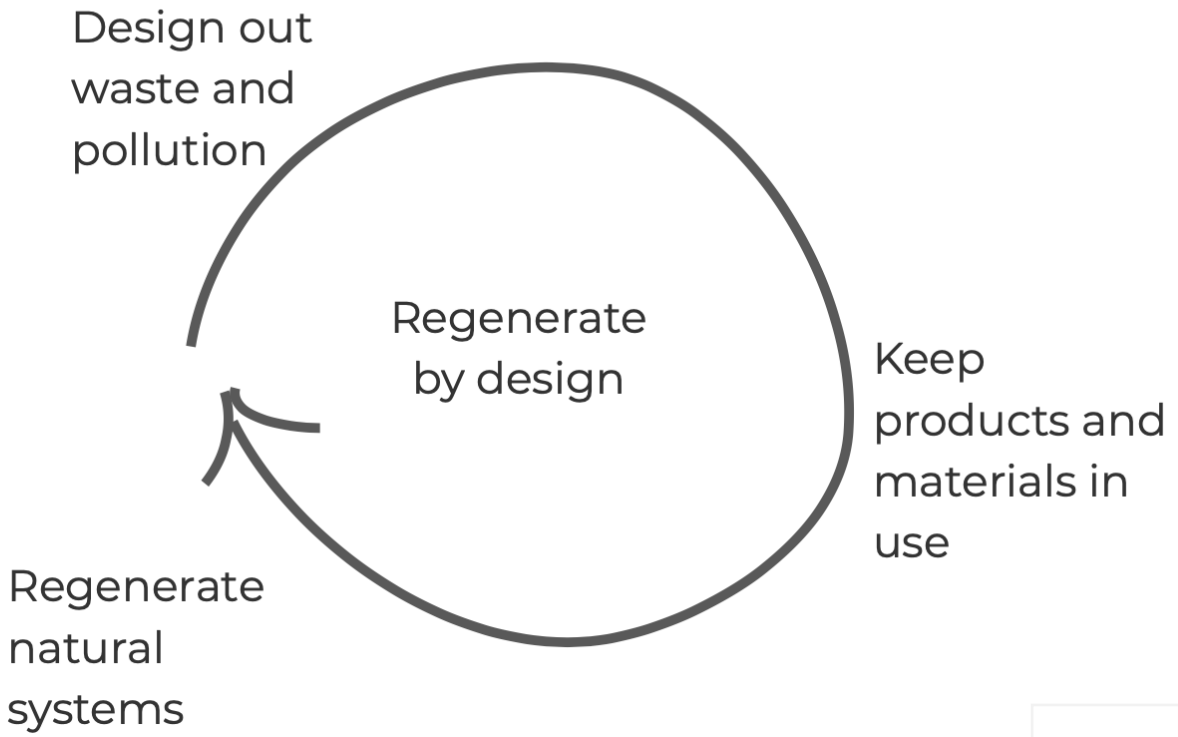
What is a circular economy?

From Linear Economy

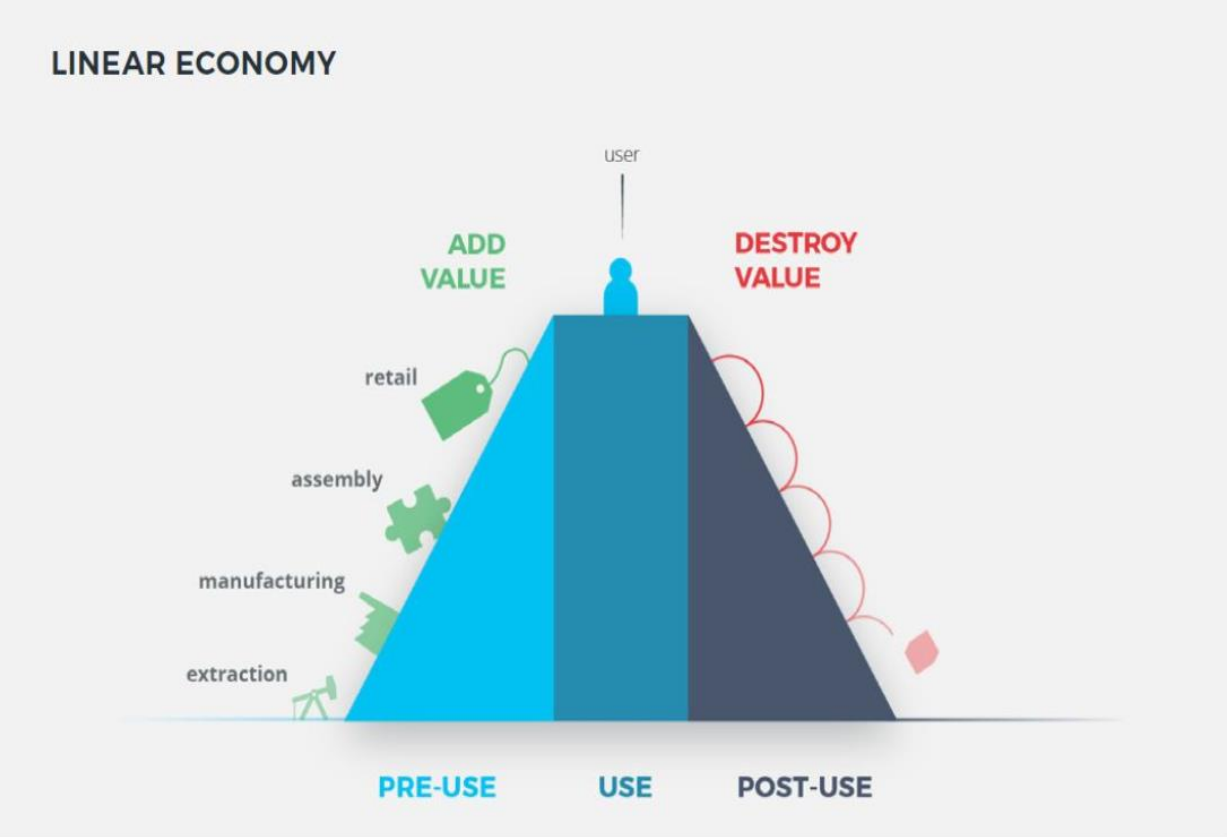


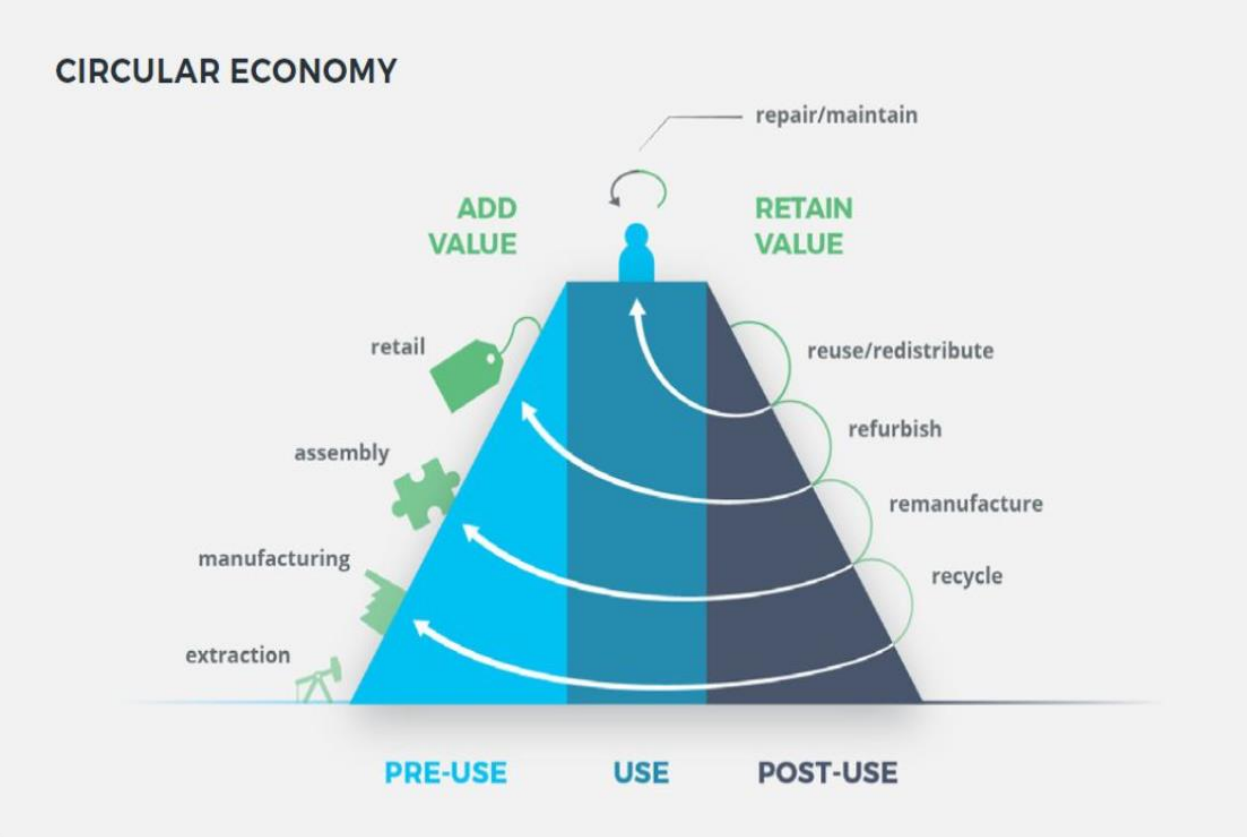
Take Make Waste

To Circular Economy



What is a circular economy?





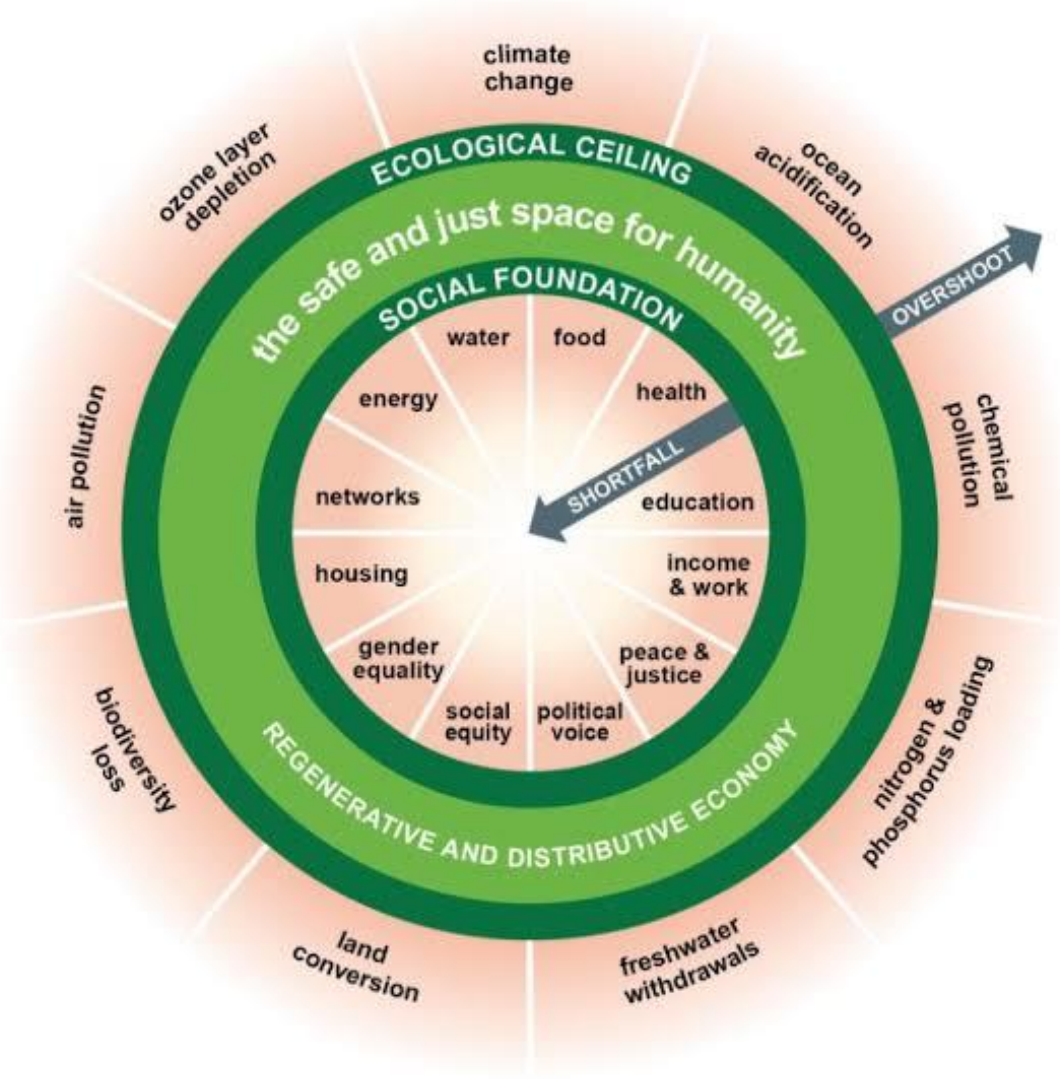
How do we transition?

How do we transition?

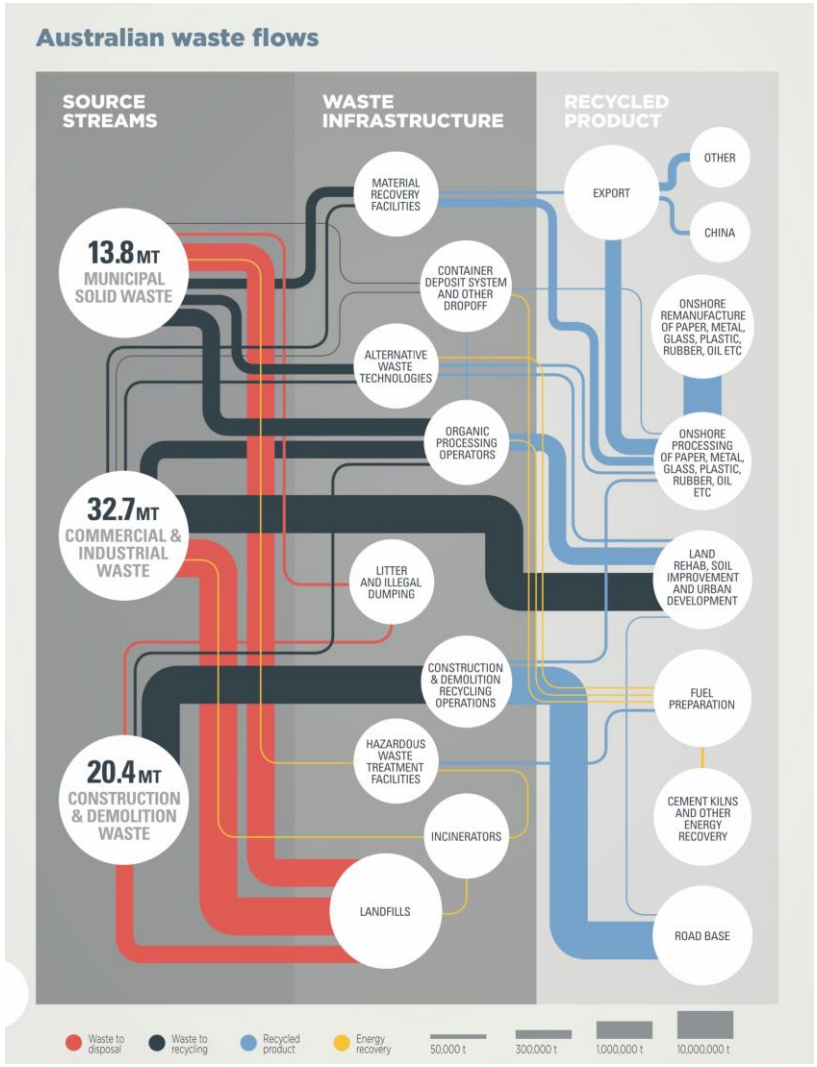
Understand the goals

How do we transition?

Think in systems



How do we transition?



Understand flows

How do we transition?

CIRCULAR ECONOMY VICTORIA

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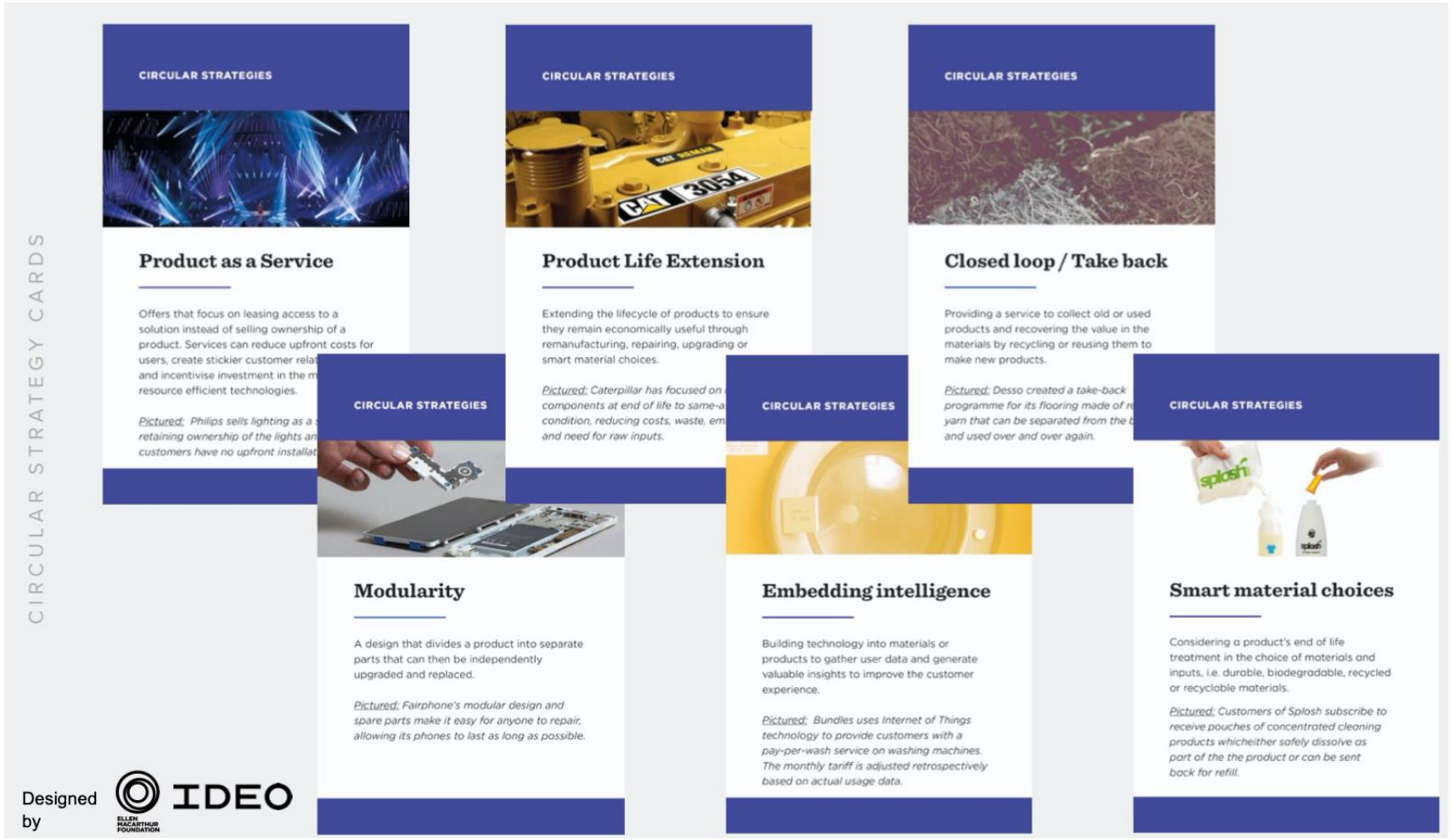
Challenge yourself



How do we transition?

Work together

Circular Cities Week, by CEC

During the 28 Oct to 3 Nov 2019, CEC City Organizers in more than 80 cities will organize workshops to identify opportunities of implementing the circular economy in their cities. This process will provide a multi-stakeholder call to action for councils to launch circular local strategies.

> Being a CEC Organizer put me on the spotlight nationwide

Due to the events I have been organizing within my role as a CEC City Organizer, CEC Santiago is going to be on the national Roadmap for the circular economy, that the Ministry of Environment in Chile is developing. I recommend anyone who is willing to bring to life the circular economy in their cities and countries, to join the CEC Organizers program to bring about real change.

Bernardita Mancilla
Founder of Circular Coffee

Circular Cities Week - The Purpose

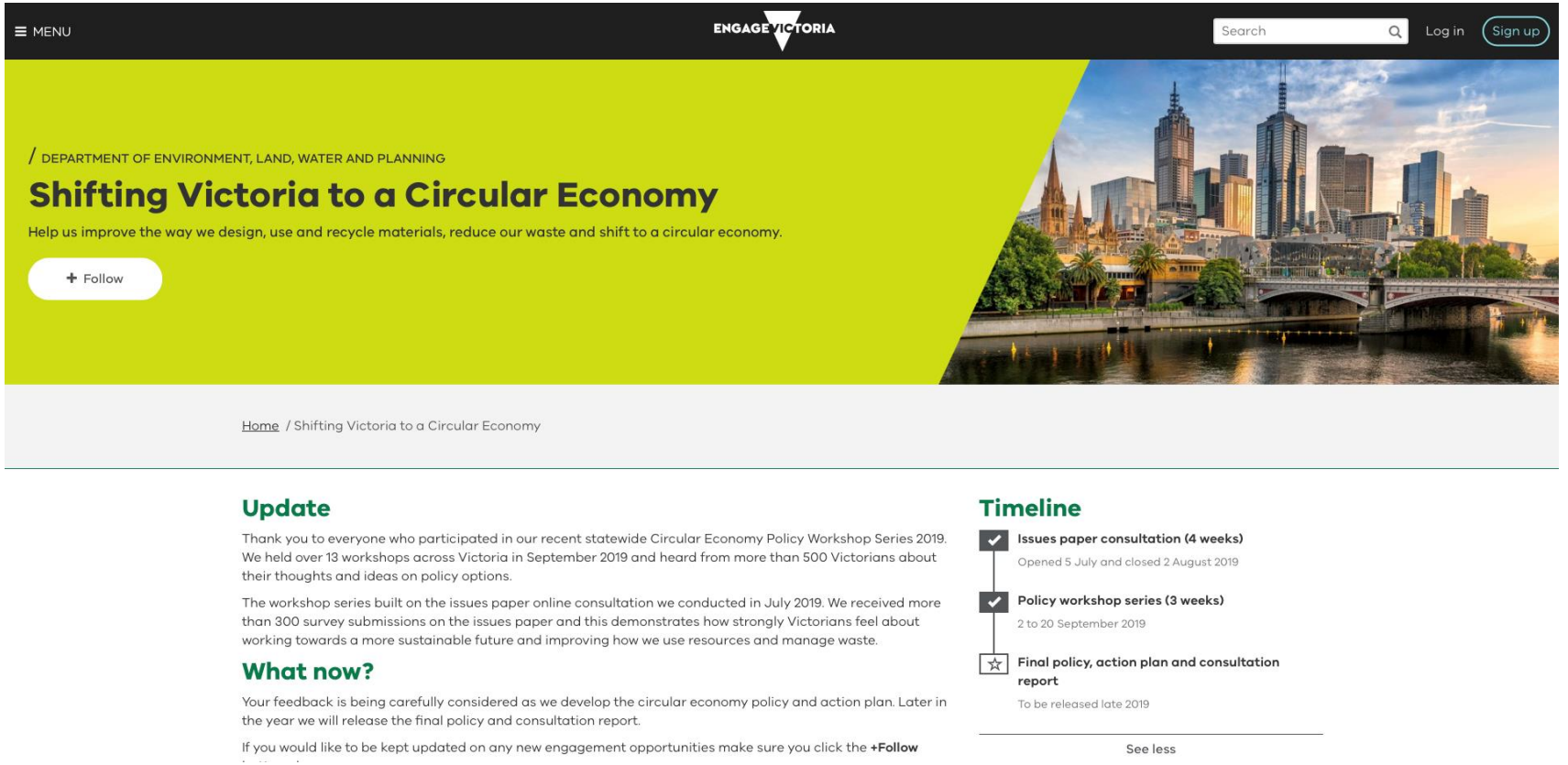
OBJECTIVES

1. Convince and support city governments to publish a local circular economy strategy plan with clear goals for their city

2. Create an open-source report of challenges, opportunities and next steps for all the participating cities

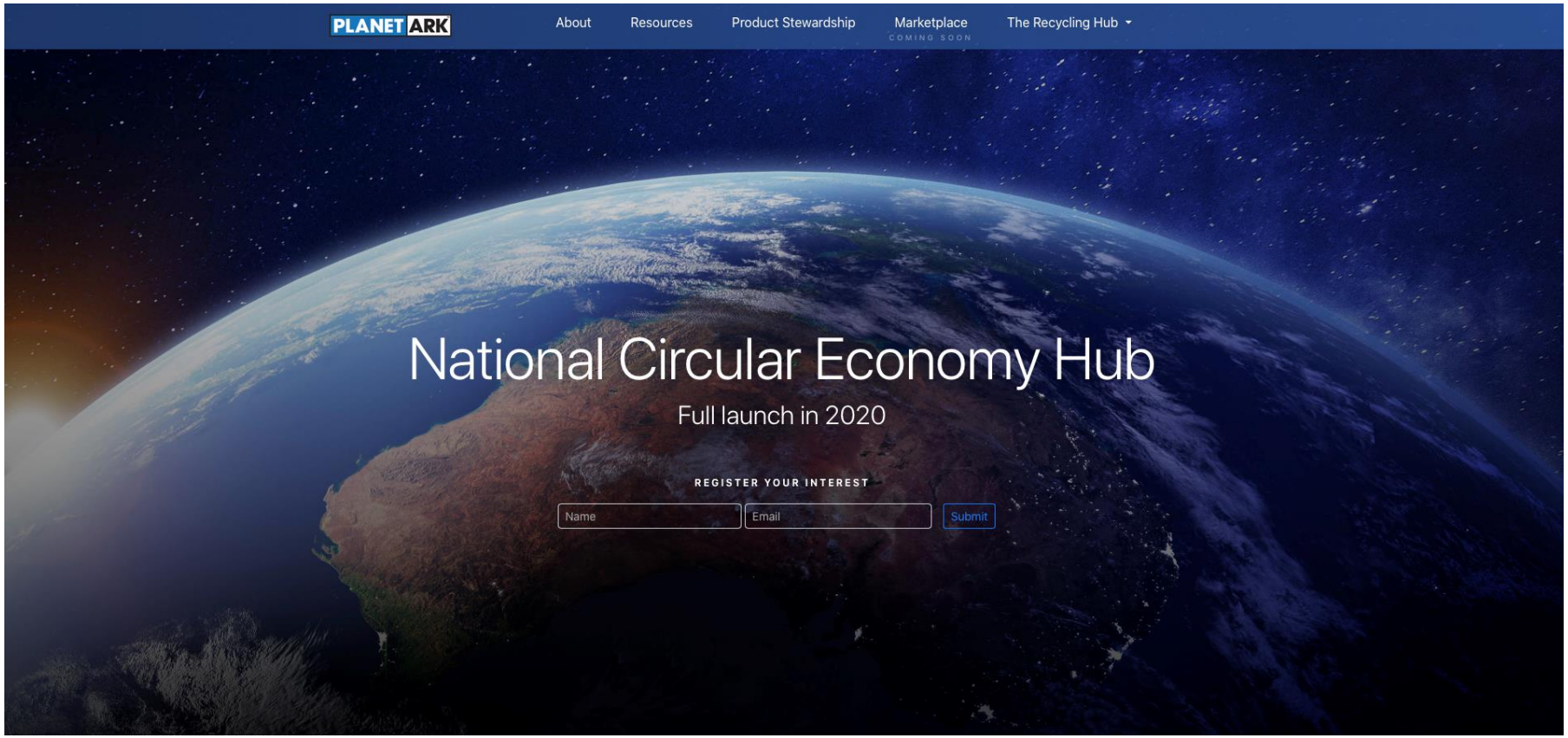
Melbourne Objective 1

- Continue to help engage the community in the circular economy
- Help implement objectives set out in the up coming Circular Economy Policy from the Victorian State Government

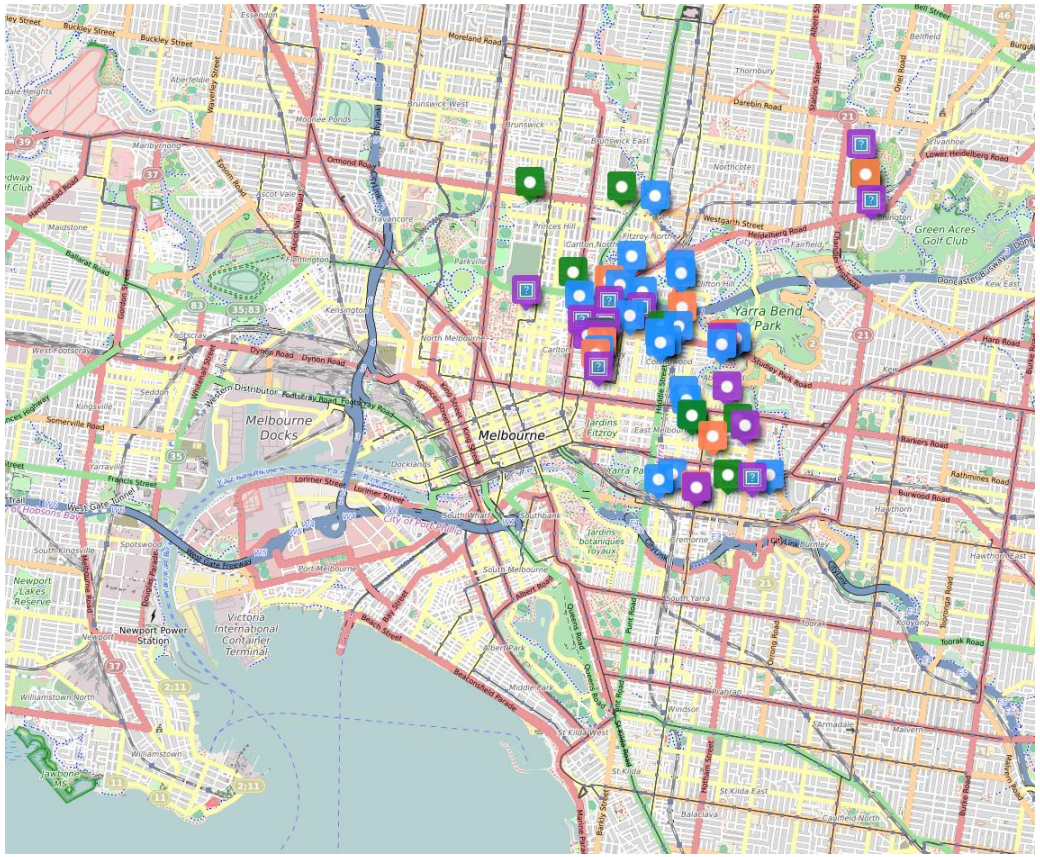


Melbourne Objective 1

- Collaborate with CEC Sydney, CEC Perth, and others
- Support the development of a national circular economy hub to help catalyze the transition

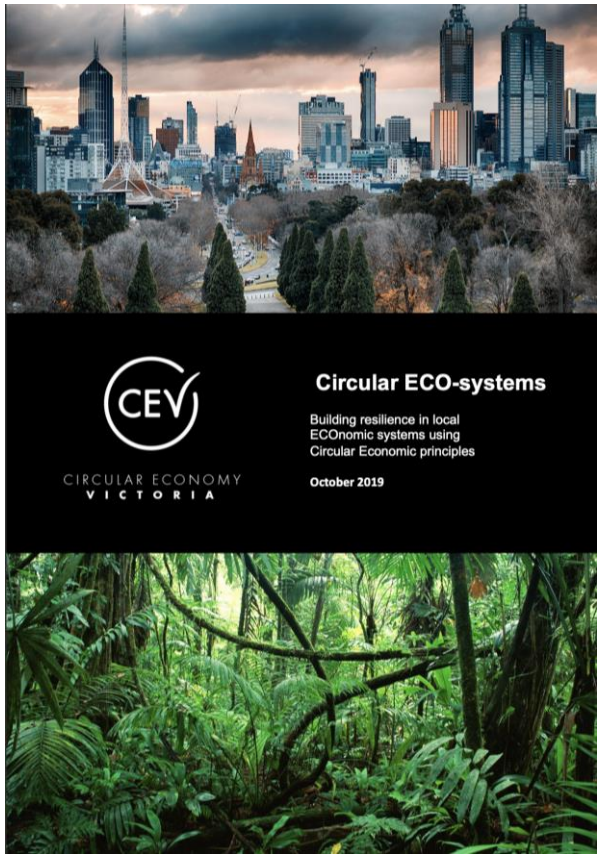


Melbourne Objective 2



- Map the circular ecosystem in Melbourne and release a report on findings

- Work with councils and organisations to help realise the value put forward by these findings



CIRCULAR ECONOMY VICTORIA

CIRCULAR ECONOMY CLUB Melbourne

You are more circular than you think

Activity One

Circular Cities Week 2019: Mapping the Melbourne Circular Ecosystem

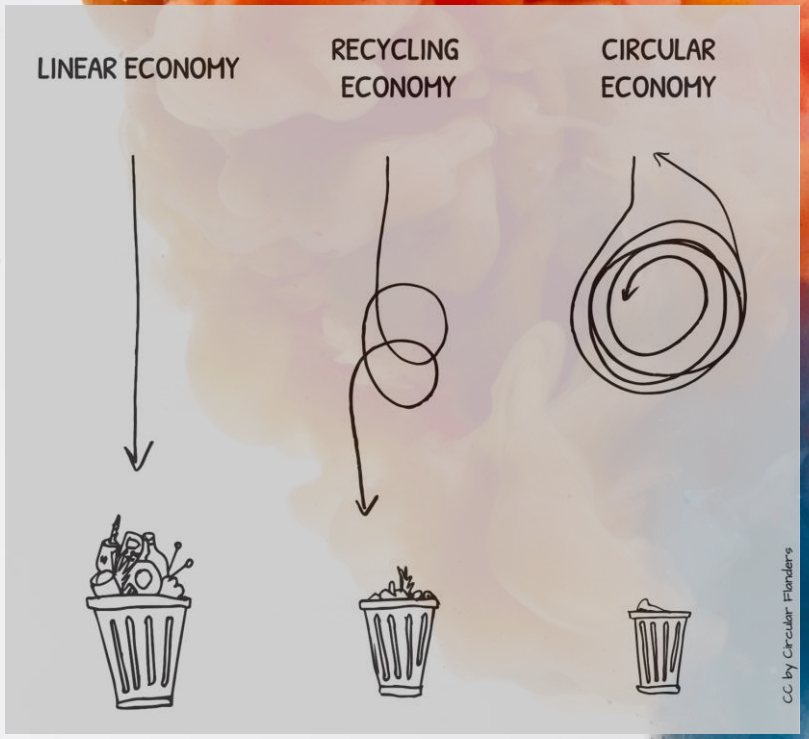
Wednesday - 30 October 2019

CIRCULAR ECONOMY VICTORIA

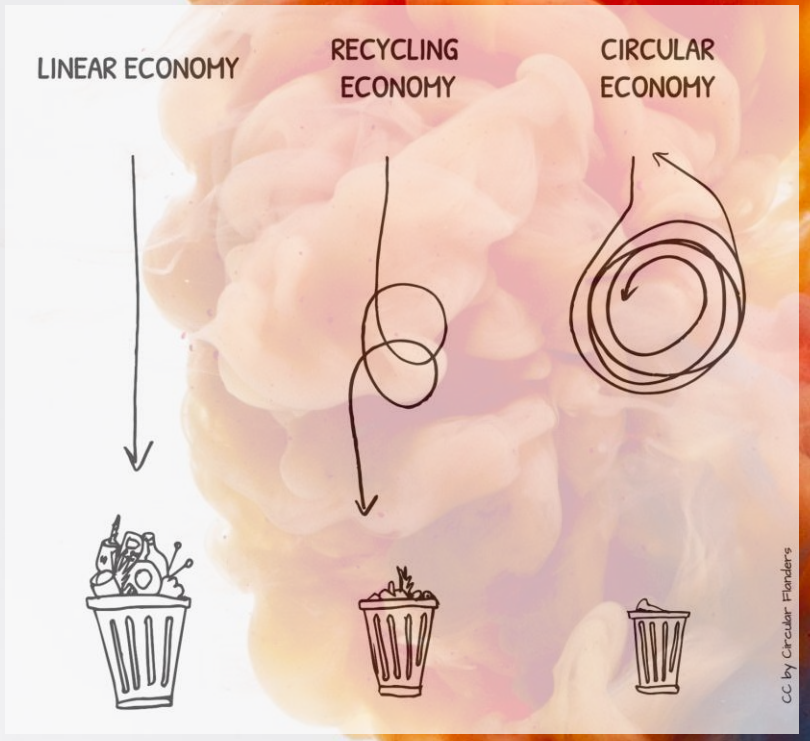
CIRCULAR ECONOMY CLUB Melbourne

Circular Economy Principles:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems



1- List one example of how you are applying circular principles in your life



2- From your table examples, pick one priority industry for your table

This priority industry will be used for the next activity, it will be the goal you want to achieve through Circular Economy

Circular Cities – Melbourne

The evolving circular ecosystem in Victoria

Steve Morriss October 2019

PLANET ARK

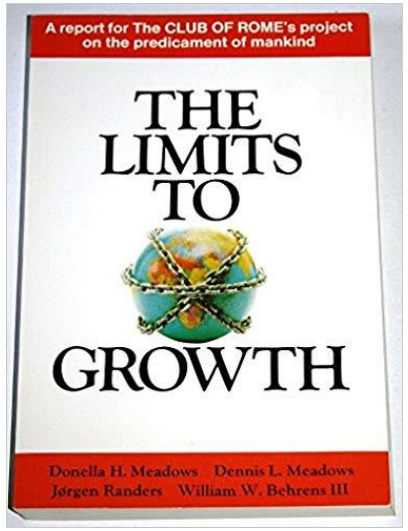
Why a circular economy?

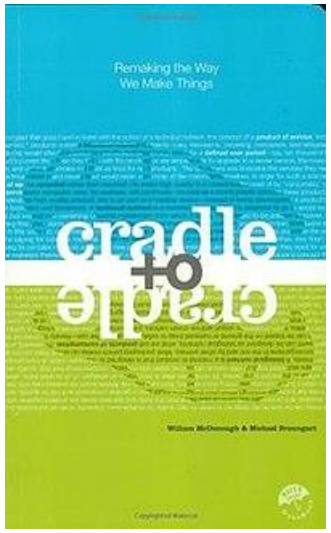
We are drawing on the world's resources faster than they can be restored, and we are releasing wastes and pollutants faster than the Earth can absorb them or render them harmless.

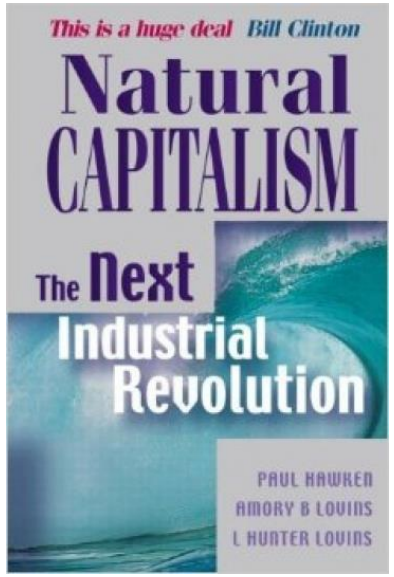
The limits to growth

- Resources
- Energy
- Waste
- Food

The path to circularity







ECO BUY
SUPPORTED BY ECORECYCLE + THE MAV + THE VICTORIAN GREENHOUSE STRATEGY

Now Open for Business to Business

MAV
MUNICIPAL ASSOCIATION OF VICTORIA

Sustainability Victoria

Victoria
The Place To Be

ecoRECYCLE

Sustainability victoria

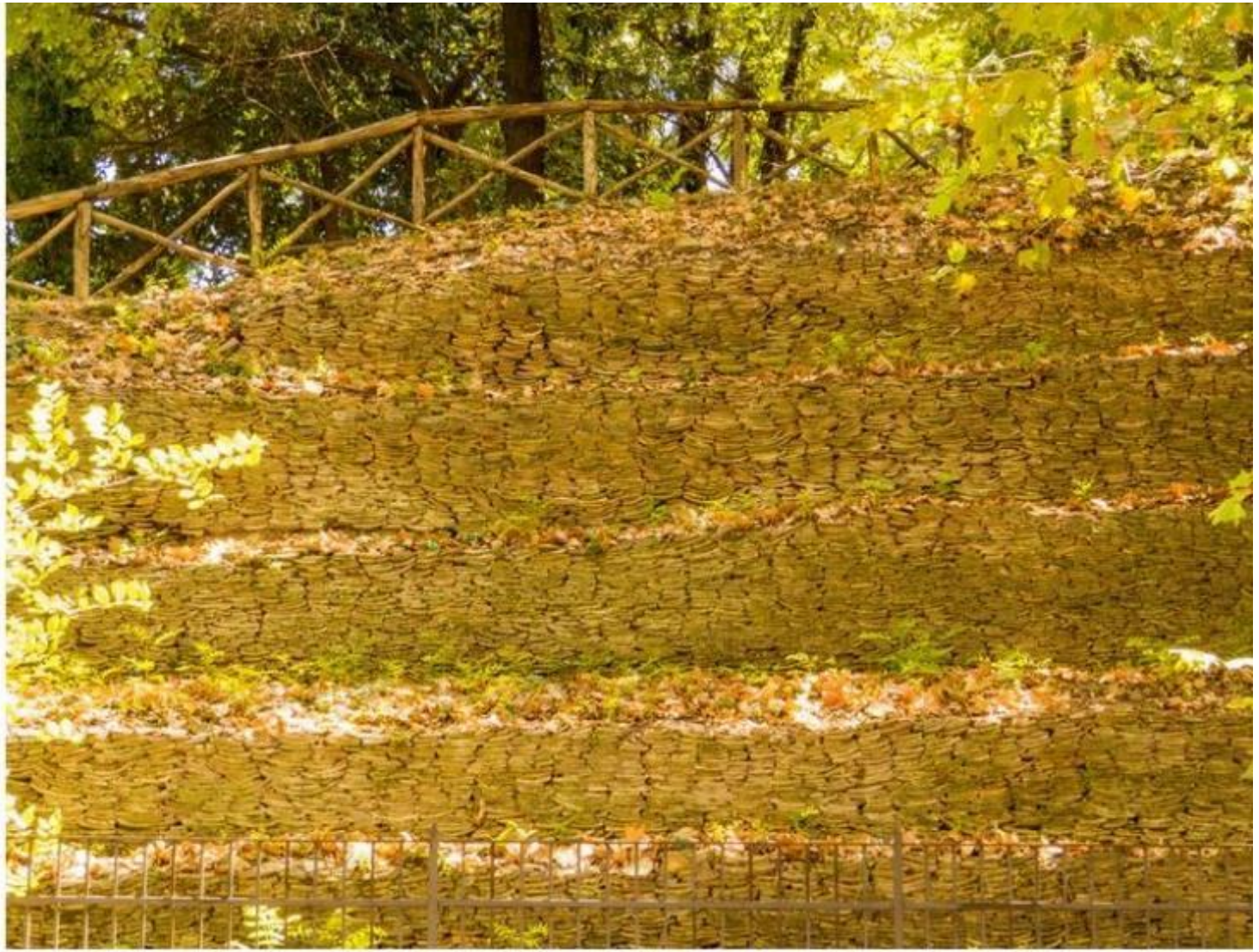
State Government Victoria

Circularity (The CE) is not new

Water cycle
Carbon cycle
Nitrogen cycle

- The Bronze Age is an early example of a man made circular economy
- This did not happen due to ideological motivation, **but out of necessity**

The linear economy is the anomaly

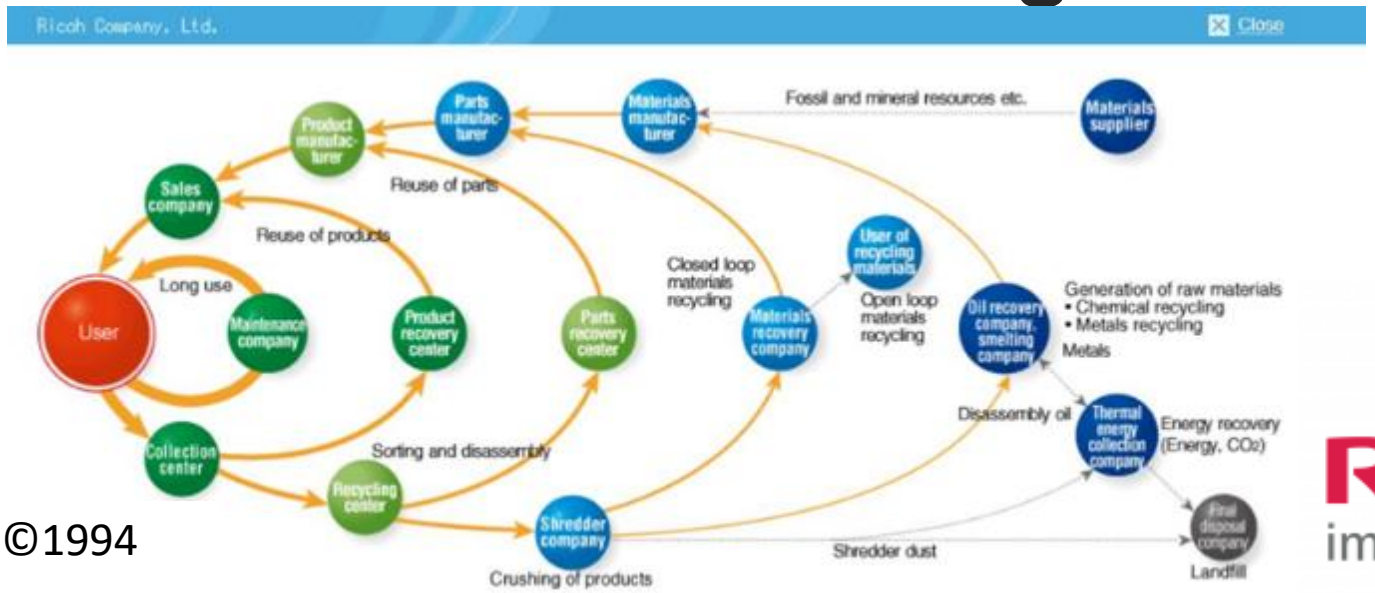


Monte Testaccio, Rome. Diego Fiore/Shutterstock.com

- When things are in abundance, people easily accept a wasteful and exploitive attitude.
- But, for most of the past, things were not in abundance, and so a core practice of a circular economy was adopted.
- **It is not the circular economy which is novel, rather, it's the linear and wasteful economy that is the anomaly.**

A swift transition to a global circular economy has never been more necessary

It’s not a new thing..



©1994

Japan, South Korea, and China have circular economy based policy and laws for over 20 years

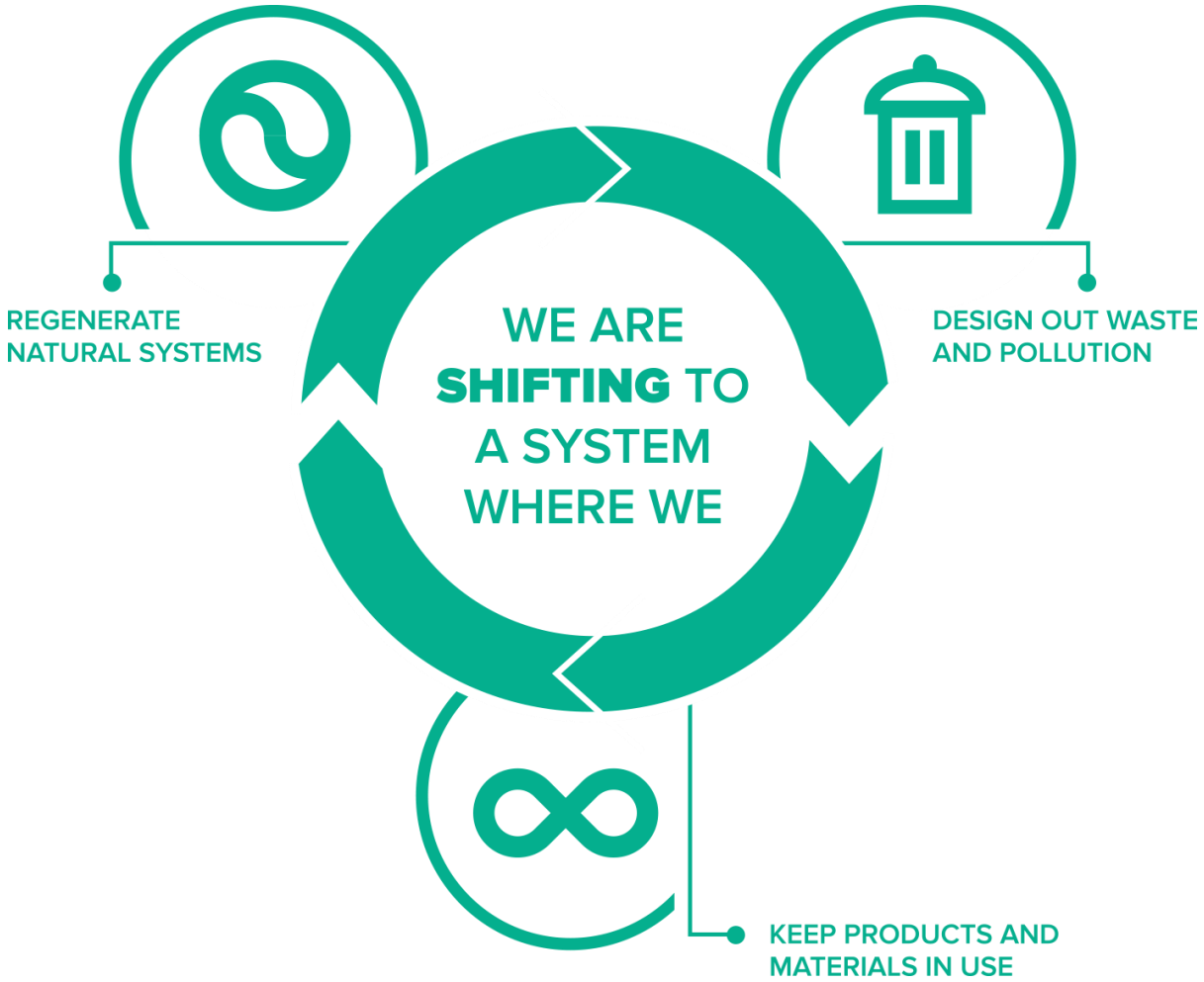
RICOH
imagine. change.

What are the benefits?

CE has direct impact on 12 goals

Indirect impact on 5

Important considerations




PLANET ARK
About
Resources
Product Stewardship
Marketplace
COMING SOON
The Recycling Hub
National Circular Economy Hub
Full launch in 2020
REGISTER YOUR INTEREST
Name
Email
Submit
Inspire
Educate
Act

NATIONAL CIRCULAR ECONOMY HUB

INSPIRE

Drive awareness of the Circular Economy (CE)

- CE events and webinars:
  - Agenda setting
  - Networking and high engagement
- Regular C-Suite research on the adoption of CE thinking in Australia
  - Identify knowledge gap
- Opinion pieces, social media and PR
- ACE (Australian Circular Economy) Awards

EDUCATE

Circular Economy Website: Information Portal

- Latest CE news (Aus and overseas)
- Case studies and CEO interviews
- Tools and advice
- CE event coverage
- Research reports

ACT

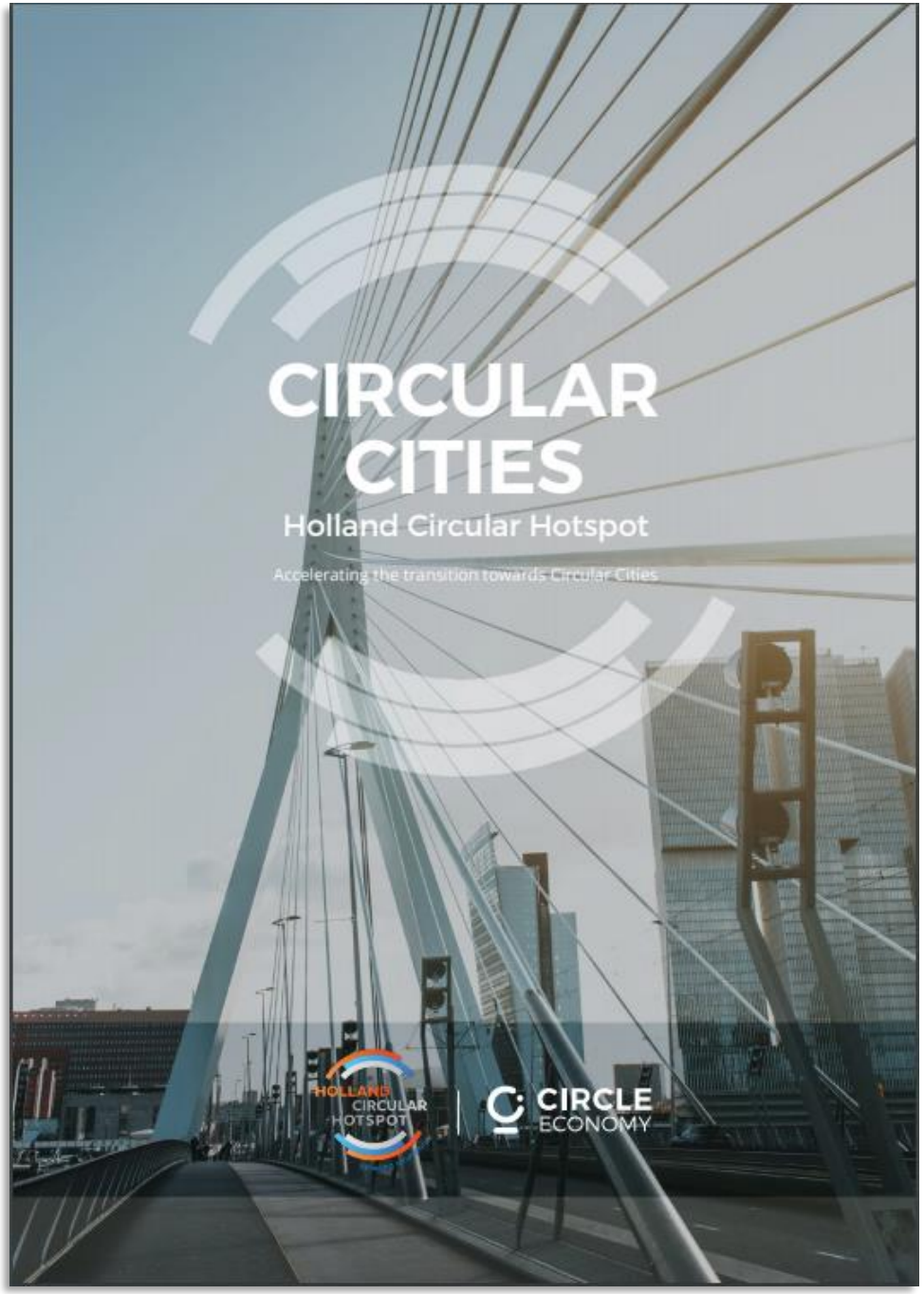
Enable implementation

- Circular Economy Marketplace
- Pilot projects
- Measure circularity
- Define priority sectors

*Circular Economy Hub is subject to funding.

National Circular Economy Hub
PLANET ARK

HOLLAND CIRCULAR HOTSPOT
sharing innovation



Available for download from

www.hollandcircularhotspot.nl

HOLLAND
CIRCULAR
HOTSPOT
sharing innovation

CIRCLE
ECONOMY

Case Study in the Circular Economy

How Close the Loop and Downer are building roads from plastic bags and printer cartridge toner.

Downer
Relationships creating success

redcycle

Close the Loop

CARTRIDGES 4 PLANET ARK

Close the Loop – From the beginning

Started in early 2000

Zero waste to landfill brand promise

Independently audited annually

Close the Loop

Close the Loop Ltd - Impact

Close the Loop

Melbourne

Cincinnati

Antwerp
(Malle)

CARTRIDGES 4 PLANET ARK

- Co-created C4PA in 2004
- 43 million cartridges recycled to date

brother at your side · Canon · EPSON · hp · KONICA MINOLTA · KYOCERA

Over 500 FTE jobs created (direct & indirect) over almost 20 years

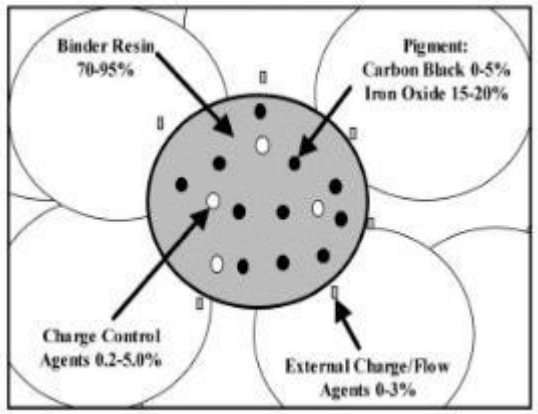
And, diverted more than 56,000 tonne of complex waste from landfill.

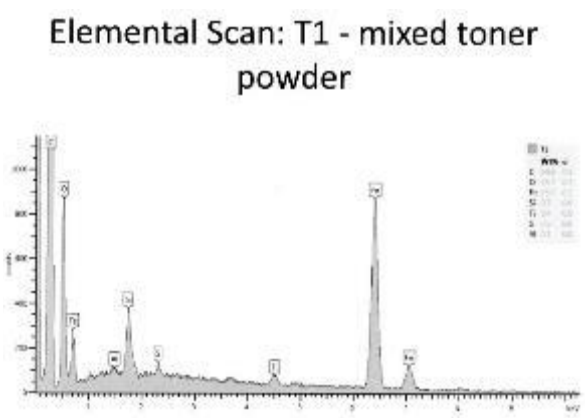
That's 274 Jumbos at take off.

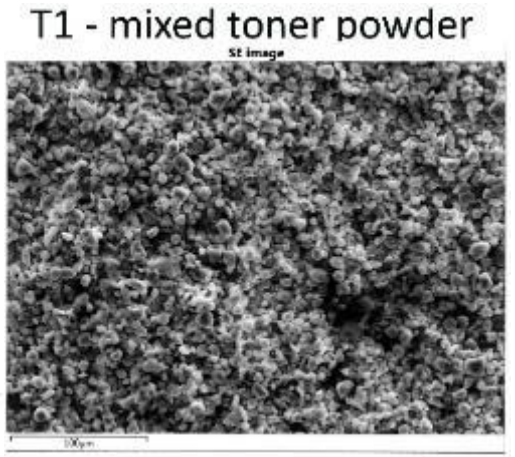
Core business

Close the Loop

Continuous *toner* R&D journey from day 1

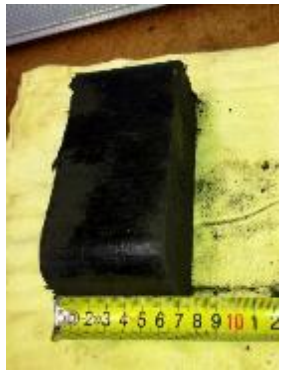






Black masterbatch

Toner & Palm Wax



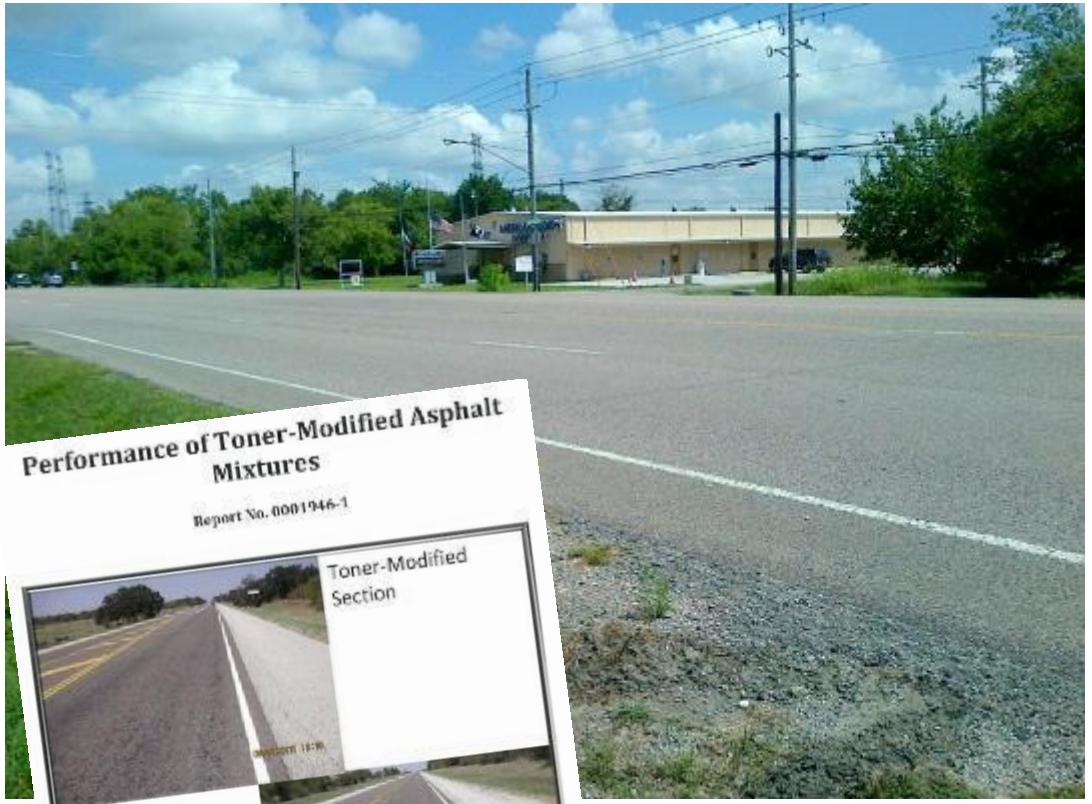
Toner briquetting

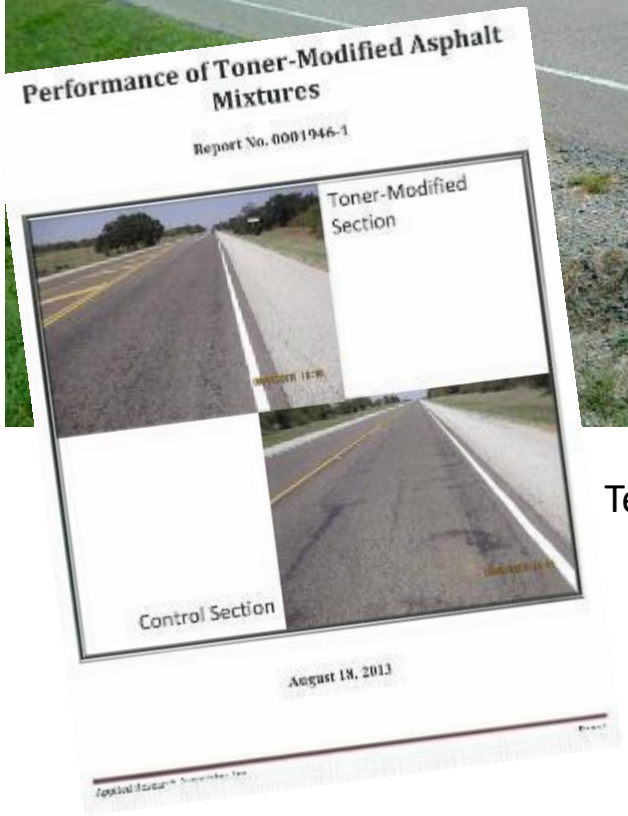
Toner in plastic roof cement (USA)

Toner and rubber composite (Deakin Uni)

Close the Loop

Lots of activity leading to roads



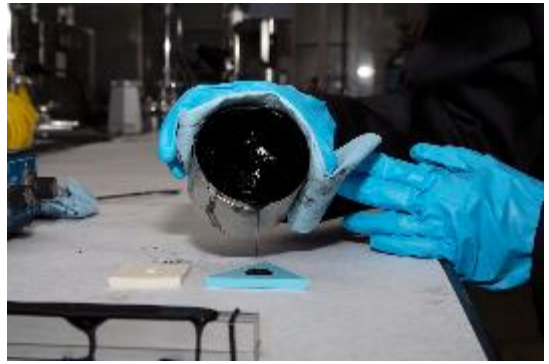


Texas roads including toner

Close the Loop

Roads are highly engineered

- Roads are highly engineered
- Polymers are used in the highest quality roads
- The use of recycled polymers in roads must be stringently controlled



Close the Loop

The use of mixed soft plastics

Sophisticated blend of :-

- Waste toner
- Mixed soft plastics
- Waste oil
- Secret herbs & spices

In the media

TonerPave in Mickleham VIC

TonerPave in Sydney

Supported by Steve Irwin

Reported globally

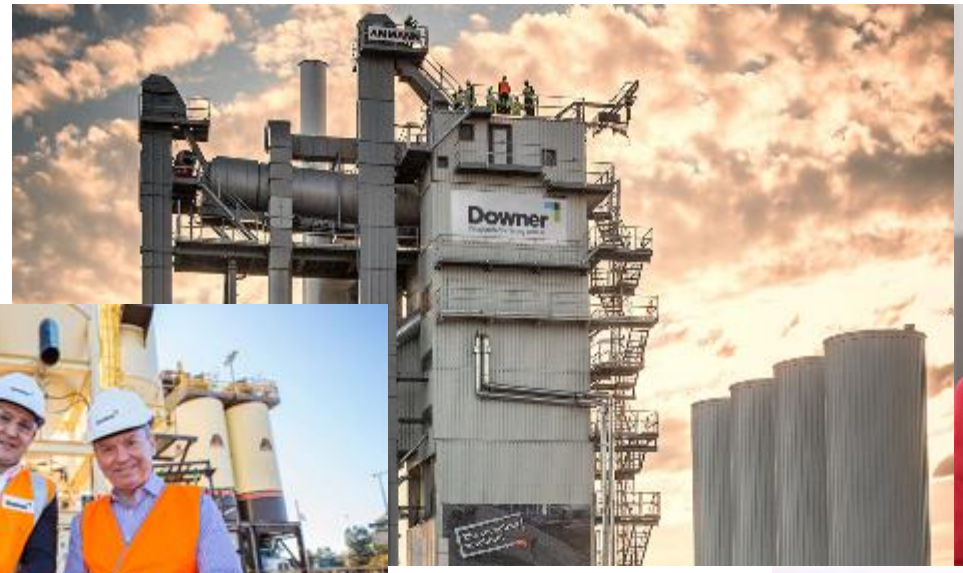
TonerPave carpark in Lexington KY USA

1st TonerPave road in Epping 2013

Lots of publicity

Close the Loop

It’s all about collaboration



- Numerous global patents
- Lots of awards and recognition
- The only Australian company to be a finalist in the ‘Circulars’

Close the Loop

TonerPlas® is an ingredient of Reconophalt

- Every 1km road (2 lanes) paved with Reconophalt will use approximately:
  - 530,000 plastic bag equivalents
  - 168,000 glass bottle equivalents
  - 12,500 toner cartridges

- Compared to standard State Road Authority specified asphalt:
  - 65% improvement in fatigue for longer life pavements
  - Superior deformation resistance for withstanding heavy vehicular traffic.

- Total cost of ownership reduced
  - Road life from 20 to 23 years
  - Reduced maintenance $
  - Reduced whole of life $

Over 1200 KM's of road laid in VIC, SA, NSW, QLD WA and TAS to date

The drivers of growth for TonerPlas and similar technologies

- Up to 30% recycled content in Federal, State, and Local Government procurement policy
- Replacement of non-renewal resources (fossil fuel derived bitumen)
- Improved road performance and lower cost of ownership

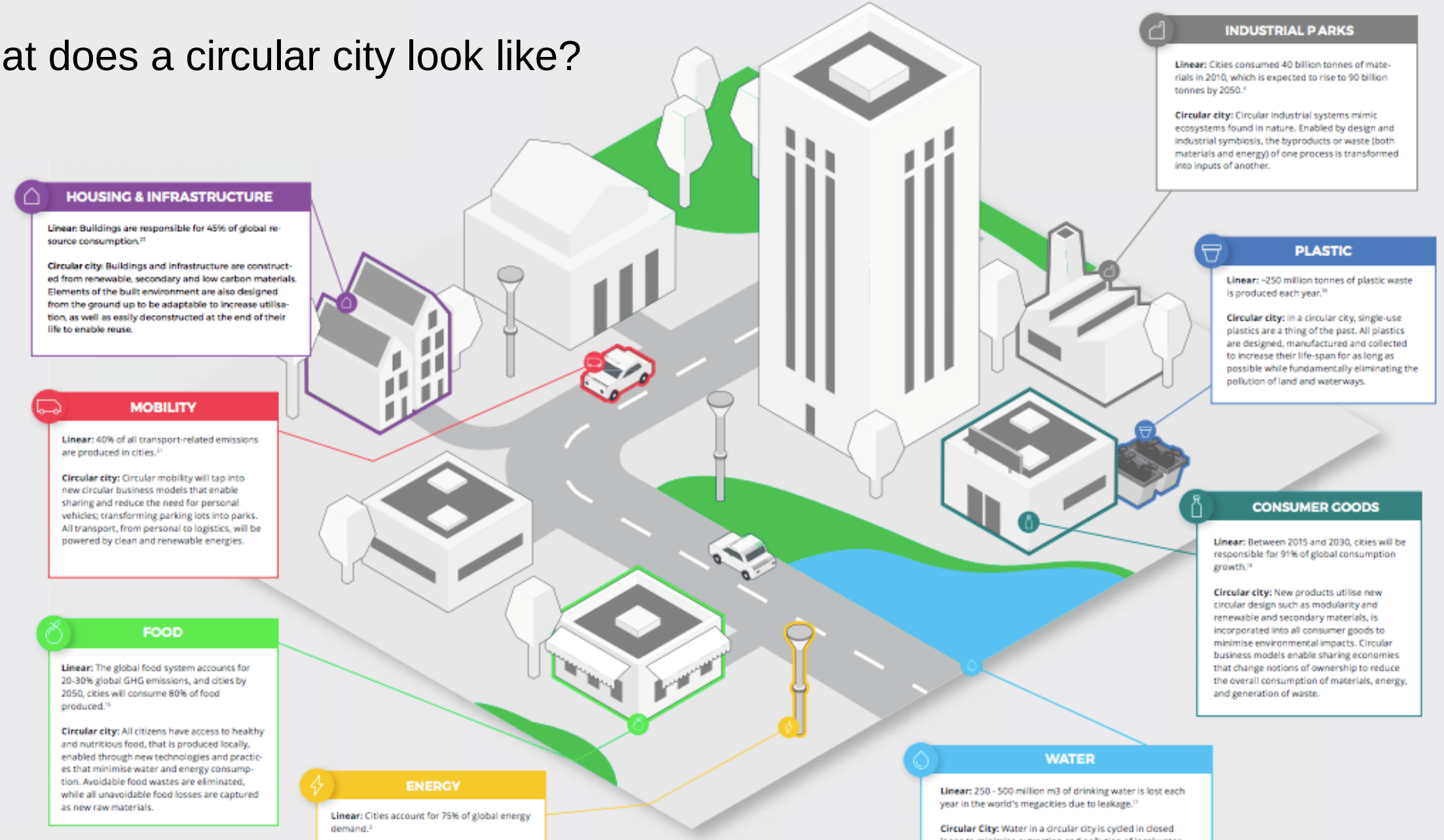
What's next

- The US market
- Sprayseal and other asphalt additives
- Decentralised TonerPlas production in Australia

Despite occupying just 2% of the Earth's surface, cities…

- Are home to over 55% of the global population, by 2050 this is expected to rise to 68%
- Generate 80% of global GDP
- Consume 70-75% of global resources
- Account for 70% of global greenhouse gas emissions

What does a circular city look like?



HOUSING & INFRASTRUCTURE

Linear: Buildings are responsible for 45% of global resource consumption.[23]

Circular city: Buildings and infrastructure are constructed from renewable, secondary and low carbon materials. Elements of the built environment are also designed from the ground up to be adaptable to increase utilisation, as well as easily deconstructed at the end of their life to enable reuse.

MOBILITY

Linear: 40% of all transport-related emissions are produced in cities.[21]

Circular city: Circular mobility will tap into new circular business models that enable sharing and reduce the need for personal vehicles; transforming parking lots into parks. All transport, from personal to logistics, will be powered by clean and renewable energies.

FOOD

Linear: The global food system accounts for 20-30% global GHG emissions, and cities by 2050, cities will consume 80% of food produced.[15]

Circular city: All citizens have access to healthy and nutritious food, that is produced locally, enabled through new technologies and practices that minimise water and energy consumption. Avoidable food wastes are eliminated, while all unavoidable food losses are captured as new raw materials.

ENERGY

Linear: Cities account for 75% of global energy demand.[2]

Circular city: A circular city is powered entirely by renewable sources of energy, increasingly from smaller-scale and decentralised local generators. The energy that is produced is managed and distributed via 'smart' systems to avoid any energy losses.

INDUSTRIAL PARKS

Linear: Cities consumed 40 billion tonnes of materials in 2010, which is expected to rise to 90 billion tonnes by 2050.[4]

Circular city: Circular industrial systems mimic ecosystems found in nature. Enabled by design and industrial symbiosis, the byproducts or waste (both materials and energy) of one process is transformed into inputs of another.

PLASTIC

Linear: ~250 million tonnes of plastic waste is produced each year.[19]

Circular city: In a circular city, single-use plastics are a thing of the past. All plastics are designed, manufactured and collected to increase their life-span for as long as possible while fundamentally eliminating the pollution of land and waterways.

CONSUMER GOODS

Linear: Between 2015 and 2030, cities will be responsible for 91% of global consumption growth.[16]

Circular city: New products utilise new circular design such as modularity and renewable and secondary materials, is incorporated into all consumer goods to minimise environmental impacts. Circular business models enable sharing economies that change notions of ownership to reduce the overall consumption of materials, energy, and generation of waste.

WATER

Linear: 250 - 500 million m3 of drinking water is lost each year in the world's megacities due to leakage.[17]

Circular City: Water in a circular city is cycled in closed loops to minimise extraction and pollution of local waterways. Wastewater is a valuable source of secondary raw materials which are captured through circular technologies while increasing resiliency to the risks of climate change.

CIRCLE ECONOMY

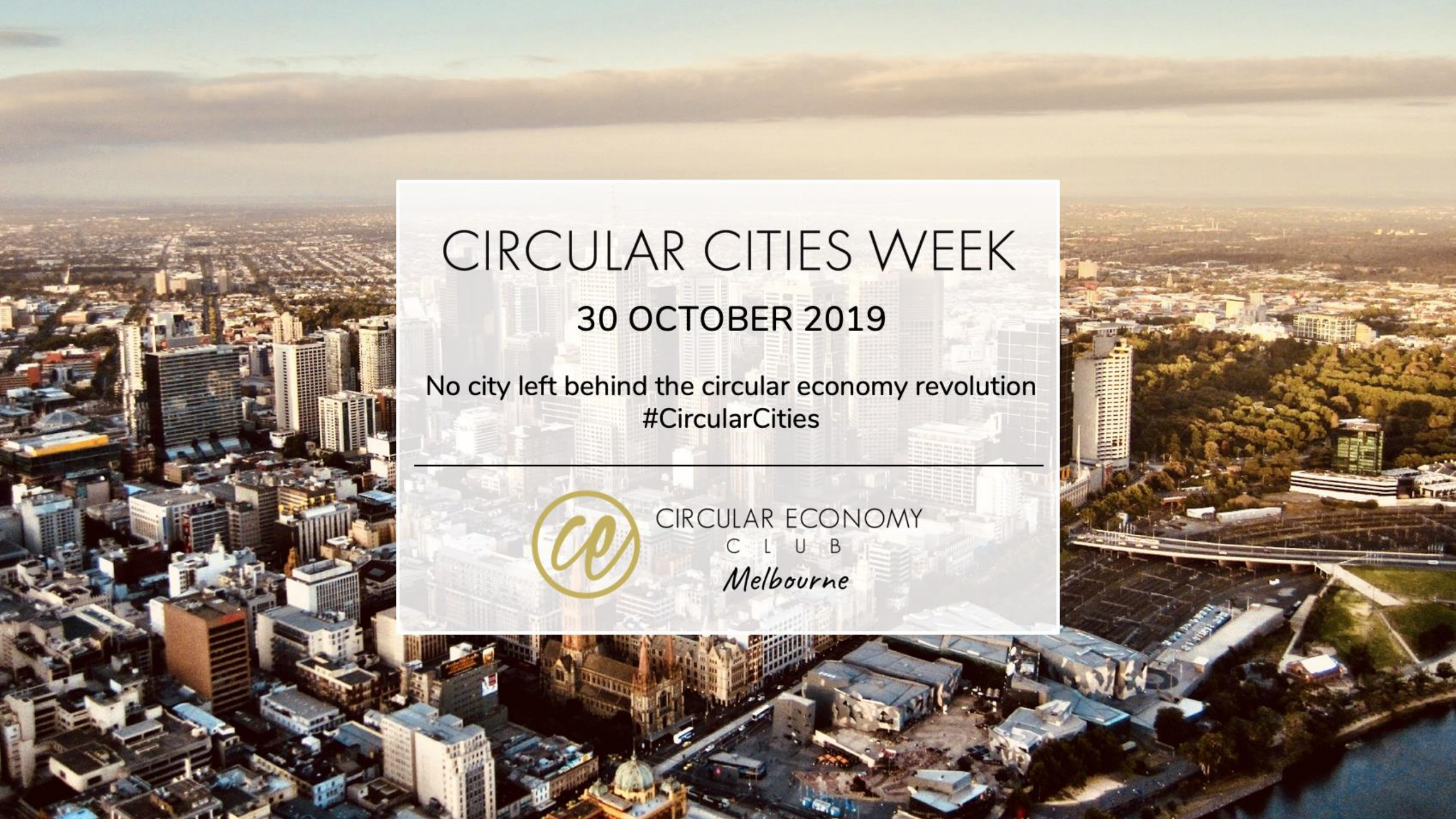
HOLLAND CIRCULAR HOTSPOT


“Our struggle for global sustainability
will be won or lost in cities.”
Ban Ki-moon, Eighth Secretary-General of the United Nations

In conclusion

- The transition to circularity is 80% social and 20% technical
- We are all in this together
- The NCEH wants to empower you
- Take action / ask for help / never give up
- There are opportunities everywhere
- The circular economy is not about copyright, it’s about the right to copy

Thank you



CIRCULAR CITIES WEEK

30 OCTOBER 2019

No city left behind the circular economy revolution
#CircularCities

CIRCULAR ECONOMY
CLUB
Melbourne

CIRCULAR CITY CANVAS, by CEC				
Your Sector	**TOP IMPACTS** What do they consume (inputs: water, energy, which materials,...), which waste do they generate (outputs: type of waste, CO2,...)?	**CIRCULAR SOLUTIONS** Which are the potential solutions to solve their negative impacts?	**WHO TO NUDGE** Who are the key decision-makers who could have an influence in those sectors.	**NEXT STEPS** What can you do as a group to help make this happen. Who and how can you approach to do something?
Sector activity 1:	Inputs:			
	Outputs:			
Sector activity 2:	Inputs:			
	Outputs:			
Sector activity 3:	Inputs:			
	Outputs:			
Sector activity 4:	Inputs:			
	Outputs:			

Source: Circular Economy Club (CEC)

CIRCULAR CITY CANVAS, by CEC				
SECTOR What sector does the business/organisation/ initiative fall in?	**NAME** What is the name of the business/organisation/ initiative?	**LOCATION** Where is the business/organisation/ initiative located?	**DESCRIPTION** Describe the circular initiative?	**TOP IMPACTS** What do they consume (inputs: water, energy, which materials,...), which waste do they generate (outputs: type of waste, CO2,...)?

Source: Circular Economy Club (CEC)

Join us!

Circular Economy Club Melbourne

- https://www.meetup.com/en-AU/Circular-Economy-Melbourne/

Circular Economy Victoria

- https://www.linkedin.com/company/circular-economy-victoria/
- https://www.facebook.com/CircularEconVIC/

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