

SUSTAINABLE FUTURE – GREEN GROWTH, CIRCULARITY



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Head of Circular Economy
Development
**Planet Ark Environmental
Foundation**



Established in 1992, we are an Australian not-for-profit and **leading** environmental behavior change organisation.

Our **mission** is to unite government, businesses, schools and individuals through **positive environmental actions**.

OUR VISION

A world where people thrive in balance with nature

We will achieve this by:

Supporting a transition to a carbon neutral and circular economy

Fostering collaboration between governments, businesses, communities and individuals

Connecting people with nature - essential for human and planetary wellbeing



OUR PROGRAMS

SUSTAINABLE RESOURCE USE



PRODUCT ENDORSEMENTS



CONNECTING WITH NATURE

LOW CARBON LIVING



AUSTRALIAN CIRCULAR ECONOMY HUB

Helping to facilitate the transition to a circular economy for Australia.

PLANET ARK

<https://acehub.org.au>

WITH THANKS TO:

FUNDING PARTNER



Australian Government

ASSOCIATE SPONSORS

BINGO
INDUSTRIES

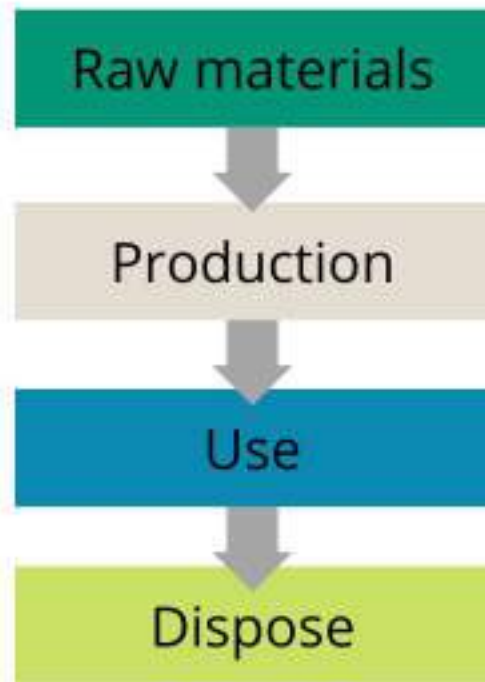


SUPPORTING SPONSOR

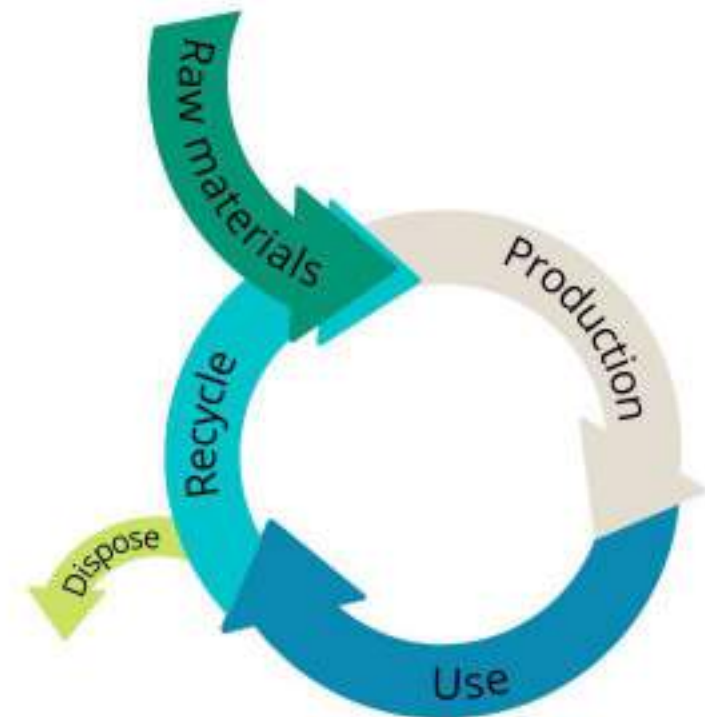
PLANET ARK
Power
Climate energy. Accelerated.

WHAT IS A CIRCULAR ECONOMY?

Linear economy

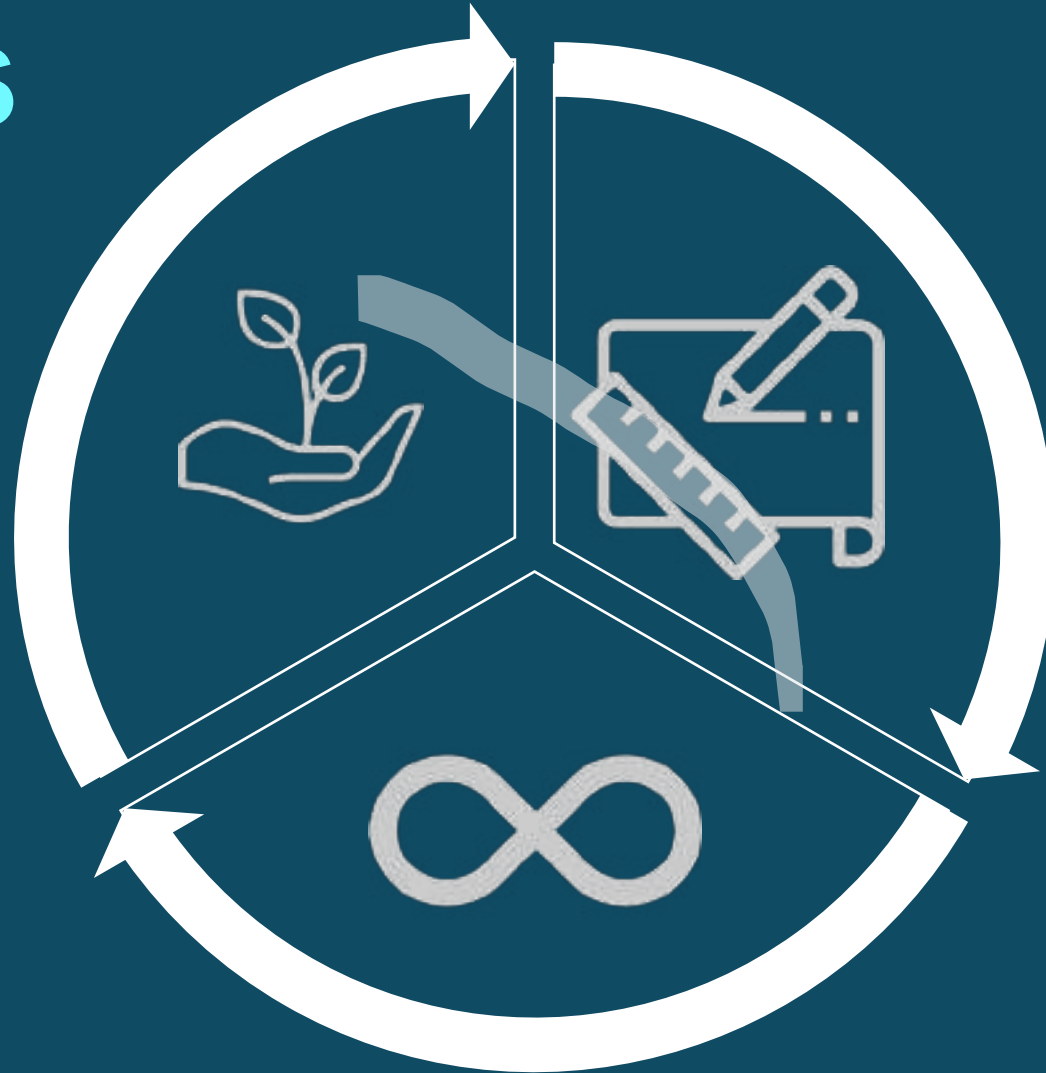


Circular economy



3 PRINCIPLES

**3. REGENERATE
NATURAL
SYSTEMS**



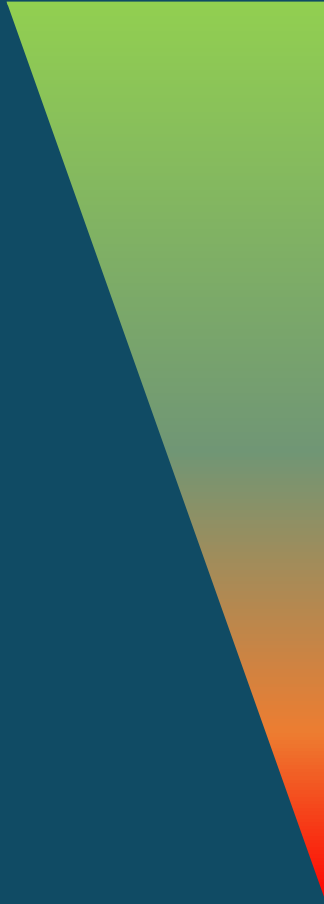
**1. DESIGN OUT
WASTE AND
POLLUTION**

**2. KEEP MATERIALS AND
PRODUCTS IN USE**

Ladder of circularity: 10 R's

Order of priority

High

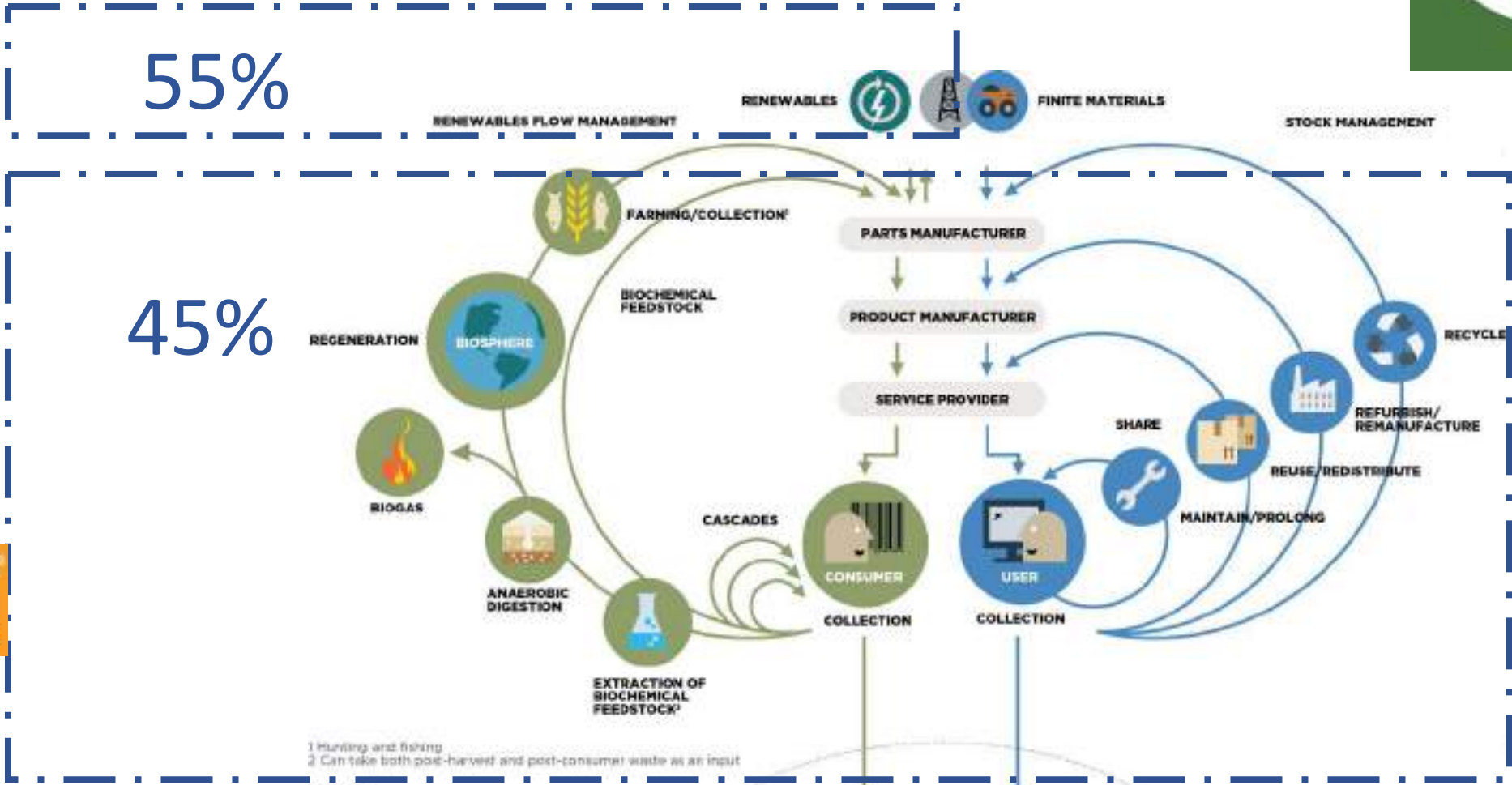


Low

1. **Refuse:** prevent raw materials use
2. **Reduce:** decrease raw materials use
3. **Renew:** redesign product in view of circularity
4. **Re-use:** use product again (second hand)
5. **Repair:** maintain and repair product
6. **Refurbish:** revive product
7. **Remanufacture:** make new product from second hand
8. **Re-purpose:** re-use product but with other function
9. **Recycle:** salvage material streams with highest possible value
10. **Recover:** incinerate waste with energy recovery

© J. Cramer, 2015

CIRCULAR ECONOMY POTENTIAL TO ADDRESS CLIMATE CHANGE



¹ Hunting and fishing
² Can take both post-harvest and post-consumer waste as an input

SOURCE:
 Ellen MacArthur Foundation
 Circular economy systems diagram (February 2015)
www.ellenmacarthurfoundation.org
 Drawing based on Braungart & McDonough, Cradle to Cradle (C2C)



“

Decouple economic
prosperity from material
consumption
and energy usage

+

Think in systems and
service values

”

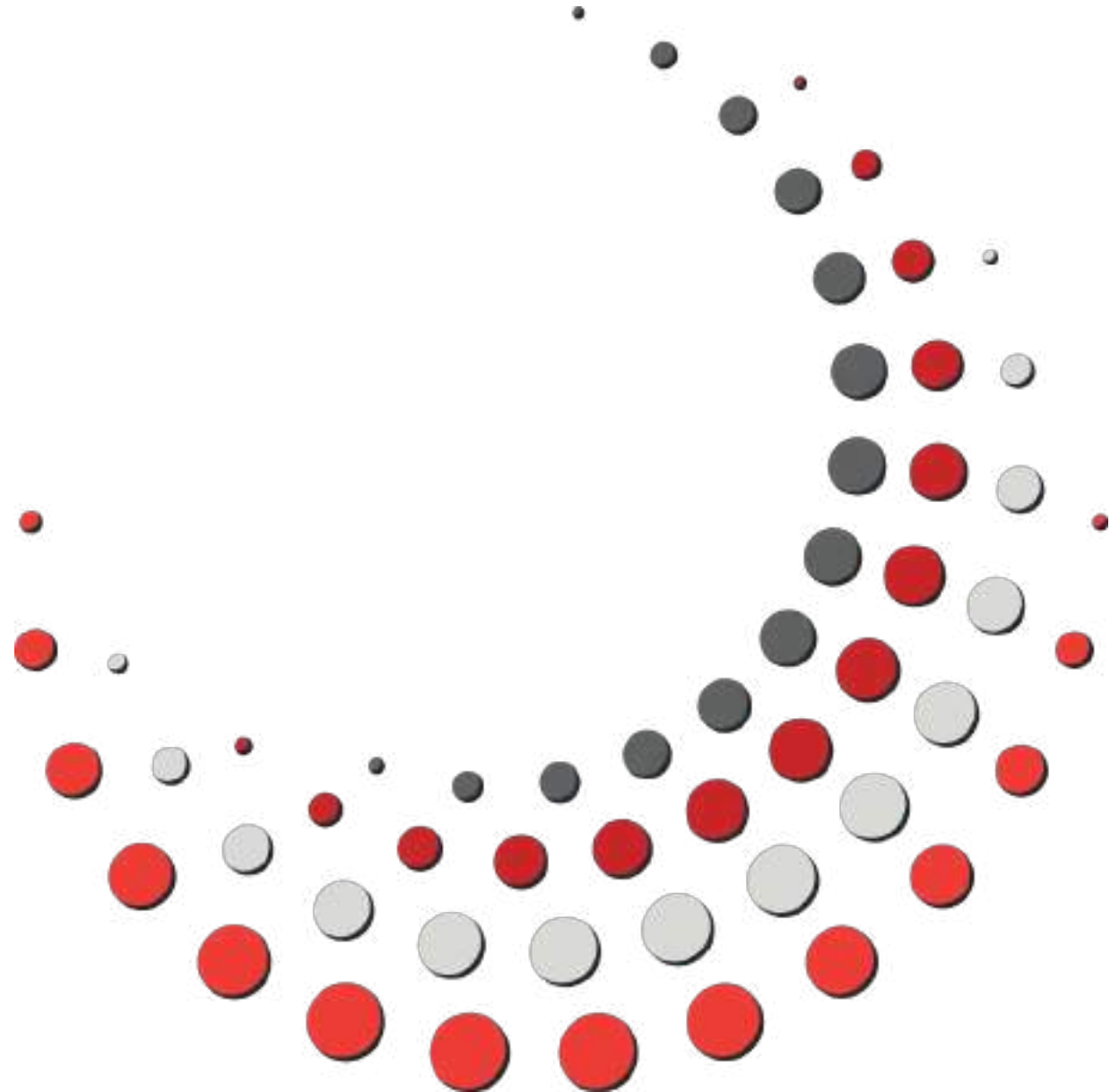


Waste Management & Circular Economy Team

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Embedding Circular Economy in Design

Policy & Guidelines



Master Planning & Precinct



Building Design



Circular Materials



PROJECT PHASES

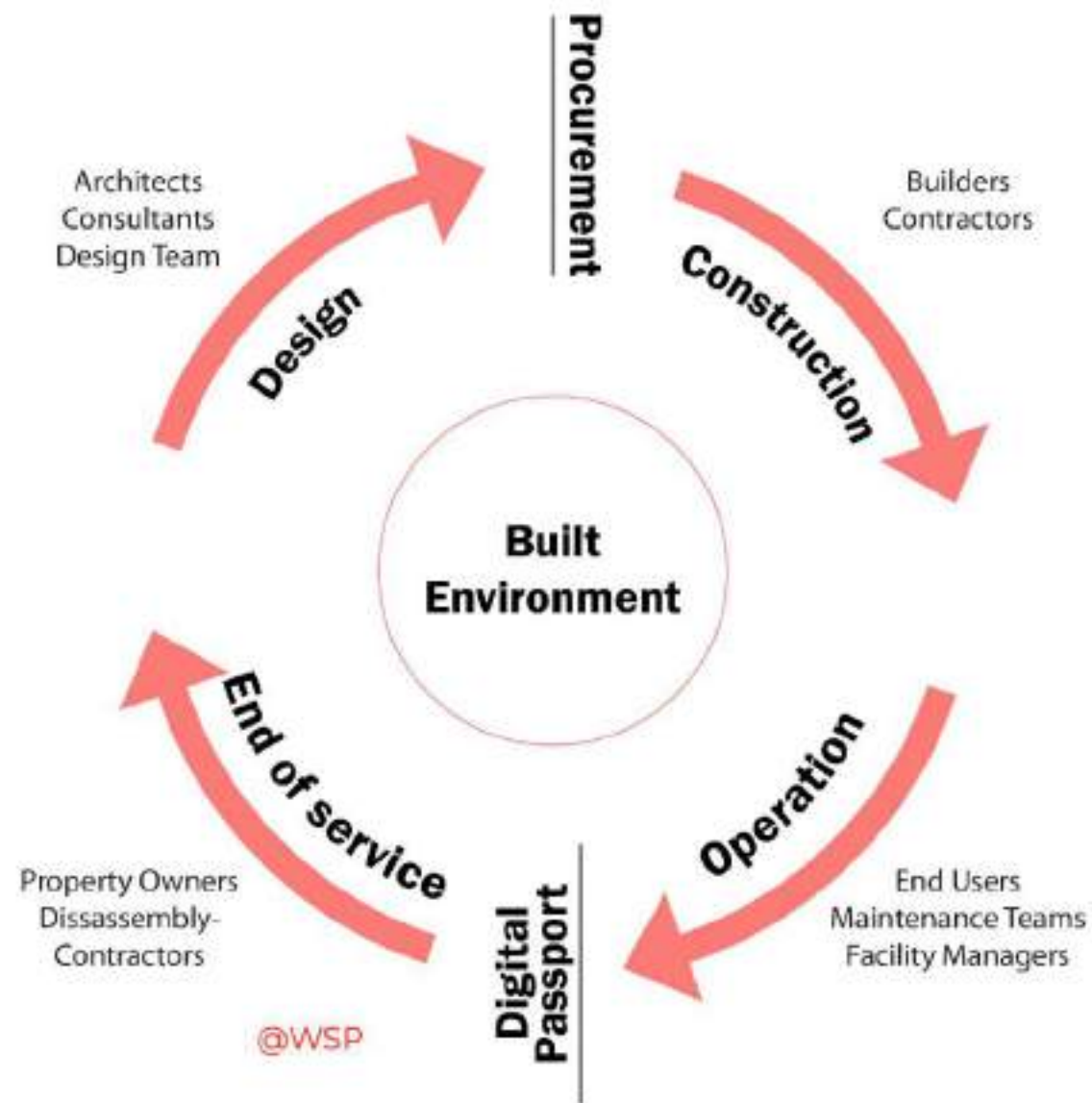
- Design
- Construction
- Operational
- End of Life

PROJECT SCALES

- Master Plan
- Precincts
- Buildings
- Interiors / Fit-out



Holistic design approach to promote circularity



Triggers for shifts in food supply and packaging



It secures food safety and availability

By 2050 the world's population is predicted to reach 9.1 billion, which will require an increase of 70% food availability. Packaging helps keep food safe, nutritious and available.



But it can cause problems for the planet

From greenhouse gas emissions, plastic waste in our environment and expanding landfills to the depletion of finite resources and limited recyclability.



Rising consumer spend on health & sustainability

\$26B annual consumer spending from a segment that values love of nature and a deep concern about its preservation.

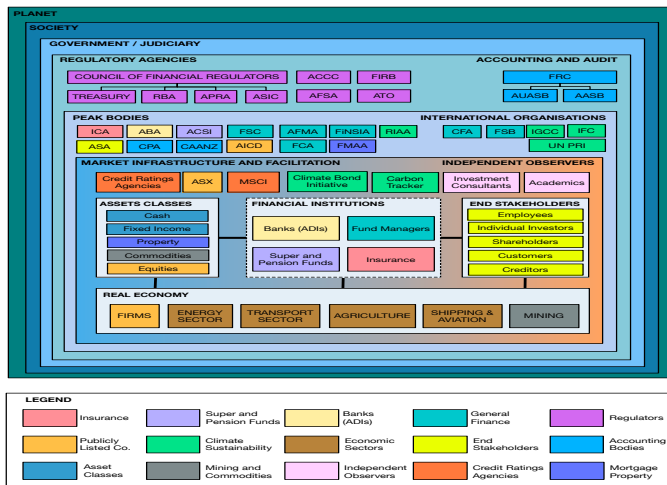
CIRCULAR ECONOMY KEY SOLUTION IN EMERGING SUSTAINABLE FINANCE SYSTEM

Circularity requires a portfolio approach and offers potential across all screens

Three definitions of Sustainable Finance



Circularity requires changes across the financial system



	TRADITIONAL INVESTMENT	RESPONSIBLE & ETHICAL INVESTMENT					PILANTHROPY
		ESG INTEGRATION (including shareholder engagement & voting)	NEGATIVE SCREENING (& norms based)	POSITIVE OR BEST-IN-CLASS SCREENING (& norms based)	THEMATIC/ SUSTAINABILITY THEMES INVESTMENTS	IMPACT INVESTING	
FOCUS	Linked or not related for environmental, social and governance factors	Comprehensive & analysis of environmental, social and governance (ESG) factors as part of investment or fiduciary making	Industry, sector or companies excluded/ diverted from to avoid risk or better align with values	Investments that target companies or industries with better ESG performance	Investments that specifically target sustainability themes: energy, green property	Investments that target social and environmental impact and deliver market rate financial returns	Investments that target social and environmental impact and deliver above market rate returns
IMPACT INTERSECTION	Agenda	Divide focus	Benefits stakeholders				Contributes to activities
FEATURES		Delivers competitive financial returns		Manages ESG risks	Pursues ESG opportunities	Strategically aligning or impact to central or secondary objectives	Impact of investment to measure & report

SOURCE: RIAA Benchmarking Impact Australian Impact Investor Insights, Activity and Performance Report (2020) SOURCE: <https://responsibleinvestment.org/what-is-ri-ri-explained/>

Two out of 5 key themes relevant for Circularity:
 + Building ESG into culture and behaviors
 + Improving governance structures, incentives and purpose

SOURCE: Edwards, M., Kelly, S., Klettner, A. and Brown, P., 2019. Unlocking Australia's Sustainable Finance Potential.



Cooperation across the financial services sector to develop a roadmap and action plan for embedding sustainability into the finance sector so that the sector can **support greater social, environmental and economic outcomes for the country.**

Australian Taxonomy due to be released in Mid-October

Circular Economy is Integral to EU Taxonomy



Source: EU Final TEG Taxonomy Report (2020) https://ec.europa.eu/info/files/200309_sustainable_finance-teg-final-report-taxonomy_en

CIRCULAR ECONOMY FINANCE UNDERDEVELOPED BUT AWARENESS GROWING

Challenge statement:

Identification and measurement of circular assets and risks for the finance and investment sector in the transition to a circular economy

Approach: desktop research

- Rapid review of key academic and grey literature

Key findings:

- Adoption of CE is still in early stages, but global initiatives are occurring and relevant
- Linear risks are not well understood – circular economy is key risk mitigant
- Built environment sector - important to incorporate circularity

➔ Education and further research

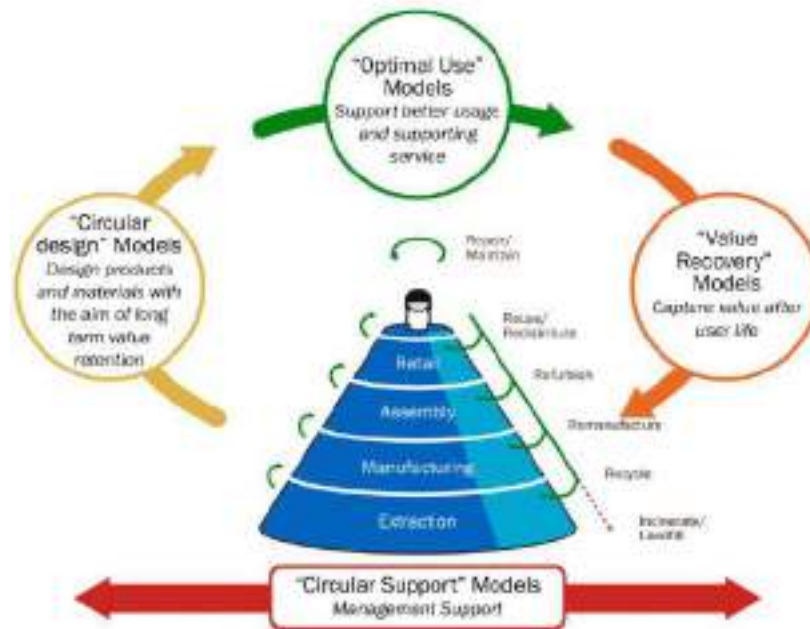


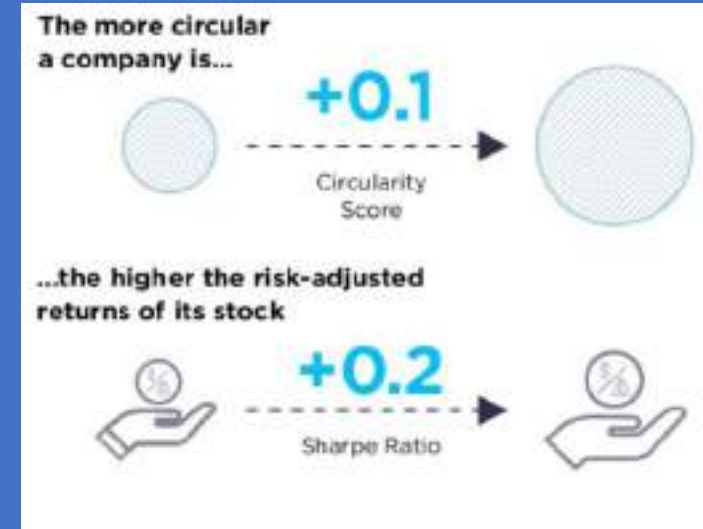
Table 2: Linear Risk Typology

Risk	Description
Market risks*	Involve market and trade related factors that impact business' assets and liabilities
Operational risks*	Involve factors that threaten the internal operations of a firm
Business risks*	result of emerging societal, economic and political trends that threaten the firm's strategic business plan objectives
Legal risks*	arise from the failure to comply with current as well as future regulations, standards or protocols
Reputational risks**	Involves a business's brand image, license to operate, and general customer and investor perception. These are increasingly turning into legal liability with stakeholders suing companies on unsubstantiated sustainability claims.

* The FinanCE working group (Ramkumar et al., 2018)

** Circular Economy Practitioners Guide (WBCSD, 2018)

CIRCULAR ECONOMY DERISKS INVESTMENT



Innovations in packaging



Recyclable
saveBOARD starts
Nov 2022



Certified plant-based content



Certified carbon footprint reduction



Certified sustainable forest sourcing



Certified aluminium sourcing



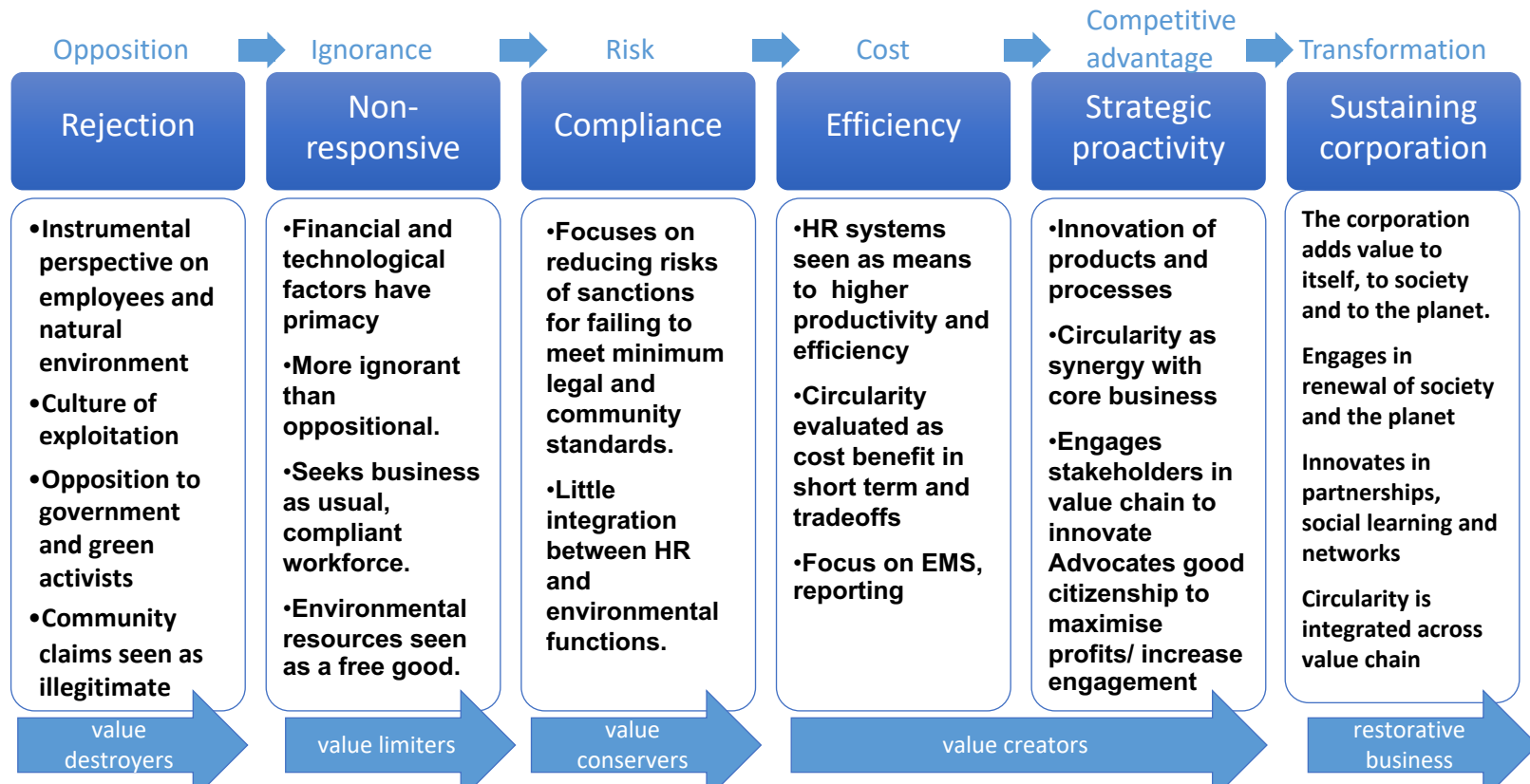
Traccable,
renewable content



Use of recycled plastics in secondary packaging



CIRCULAR COMPANIES BUILD IN RESTORATION AND INVEST IN CAPABILITIES



Arden Precinct, Melbourne

Towards a Circular Precinct

Delivering Net Zero

WSP commit to halving the carbon footprint of our designs and advice by 2030

Embedding Circular Economy in design

Strategy

- Set targets
- Value heritage
- Spatial commitments for circularity

Design

- Elements retained or refurbished
- Ability to Disassemble
- Flexibility in design
- Design for Longevity

Material Selection

- Material retained from site (reuse)
- Complexity of materials
- Recovery potential
- Recycled content



The Nest, Switzerland

Designing out waste

Embedding Circular Economy in design

Design

- Modular prefabricated construction
- Ability to Disassemble
- Flexibility in design
- Design for Longevity
- Take back schemes

Material Selection

- Reuse of salvaged materials
- Recycled content
- Materials library with QR code

WSP Circularity Assessment Tool

- Identify and track circular materials
- Guide responsible construction methods and end of life decisions,
- Encourage circular procurement solutions (recycled content and take back schemes)



Fostering a sense of community



THANK YOU



“The circular economy can only be achieved with one of the most significant collaboration efforts ever undertaken”

– Paul Klymenko, CEO Planet Ark, 2020

portal.acehub.org.au/

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