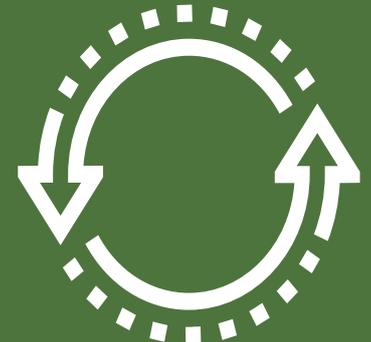


Circular Economy

Subdivision design for a sustainable future



What's included in this fact sheet:

Why do we need to change our approach to materials and waste?

Benefits of circular economy considerations in subdivision design

What should be considered to achieve Circular Economy in subdivisions

- Materials selection
- Reuse
- Resource recovery

Where can I find out more?

This fact sheet explains how subdivisions can reduce resource use and improve retention of value through the materials life cycle by encouraging re-use of onsite materials, using recycled materials and providing the appropriate resource recovery infrastructure.

Why do we need to change our approach to materials and waste?

Circular economy shifts the traditional linear economy of take, make, waste to one where the value of resources is maintained in a circular process. It looks at how resources that are now traditionally seen as waste can be reused, ultimately extracting more value.

With this in mind, the way in which subdivisions are designed and therefore constructed can have a significant impact on the overall waste that is generated by the development process.

With landfills across Victoria quickly reaching capacity and once abundant resources becoming more scarce as demand continues to increase, there is consideration of how to use less, while seeking opportunities to reuse materials through effective recycling.

Although waste only contributes about 2% of Victoria's overall operational emissions, the embodied emissions are significant (included in high emissions sectors such as manufacturing). Lower emissions through the product life cycle will be a significant contributor to Victoria's target of net zero greenhouse gas emissions by 2050 and is strongly encouraged through Recycling Victoria - Victoria's Circular Economy Policy and Action Plan.

Waste and pollution are largely a result of the way we design things. Around 80% of environmental impacts are determined at the design stage.

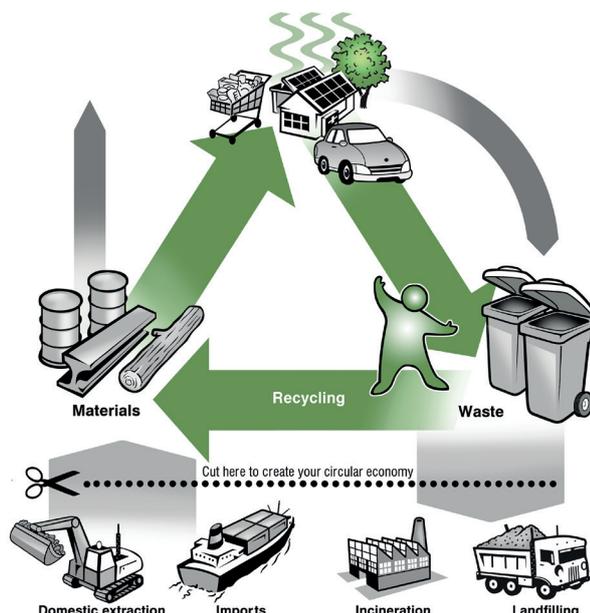
Benefits of circular economy considerations in subdivision design

Developers can take advantage of:

- Satisfying changing customer needs and expectations
- Exceeding government regulations and stay ahead of new requirements
- Demonstrating best practice circular economy principles in subdivision design

A new resident can expect:

- Future proofing of community and building assets against changes in government regulations
- Improved access to sustainable resource recovery options





Achieving Circular Economy in Subdivisions

When seeking to achieve a circular economy in subdivisions, the resource hierarchy can be referred to. The aim is to eliminate the need to dispose of materials (i.e. through landfill or energy recovery), ensuring that materials remain available for future, retaining potentially valuable resources.

Material selection

As virgin materials become scarcer (and so more expensive) markets for materials using recycled content will increase. Through the subdivision process alternative options to virgin materials are becoming more widely available.

Material selection objectives include:

- To encourage the selection of materials with low embodied carbon in the construction of subdivisions
- To ensure materials and products are certified through strong third party verification
- To minimise future maintenance and upgrade requirements through durable and easily recycled materials choices
- To support the local economy by buying local materials

Material choices play a fundamental role in designing for a circular economy. Choosing non-virgin materials that can easily be repurposed, can result in safer products for both future residents and the environment. It will also ensure that materials have lower embodied carbon, while potentially reducing maintenance and upgrade costs through improved durability.

Reuse

Greenfield subdivisions provide significant opportunities to reuse materials, both directly from the site as well as considering the use of materials with recycled content.

Reuse objectives include:

- To encourage the re-use of on-site buildings and materials in the construction of subdivisions
- To use products with high recycled content and end of life recyclability in the construction of subdivisions

Reuse can go beyond choosing materials with recycled content, by ensuring that products can be easily repurposed at the end of life.

The subdivision process provides various opportunities to use recycled content including in bitumen, concrete and road base as well as street furniture such as bollards and seats.

Resource recovery

The key to an effective circular economy is recovering resources so they can be reused, recycled or repurposed.

Resource recovery objectives include:

- To ensure the street network is capable of supporting organics and recycling collection
- To provide for community infrastructure to support sustainable resource recovery

Resource recovery includes repurposing materials during the construction process as well creating the infrastructure to support future residents to repurpose such as infrastructure for communal organics collection where a council program doesn't exist or community investments like repair cafes.



Where can I find out more?

Other Fact Sheets in this series are also available to provide guidance on the 7 Sustainable Subdivision Categories. For further information on Circular Economy, see the Fact Sheets entitled:

- Site Layout and Liveability
- Streets and Public Realm

Sustainable Buildings Fact Sheets
imap.vic.gov.au

Rating Tools
Green Star Communities
www.gbca.org.au
EnviroDevelopment:
www.envirodevelopment.com.au

Sustainable Infrastructure Guidelines
Provides alternative design and construction initiatives to achieve greater sustainability outcomes
www.designmanual.com.au