



# Plastics in Construction

Consortium for Plastics and Sustainability  
(COMPAS, Sept 2019)

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 @zerowastescot #circularconstruction



Why Construction?

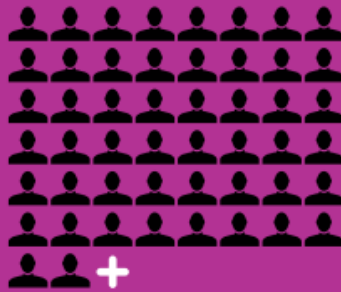
**UK CONSTRUCTION FIGURES**

6.1% of total GVA  
to the economy



£171 billion of output

Over 332,000 businesses  
with 2,360 employing 50 or more



2.3 million jobs  
(6.5% of total employment)

£7 billion in PAYE

£6.2 billion in VAT

£4.4 billion in  
corporation tax



COIB - THE VALUE OF  
CONSTRUCTION: SCOTLAND

# Key industry stats



50% of Scotland's  
resource consumption

10% of the workforce



50% Scotland's waste



“The construction industry is  
the second largest consumer  
of plastic in the UK”

WRAP 2018



“The construction industry produces three times more packaging waste than all UK households combined”

Circular Building, 2016

# Zero Waste Scotland

## Our Mission

We exist to create a society where resources are valued and nothing is

Our goal is to help Scotland realise the economic, environmental and world's limited natural resources.



We are Scotland's Circular Economy experts; recognised internationally for our contribution to delivering a Zero Waste future.



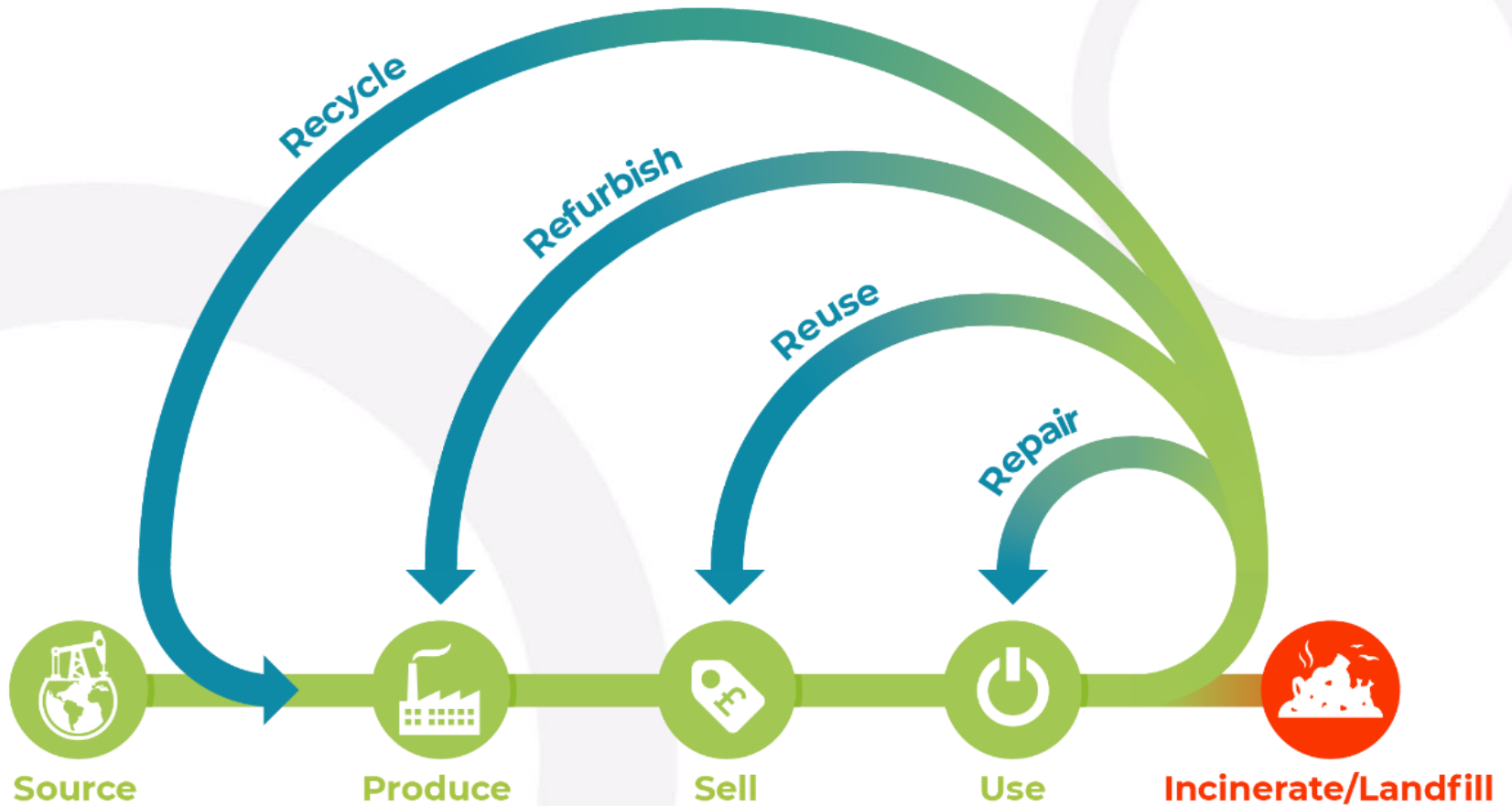
# What is a circular economy?

**“A circular economy is one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles”**

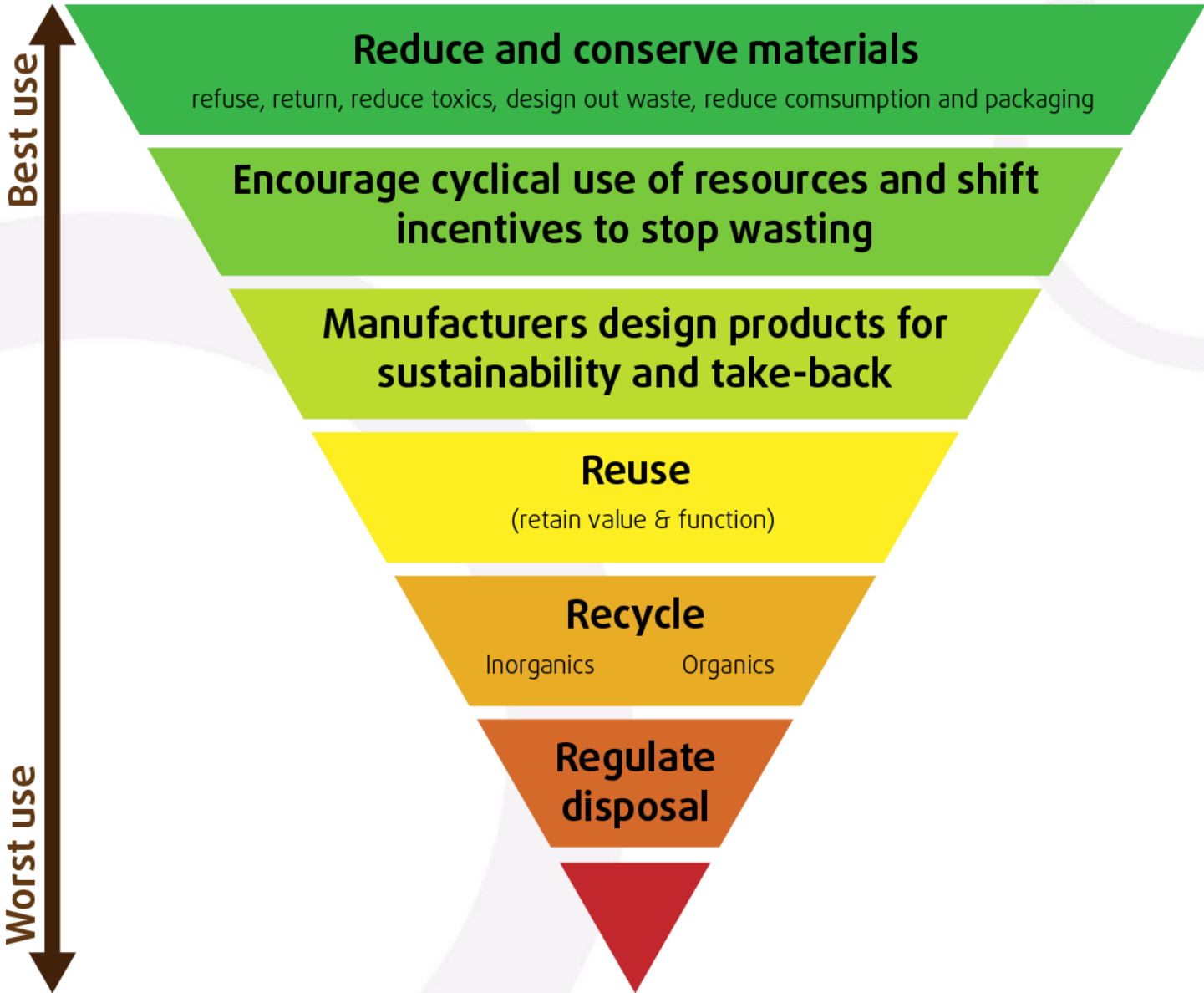
Ellen MacArthur Foundation.



# Circular economy



# Waste hierarchy





**“Strategies at the heart of the circular economy include measures to preserve and extend the life of our current resources, redefine business models, and design out waste.”**

Harald Friedl, CEO Circle Economy

# Why is a circular economy important?

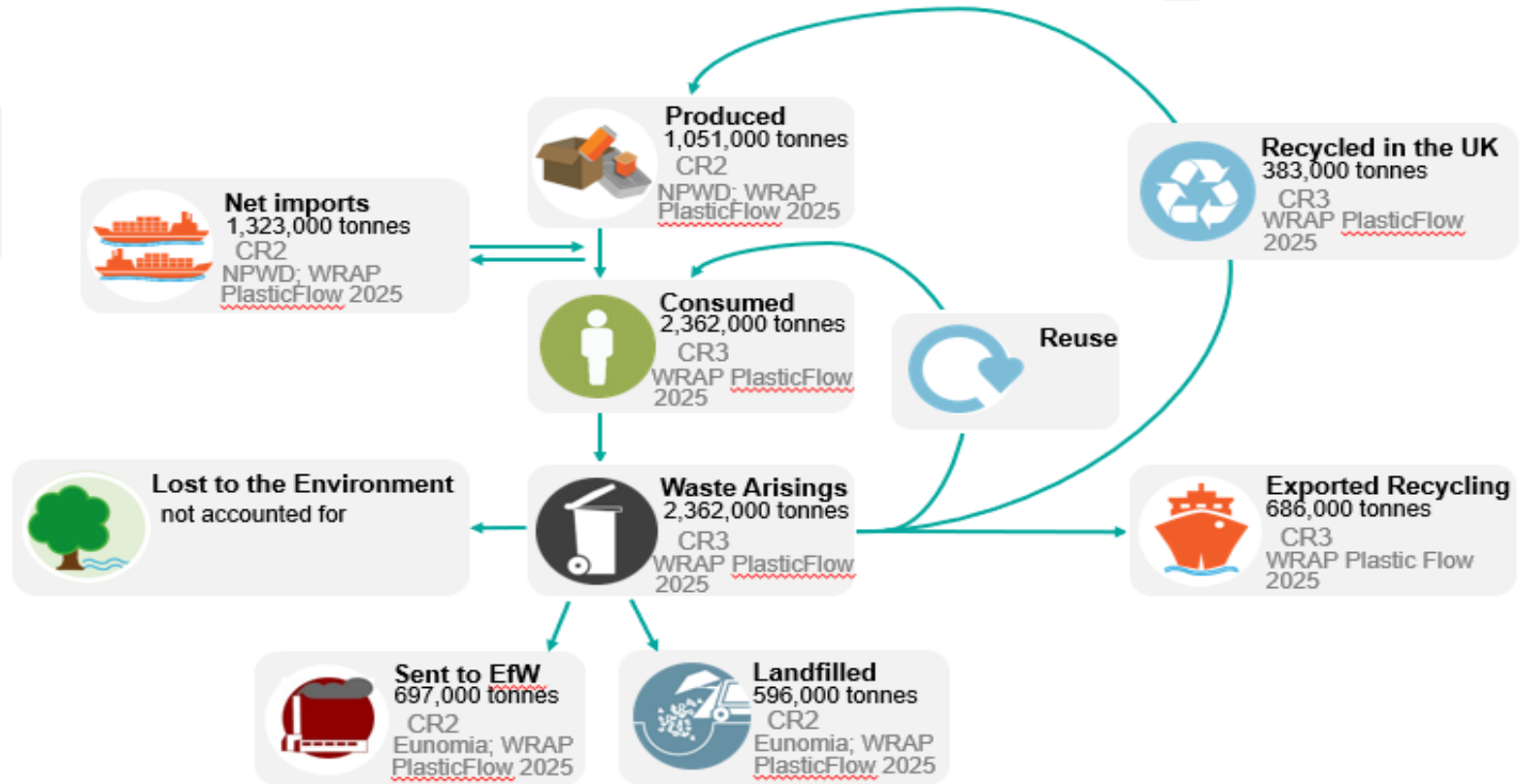
- **create new opportunities for growth through the development of new products and services**
- **reduce waste by creating value at end of life**
- **drive greater resource productivity and cost efficiency**
- **deliver a more competitive UK economy**
- **position the UK to better address emerging resource security/scarcity issues in the future.**
- **help reduce the environmental impacts of our production and consumption in both the UK and abroad**



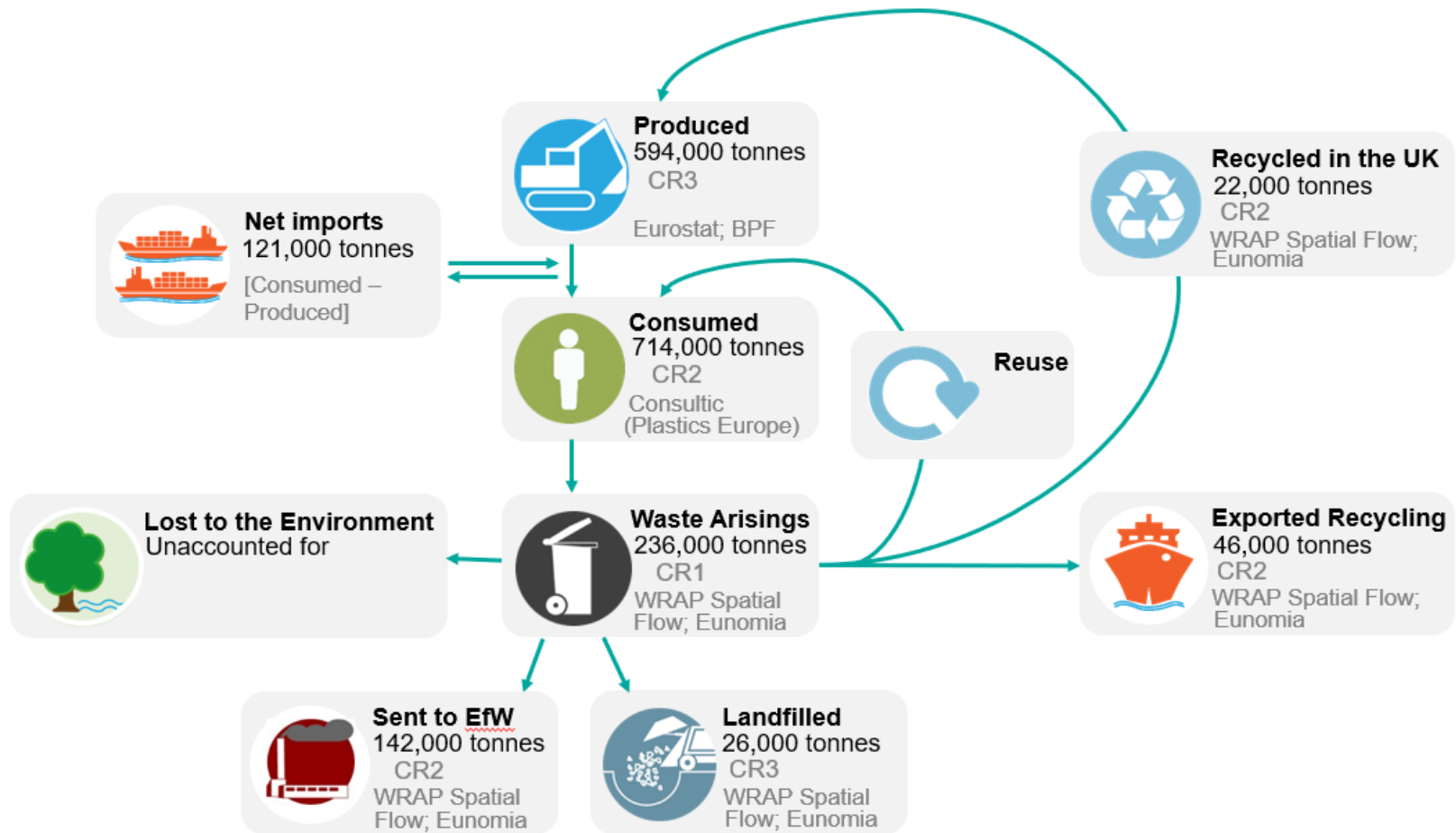
Scottish Government  
Riaghaltas na h-Alba  
gov.scot

# Plastic

# Plastic Packaging Mass Flow



# Building and Construction Mass Flow



# Considerate Construction's Spotlight on...plastics and packaging

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- The construction industry consumes **23%** of all plastic produced in the UK.
- The construction industry generates an estimated **50,000 tonnes** of plastic packaging waste every year.
- In the construction industry, **60%** of all skipped material by weight is packaging waste.
- Around **25%** of construction packaging waste by weight is plastic.
- Piping and conduit are the largest uses of polymers in construction, and consume around **35%** of production.
- The construction industry produces **three times** more packaging waste than all UK households combined.





# Considerate Construction Industry Survey

- 98%** said the over-consumption of plastics and packaging is a global issue.
- 95%** said the construction industry needs to reduce its consumption of plastics and packaging.
- 92%** believe plastics and packaging are extremely dangerous to the environment.
- 81%** said the construction industry is not doing enough to reduce its consumption of plastics and packaging.
- 51%** said they have little understanding of the regulations surrounding plastics and packaging.
- 44%** said the workforce knows how to recycle different plastics and packaging materials.
- 31%** said they frequently use plastics and packaging that cannot be reused or recycled.

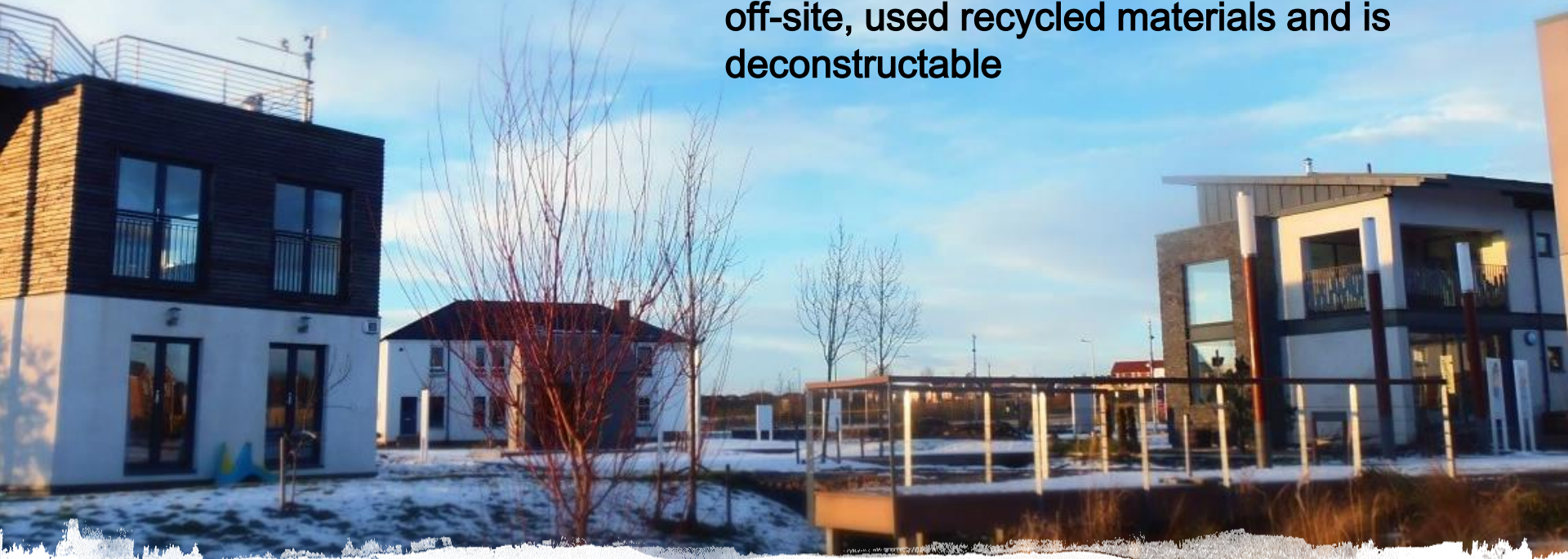
# Scheme Recommendations

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- Create a Site Waste Management Plan
- Introduce CE Principles
- Use Sustainable Materials
- Avoid single-use plastics
- Educate the workforce
- Set an example



**Resource Efficient House, Ravenscraig -  
a modular building that was constructed  
off-site, used recycled materials and is  
deconstructable**



**Secondary Materials**



## Recycled Plastic Panel

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Made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc.

It can be moulded into shape while soft, and then set into a rigid or slightly elastic form.



# Recycled Damp Proof Membrane

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'Type A' damp proof membrane as  
defined by BS EN 13967: 2004.

It is manufactured from 100% post-use  
waste.



## Recycled Tyre Underlay

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Agglomerated Recycled Crumb Rubber  
for Impact and Airborne Noise  
Insulation of Floating Slabs.

100% Recycled tyres

# MacRebur

Asphalt with waste plastic additives

One tonne contains the equivalent of 80,000 plastic bottles



# Plastics – reforming our ‘throwaway culture’

- We need to **reduce the environmental impact of consuming products and materials** – that includes plastic and plastic products
- We will require **new business models and service delivery** as well as **changes in consumer behaviour**
- We need **our products – whether plastic or not – to last longer**, then be reused, repaired or recycled. There should be zero waste in a truly **circular economy**







**Thank you**

For more information:

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