

SUPPLY CHAIN SUSTAINABILITY



National Highways PDF Waste & Resource Efficiency Workshop

21st November 2022 – 1.00pm to 3.00pm

Welcome & introductions

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and
Waste & resource use



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[@SupplyCSSchool](https://twitter.com/SupplyCSSchool)



Overview

1. Legislation

2. Financial Implications

3. Waste and Resource Efficiency Management Planning

4. Q&A

Introduction

Waste Management Workshop - Outcomes



At the end of this short session you will:

- Have revisited some of your legal responsibilities under waste legislation
- Considered ways to improve site waste management and resource efficiency
- Be better placed to explain requirements to others.

Please Participate



If you have **QUESTIONS**, please feel free to speak up or write them down in the chat box



Cameras on and earphones help!

Please mute during presentations but feel free to unmute and speak up if you have a question

Please, ensure your line is **UNMUTED** during group discussions and **VIDEO** is on



We will use the platform **Jamboard** to engage in different activities



SLIDES will be distributed afterwards

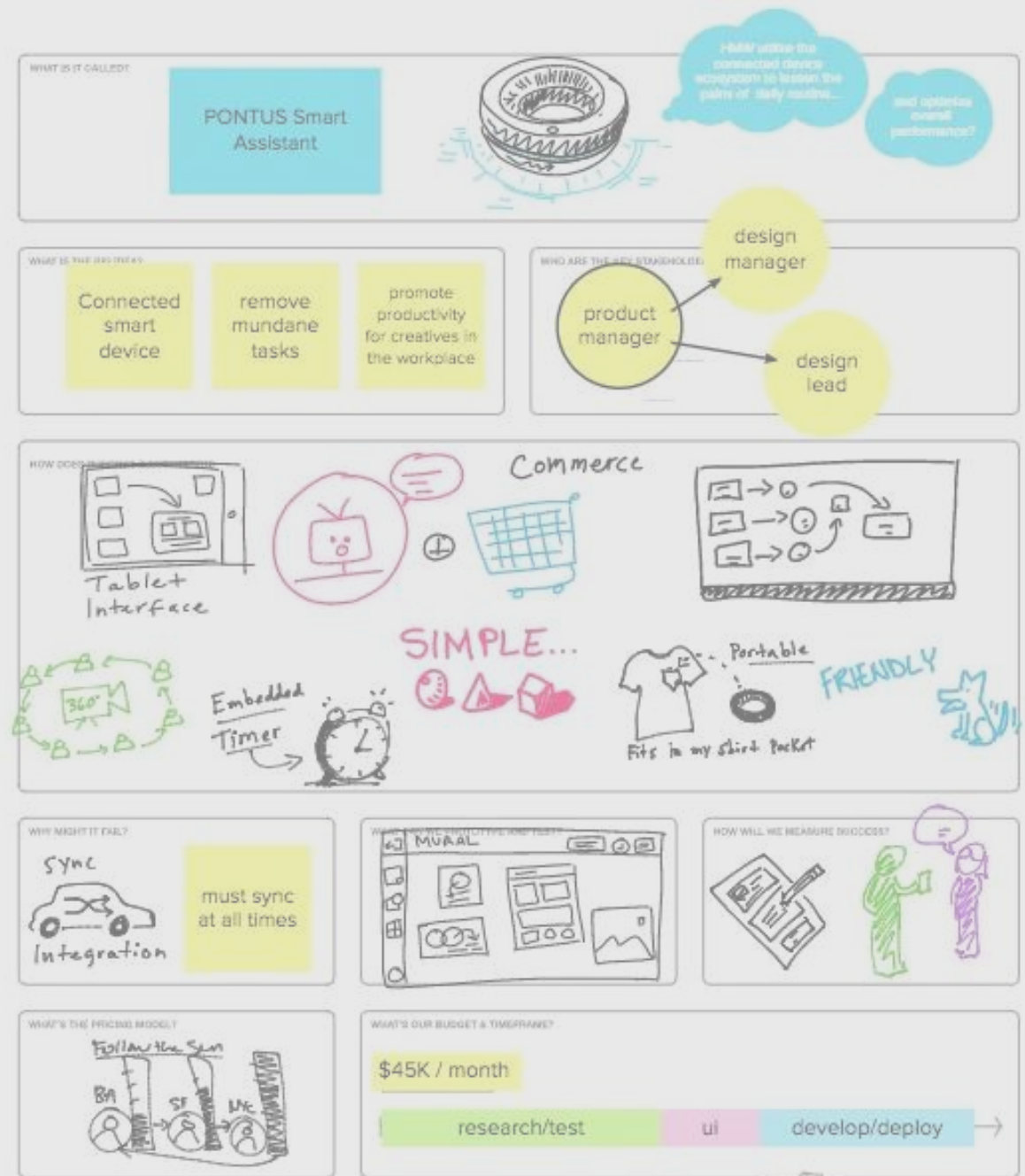
Introductions, using Jamboard and Chat box

- We will introduce Google Jamboard shortly – you just to open this as an interactive document via your browser – use the link we sent you by email or the one we have added in the Chat function of Zoom
- If you can't access Jamboard or have something else to ask, just use the Chat function. Again this is in the Zoom toolbar
- Also use this to add other comments, keep notes of anything you think could be useful to the group, add your questions etc
- Feel free to shout out – I'm very happy to be interrupted.

LINK: <https://jamboard.google.com/d/13OIt-VieM4-C0JY48e8uZmqv1Rv3F1nwY-xT4bCU6jQ/edit?usp=sharing>

Jamboard

- **FOLLOW** the **link** we sent to you
- **CREATE** a post it note, double click on an empty space and start writing
- To **MOVE** your post it note around, click on and drag it
- To **DELETE** your post it note, click on it and press the 'Delete' button on your keyboard
- PLEASE DON'T press the "clear form" button!



WE NEED YOUR FEEDBACK PLEASE



THIS LINK WILL BE AVAILABLE ON THE CHAT:
[HTTPS://FORMS.OFFICE.COM/E/AGG5B7EANC](https://forms.office.com/e/AGG5B7EANC)

What is Waste?

“Any substance or object that the holder discards, or intends to, or is required to discard.”

(Waste Framework Directive)



Stakeholders?

Who is interested?

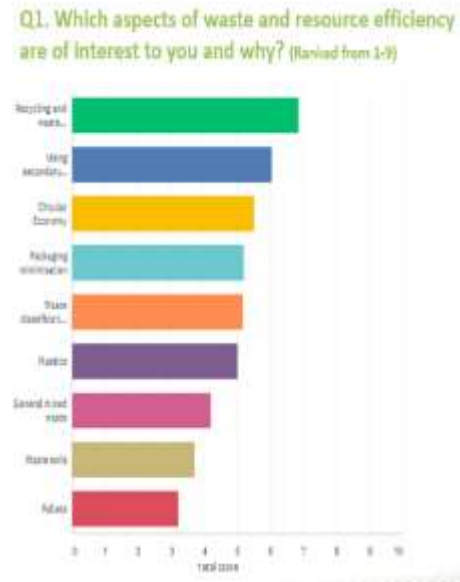
The School's Waste & Resource Use Category Group



Refreshed
 -Landing page
 -Resources (new and old)



Material Exchange Platforms Mapping
 - Skanska collaboration



Surveys
 -Member interest
 - Partner plastic waste



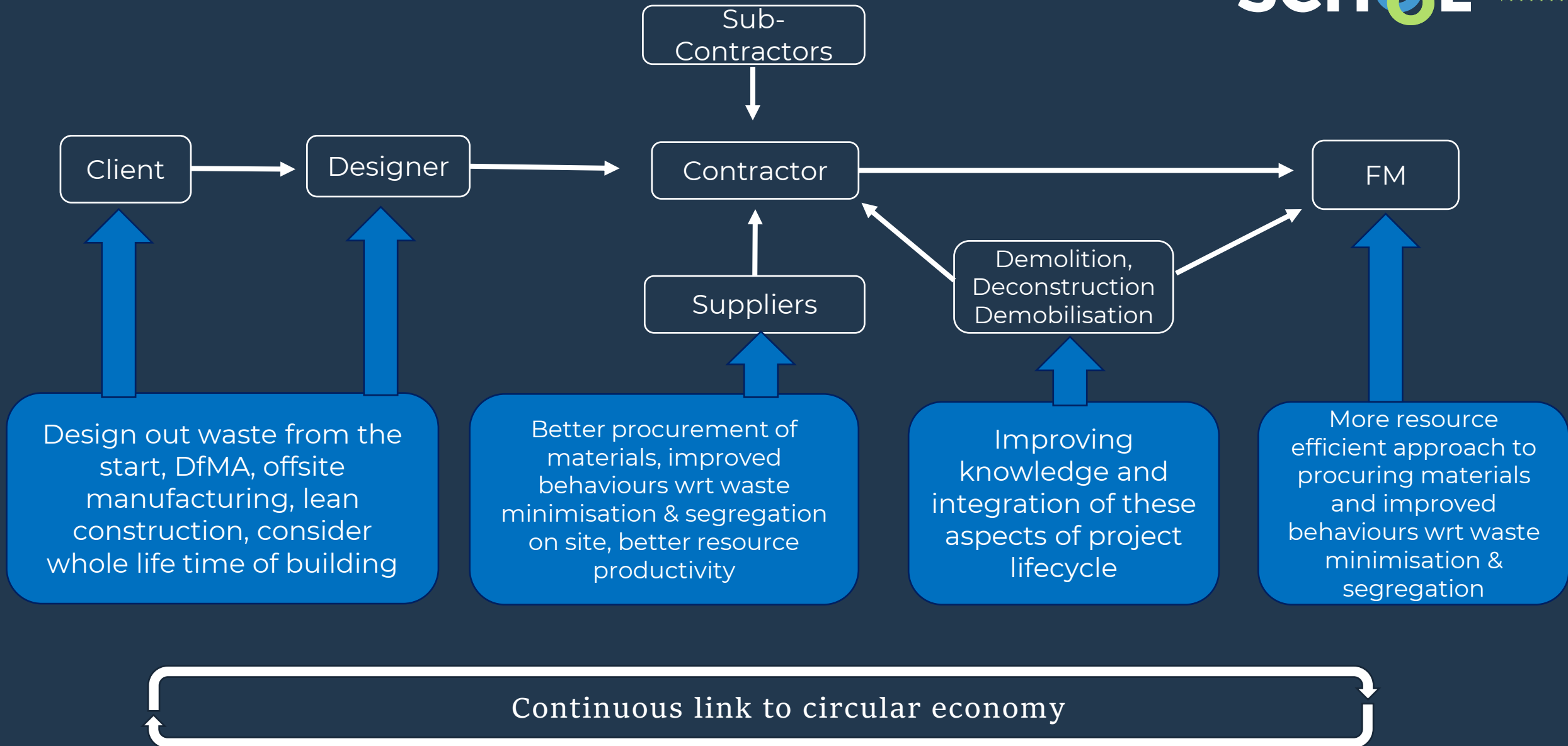
Partner case studies

Leadership group support

Our work programme

Construction project lifecycle waste*	Developing resources to improve outcomes
Designing out waste and design for deconstruction	Guidance and events, promoting circularity
Understanding limitations of UK waste management infrastructure	
Supporting procurement processes	Developing model tender questions and responses
Materials consolidation centres	
Plastics and aggregate reprocessing companies	Mapping and developing knowledge on how to engage
Data	material passports and waste performance reporting templates
Materials exchange platforms*	Set up and promote a map showing where these are, how to use etc
Zero waste to landfill	including greater input from waste management providers and demolition contractors
Embodied carbon and net zero pathways	
Packaging projects	Guidance, events, collaboration, research – Infra/Fit Out/M&E?
Social value and supporting social enterprises	Research and collaboration opportunities
Soils and aggregates	Guidance and exchange platforms
Subcontractor guidance	Site practice and site waste management tools
Informing School on policy / legislative changes *	Plastic Packaging Tax, Circular Economy, Producer Responsibility etc
Collaboration with other groups	Addressing SDGs, working with Carbon Group on scope 3 etc

INTERVENTION POINTS



LIKELY SCHOOL WASTE PRIORITIES 2024/25

Challenge	Solution School - Knowledge & Collaboration
<p>1. Developing and using better KPIs</p>	<div style="display: flex; justify-content: space-between; gap: 10px;"> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Partners adding their KPIs via correspondence and in another session if needed</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Collaboration other industry groups - Future Homes Hub and CINM Group. Others?</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Other School groups - collaboration</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Scope procurement framework</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Report and templates for supply chain</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">How to guide for someone who is completing the KPI template</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Taking leads video - how the partner's set KPIs and overcome practical problems. What have achieved as a result</div> </div>
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<p>3. Achieving zero avoidable waste by 2030 Definition for Zero Waste to Landfill so everyone is working off the same definition and understanding</p>	<div style="display: flex; justify-content: space-between; gap: 10px;"> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Achieving a common definition of Zero avoidable (define avoidable) waste to landfill</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Agree to generic target maybe? Quorum to agree. Milestones along the way.</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Track progress to date.</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Video - what it means and what is being done.</div> <div style="background-color: #add8e6; padding: 5px; width: 15%;">Talk to CLC and Green Construction Board - Katherine Adams</div> </div>
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Legislation

What type is it?



“Inert”

- Non bio-degradable material
- E.g. Non-contaminated subsoil, aggregates, etc.



Non-hazardous

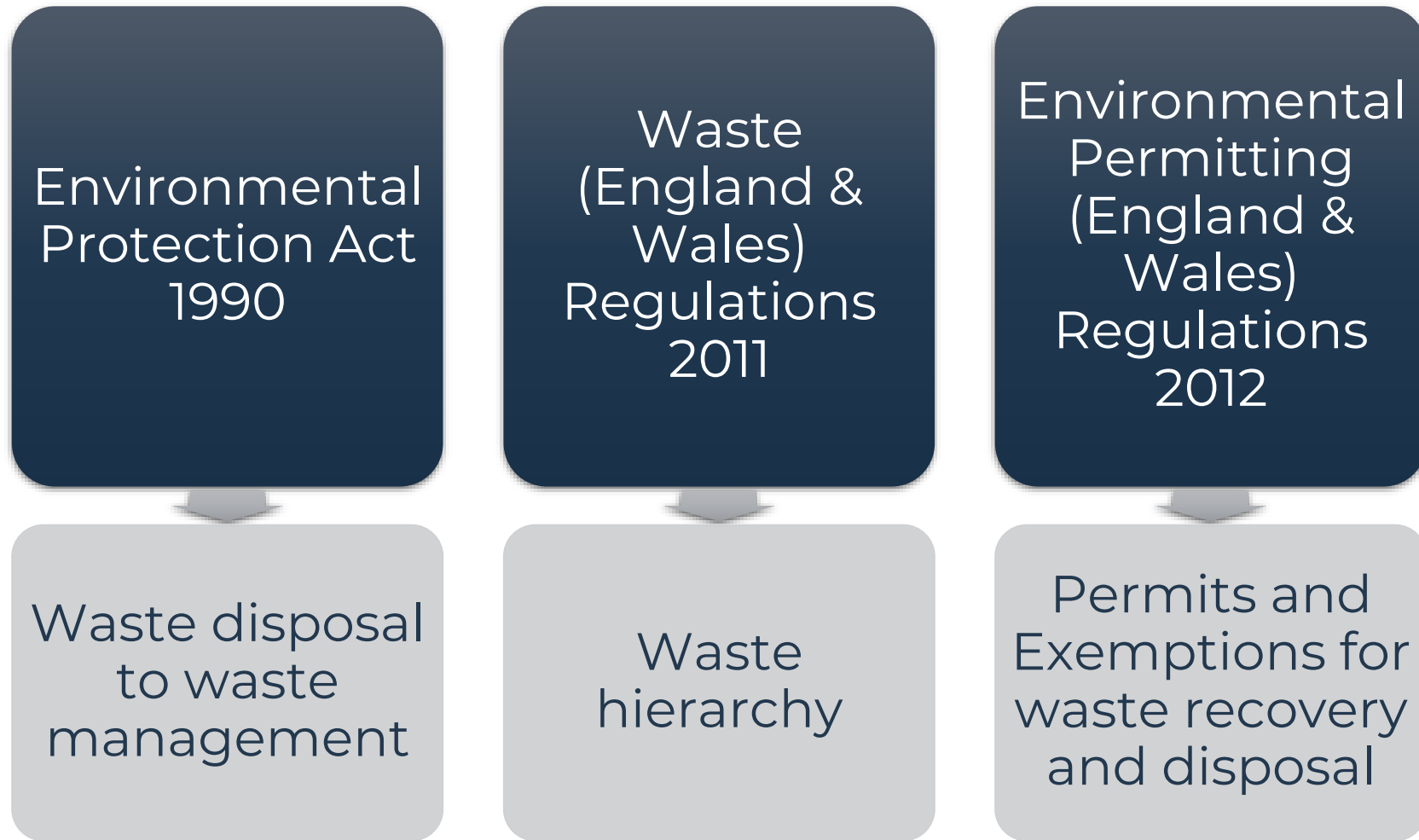
- Non-contaminated bio-degradable materials
- E.g. Topsoil, timber, metal, plastics



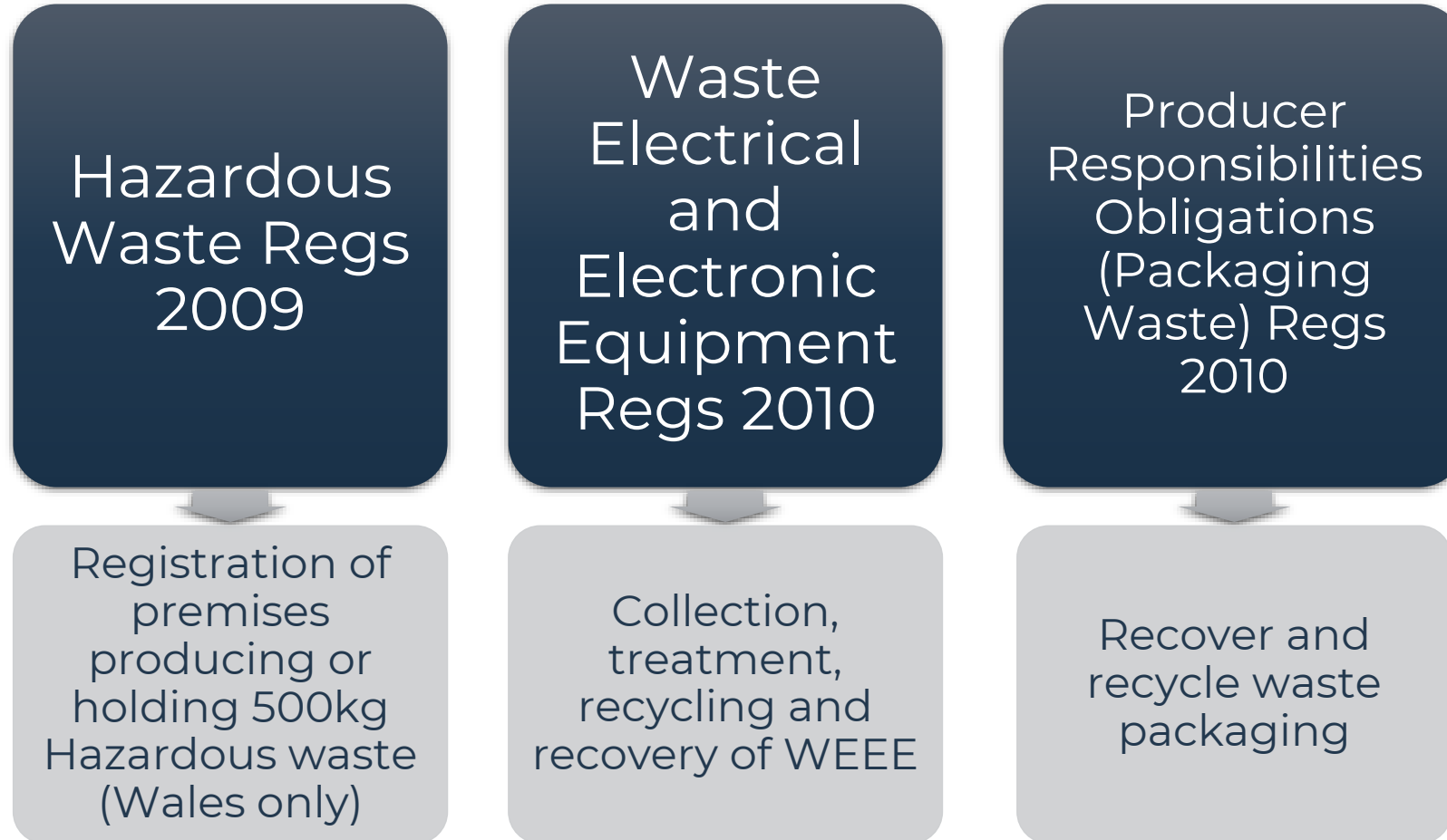
Hazardous

- Contaminated material and harmful materials
- E.g. Oils, paints and other organic liquids

Main Waste Legislation



Main Waste Legislation



Stop press

Mandatory digital waste tracking will be introduced from April 2025.

“Our vision and mission

Our vision is to make it easy to track waste and resources in real time throughout the economy. Our mission is to deliver a waste tracking service that is simple to use and provides value for all users.

Benefits of change

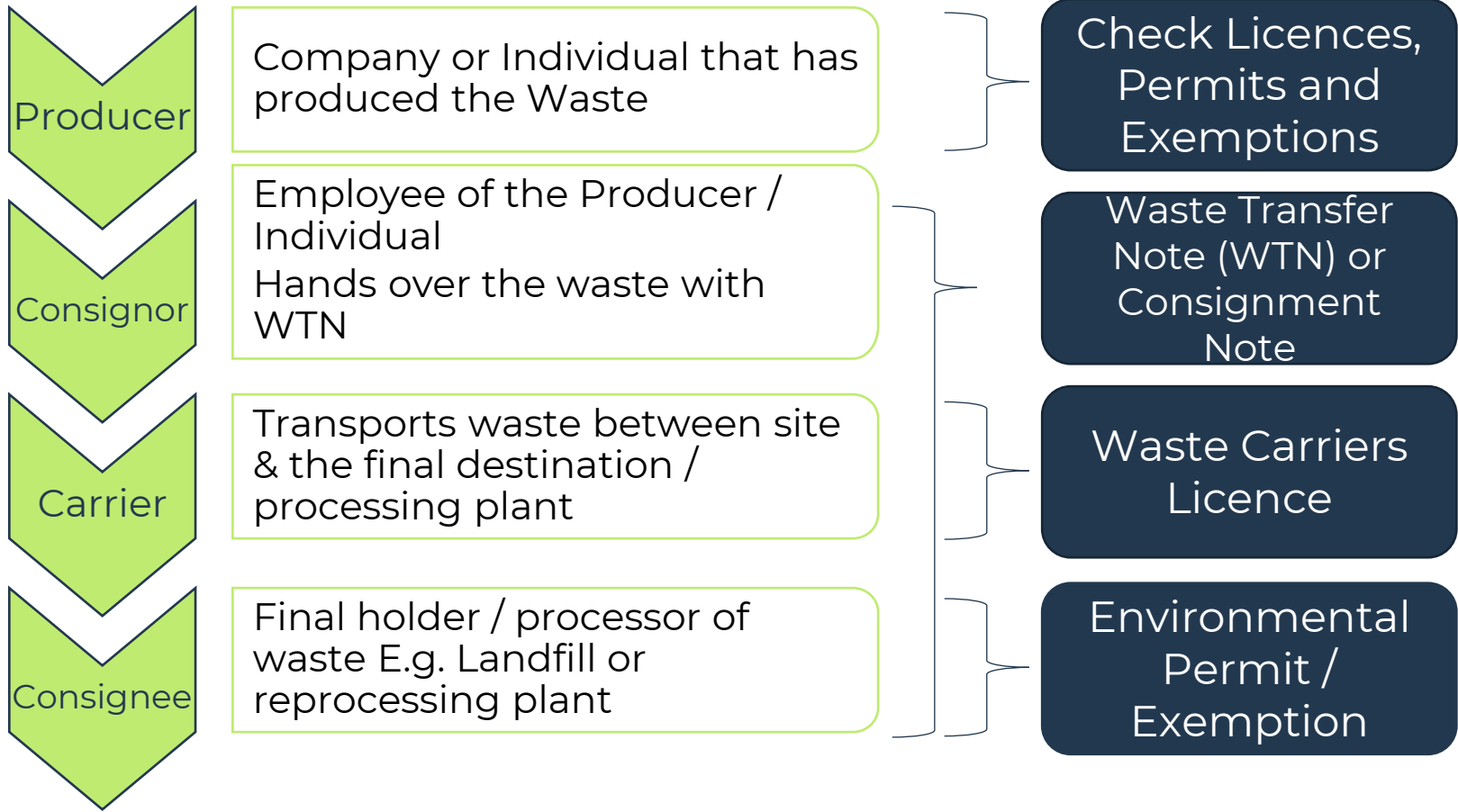
Mandatory digital waste tracking will help businesses and government move towards a circular economy by joining up and digitising currently fragmented systems to provide a single comprehensive way of tracking the amount and type of waste being produced and where it ends up.

This will also support the effective regulation of waste, transforming the way environmental regulators monitor compliance, prioritise regulatory activities and help prevent waste crime, including fly tipping, deliberate misclassification of waste, illegal waste exports and the operation of illegal waste sites. It will also facilitate a more level playing field for legitimate waste operators”

Source: <https://www.gov.uk/government/publications/digital-waste-tracking-service/mandatory-digital-waste-tracking>

Environmental Protection Act 1990

Duty of Care



Environmental Protection Act 1990

Fines and Prosecutions

Deposit, treat, keeping waste in a manner likely to cause pollution of the environment or harm to human health

- £50,000 fine
- unlimited fine and/or 5 years imprisonment

Breach of Duty of Care - £5,000 or Unlimited fine

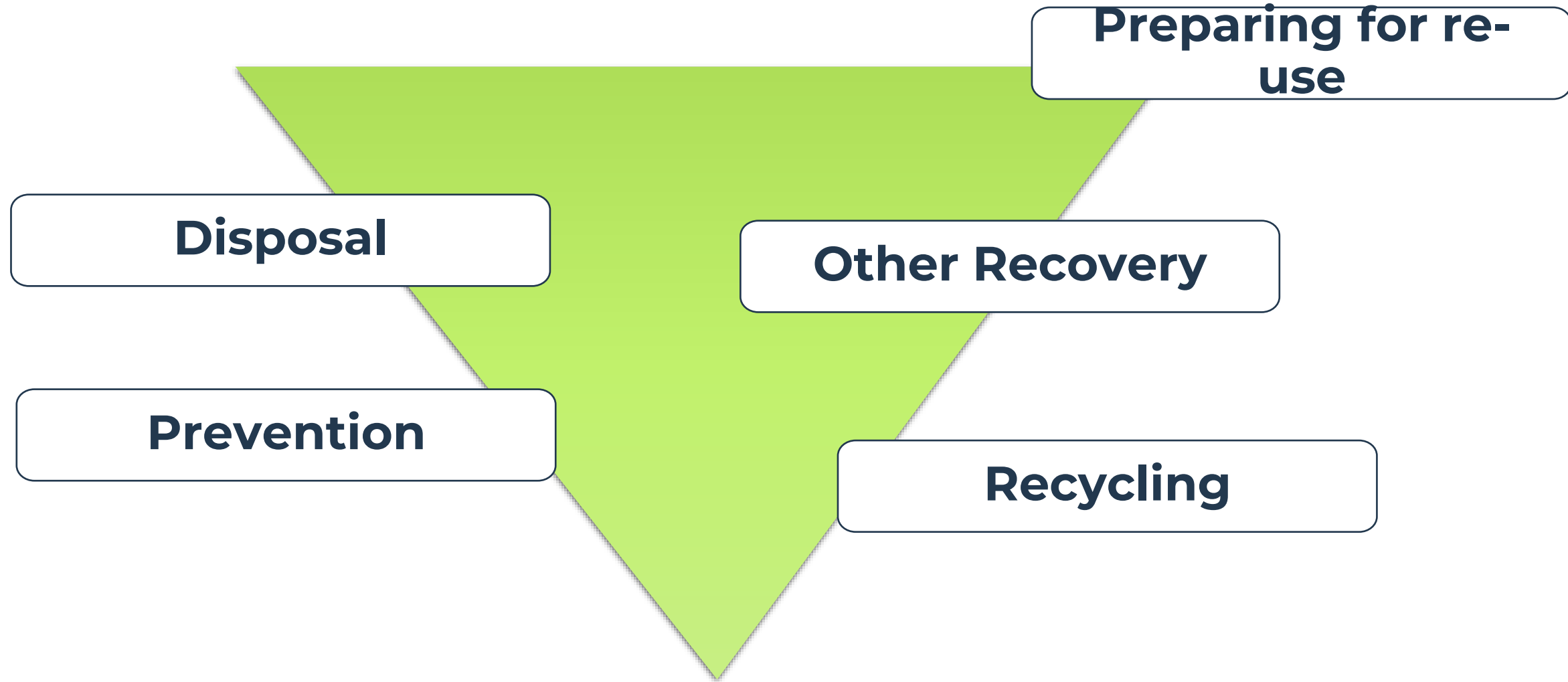
Directors' Liability

- May be punished in the same way as the company according to the offence

Fixed Penalty Notice - £300 fine

- 'civil sanctions / enforcement undertakings' can be imposed, legal action is avoided by 'voluntarily' making appropriate financial donations to environmental organisations.

The Waste Hierarchy



POLL: TWO QUESTIONS

1. Which do you think is the most sustainable option in the waste hierarchy?
 - Preparing for reuse
 - Other recovery
 - Recycling
 - Prevention
 - Disposal
2. Which do you think is the least sustainable option in the waste hierarchy?
 - Preparing for reuse
 - Other recovery
 - Recycling
 - Prevention
 - Disposal

The Waste Hierarchy



The Future?



What is a circular economy?

A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

Ellen MacArthur Foundation

“The circular economy is based on three principles, driven by design:

- Eliminate waste and pollution*
- Circulate products and materials (at their highest value)*
- Regenerate nature*

It is underpinned by a transition to renewable energy and materials. A circular economy decouples economic activity from the consumption of finite resources. It is a resilient system that is good for business, people and the environment”

Source: <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

New and future UK Waste Regulations


- THE LONDON PLAN (2019) includes requirement for all major construction projects to produce Circular Economy statements, including how the project will enable building materials, components and products to be disassembled and re-used.
- UK/EU Circular Economy Strategy
- UK ENVIRONMENT ACT framework for increasing recycling, power to make regulations relating to regulation of hazardous waste in England, import, export and transit of waste, littering enforcement powers etc
- EXTENDED PRODUCER RESPONSIBILITY for packaging
- Net-zero by 2045 (Climate Change (Scotland) Act 2009)
- Scotland - Draft 4th National Planning Framework
- Scotland - Circular Economy Bill (consultation)
- Plastic Packaging Tax

Plastic Packaging Tax



SOME KEY POINTS:

- A tax of £210.82 per tonne
- Applies since April 2022
- Applies to manufacturers and importers
- Applies to plastic packaging manufactured in or imported into the UK containing less than 30% recycled plastic
- Intended to discourage use of virgin material and help develop use of recycled content
- Expecting high annual revenues.



Extended Producer Responsibility (EPR)

- The likely Reporting structure under Extended Producer Responsibility (EPR) becoming clearer
- How businesses categorise their packaging will be vital from a reporting point of view
- Payment of any EPR fees delayed by up to a year (c.2025), however policy already introduced into law holds producers responsible for packaging data collection and eventual cost of physical collection, sorting, recycling, or disposal of their product packaging
- Though in the Short term there are no obligated fees, obligated business must still accurately declare what packaging they are consuming
- UK businesses who handle packaging will eventually need to fund total cost of managing household and non-household packaging waste (from production to removal) in addition to current liability.

- EPR will by design, reward circularity, reduction and reuse of packaging materials, encouraging brands to think more sustainably about the lifecycle and fate of their packaging
- EPR data collection also contains an additional category called “shipment” packaging, which refers to goods sent direct to households such as e-com packaging, also referred to as web retail packaging
- A significant factor is that EPR will also expect packaging to be classified and split in terms of data reporting into “household” or “non-household”
- It will be essential to declare this, as higher fees could be applied to the “household” proportion
- For clarity, under EPR all primary and shipment packaging should be declared as “household”, then all secondary and tertiary packaging as ‘non-household’.

Packaging Optimisation in the Housebuilding Sector

A report by the Waste & Resource Use
Leadership Group of the Supply Chain
Sustainability School



Contents

3	Foreword
4	Five tips for more sustainable packaging
5	Acting together
6	Housebuilding by numbers
7	Project aims and rationale
8	Project methodology
9	How to use this document
10	Adopting the Waste Hierarchy and Circular Economy
11	Policy shaping practice
12	Barriers to change – who pays?
13	The true cost of waste
14	Understanding plastics
15	Where packaging is used
16	Findings by packaging type (WRAP, corner and edge protectors, banding, pallets, sheets, bags, boxes, packing)
32	What else can be done?
33	Solving common challenges
34	Final message
35	Further reading
36	Acknowledgements

Contributions from:

- Ten project partners
- 23 manufacturers, suppliers, merchants and other intermediaries

Dozens of examples and case studies

Honest examination of barriers and trials that could overcome these



Where packaging is used

 Bricks and blocks	 Doors, windows, stairs, other joinery items	 Drylining and insulation
		
 Appliances	 Consumables and small items	 Kitchens and bathrooms
		

Wrap Aka bagging, stretchwrap, shrinkwrap, LDPE / LLDPE	Corner protectors or edge protectors EPS, hard plastic, cardboard, pulp	Banding Aka strapping PET, Polyester, polypropylene, card	Pallets or bearers Timber, chipboard
Sheets or sleeves Cardboard or corrugated polypropylene	Bags Flexible plastic or paper	Boxes Cardboard	Packing Polystyrene, paper

Five tips for more sustainable packaging

Text here

Question
 If packaging is actually needed at all – especially plastic wrap.



Image source: Vistry

Optimise
 wrap use by minimising thickness, specifying LDPE or LLDPE using at least 30 percent recycled content and avoiding excessive use of branding, inks and stickers.



Image source: Bellway

Switch
 from plastic and expanded polystyrene to cardboard or pulp for packaging elements which protect products.



Image source: Taylor Wimpey

Ensure
 containers are sized appropriately to reduce the need for additional space packing.



Image source: Crest Nicholson

Engage
 the whole supply chain to reduce or enable more circular use of pallets.



Full project report available
Here:

[Packaging Optimisation in the Housebuilding Sector Report](#)



Date for your diary

Upcoming waste, resource efficiency and circular economy training session. Click the image to register.

We are always looking for new topics and speakers – what would you like to see – would you like to contribute?:



WASTE AND RESOURCE EFFICIENCY

Extended Producer Responsibility; why it's important and how to prepare your business with Biffa - Webinar

EVENT OR WORKSHOP

What is this webinar about?

Britain needs to recycle more and to do this, more packaging needs to be recyclable. Extended Producer Responsibility (EPR) is one of the new policies the government is implementing to help achieve this.

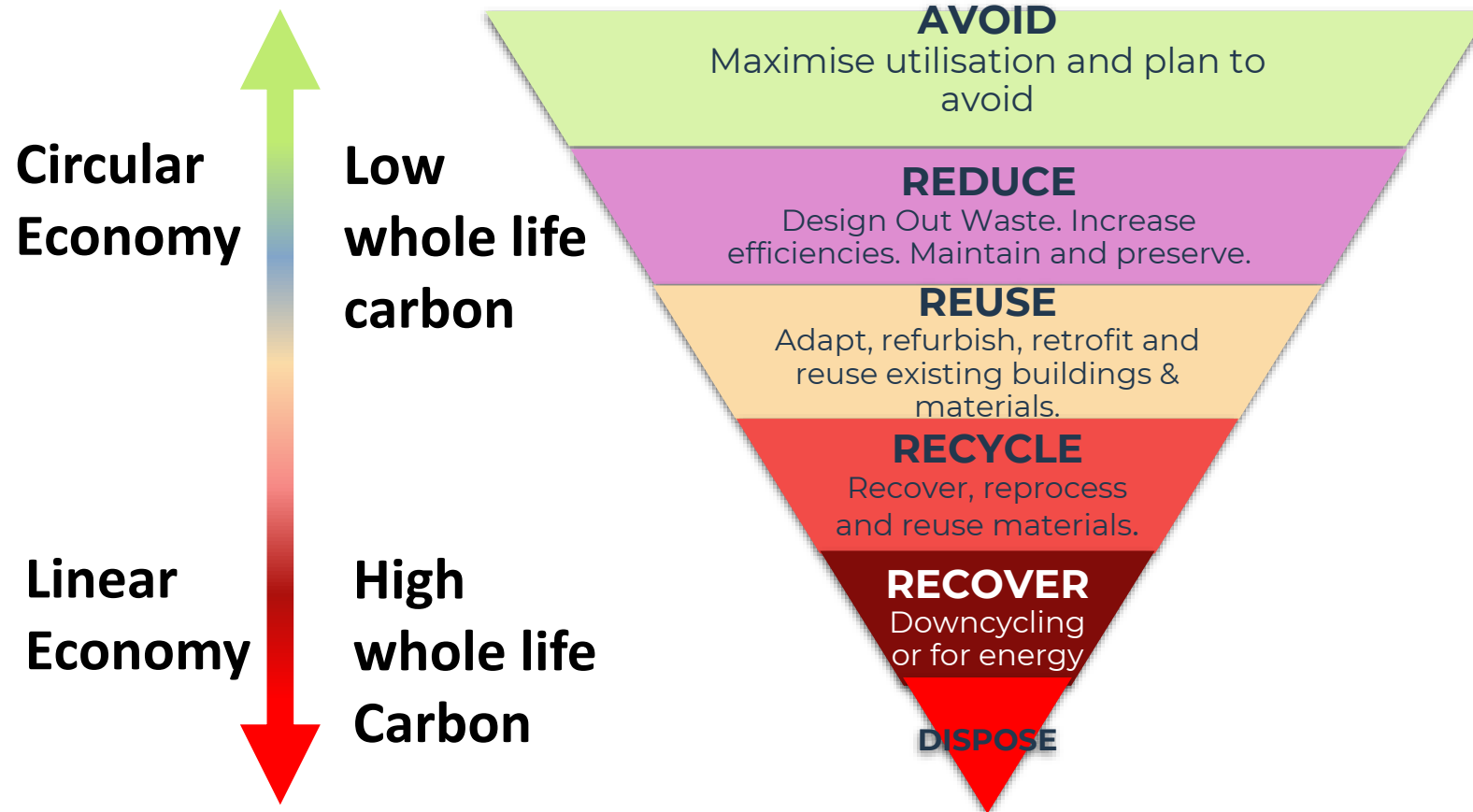
EPR is a policy which holds producers responsible for the collection, sorting, recycling, or disposal of their product ...

Tuesday, 28 November 2023, 1:00 PM - 2:00 PM

The UN Sustainable Development Goals



The Waste Hierarchy applied to the built environment



Some more Circular Economy and Sustainability Plans

Organisation	Aims/Objectives/Policy
Environment Agency 	2030 Goals - <i>Optimising our use of resources</i>
Network Rail 	Minimal waste and the use of materials – <i>We will reuse, repurpose or redeploy all surplus resources, minimise use of resources, design out waste and embed waste life cycle/circular economy thinking into the rail industry by 2035</i>
National Highways  	Manufactured capital – Circular economy – <i>We will push towards a ‘circular’ approach to our management of resources: minimising our demand for primary resources extracted from the ground, and maximise the reuse of the resources already in use on the network. Reutilising them in as high a value function as possible</i>
Palace of Westminster 	Circular Economy Policy – <i>sets out the Programme’s ambition to embed the principles of a circular economy into the Restoration and Renewal Programme</i>
HS2 	Circular Economy Principles – <i>keep resources in use for as long as possible; recover and regenerate resources at the end of each use; keep resources at their highest quality and value at all times</i>
Anglian Water 	Our Goals - <i>zero waste. Get it right first time, every time; to deliver a 70% reduction in capital (embodied) carbon by 2030 from a 2010 baseline</i>
Expo 2020 Dubai 	Programme wide Sustainability Strategy – <i>Minimise depletion of natural resources; Promote use of sustainable materials; Reduce wastes and minimise quantity of waste to landfill</i>

The Routemap for Zero Avoidable Waste in Construction

Introduction

Waste costs the construction industry an estimated £11 billion per annum and emits 3.5 million tonnes of CO₂e, yet waste can be reduced, materials used more efficiently, and buildings and structures at end of life repurposed, refurbished or dismantled to enable products and materials to be a resource for new activities.

This Routemap aims to catalyse actions by all parts of the supply chain to reduce and ultimately eliminate all avoidable waste. It adopts the interpretation of Zero Avoidable Waste in construction published by the Green Construction Board (GCB) in 2020 and adopts the principles of the waste hierarchy and life cycle assessment.

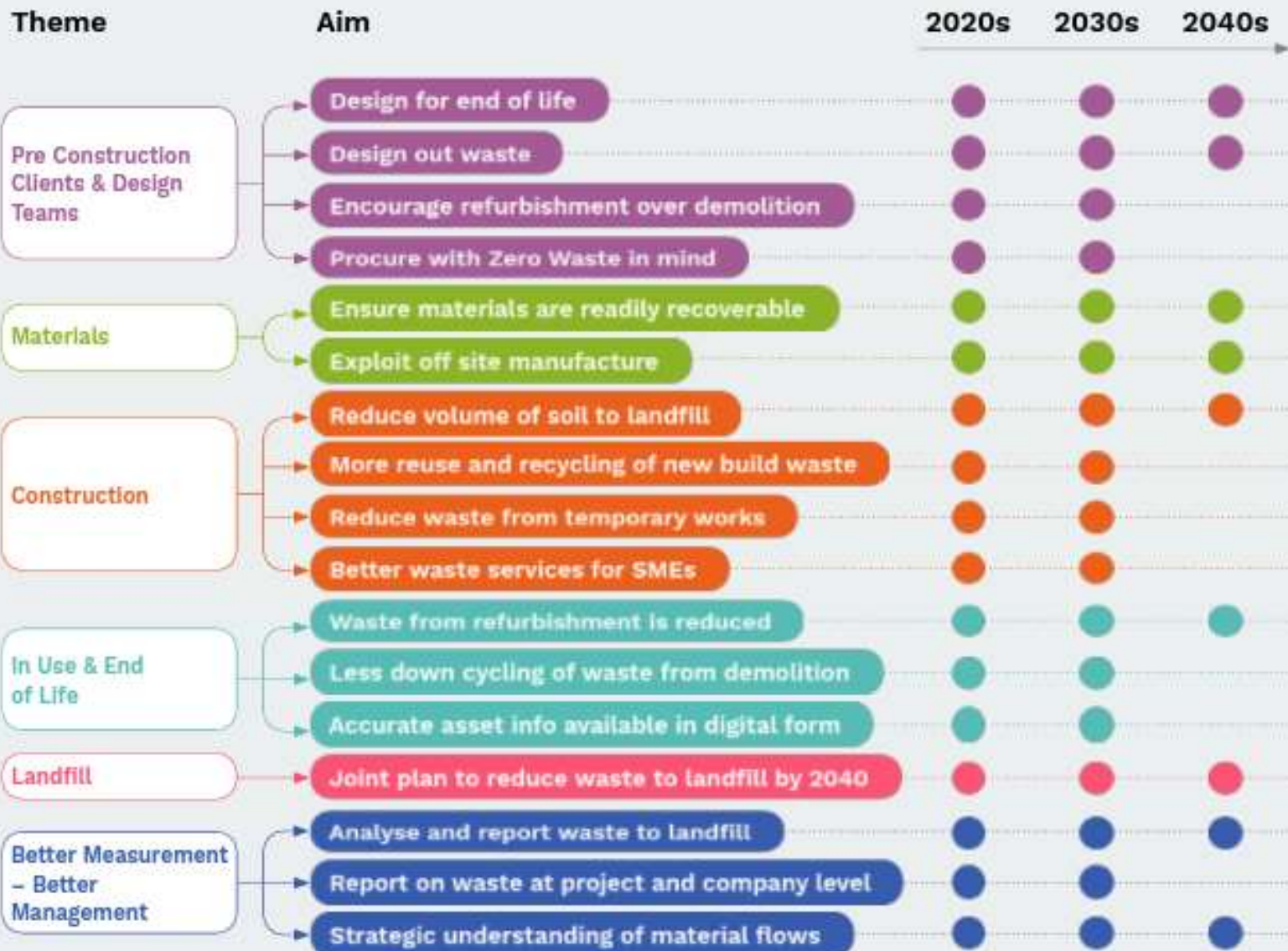
The Routemap is an interactive infographic identifying aims, actions, context and guidance. Click on an Aims button and a new page appears. Hover over Context and an explanation appears. Click Guidance and a new page links to published guidance.

It has been prepared by the GCB's Resources and Waste Task Group with the principal authors being Katherine Adams, Rob Pearce and Jane Thornback. The project received financial support from BEIS, and was in collaboration with Defra.

[Click for Context](#)

[Targets and Guiding Principles](#)

[Click for Acknowledgements](#)



Design out waste

Aim: The use of materials is optimised in the design of the buildings and structures and waste is designed out throughout the design and construction process

2020s

- Waste reduction targets are commonplace in most construction projects.
- Professional institutions develop training and CPD.
- BS8895 is widely adopted throughout the design process for major projects.

2030s

- By 2030 costs are reduced by 10% through designing out waste and material optimisation.

2040s

- The amount of waste generated from new build construction is minimal.

[Click for Guidance](#)

Act now

- Clients, design teams and contractors set project waste reduction targets during design and construction.
- Design teams share their learnings and best practice on designing out waste within their practices and externally through their networks.
- Design teams write up case studies on how designing out waste has been considered within the design process and what changed as a result.
- Design teams implement waste reduction practices in their design work.
- Design teams undertake material optimisation through design choices and material selection working with manufacturers.
- Professional institutions and universities and colleges include designing out waste in training, CPD and academic courses.
- If participating in environmental certification schemes, such as BREEAM, LEED etc pursue the credits that relate to waste reduction and material efficiency.
- At project level, contractors and quantity surveyors, reduce the wastage allowances that are set for materials and do not over order.
- Contractors incentivise subcontractors to reduce waste.
- Contractors and subcontractors manage materials on site carefully to avoid damage.
- Manufacturers and contractors collaborate to implement reusable packaging schemes.

Project lifecycle waste web feature

A practical guide to

Reducing construction lifecycle waste

These resources help users from all parts of the built environment value chain reduce construction lifecycle waste.

Explore themes and topics for practical examples, learning about the different stages and aspects of a wide variety of construction projects.

<https://www.supplychainschool.co.uk/partners/groups/waste-group/>

1. Pre Construction Clients & Design Teams

From procuring with zero waste in mind to encouraging refurbishment instead of demolition

2. Materials

Learn how to ensure materials are readily recoverable, and about the use of low carbon and circular materials.

3. Construction

Actions that can be taken on the construction site to reduce waste to landfill and encourage reuse and recycling

4. In Use and End of Life

Find out more about how waste can be mitigated during refurbishment and demolition of buildings

5. Eliminating Landfill

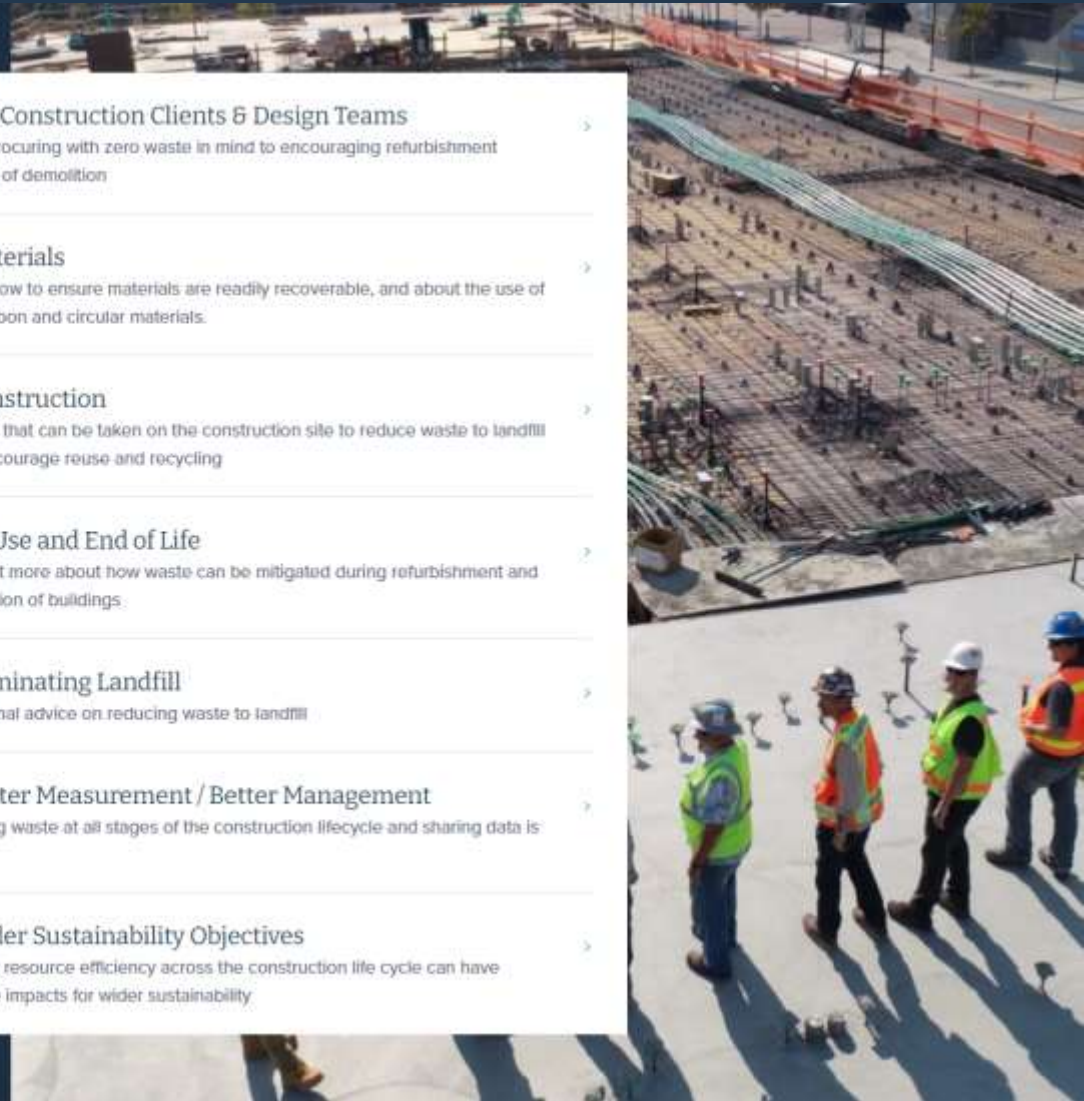
Additional advice on reducing waste to landfill

6. Better Measurement / Better Management

Tracking waste at all stages of the construction lifecycle and sharing data is vital

7. Wider Sustainability Objectives

Greater resource efficiency across the construction life cycle can have positive impacts for wider sustainability





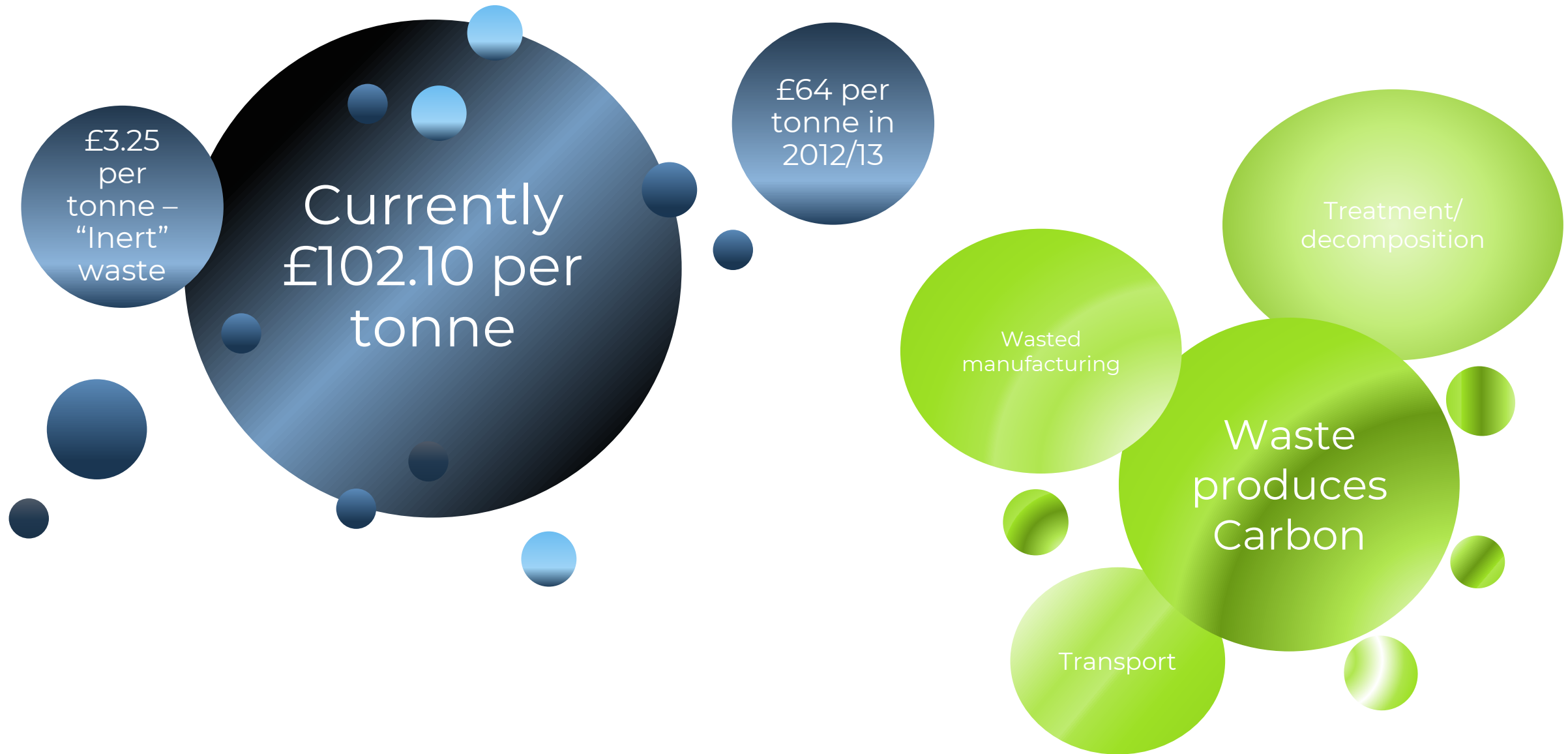
Financial Implications

Waste Facts

Construction Demolition and Excavation Industry



Landfill Tax



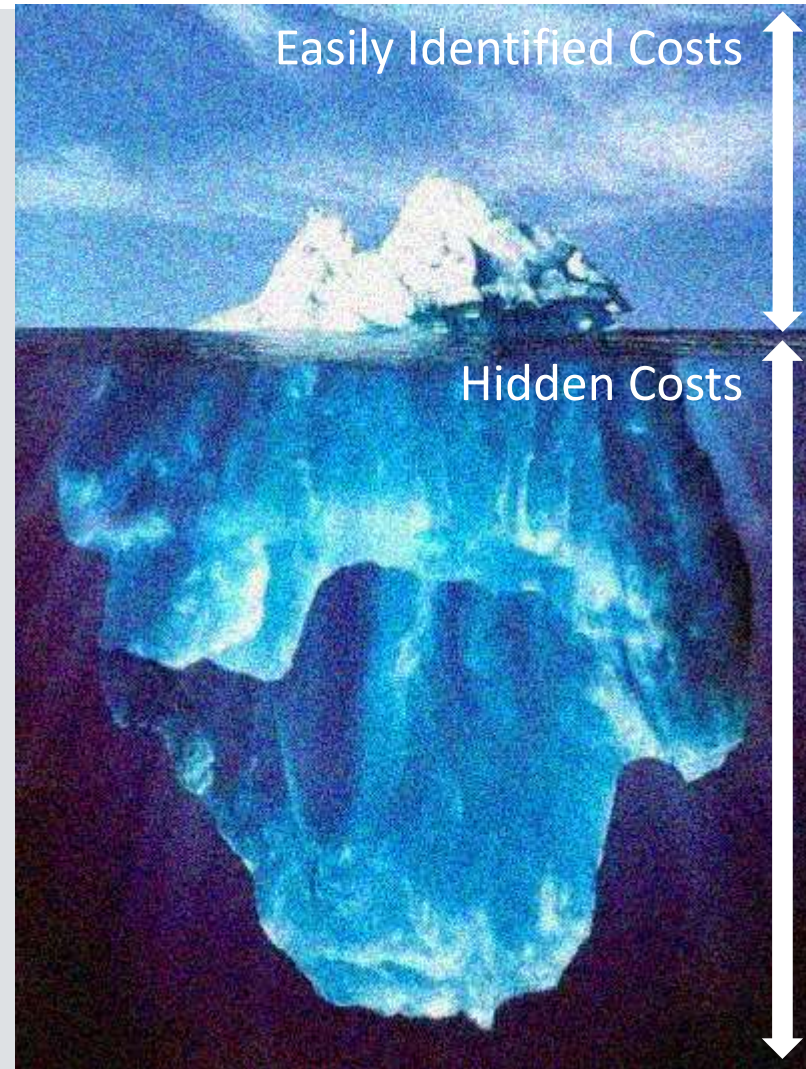
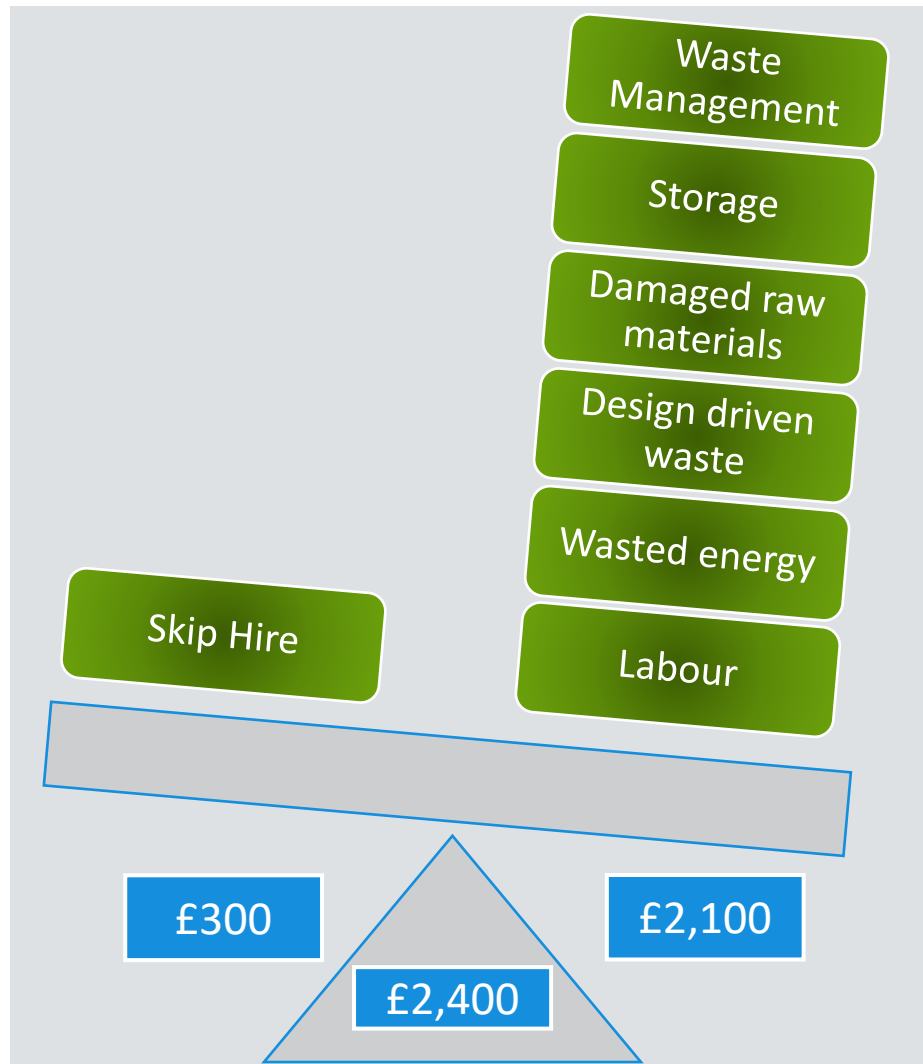
True Cost of Waste



JAMBOARD EXERCISE

What are the other contributing factors to the true cost of waste?

True Cost of Waste

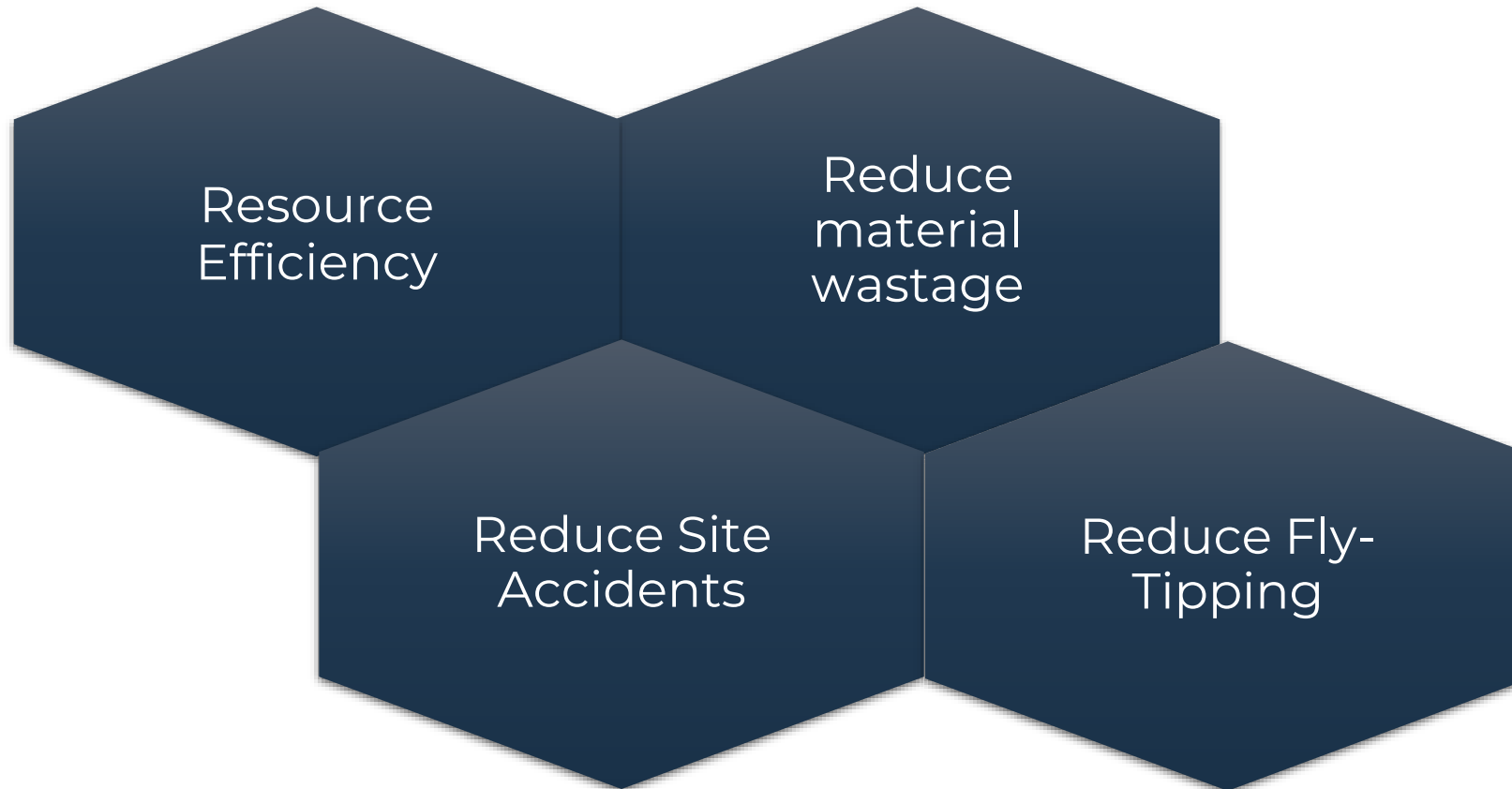




Waste Management & Reduction

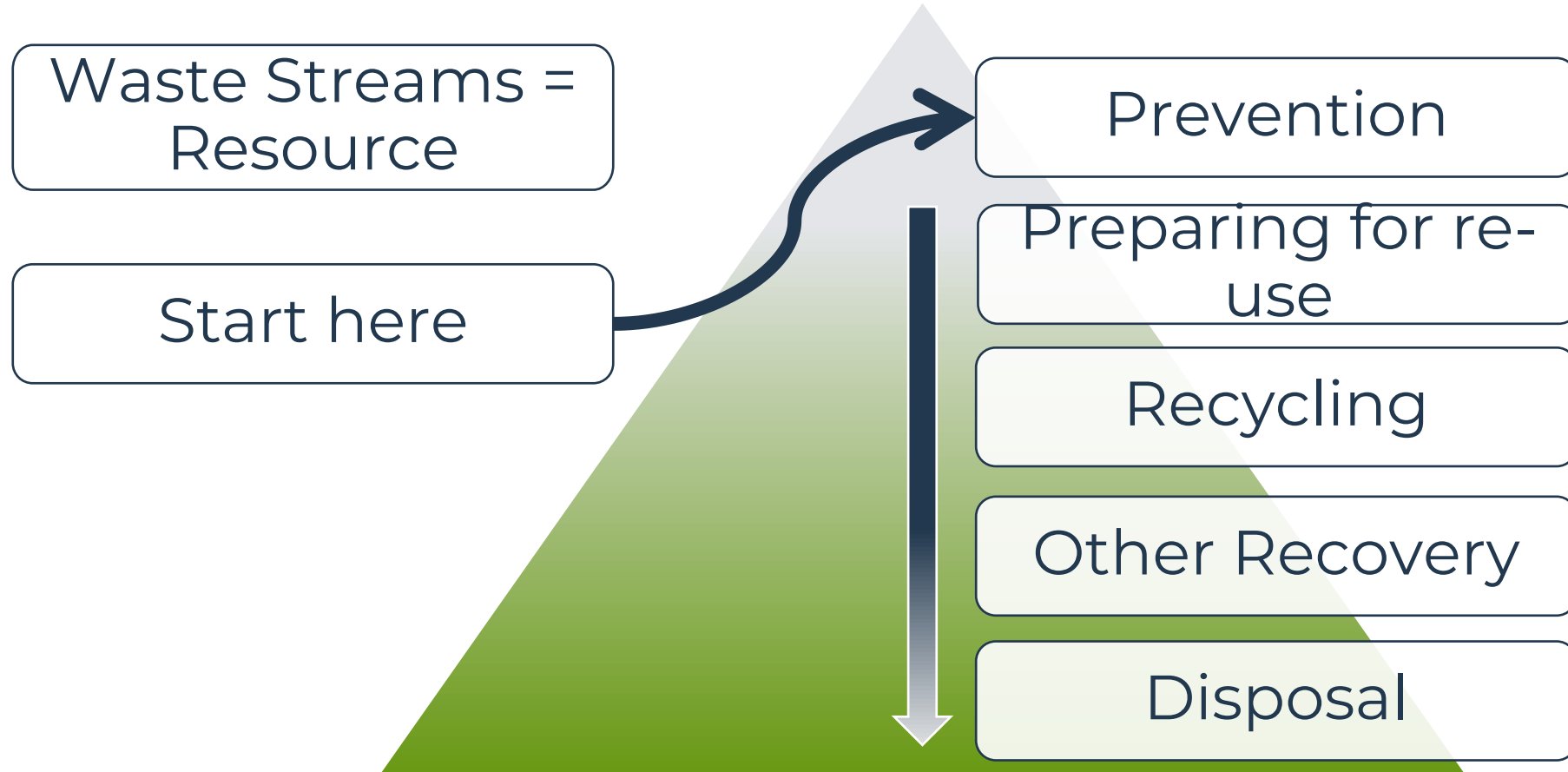
Waste Management Planning

Why bother?



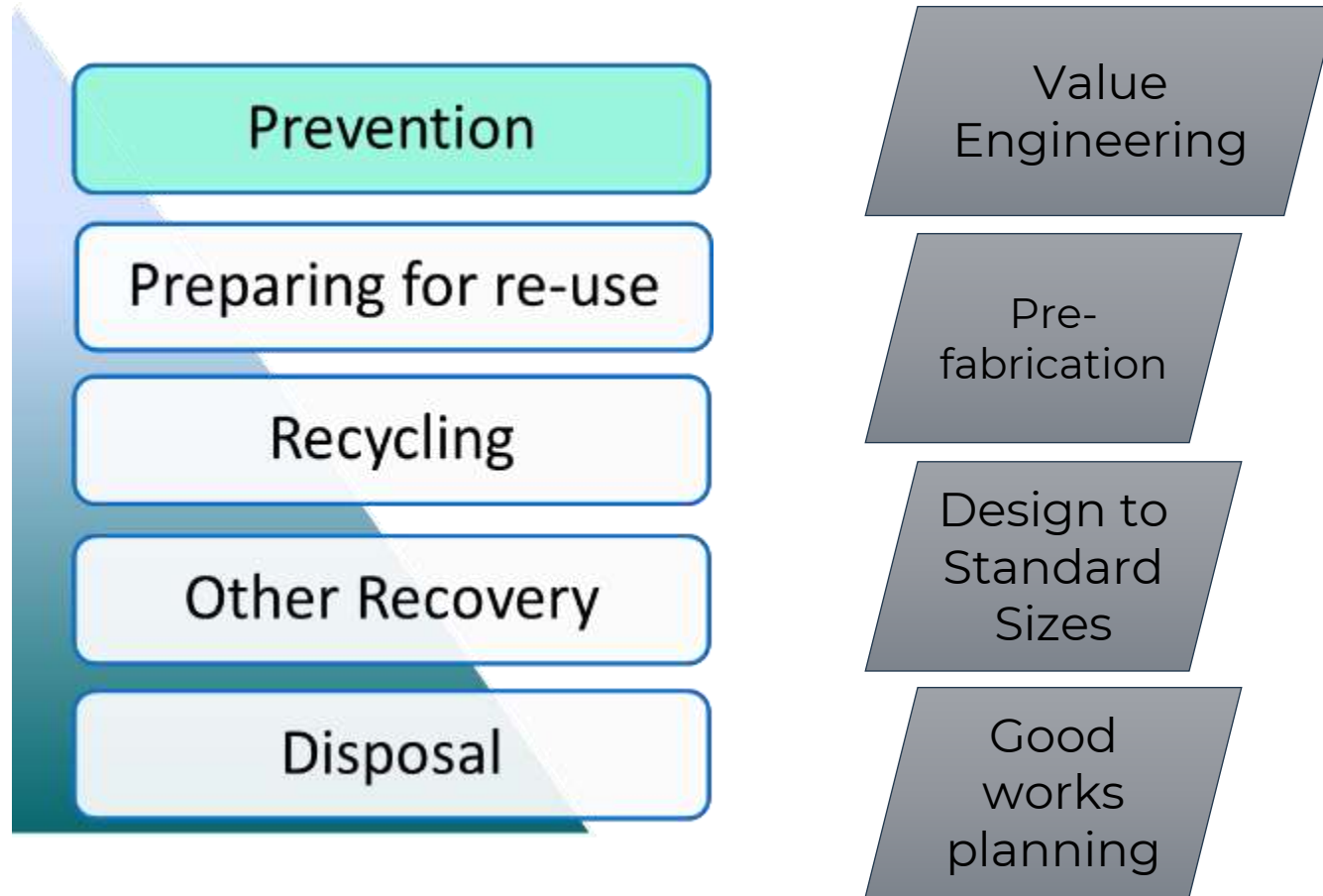
Waste Management Planning

Hierarchy - legislative requirement!



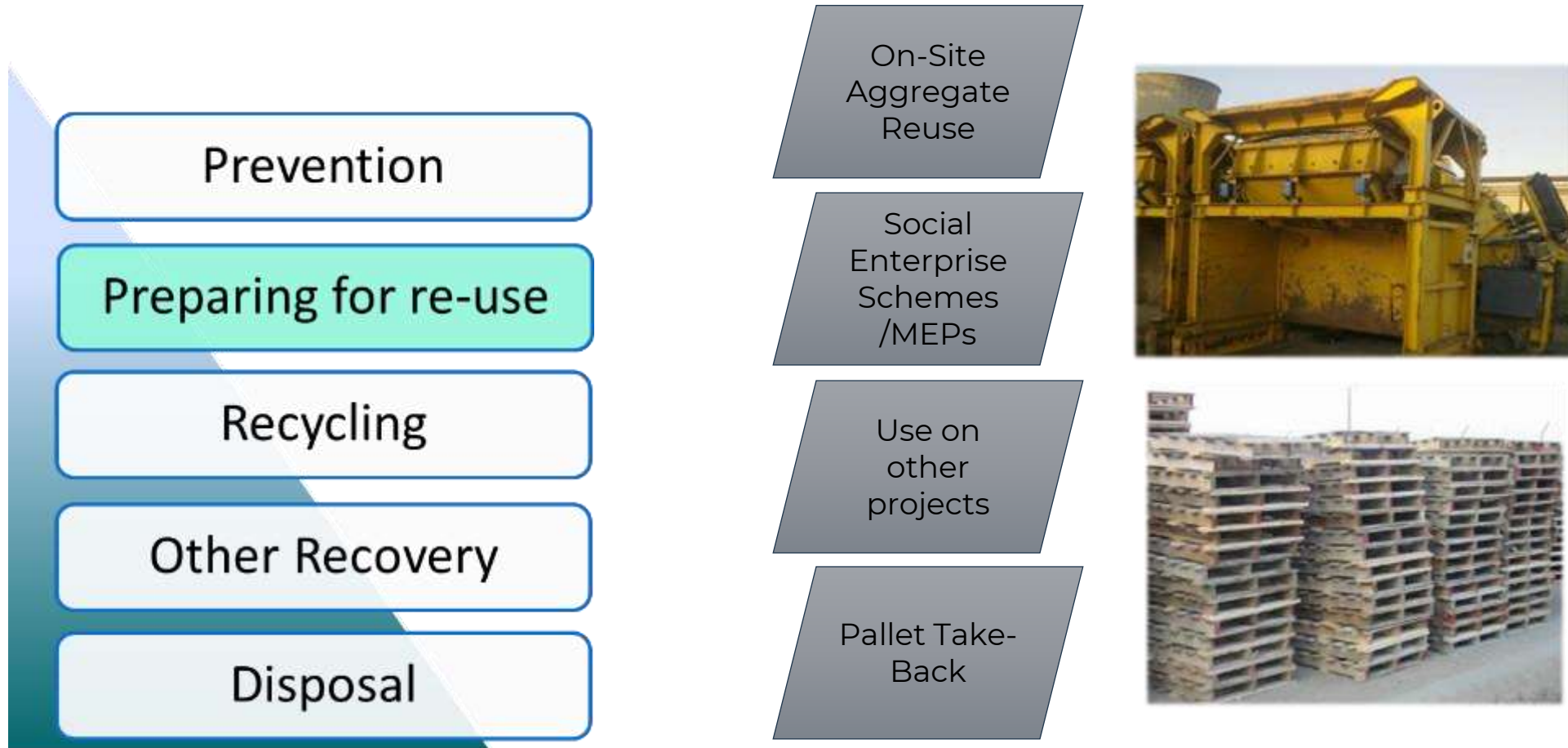
Waste Management Planning

Designing out waste



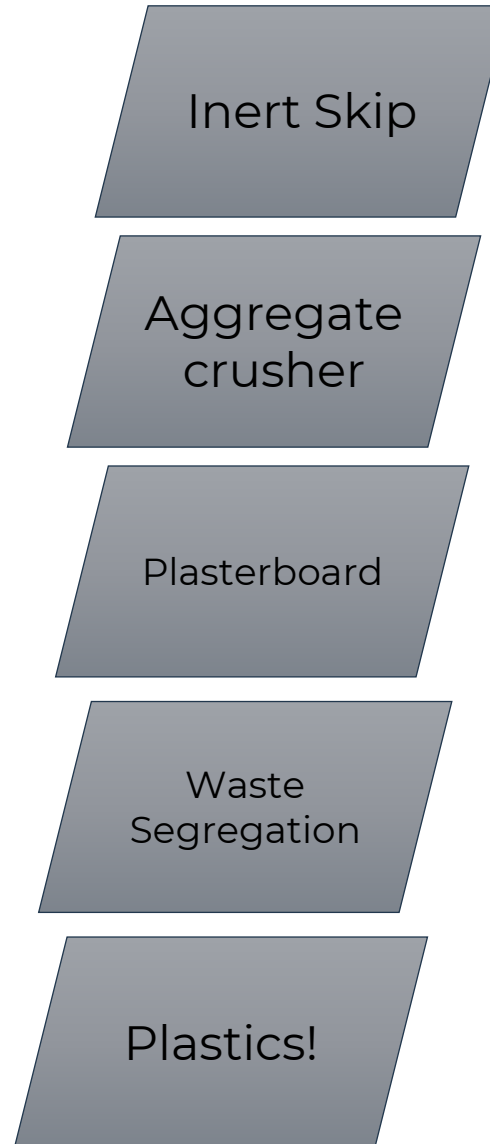
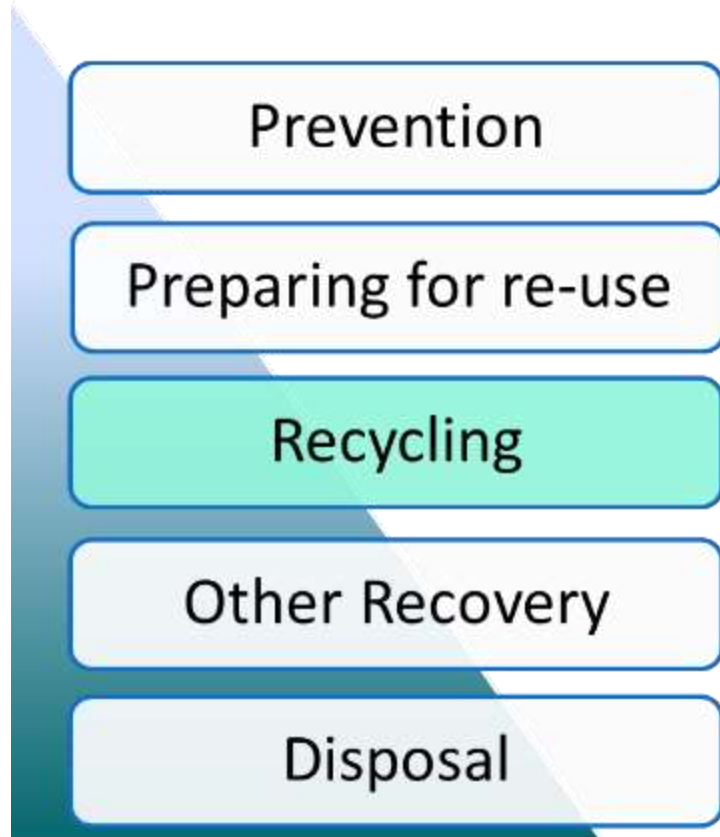
Waste Management Planning

What could we do?



Waste Management Planning

What can we do?



Waste Management Planning

Training and Awareness



- Appropriate Training
- Specific Trades
- Waste Minimisation



- In-House and Sub-Contracted employees
- Waste Management Plan available for all

Waste Management Planning

Good Housekeeping



Plan for efficient materials and waste handling



Set indicative targets on trades and sub-contracts



Early planning essential

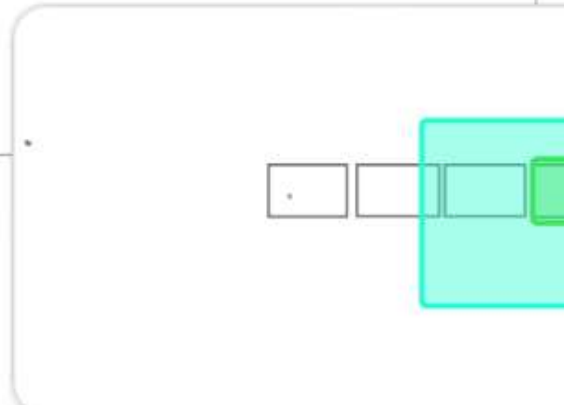
Waste Management Planning

Measure



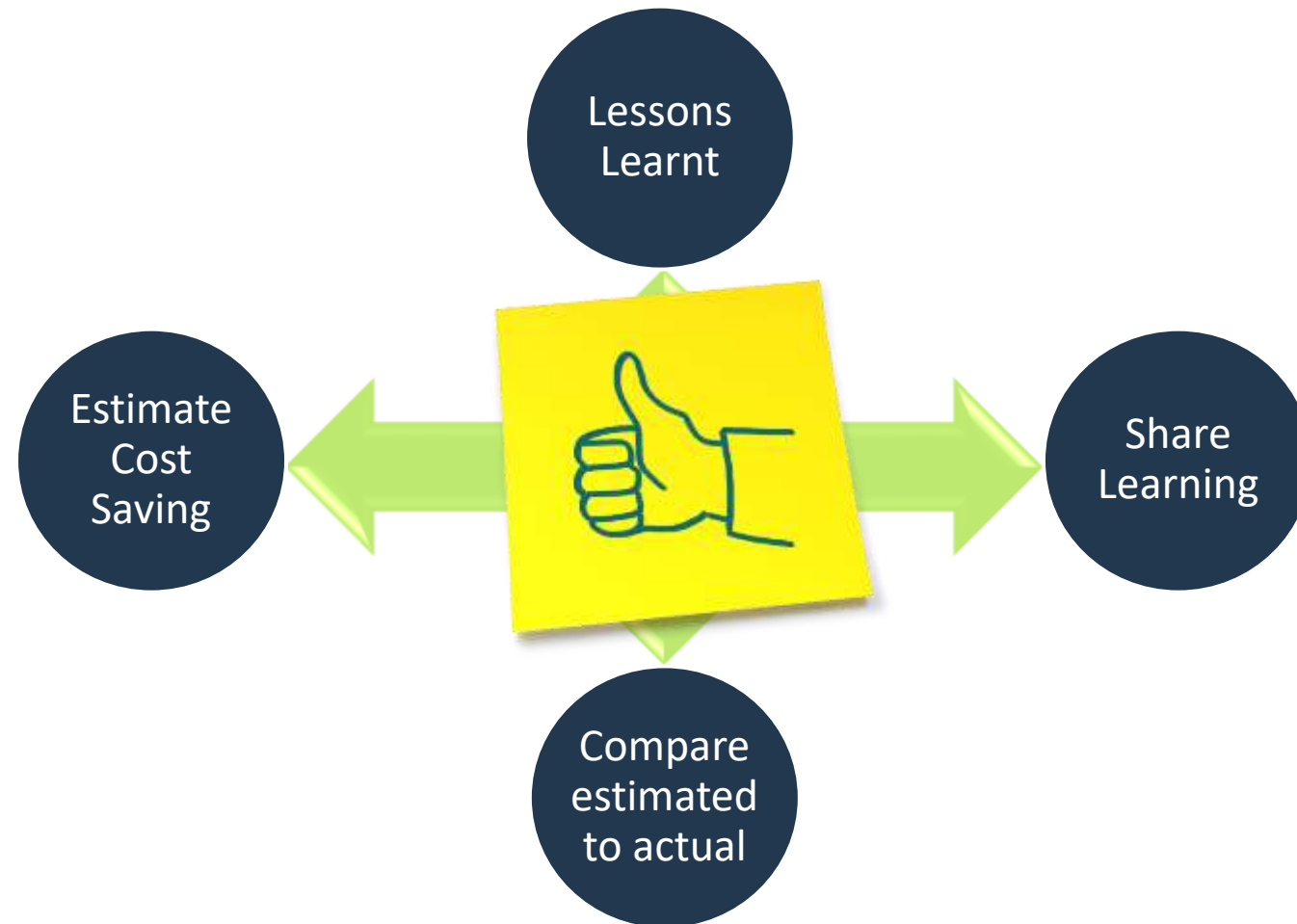
REMEMBER! LIKELY SCHOOL WASTE PRIORITIES 2024/25

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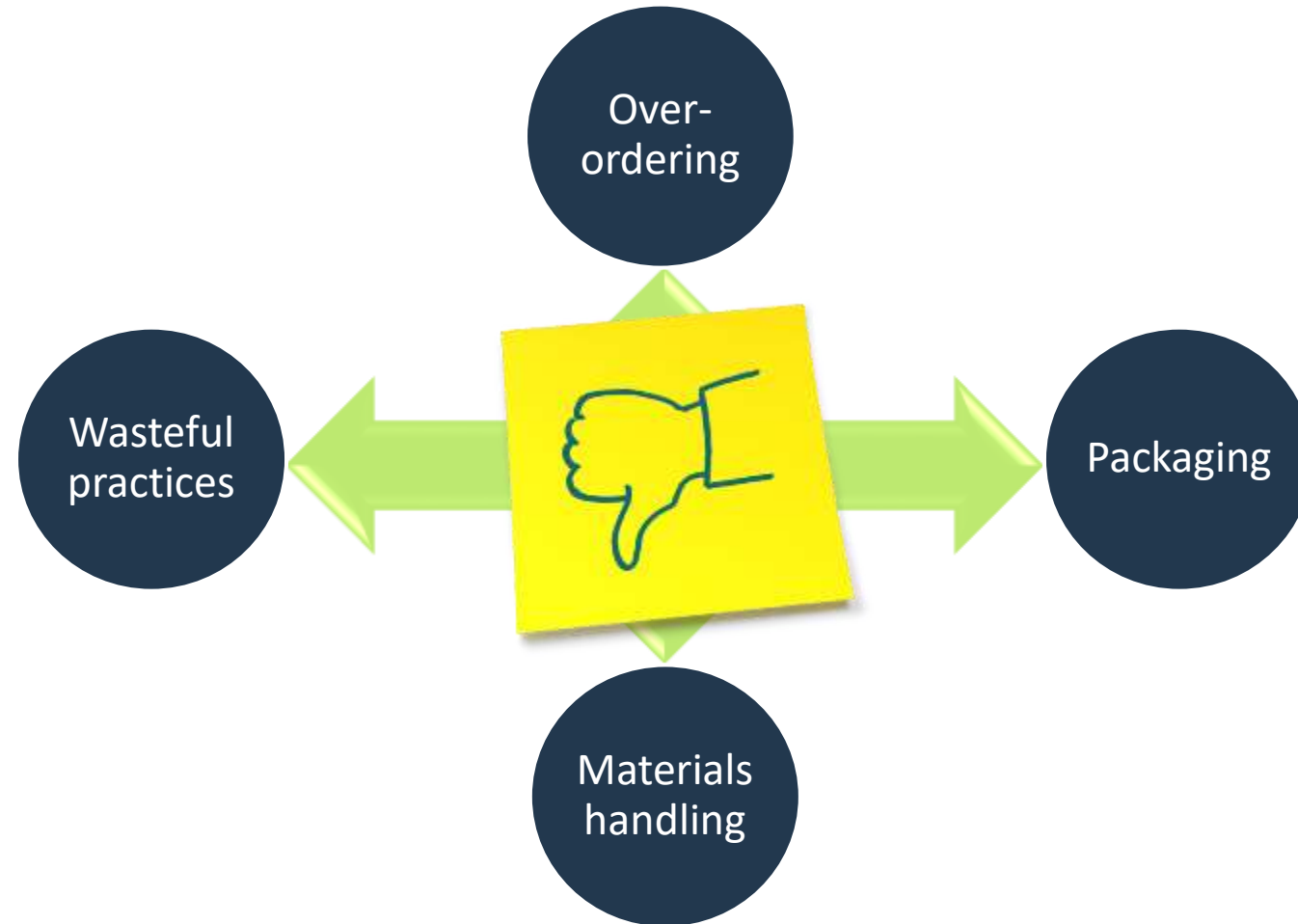
Waste Management Planning

Review



Keep an eye on the enemies!

Review



School Members

Protec - Proplex



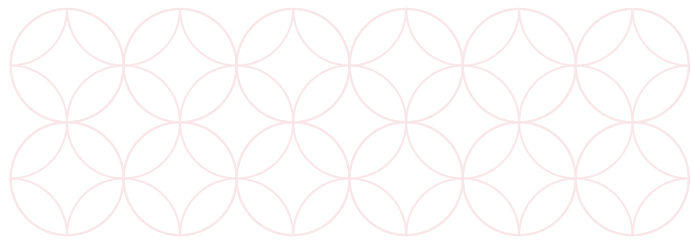
Source: Protec



SUSTAINABILITY

WASTE REDUCTION CASE STUDY

OCTOBER 2021



WASTE RESEARCH PROJECT



Built Oxford House type in 3 different regions - Yorkshire, Lancashire and the South East.

Carefully segregated waste from each plot in to different containers for individual waste streams.



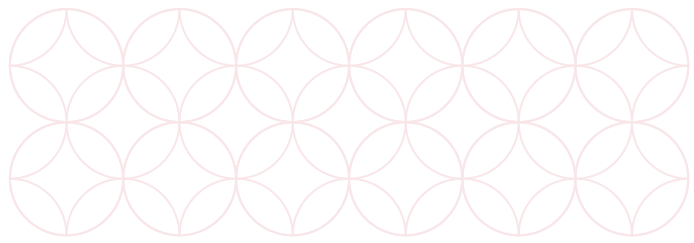
A VISUAL REPRESENTATION...

1 SKIP FULL OF WASTE WOOD

CONTAINER WITH 8 TONNE BAGS OF PLASTIC/CARDBOARD PACKAGING

1 SKIP OF INERT WASTE

5 TONNE BAGS OF PLASTERBOARD



OFFCUTS



PLASTERBOARD



TIMBER



ELECTRICAL WIRES



ANGLE BEADING



CHIPBOARD FLOORING



PLASTIC PIPING

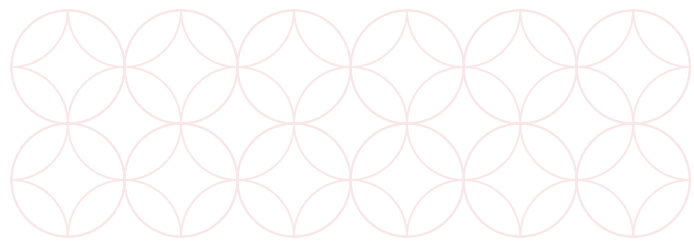
PREVENTION + REDUCTION

The Waste Hierarchy



Following the waste hierarchy, during the waste project I tried to focus mostly on ideas which could help to prevent and reduce waste.

Therefore the findings here are mostly relating to preventing/reducing waste, but there will be a short section at the end about recycling.



OVER ORDERING

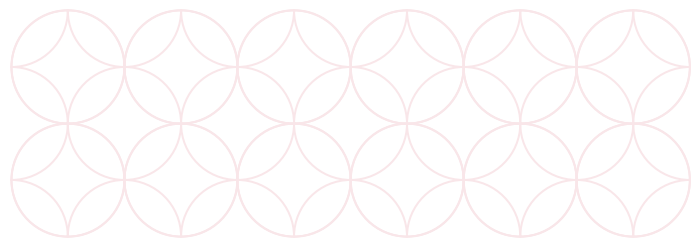
Leftover items:

skirting boards, architraves, timber, soffits & fascias, chipboard flooring, staircase balustrades parts, bricks, blocks, tiles, plastic guttering.

'Double' cost to the business:

- 1) Materials purchased but not required.
- 2) Costs associated with transporting, offloading, storing and disposing of the surplus items.





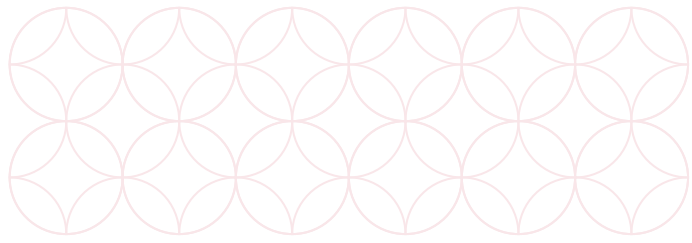
PACKAGING



Packaging included shrink wrap, plastic banding and containers for adhesive and paint.



Most packaging waste was generated from the second fix - kitchen and bathroom appliances, radiators and towel radiators, shower screens, door casing wrapping, staircase balustrade wrapping and straps.



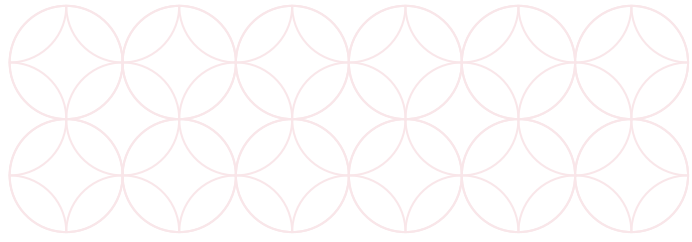
INEFFICIENT USE OF MATERIALS



Have the plasterers opened significantly more bags of plaster than can be realistically used before setting?



Traditional low prioritisation of materials costs?



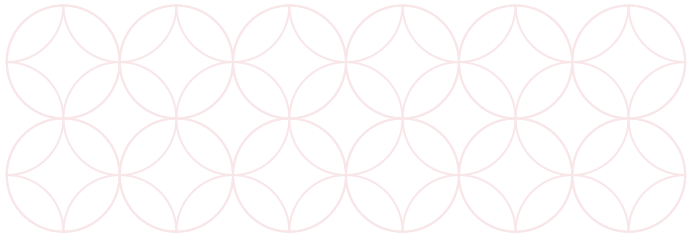
MATERIAL HANDLING



Batch of roof tiles were delivered cracked - damaged during transportation or offloading?



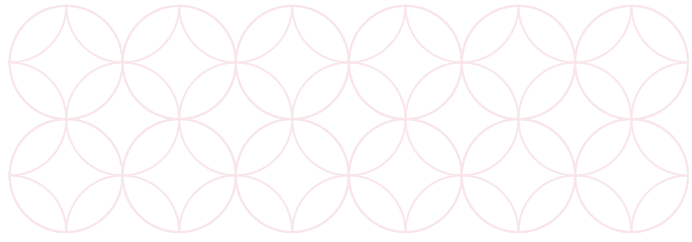
Other products damaged during installation: plasterboard, angle beading, roof tiles, a bath panel and these could not be used.



MATERIAL PROTECTION



Some sites were better than others at protecting materials.
Eg use of Brick Jackets (cost £3 each, re-usable) vs not protecting bricks > leading to damage



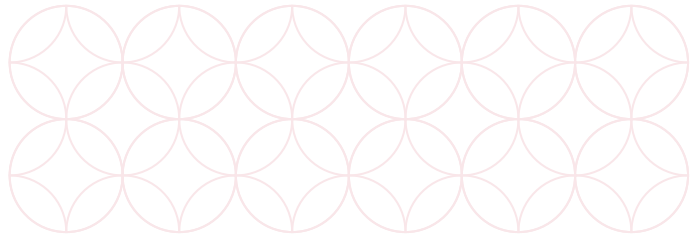
SUPPLY CHAIN ISSUES



WHAT SHALL WE
DO WITH THESE?

Long lead-times and material supply issues are making it harder for sites to reject incorrect or inadequate deliveries.

Sites don't want to wait weeks for a new delivery.

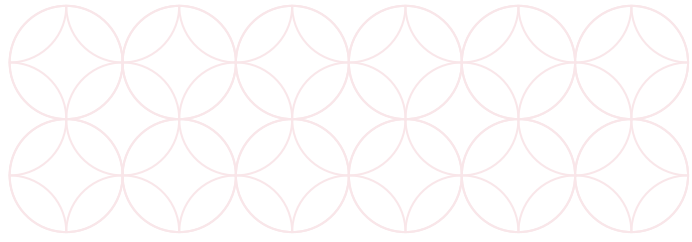


SUPPLIER/MANUFACTURER ERROR

Granite worktop for kitchen of plot 121 was manufactured 5mm too short on either side (expensive mistake!)

Some deliveries were incorrect, short in quantity or late.





FREQUENT DESIGN CHANGES

Frequent design changes can cause issues for sites and suppliers.

This batch of rood products was delivered to a waste project plot, for a previous / outdated version of the Oxford House type.

If the products can't be used on another plot then they may end up as waste.



Tension/restraint straps (60 x £1.48 each = £88.80)



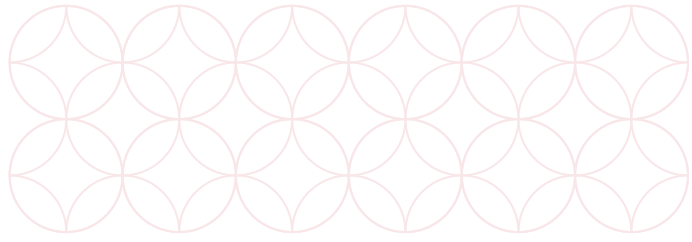
Joist hangers (14 x £3.11 each = £43.54)



Framing anchors (62 x £0.30 each = £18.60)



Joist caps (15 x £2 each = £30)



COMPLEX DESIGN FEATURES

Bespoke door under the stairs was specially manufactured for Redrow and needed to be cut to size on site.

Door was damaged and chipped during cutting and installation and had to be repaired by an external repair worker who filled and painted the door – costing time and money.





REDUCING WASTE **NEXT STEPS**

APRIL 2021

WASTE + BUILDABILITY WORKING GROUP

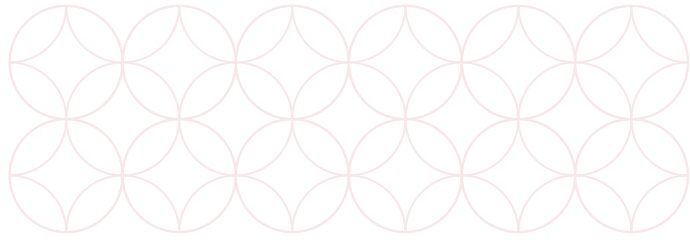
The research project has given us many good starting points for reducing our waste and identified quick win opportunities.

Working group has been established internally, with various heads of departments eg Commercial, Technical, Construction and Sales. Meeting every other month.

Aims:

- Implement some of the improvement opportunities identified in the research project.
- Determine waste reduction priorities for Redrow, taking various departments and experiences into consideration.
- Identify ways to enhance buildability, in turn improving elements of project performance (eg time, cost)



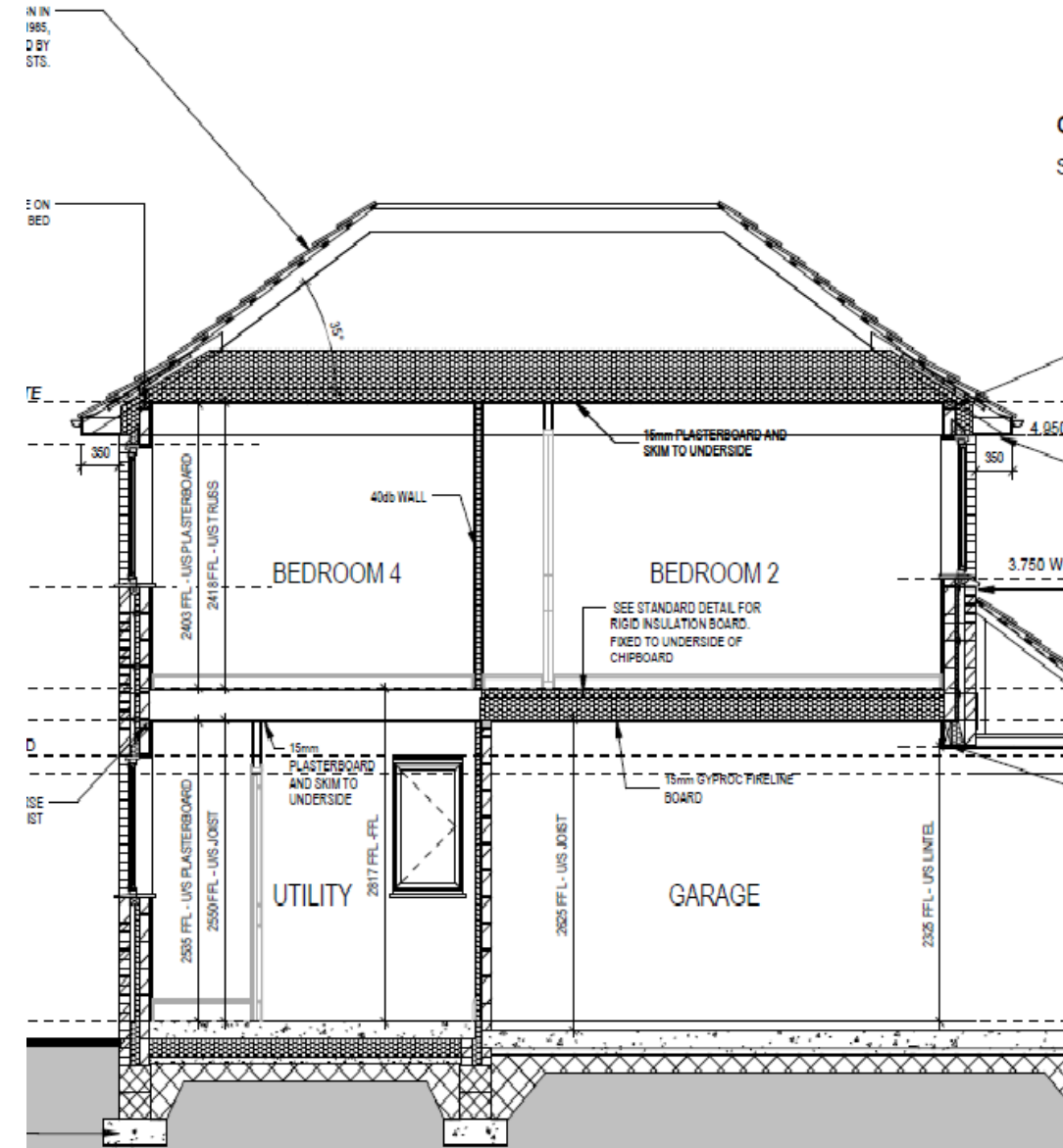


Source: REDROW – Supply Chain Sustainability School waste reduction case study webinar

DESIGNING OUT WASTE

We have made some changes to our designs to reduce offcuts or waste generated from complex design features.

- Redesigned the under stairs cupboard and make it more open.
- Simplified skirt/arch lengths used... we used to have large skirt+arch down vs small skirt+arch up.
- Removed internal nibs and reviewed internal inlets/small walls.
- Reduced ground floor ceiling level by 65mm and removed a single course of brickwork, so we can use 2.4m timber instead of 3m (reducing offcuts)



We need to move towards a more Circular model

We want to keep materials and resources in use for as long as possible and avoid waste....

How can you help? And how can we help you?

Can you think of
any good
examples of
circularity in your
business?

Or things that
went less well?
Why??

*Or things you
could introduce
that would benefit
you and your
customers?..*

Construction lifecycle waste web feature

A practical guide to

Reducing construction lifecycle waste

These resources help users from all parts of the built environment value chain reduce construction lifecycle waste.

Explore themes and topics for practical examples, learning about the different stages and aspects of a wide variety of construction projects.

1. Pre Construction Clients & Design Teams

From procuring with zero waste in mind to encouraging refurbishment instead of demolition

2. Materials

Learn how to ensure materials are readily recoverable, and about the use of low carbon and circular materials.

3. Construction

Actions that can be taken on the construction site to reduce waste to landfill and encourage reuse and recycling

4. In Use and End of Life

Find out more about how waste can be mitigated during refurbishment and demolition of buildings.

5. Eliminating Landfill

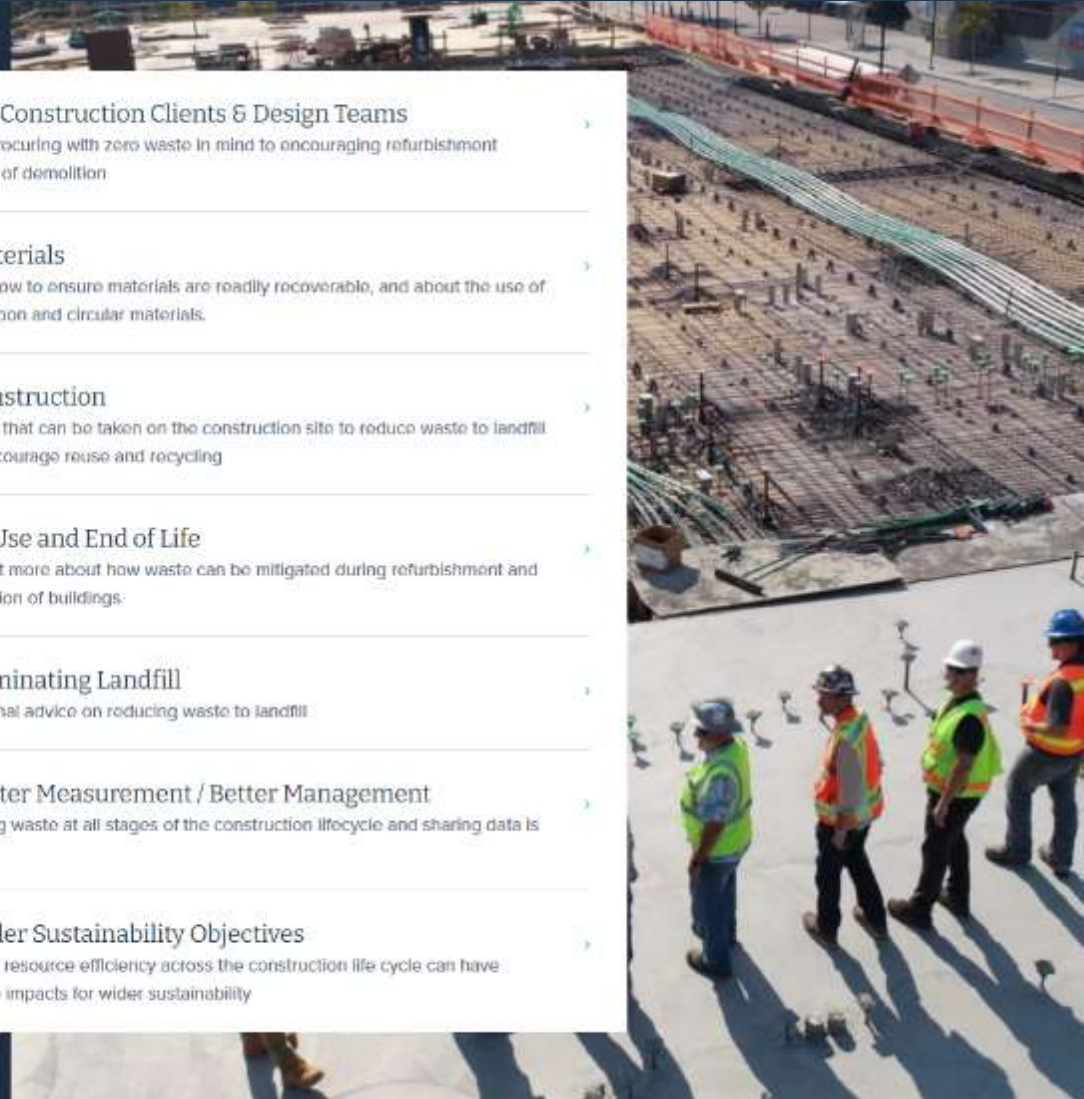
Additional advice on reducing waste to landfill

6. Better Measurement / Better Management

Tracking waste at all stages of the construction lifecycle and sharing data is vital

7. Wider Sustainability Objectives

Greater resource efficiency across the construction life cycle can have positive impacts for wider sustainability



Construction lifecycle waste web feature


1 Pre Construction Clients & Design Teams

CHANGE THEME

Select an aim using the menu below

Design for end of life


- Design for end of life
- Design for Manufacture and Assembly
- Design out waste
- Encourage refurbishment over demolition
- Procure with Zero Waste in mind



WASTE AND RESOURCE EFFICIENCY
ASBP – Designing for the Deconstruction Process
DOCUMENT / PRESENTATION
The Alliance for Sustainable Building Products examines the barriers to greater reuse of structural materials

Advanced ⌚ 60 minutes


LEARN MORE >



WASTE AND RESOURCE EFFICIENCY
Case Study: Design for Deconstruction – PassivHaus
CASE STUDY
A case study from BRE assessing the deconstruction potential of a new build PassivHaus.

Intermediate ⌚ 15 minutes

LEARN MORE >



WASTE AND RESOURCE EFFICIENCY
Design for Deconstruction
WEB LINK
BRE website which explains the benefits of designing for deconstruction

Beginner ⌚ 15 minutes

LEARN MORE >

Construction lifecycle waste web feature

3. Construction

CHANGE THEME

Select an aim using the menu below

Reduce volume of soil to landfill

Reduce volume of soil to landfill

More reuse and recycling of new build waste

Reduce waste from temporary works

Better waste services for SMEs

WASTE AND RESOURCE EFFICIENCY
Soils And Stones Report: Sustaining Our Future By Influencing Change In The UK And Beyond
DOCUMENT / PRESENTATION
Recognising soils and stones as valuable resources, rather than waste
Intermediate ⌚ 30 minutes
LEARN MORE >

WASTE AND RESOURCE EFFICIENCY
Case Study: Redrow Recycled Aggregate
CASE STUDY
1,400 tonnes of waste material processed into useable recycled aggregate
Beginner ⌚ 5 minutes
LEARN MORE >

WASTE AND RESOURCE EFFICIENCY
Sustainable reuse of Greenfield Soils
DOCUMENT / PRESENTATION
Promoting the Sustainable reuse of Greenfield Soils in Construction
Advanced ⌚ 30 minutes
LEARN MORE >

Construction lifecycle waste web feature


7. Wider Sustainability Objectives

CHANGE THEME


Select an aim using the menu below

Whole life carbon


- Whole life carbon
- Circular economy
- Smart construction
- Social Value



ENERGY AND CARBON
Greenhouse gas reporting – Conversion factors 2021
WEB LINK
DEFRA - Greenhouse gas reporting - Conversion factors 2021
Intermediate ⌚ 45 minutes
LEARN MORE >



WASTE AND RESOURCE EFFICIENCY
Zero Waste Scotland Carbon Metric Publications
WEB LINK
Reports on the lifecycle impact of waste in Scotland.
Advanced ⌚ 45 minutes
LEARN MORE >



ENERGY AND CARBON
Net Zero Whole Life Carbon Roadmap for the Built Environment
WEB LINK
A common vision and agreed actions
Advanced ⌚ 45 minutes
LEARN MORE >

Construction lifecycle waste web feature

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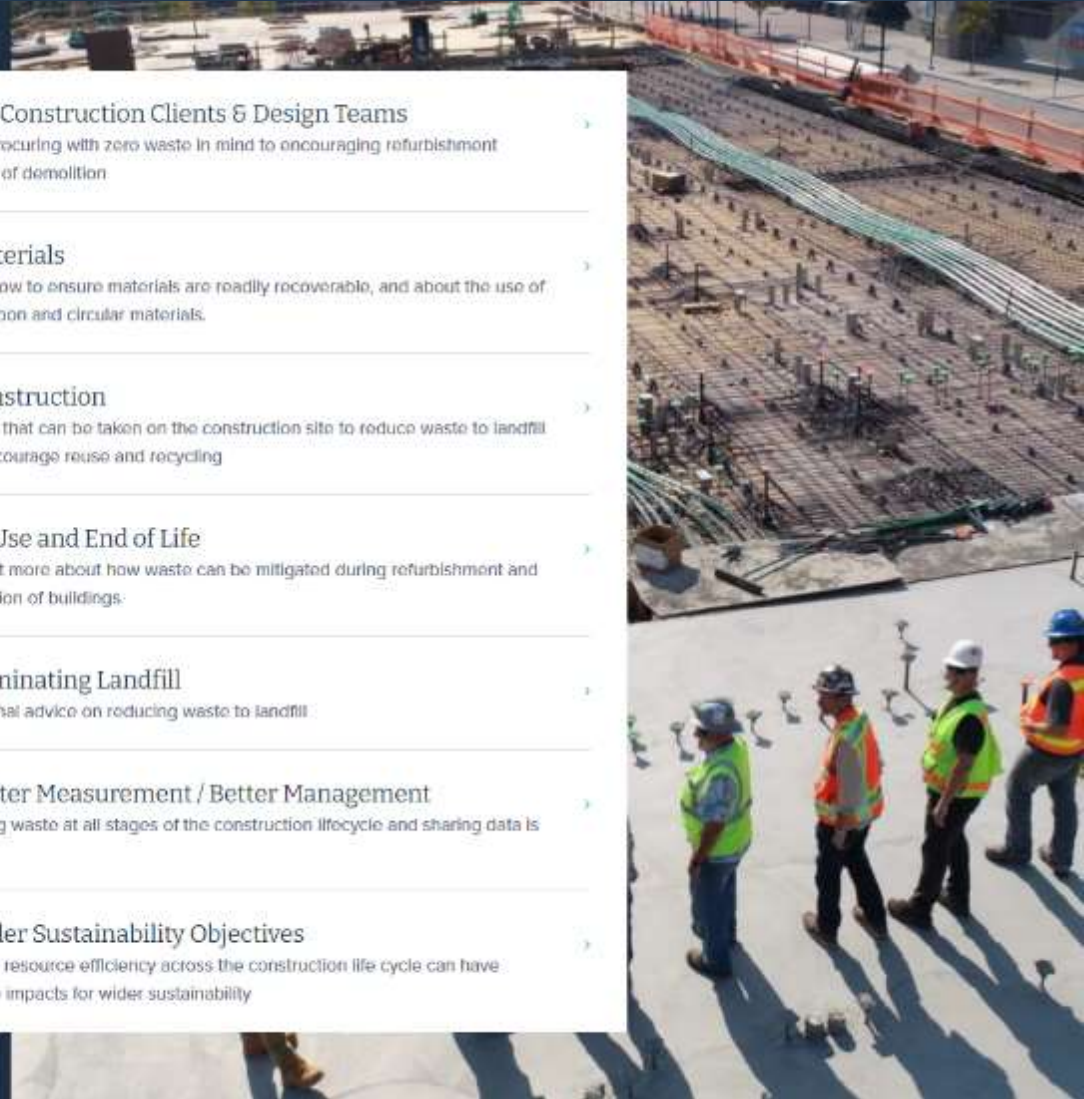
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FIND IT HERE!

[HTTPS://WWW.SUPPLYCHAINSCHOOL.CO.UK/PARTNERS/GROUPS/WASTE-GROUP/](https://www.supplychainschool.co.uk/partners/groups/waste-group/)

OTHER SCHOOL RESOURCES TO HELP YOU

1. 'Introduction to Waste' e-learning – available [here](#)



2. MEP map:

- Feedback template ✓
- Promotion & marketing ✓
- Courtesy email to organisations ✓
- New recommendations received ✓
 - *Now need to be added*
 - *New tags for social enterprises and academic institutions to be added*



Further learning

Training and Awareness – loads of content in the School library



VIRTUAL: Circular Economy Workshop

Join this event to understand the drivers for moving ...

Tuesday, 21 July 2020, 11:30 AM - 1:00 PM



VIRTUAL: A Circular Economy case study: Whitecroft Lighting and BAM

Join this discussion with BAM and Whitecroft Lighting ...

Monday, 3 August 2020, 1:00 PM - 2:00 PM



Wales and the Circular Economy

The opportunities and benefits for Wales for developing a ...



"Towards the Circular Economy" reports

Ellen MacArthur Foundation



Circular Economy and Resource Efficiency

European Commission: Circular Economy and Resource ...



Circular Economy for SMEs - Project Summary

Project summary and details of European partnerships



European Circular Economy project in Wales

European Circular Economy project kicks off in Wales



Circular Economy Metrics Case Study: Asphalt

Three of Tarmac's asphalt products were selected to ...



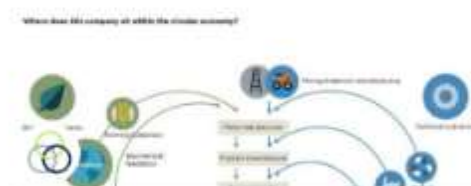
Circular Economy Metrics Case Study: Built Assets

Case study: how progress towards the circular economy ...



CE Indicators and Metrics Tool

Created to calculate the values of Circular Economy Key ...



CE Indicators and Metrics Tool Guidance

Circular Economy Indicators and Metrics Tool Guidance



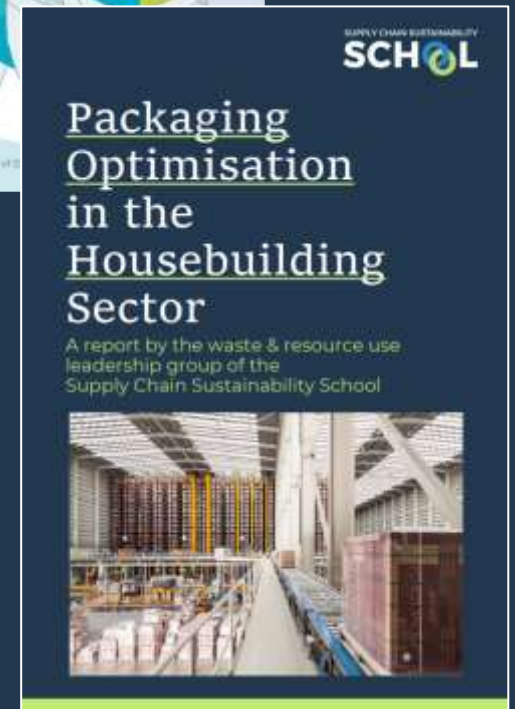
Embedding Circular Economy Principles

Top Tips for Embedding Circular Economy Principles in the ...

Resource Updates

We've added some new resources to the school library. These include:

- [Ibstock Case Study: Reducing Plastic Packaging](#)
- [ZAP Toolkit](#)
- [Packaging Optimisation Showcase: Virtual Conference Recording](#)
- [Packaging Optimisation in the Housebuilding Sector Report](#)
- [Reconomy Guide: How to dispose of WEEE waste](#)



Event for your diary

Date: 20th Feb 2024 - 1-3pm

Digital waste reporting for the built environment

Content in development

Would you like to get involved in our work informing the digital challenge?

Contact mark@actionsustainability.com

QUESTIONS & YOUR FEEDBACK PLEASE

[HTTPS://FORMS.OFFICE.COM/E/AGG5B7EANC](https://forms.office.com/E/AGG5B7EANC)



SUPPLY CHAIN SUSTAINABILITY

SCHOOL



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