Recycling in Landscape
On site Recycling and use of Recycled Landscape Products

Opportunities
- regain sites,
- remediate soil,
- reuse insitu resources,
- recycle construction & demolition waste
- minimise export of exiting materials
- minimise import of new materials

Waste Arising
- of the materials delivered to the UK’s building sites,
- 90 m tonnes/year leave in mixed material skips to go straight to landfill.
- 17 - 21 m tonnes/year of packaging and protection
- 13 m tonnes/year is new and unused construction material.

Opportunities
- divert municipal & C,D&E waste from landfill into recycled landscape products
- specify recycled materials
- minimise the impact of creative landscape construction.
- bio-engineer instead of civil engineer

Waste arising
- 33.8 m tonnes (46%) C&D waste
  - mainly hard demolition waste:
    - concrete and bricks,
    - likely to include non-inert material
    - such as timber and plasterboard
- 23.7 m tonnes (33%) soil
  - including stones and rock and classed as ‘inert’
- 15.0 m tonnes (21%) mixed C&D waste and soil
  - likely to include non-inert waste

BRE facts & figures Waste
- Total industries: 400 m tonnes/year
- Mining & Quarrying: 110 m tonnes/yr
- Construction Ind C&D: 90 m t/yr

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Additions to Built Environment 64%
Waste Generated 36%

What would you do with 36% bigger budget?

Common Waste Causes 1
- Offcuts: 33.2%
- Recyclable packaging: 18.7%
- Excess deliveries 18%
- Temporary materials: 10.3%
- Reusable packaging: 14.4%
- Site Office and Canteen: 4.1%
- Damaged through methods of work: 3.2%
- Unsuitable storage: 1%

Need to divert from landfill:
Toxic/Brownfield sites
- In situ remediation of site and soil, chemical, filtering, injection, etc.
- Landfill capping: Methane, SO₂, Radon,
- Buildings and/or gas proof membranes
- Ventilation: Active/Passive High/Low level Central/Peripheral

Need to divert from landfill:
Excavated inert materials
- Excavated gravel from site
- Brown Roofs, recreating pebble beaches on roofs
- Excavated subsoil from site
- Redirection of excavated subsoil normally exported from site,
- Opportunities for use on site

Need to divert from landfill:
Demolition materials
- Pre-demolition audit: get involved
- to determine what materials are there and what is reusable
- Stake claim on them for your use
- Dismantle don’t demolish

Need to divert from landfill:
Construction Waste
- Plastics
- Timber
- Glass
- Metals
- Paper and Cardboard
- Concrete and Aggregate
- Road planings

Recycled into Construction Products
new and novel uses
Need to divert from landfill:
Landscape waste:
- Excavated soil:
  - Topsoil strip for building
  - Subsoil: Foundations, Basements, Roads, Services and Drains

Need to divert from sewer:
Surface Water:
- Recycle rainwater from roofs and paving
- in water efficient drought resistant landscape
- Porous paving
- Soakaways, SUDS, swales
- Lakes, Rivers and streams
- Leisure and sport: Rowing lakes

Need to divert from sewer:
Foul water:
- Onsite autonomous sewage treatment
- Filtre beds, Reeds, Gabions
- Nutrients for plants and fish
- Lakes and ponds
- Resource for income generation
- Fisheries

Need to divert from landfill:
Green waste:
- Tree felling and trimming
- Plants, shrubs and autumn leaves
- Grass cuttings & turf before site strip
- Weeds with care
- Site strip:
  - Reuse
  - Onsite composting for later reuse

Need to divert from landfill:
Gardener’s Green waste:
- Energy from waste
- Biomass CHP Renewable energy and heat
  - Heat for Greenhouses
  - Energy for street lighting
- PV lighting and other services

Need to divert from landfill:
Contractor Facilities waste:
- Recyclable Paper and cardboard
- Recyclable Printer partridges
- Recyclable Plastics polyethylene
- Kitchen and canteen waste
- Washroom and First aid room

Need to divert from landfill:
Landscape Waste Segregation & Stockpiling for reuse

Biodiversity retention enhancement
Biodiversity, Eco-Landscape Landscape Waste management

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Need to divert from landfill:
Visitors Waste
- Segregation bins around site
- Kitchen waste
- Café waste
- Retail waste
- Segregate
- Compostable
- Food waste

A few examples of commonly used recycled materials

Reused hardwood
- path edging
- seats
- bollards

Recycled aggregate/tarmac for path surfacing
- Tarmac Recycling
- would like to use more.

Self-binding gravel for informal paths
- all quarried!
- We are tending to specify recycled stone now for path sub-bases etc.

Recycled glass aggregate
- for decorative loose paving in gardens

Recycled glass paviors
- Freeform Arts, Green Bottle Unit
- have looked at (but not used yet)

Recycled plastic
- as an alternative to timber
- path edging
- but haven't used yet
- wasn't appropriate for a nature reserve(?)

Recycled plastic
- street furniture
- is a bit ugly in design
- trying to ape timber
- although it needn't
Other materials

- and other uses
- although haven't used yet:

Recycled aggregate

- in tarmac
- and other bound surfacing
- re-using existing materials on site
- Colas offer a service turning existing tarmac surfacing into new bound surface

Steel

- railings, gates, seats
- although a lot of steel is recycled anyway
- but we would like to survey suppliers to see what % is

Recycled Construction Products & Materials

- Recycled
- Upcycled
- Downcycled

All About Waste

Waste Facts, Figures and Waste Hierarchy
Waste reduction in design, specification, construction and in building use.
Waste & Recycling Websites

Aftercare Plan

- How do delegates get further info and make it work afterwards?
- Work with NGS
- to add more information to NGS website,
- to enable access to even more useful information.

Useful Websites

Waste, Exchange, Recycled, Local & Green Construction Product Websites

National Green Specification


NGS Collaboration with Practices

Where are NGS GreenSpec now?
Where are you now?
Are there opportunities to collaborate in development and share the output?