




**Reclaimed & Reused (not recycled)**  
Construction Products & Materials

**Bill Dunster King of recycling & reuse**



BedZED Beddington Sutton    Earth Centre Doncaster Conference Centre



**Bill Addis Buro Happold**

- Designing for demountability
- Guide published
- Designing to use reclaimed equipment, products and materials and recycled materials
- Guide being written 2004/5

**And the rest of us?**

- Just one or two materials in each project
- or none at all

Recycled Gypsum in board  
Reused Rubble stone walls

Aberystwyth Arts Centre – Smith Roberts Architects – Photo: Charlotte Wood

**What Materials?**

- Seeds, Turf, topsoil and Subsoil
- Brick and Stone
- Slate and Clay roofing tiles
- Concrete
- Timber & Timber based boards
- Steel
- Architectural Salvage

**Biodiversity retention enhancement**  
Biodiversity, Eco-Landscape  
Landscape Waste management

**Bricks and Stone**

- Rubble walling
- Filling Gabions
- Gabion/reed filter systems
- Kerb Stones reused





**Reused stone walls & landscape**  
Aberystwyth Arts Centre – Smith Roberts Architects – Photo: Charlotte Wood



- For every tonne of roofing slate there is 100 tonnes of slate waste suitable for walls


**Slate waste retaining wall**



### Stone Cladding

- Laid as stone floor tiling and wall tiling in bathrooms and kitchens

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### Slate roofing tiles

- Slates in bulk for roofs
- Verges, hips and valleys need special sizes
- Consistency of source and colour


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### Clay roofing tiles

- Tiles in bulk for roofs
- Verges, hips and valleys need special sizes
- Consistency of source and colour
- Cleaned is not necessarily best
- Frost damage can be bad
- Frost damage can enhance value

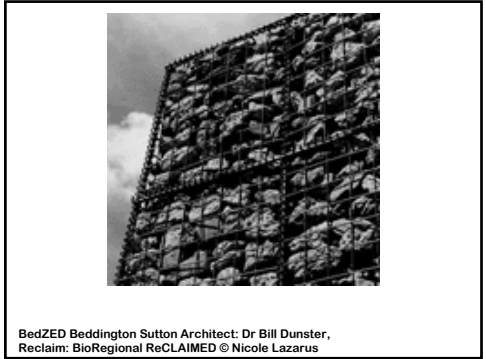
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### Concrete

- Gabion & Trapion filling

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### Down-cycled Concrete or bricks in Gabions & Trapions

Sainsbury Retail Food Store Greenwich Peninsula

### Timber and Timber based boards

- Reuse as timber sections
- Floorboards
- Fire Surrounds
- Doors and frames
- Windows
- Flush doors used as table on trestles



### Reused wood better than new

BedZED Beddington Sutton Architect: Dr Bill Dunster, Reclaim: BioRegional ReCLAIMED © NGS

Timber studs and joists are hidden appearance is not important

**Timber Studs**

BedZED Beddington Sutton Architect: Dr Bill Dunster,  
Reclaim: BioRegional ReCLAIMED © Nicole Lazarus

BedZED Beddington Sutton Architect: Dr Bill Dunster,  
Reclaim: BioRegional ReCLAIMED © Nicole Lazarus

Reusing Doors Visible Patch repairs, If you don't like them French Polish or paint them

**Reclaimed repaired reused Doors**

BedZED Beddington Sutton Architect: Dr Bill Dunster,  
Reclaim: BioRegional ReCLAIMED © Nicole Lazarus



Reusing Doors Invisible Patch repairs, Match grain, figure & colour

**Reclaimed repaired reused Doors**


SALVO Fair Architectural Salvage Supply and repairs



"These Buildings are Rubbish" BD

Recycled Timber Gluelam & Posts  
Recycled Timber finishes & Luminaires


Earth Centre Doncaster Visitors Centre Dr. Bill Dunster



Recycled Timber Gluelam & Telegraph Posts

Recycled Timber finishes, Timber curtain walling  
Reused Luminaires

Earth Centre Doncaster Visitors Centre Dr. Bill Dunster;  
BD Story title These Buildings are Rubbish




Timber Structure Curtain Walling Doors and Boarding

Minimise cold bridges

Natural sustainable material

Mostly reclaimed timber

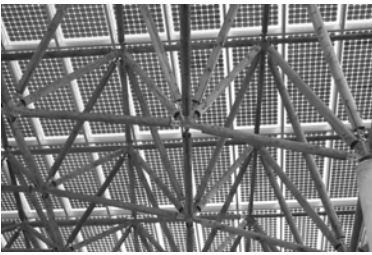
Visitors Centre, Café, Retail: Earth Centre Doncaster Architect: Dr Bill Dunster



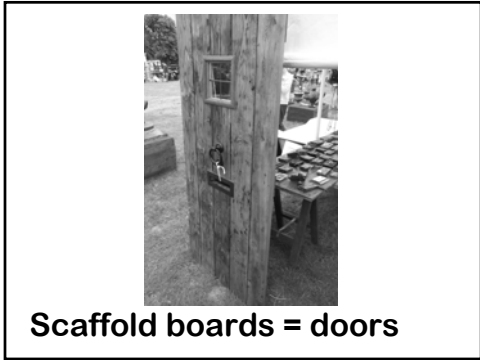
Space frame & PV

Recycled Telegraph poles

Earth Centre Doncaster




Railway Sleeper retaining wall or steps



**Metals**

- Reuse steel sections
- Some steel is recycled
- All stainless steel is recycled
- all non-ferrous metals tend to be recycled
- Ironmongery refurbished and reused

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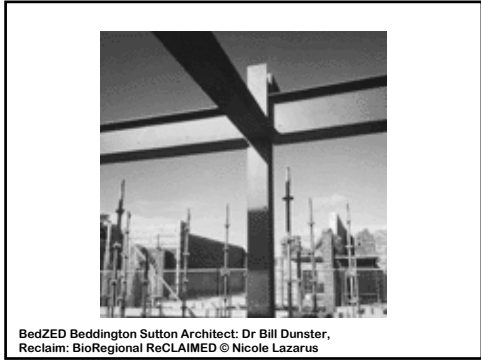
**Reclaimed Steel & Timber Frame**  
Reclaimed services

Earth Centre Doncaster Conference Centre, Bill Dunster, Reclaim: BioRegional ReCLAIMED © NGS

**Reclaimed repaired reused**

Reclaimed steel frames  
Redundant bolt holes  
Blast clean and prime/paint

BedZED Beddington Sutton Architect: Dr Bill Dunster, Reclaim: BioRegional ReCLAIMED © NGS




**Glass**

- Glass objects reused
- Glass doors used as table on trestles

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## Glass Reused




## Rubber

- Rubber Crumb in pavement
- Rubber Tyres in rammed earth retaining walls
  - Earth ships
- Rubber tyres in blocks wire bound
  - Gabion retaining walls
  - Road construction
  - Dams

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## Earthships

- Recycled Tyres
- Rammed earth
- Reinforcing bars
- Igloo formation
- Recycled tins
- Earth covered
- Short life?
- Who knows?




## Earthships



## EnviroBlock

Baled Recycled Rubber Tyres  
Civil Engineering Component  
Landscape Component

## Baled Recycled Rubber Tyres



## FFE Furniture Fittings & Equipment

- Furniture
- Light fittings
- Victorian Public House fittings
- Church Fittings

