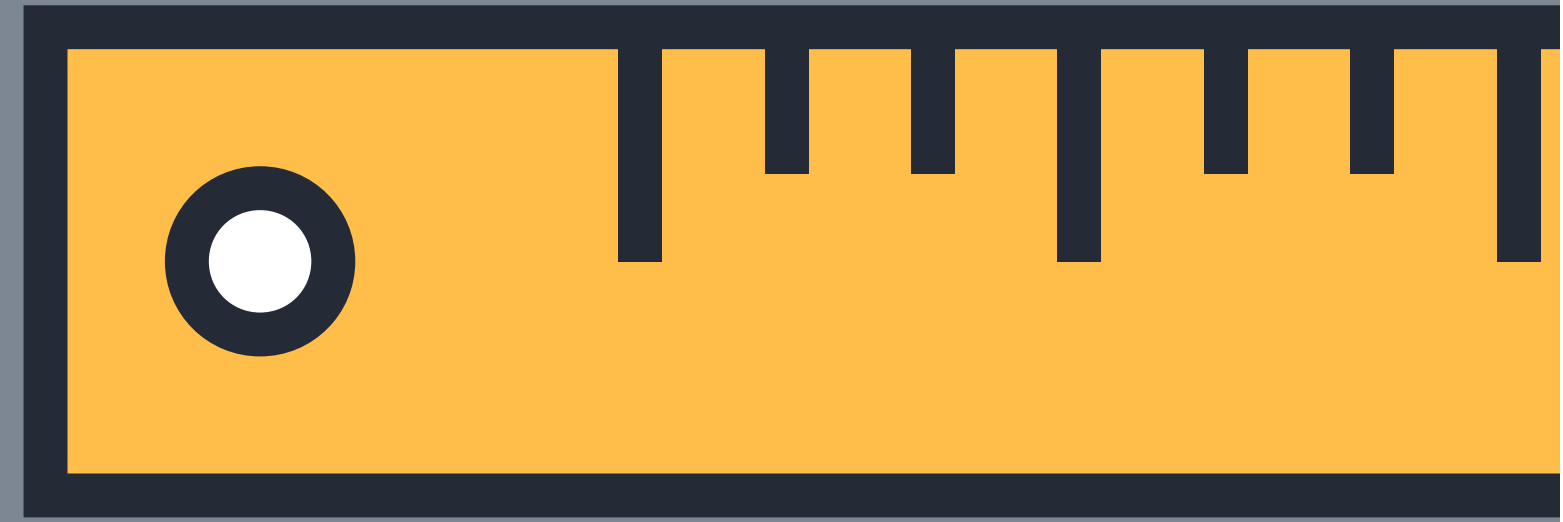


CONSTRUCTION



Construction accounts for 50% of raw material consumption and 60% of waste in Europe.

FROM LINEAR....

CONSTRUCTION SECTOR IN YORK, N. YORKSHIRE & EAST RIDING

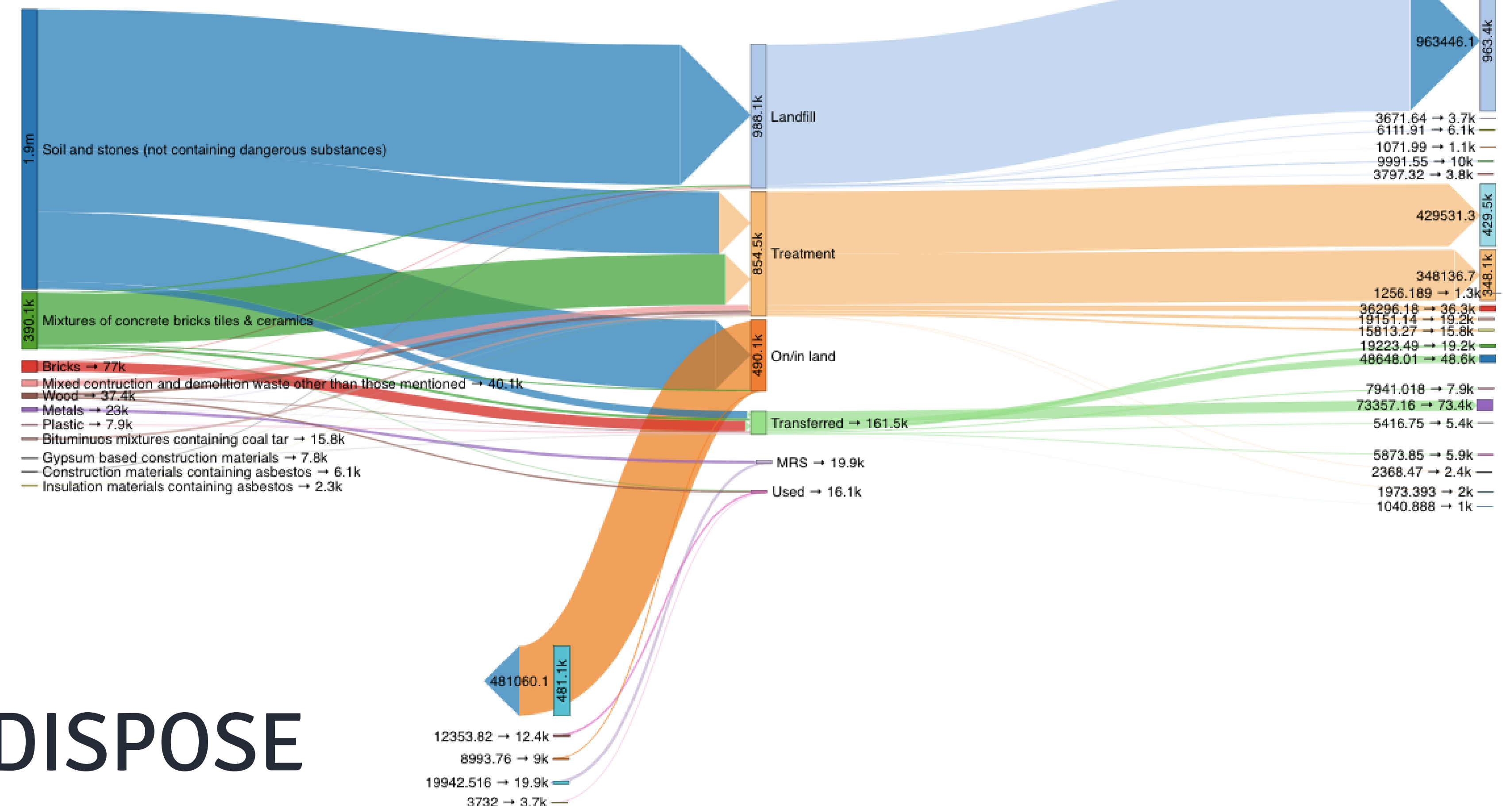
- 25,000 JOBS (5% OF TOTAL EMPLOYMENT)
- £1,453MILLION GVA (6% OF TOTAL GVA)
- FORECAST GROWTH SECTOR

CONSTRUCTION SECTOR IN YORK, N. YORKSHIRE & EAST RIDING

- Cement
- Metals
- Electricity
- Wood
- Rubber & Plastics
- Petroleum, mining, coke, refining
- Land freight
- Waste services

- New housing
- Other new work (incl. infrastructure)
- Repair and maintenance

Construction and demolition waste received at sites in York, North Yorkshire & East Riding (in tonnes)



TAKE

MAKE

DISPOSE

Why is such a high volume of soils and stones (approx. 963k tonnes) going to landfill each year?



Approx. 490k tonnes of soils and stones are currently being applied to land, is there a higher value use for these?



Could the area benefit from more processing facilities (e.g., brick recycling) to avoid valuable materials going to landfill or being transferred out of the area?

STAKEHOLDER INSIGHTS

- Environmental considerations on development plans are often the first thing to go when there are budget constraints.
- Can we align our circular and low carbon plans with the YNERH Spatial Framework?



CONSTRUCTION

... TO CIRCULAR

BIG OPPORTUNITIES

Keeping aggregates in the economy at their highest value (incl. soils, stones, aggregates & bricks) - approx. 1m tonnes of soils and stones (not containing dangerous substances) and 13k tonnes of concrete, bricks & ceramics are currently going to landfill each year. This could be avoided.

DESIGN

Designing for adaptability, deconstruction & disassembly - cradle-to-cradle design can eliminate demolition 'waste', reducing raw material use and providing massive financial benefits.

Applying circular principles to large infrastructure & regeneration projects - e.g., York Central, dualing of the A64, Leeming Bar Industrial Estate

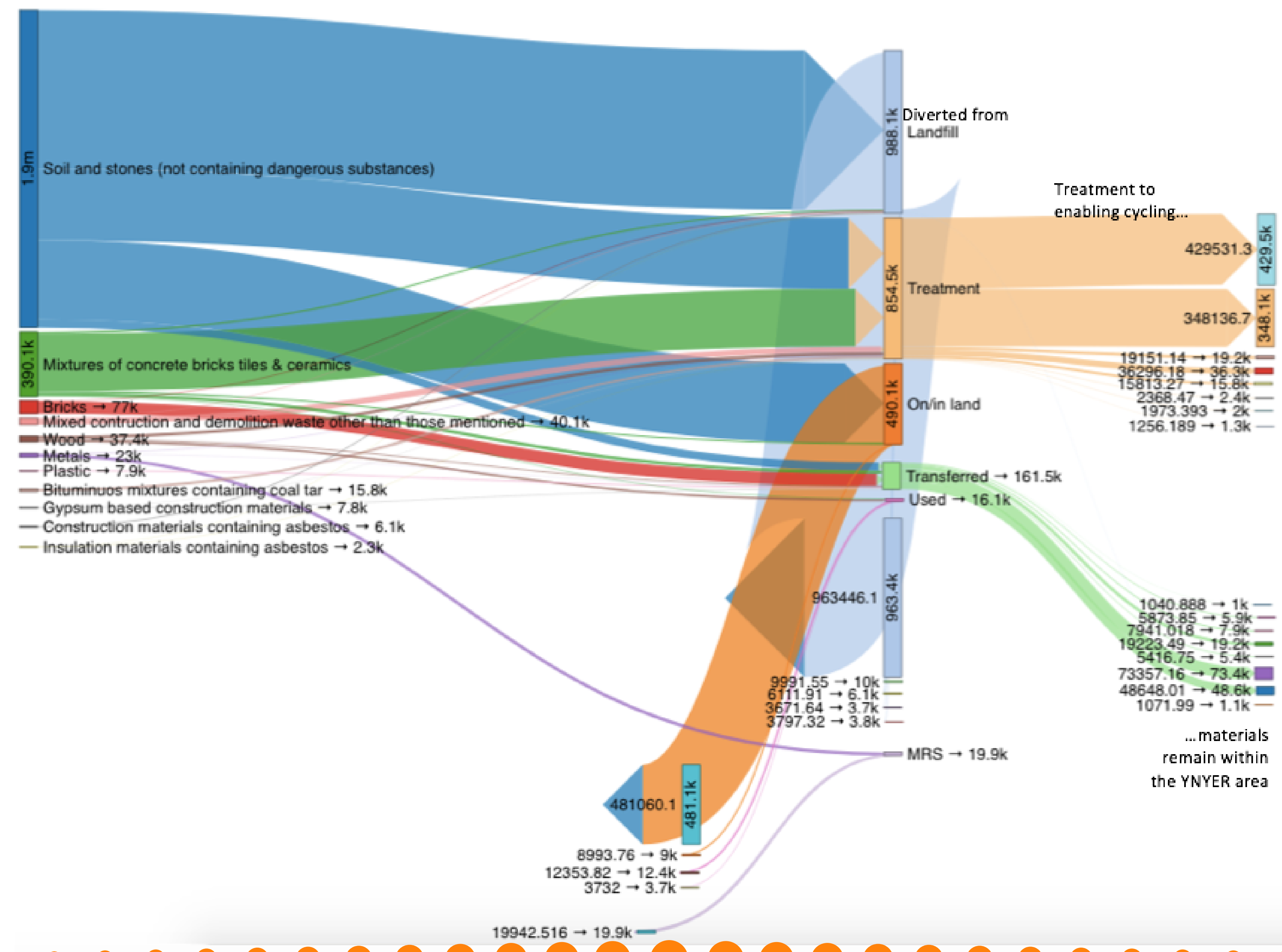
Increasing material and resource processing, sharing and repurposing capabilities - this will help ensure economic value remains within the YNYER area.

Industrial Strategy Grand Challenge Mission

At least halve the energy use of new buildings by 2030.

Designing & retrofitting buildings to reduce energy demand and GHG emissions - using life cycle design to reduce embodied carbon over a whole buildings life cycle.

MOVING TOWARDS A CIRCULAR CONSTRUCTION SECTOR IN YORK, N. YORKSHIRE & EAST RIDING...



CASE STUDY FROM COAL MINE INDUSTRIAL COMPLEX TO OFFICE BUILDING

The pilot project is located in Essen (Germany) directly on a UNESCO world heritage site. The demolition of pre-existing structures had already taken place.

- "Building Material Passport" tool developed - to enable a detailed analysis of all the materials in a building, and to consider their material health, environmental impact, adaptability and recyclability (even during the planning & design process)
- As a result, 4641 tonnes of waste from landfill will be diverted, 91 tonnes of waste will not be thermally disposed of an additional 12108 tonnes of materials can be recycled into products of equal quality.

A pilot study part of the BAMB H2020 Project

