Susie Burrage
Managing Director of Recycled Products Limited
Bureau of International Recycling UK Ambassador
President of the British Metals Recycling Association
Treasurer of the European Recycling Industries Confederation
President of the European Metal Trade & Recycling Branch of EuRIC

BIR – REPRESENTING THE FUTURE LEADING RAW MATERIAL SUPPLIERS
Development of Metals Recycling in the Circular Economy
Steel in the circular economy: The 4Rs

CIRCULAR ECONOMY BENEFITS

- Application weight
- Rail tracks
- Raw materials
- By-products
- Steel beams
- Raw materials conservation
- Water
- Car doors
- Machine tools
- Engine
- Innovation
- Worldsteel.org

REDUCE
- CO₂ emissions reduction
- Energy
- Waste
- Cars
- Packaging
- Buildings
- Bridges
- Office furniture
- Electric motors
- Wind turbines

REUSE
- Jobs
- Durable products

RECYCLE
- Efficiency
- Innovation

REMANTUFACTURE
COPPER TANKS
ALLOY WHEELS
COPPER TUBE
ALUMINIUM
9 MILLION TONNES OF COPPER ARE RECYCLED EACH YEAR.

THE COPPER RECYCLING PROCESS CONSUMES UP TO 85% LESS ENERGY THAN ITS PRIMARY PRODUCTION.

THIS REPRESENTS AN ANNUAL SAVINGS OF 40 MILLION TONNES OF CO₂ - the equivalent of taking 16 million passenger cars off the road.

1 TONNE OF COPPER

<table>
<thead>
<tr>
<th>100,000</th>
<th>10,000</th>
<th>500</th>
<th>50</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOBILE PHONES</td>
<td>LAPTOP COMPUTERS</td>
<td>AIR CONDITIONING UNITS</td>
<td>CARS</td>
<td>HOMES</td>
</tr>
</tbody>
</table>

IN ELECTRICAL SYSTEMS CAN DELIVER LIFETIME SAVINGS OF 100 TO 7,500 TONNES OF CO₂ EMISSIONS AND SAVE ITS USERS BETWEEN $25,000 AND $2.5 MILLION IN REDUCED ENERGY COSTS.

Source: European Copper Institute
STEEL RECYCLING

*Uses*
- 74% less Energy
- 90% less Virgin Materials
- 40% less Water

* Produces *
- 76% fewer water pollutants
- 86% fewer air pollutants
- 97% less mining waste
High Costs of Collection due to

- Geography
- Market Size
- Lack of Data
- Immature Recycling & Remanufacturing Infrastructure
“DO MORE AND BETTER WITH LESS”
Reduce Waste Generation by
- Prevention
- Reduction
- Recycling
- Reuse
Not a Top Priority For SMEs

CIRCULAR ECONOMY
Small Medium Enterprises (SME)
- Driving Growth
- Opening New Markets
- Creating Jobs
"The more we recycle, the less we need to mine."

- Wilfred Visser
Needs money
Encourage SMEs
Persistent Organic Pollutants
LOW THRESHOLDS = NOT ECONOMICALLY VAILABLE = LANDFILL
PRODUCER RESPONSIBILITY NEEDS TO BE INCREASED
OPPORTUNITY AHEAD
Successful WEEE recycling needs revenue from:

- Metals Recovery
- Local Municipalities
- Businesses
- Sale for Refurbishment
Waste Hierarchy

Source: European Commission.
Manufacturers need to be encouraged to produce

- Longer Lasting Products

- Made from Regenerative Materials

- Using Modular Design Techniques
Modular Design

ELEMENTS  COMPONENTS  MODULES
UPs AND DOWNs

A look at the International Monetary Fund’s Metal Commodity Price Index* since 1980:

Source: World Economic Outlook, October 2015, IMF

*Includes copper, aluminium, iron ore, tin, nickel, zinc, lead, and uranium price indices
Equilibrium

Price ($) vs. Quantity

Supply (S)
Demand (D)

P*
Q*

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INCREASE DEMAND
for
- Recycled Materials
- Reused Components
CIRCULAR ECONOMY
A CHANGE OF HEART
14 Million FEWER
SAVE THE PLANET.
SUPPORT RECYCLING.
We sing because we CAN