

# ACCELERATING SMART POWER AND RENEWABLE ENERGY IN INDIA (ASPIRE)<sup>1</sup>

*Policy Roundtable on*

## *Enabling circular economy and resource efficiency in Aluminium & Cement sectors: Utilising spent pot lining and other waste products of Aluminium sector*

June 2023

<sup>1</sup>ASPIRE is a bilateral program implemented by Foreign Commonwealth and Development Office, Government of UK in association with Ministry of Power, Government of India. KPMG is the lead delivery partner for the ASPIRE programme. Idam Infrastructure Advisory Private Limited (India) and Carbon Trust (UK) are the key consortium members





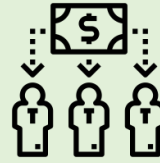
**Circular Economy - UK  
Aluminium Sustainability  
Roadmap To 2050**

# ALFED - UK Aluminium Sustainability Roadmap To 2050

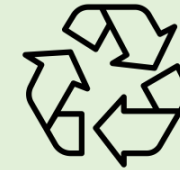
## Summary of the UK Aluminium Sector



~£ 10 billion generated annually for UK economy from the aluminium sector



39,000+ people employed by the wider aluminium industry nationwide



75% of all aluminium ever produced is still used in some form

## 3 Pillars of UK Aluminium Sector Sustainability Roadmap

### Decarbonisation

- ❑ **R&D acceleration** – work with government knowledge partners & Innovators
- ❑ **Capex support** - financial support and tax breaks needed to enable investment in low-carbon, energy- and water-efficient, UK-based manufacturing facilities

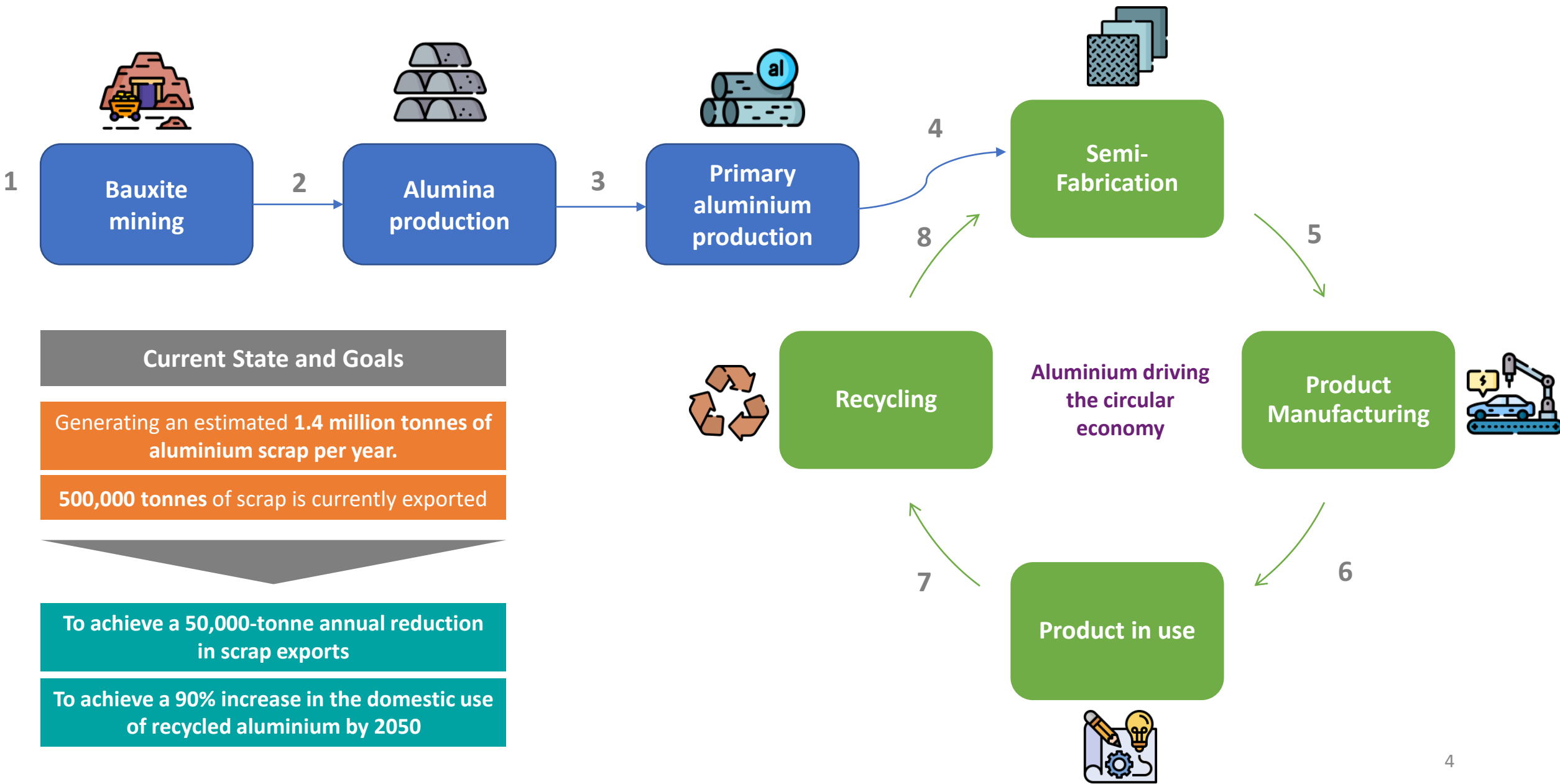
### Sustainable Sourcing

- ❑ **Traceability** – Best practice standards
- ❑ **Domestic supply chain development** -
- ❑ **Skills development** - work with industry, universities and other knowledge partners
- ❑ **Diversity and inclusion** - boosting the proportion of women in the sector
- ❑ **Social engagement** – for driving CSR and voluntary initiatives

### Circular Economy

- ❑ **Closed-loop supply chain development** - drive alloy innovation and domestic capacity
- ❑ **Whole-life design innovation** - recycling into the whole-life design
- ❑ **National recycling strategy** - Support national reuse, remanufacturing and recycling strategy

# Circular Economy in UK Aluminium Sector



# Key actions for Aluminium Circular Economy

## Closed-loop supply chain development

- ❑ Work with the sector and knowledge partners to drive alloy innovation
- ❑ Grow domestic capacity in re-processing and semi-finishing
- ❑ Given that aluminium production, consumption increasing scrap re-utilization

## Whole-life design innovation

- ❑ Embed aluminium recycling into whole –life design process
- ❑ Increasing product recyclability by replacing other materials with Aluminium
- ❑ Extending life through upgrades and reuse
- ❑ Making it easier to dismantle and sort parts for more efficient recycling

## Whole-life design innovation

- ❑ Support the Government in developing a national reuse, remanufacturing and recycling strategy
- ❑ Developing and supporting community initiatives to promote recycling and reduce waste going to landfill

ALFED's decarbonisation goal is to support the Aluminium sector to achieve net zero by 2050.



**SPL Detoxification Technology**  
**Provider: Ultromex, UK**

# SPL Detoxification Technology Provider: Ultrromex, UK



## ❖ **Issue: Storage, Landfilling, and transport of SPL**

- ❖ SPL contains toxic compounds including leachable fluorides and cyanides, plus it reacts with water; hydrolysing to produce explosive gas mixtures of hydrogen and methane.
- ❖ Landfill can cause serious environmental damage
- ❖ Transporting untreated Spent Pot Liner is dangerous and expensive and requires compliance with regulations

## ❖ **Technology Solution: CARBOMEX**

- ❖ A low-cost plant and process to treat and fully recycle spent pot liners so that they can be transported safely and disposed of permanently & sustainably.
- ❖ Converts all outputs in secondary resources to be used in other industries

# SPL Detoxification Technology Provider: Ultromex, UK

## ❖ **Technology Solution: CARBOMEX**

- ❖ Recovers any trapped aluminium and salts
- ❖ Eliminates cyanides, fluorides & other toxic contaminants
- ❖ All effluents made safe and compliant for disposal
- ❖ Treats both the CARBON and the REFRACTORY layer individually or mixed
- ❖ Treated refractory becomes useful construction material
- ❖ Treated carbon can be re-used in many industries

## ❖ **Benefits/Advantages:**

- ❖ Removes the need for storing or landfilling spent pot lines by being the commercially attractive process for the treatment of spent pot lining so that it is no longer hazardous.
- ❖ Can be safely transported around the world for use as a secondary resource and feedstock for other industries.



**Thank You**

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