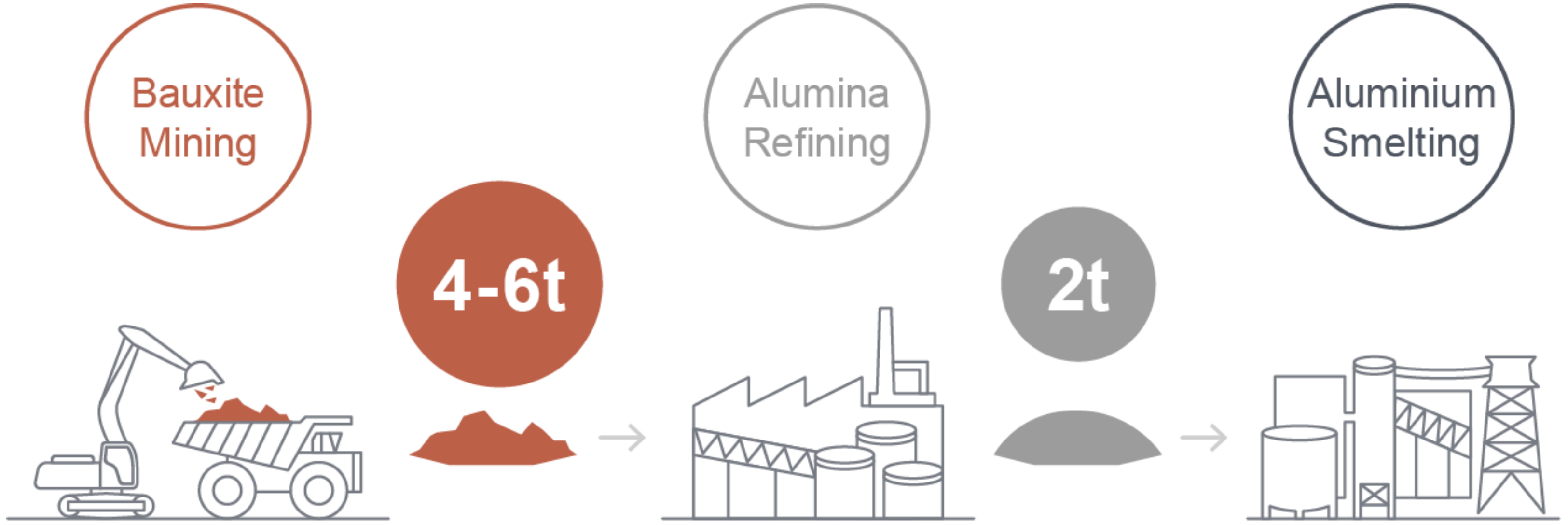
AUSTRALIAN
ALUMINIUM
COUNCIL LTD

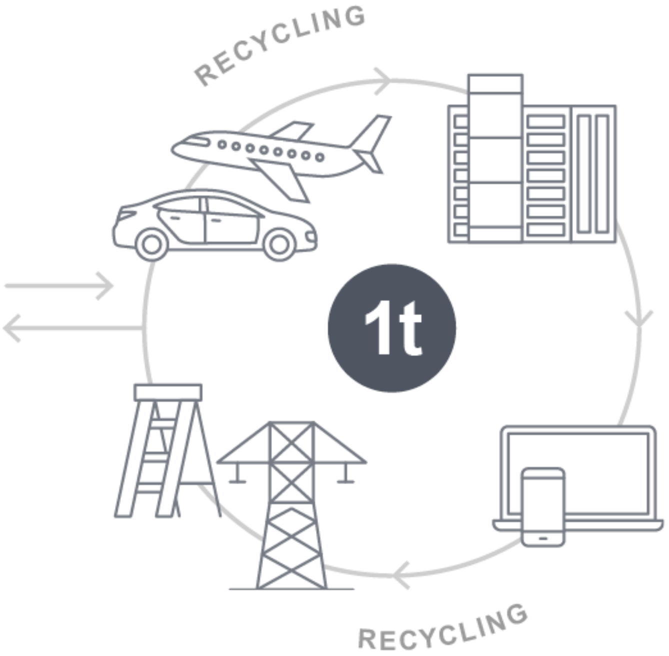
Pathways for decarbonising Australia’s aluminium industry – from mine to market

From mine to metal, growing regional Australia for over 65 years

December 2021

Mine to Metal Process



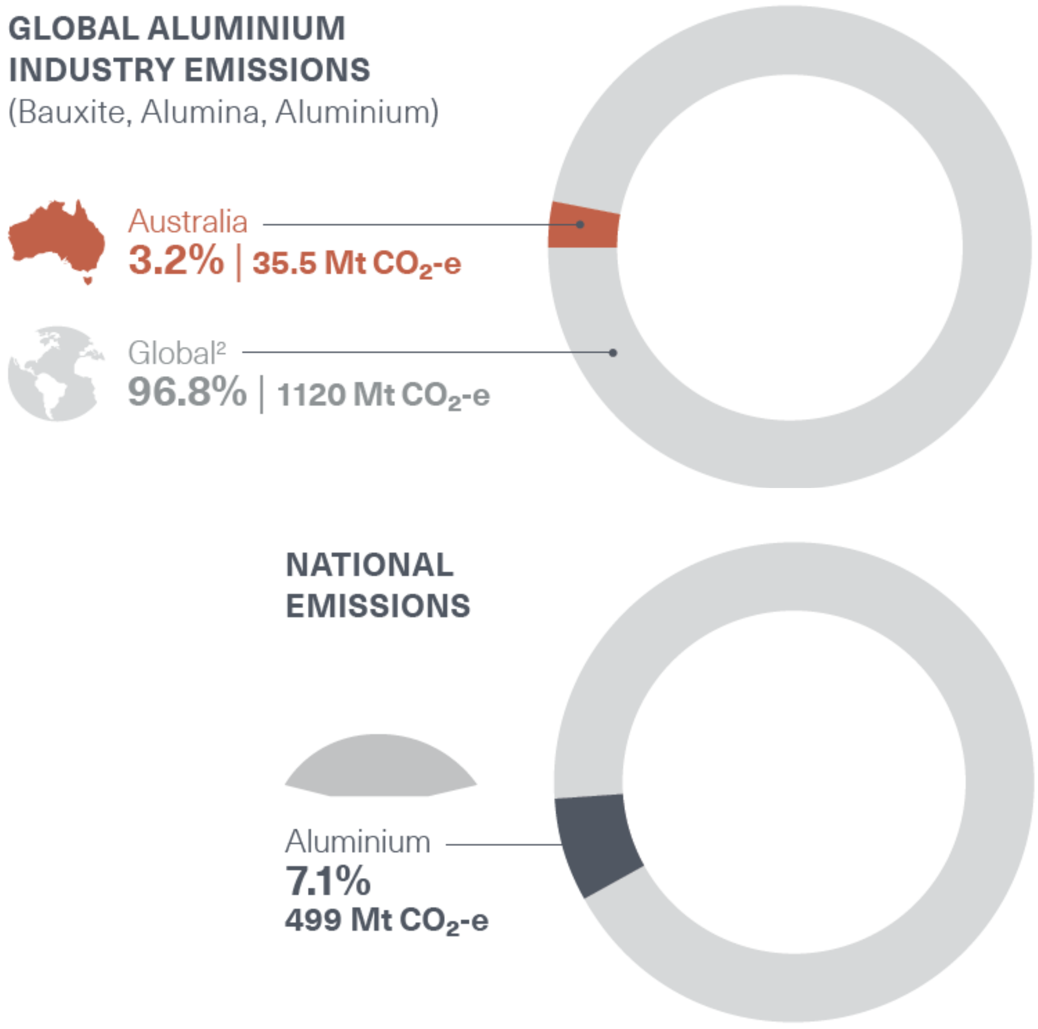


Bauxite **$1.3B**	Alumina **$6.3B**	Aluminium **$3.6B**
102 MT:	**21 MT:**	**1.6 MT:**
65 MT Domestic consumption	3 MT Domestic consumption	0.2 MT Domestic consumption
37 MT Export	18 MT Export	1.4 MT Export

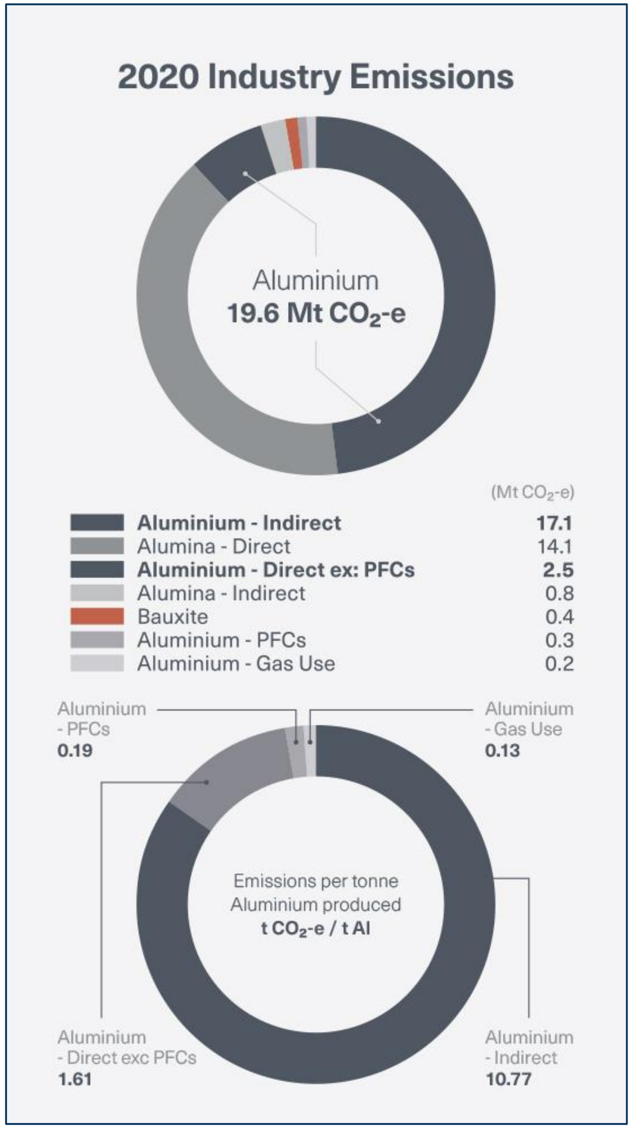
*2020 data

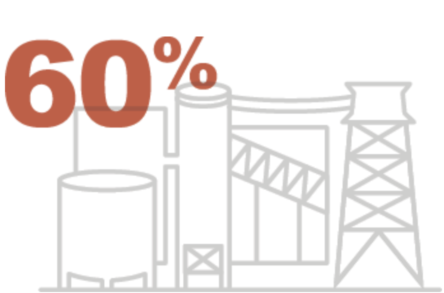
Global Demand

- Current global demand for aluminium is approximately 95 million tonnes per year.
  - This is met through ⅔ primary aluminium and ⅓ from recycled aluminium.
- International Aluminium Institute demand scenario forecasts a **40% increase in aluminium supply by 2050**.
  - This will be met through 50:50 primary:recycled aluminium.
- The World Bank's 2020 "Mineral Intensity of Clean Energy Report" Transition identifies aluminium as **critical** across **renewable energy generation and storage**.
- The industry has a global certification scheme – **Aluminium Stewardship Initiative** (https://aluminium-stewardship.org/)



Emissions: Industry Facts

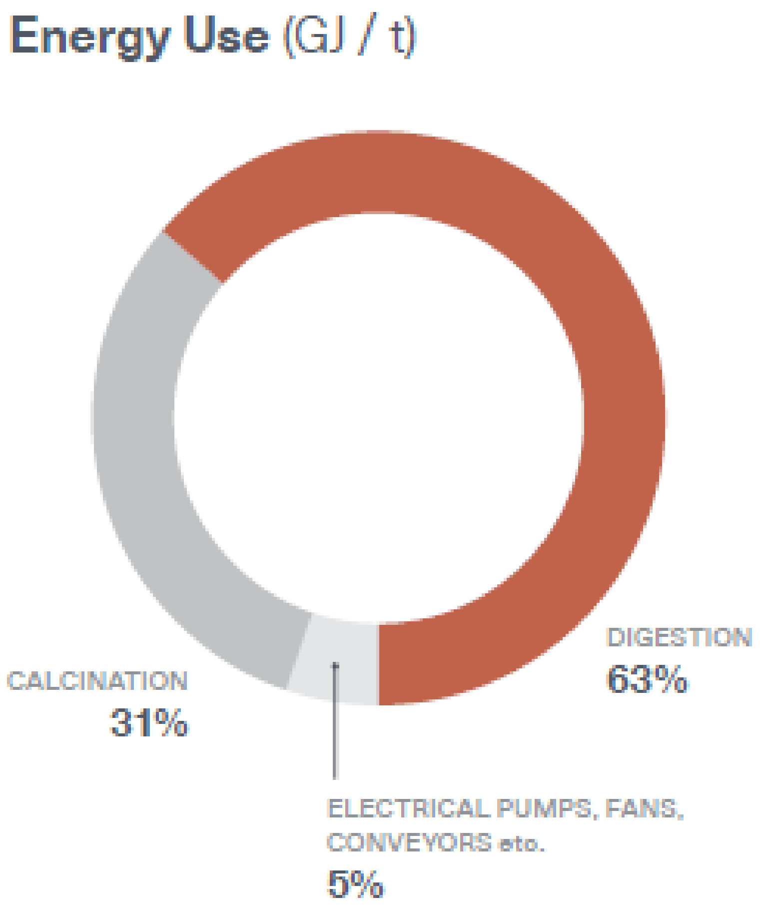




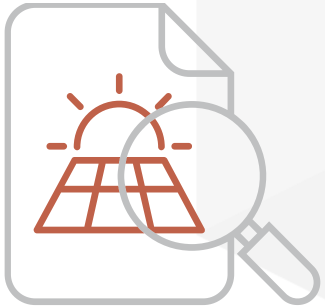
- Aluminium smelting accounts for almost 60% of these emissions.
- **Indirect emissions** associated with electricity used in aluminium smelting which accounts **for almost half total emissions at 17Mt.**
- While the industry continues to invest in emission reduction technologies,. **the greatest decarbonisation impact rests in decarbonising the Australian grid**
- Low cost, low carbon electricity will support **electrification of alumina refineries.**

Alumina – Partnering to Reduce Emissions Through Technology

Australian Government
Australian Renewable Energy Agency
ARENA



Electrification



Solar Thermal

Alternate Energy

Hydrogen