

# Australian Aluminium Industry A Large Energy User Perspective



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Michael Ison  
Australian Aluminium Council

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# Australian producers continue to lead the industry....

## Bauxite

1.	<b>Australia</b>	31%
2.	China	16%
3.	Brazil	12%
4.	India	10%
5.	Guinea	9%



## Alumina

1.	China	28%
2.	<b>Australia</b>	25%
3.	Latin America	20%
4.	North America	7%
5.	Asia	7%



## Aluminium

1.	China	34%
2.	Russia	11%
3.	Canada	8%
4.	USA	7%
5.	<b>Australia</b>	7%



...with significant recent investment in bauxite and alumina projects

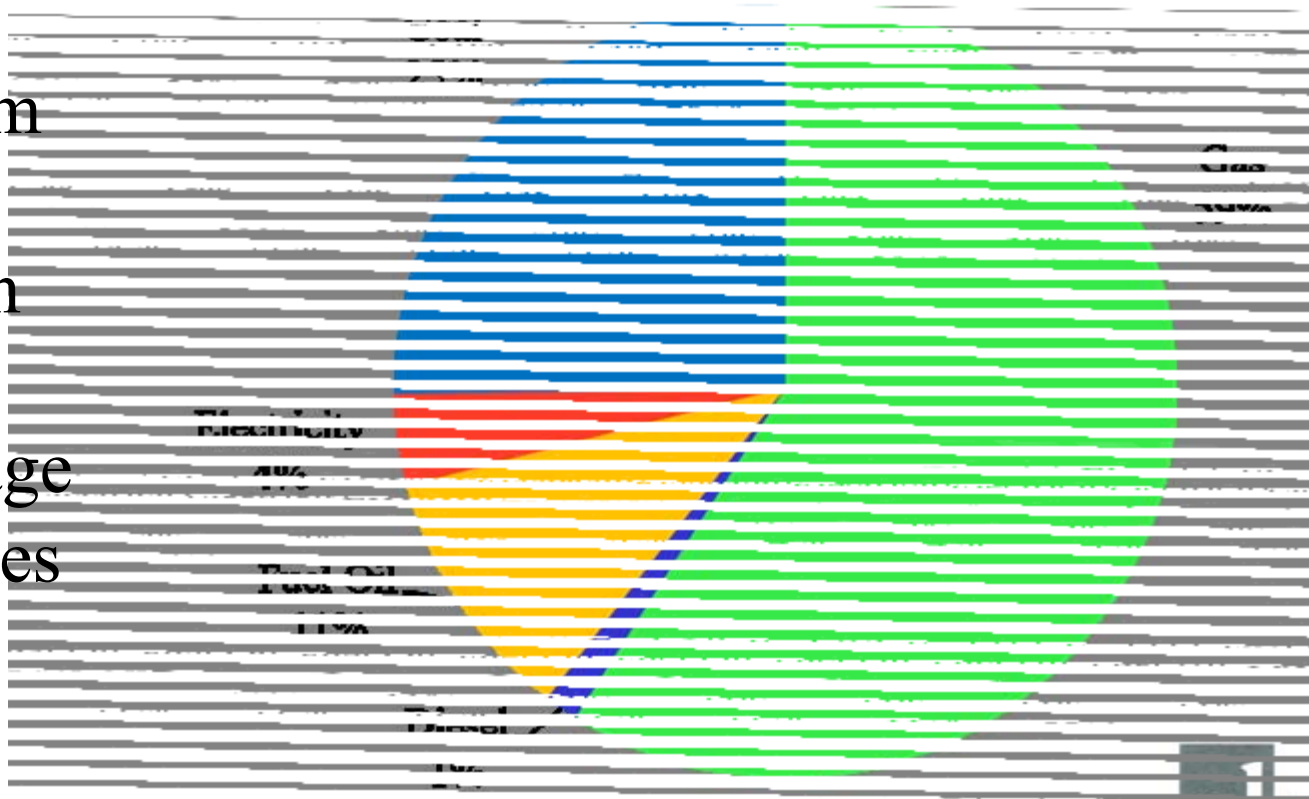
# Alumina – a major energy user

**19.7 Mt Alumina @ 10.2 GJ/t**

Energy Profile



- Heat & Steam
- Cogeneration
- Carbon storage opportunities



# Aluminium – a major electricity consumer

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- **consumed 29,700 GWh in 2008**

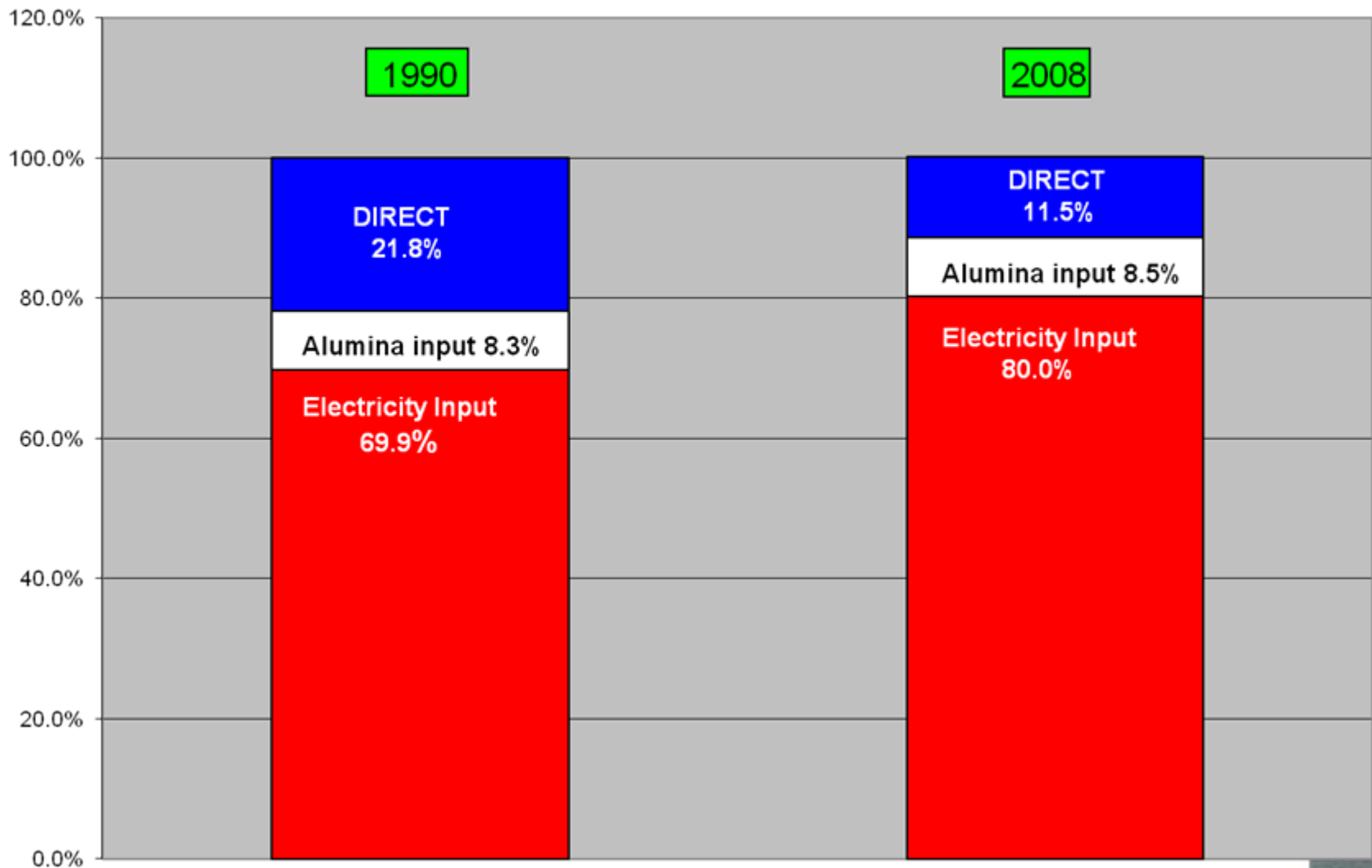
**@ 14,992 kWh/t**

- ◆ Key words: affordable, reliable, baseload
- ◆ 11.6% of Australian consumption in 07/08\*
- ◆ declining share of electricity consumption as overall demand increases

\* ESAA: *Electricity Gas Australia 2008*



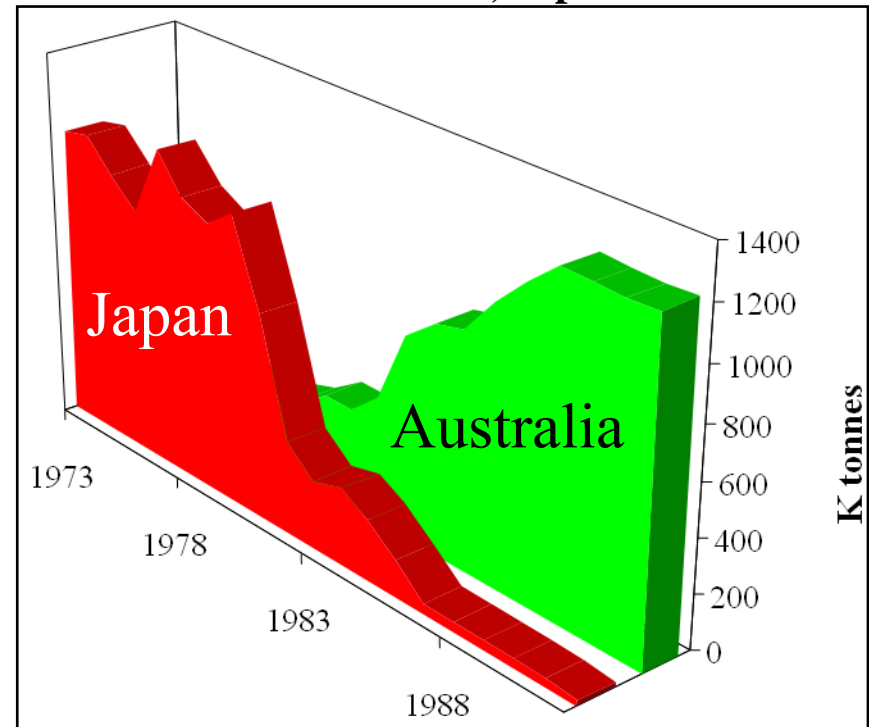
## Direct & Indirect Emissions from Australian Aluminium Smelting



# Energy is the key

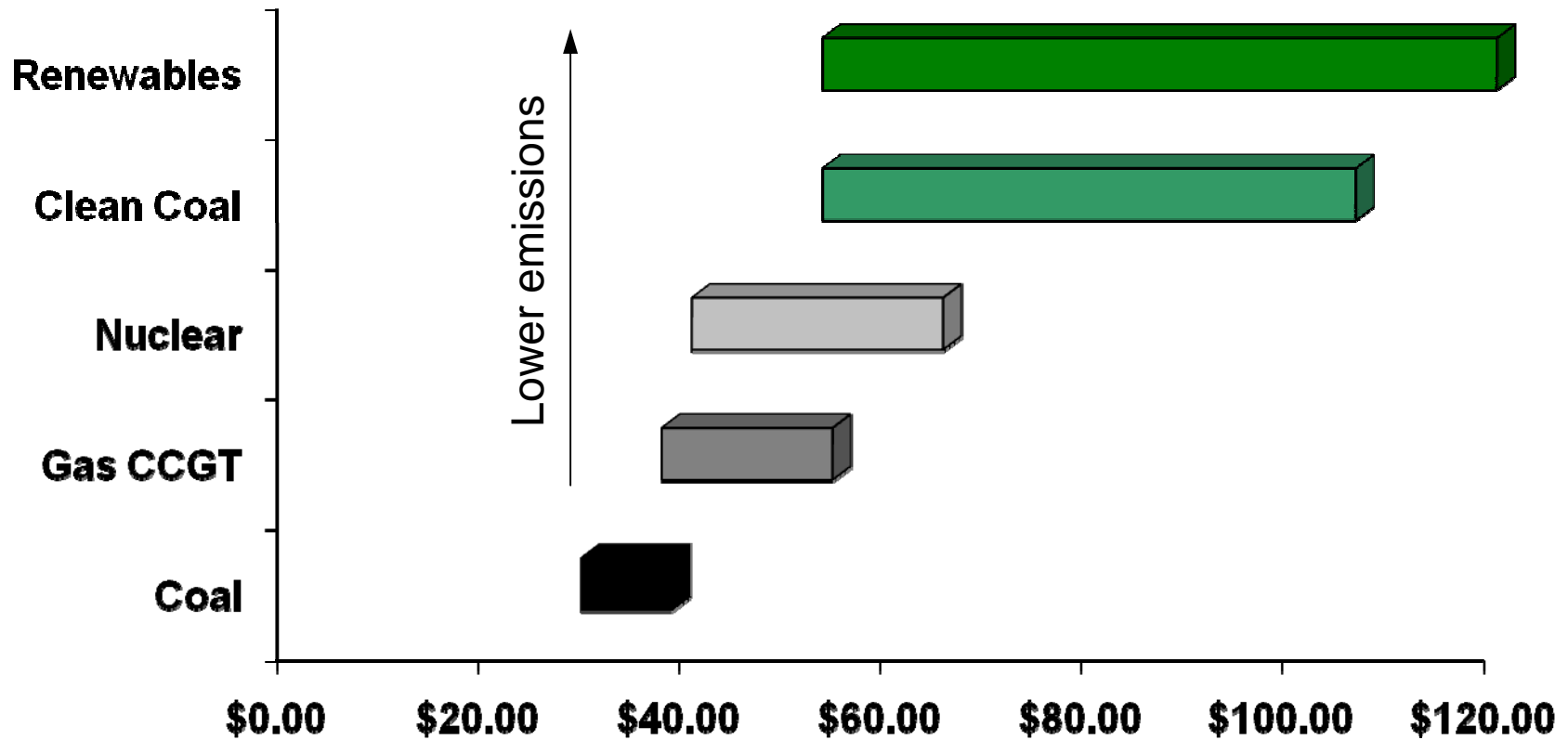
- driven by the same dynamic that closed the Japanese aluminium industry in the 1980s – and created today's Australian aluminium industry . . .
- cheaper energy sources, with long term contracts
- also reflecting the potential carbon risk factor

**Aluminium: Australia, Japan 1973-1992**



Source: ACIL Consulting, Australia

# Costs of electricity generation



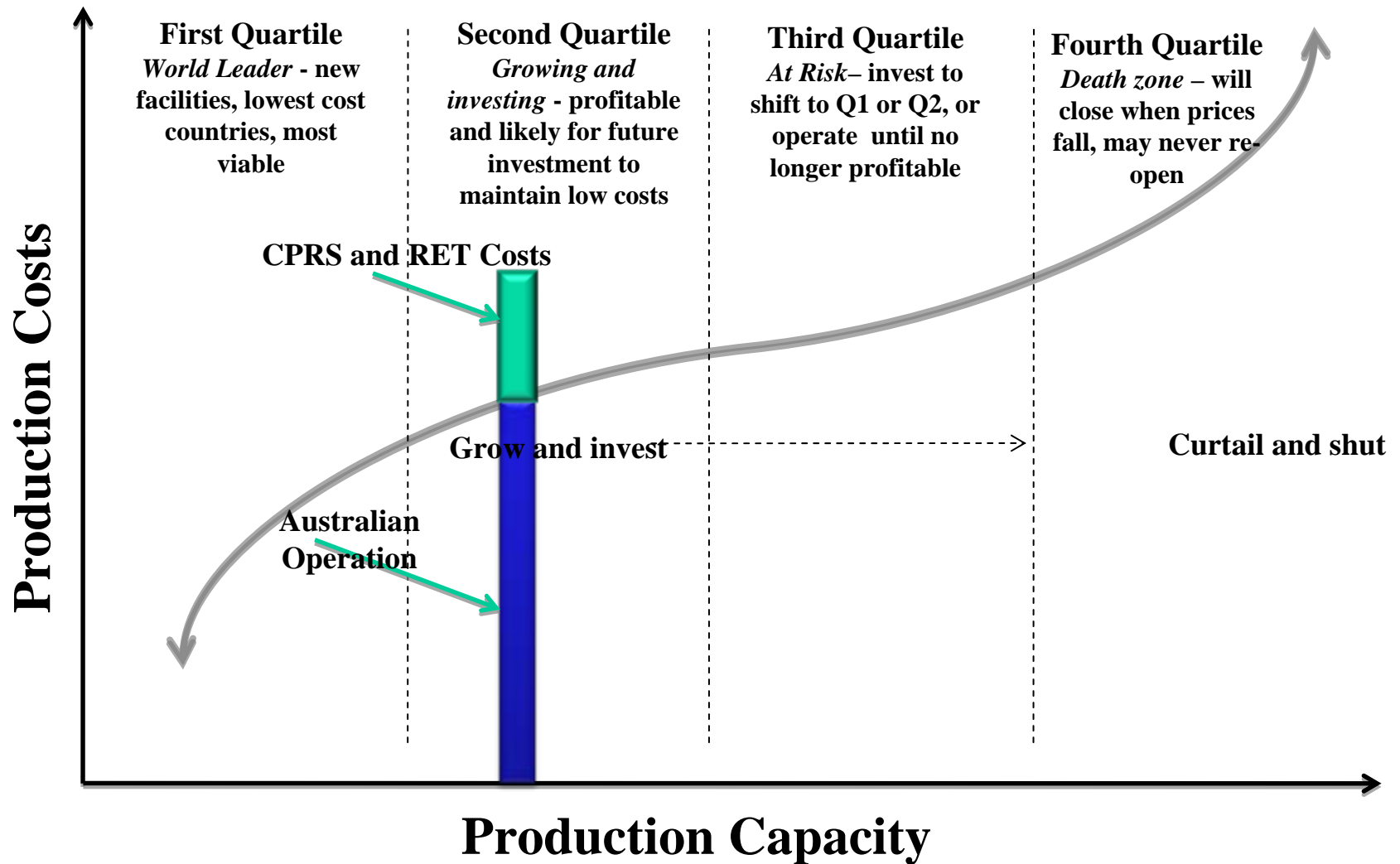
Source: Switkowski Nuclear Report



**Thank you**  
**Australian Aluminium Council**

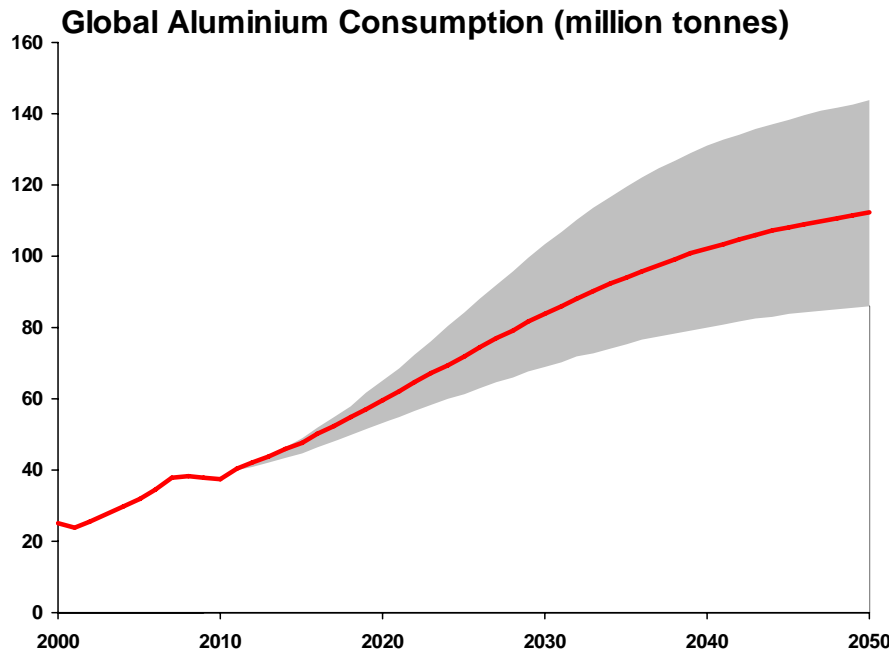


# Impact of CPRS and RET on Australian Operations



..will shift regional competitiveness up the global cost curve

# The long run story continues to be attractive....



RioTinto Investor Briefing 2009

- **Long run is positive despite short-term difficulties.**
- **Base case is for 4.1% growth in aluminium demand over the next two decades**

...although we see a significant shift in global production centres to China and the Middle East