

Energy productivity in mining

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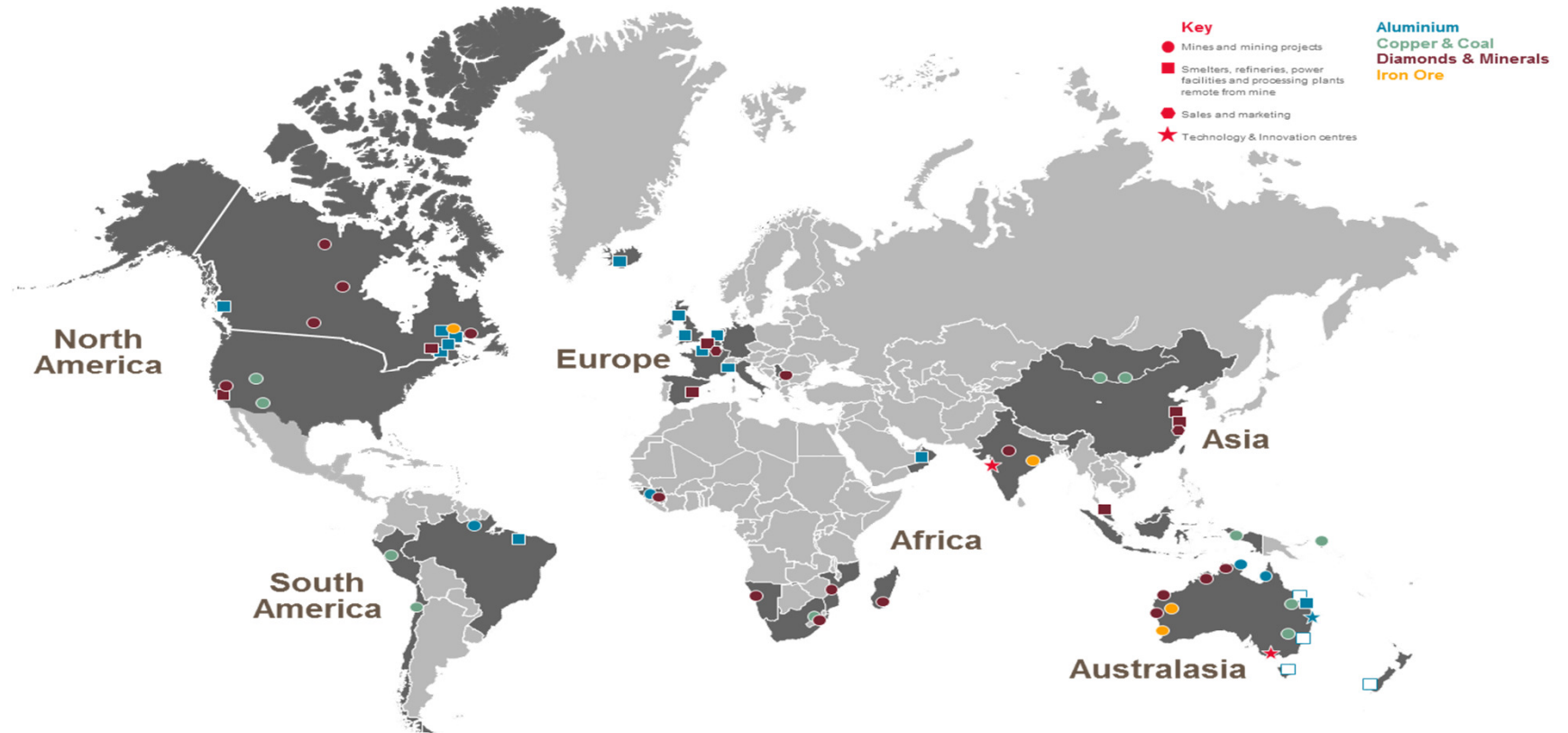


Overview

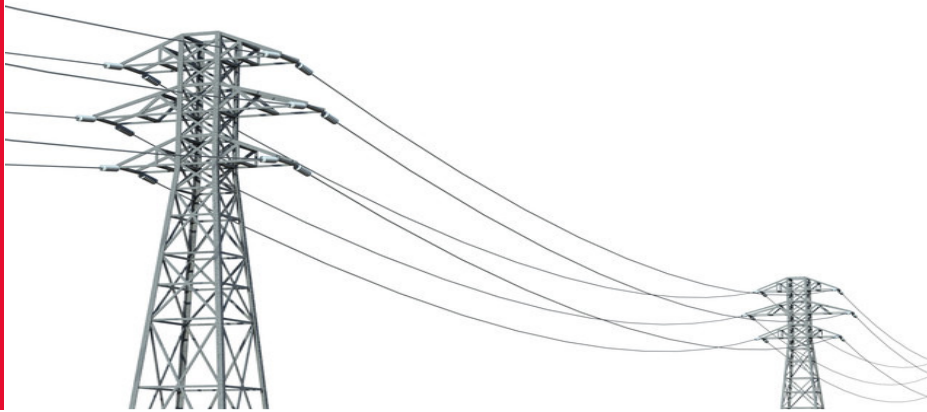


- Rio Tinto Group energy productivity context
- Rio Tinto Energy Productivity flagship programme
- Case studies
 - *Weipa solar plant*
 - *Diavik arctic wind farm*

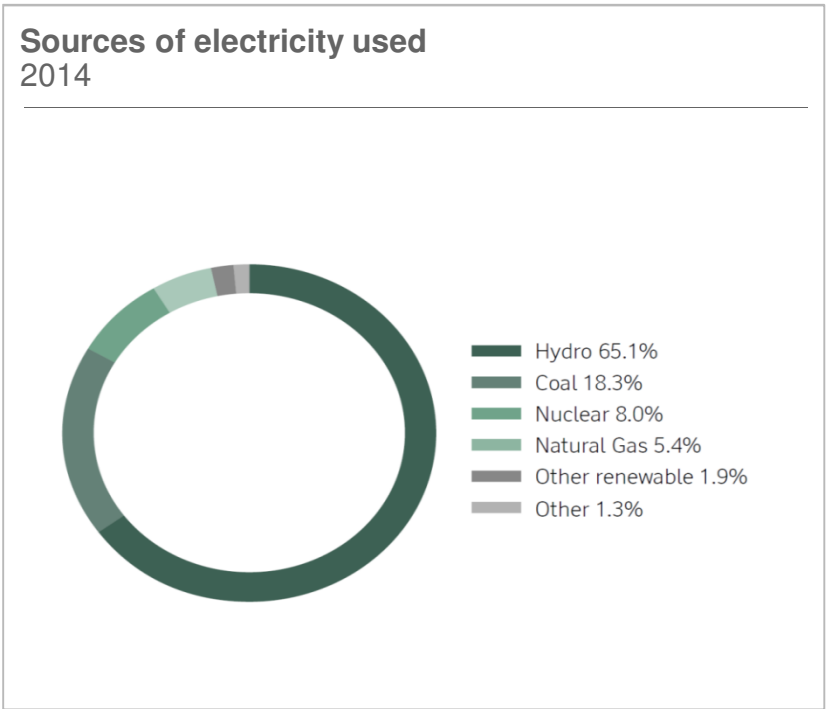
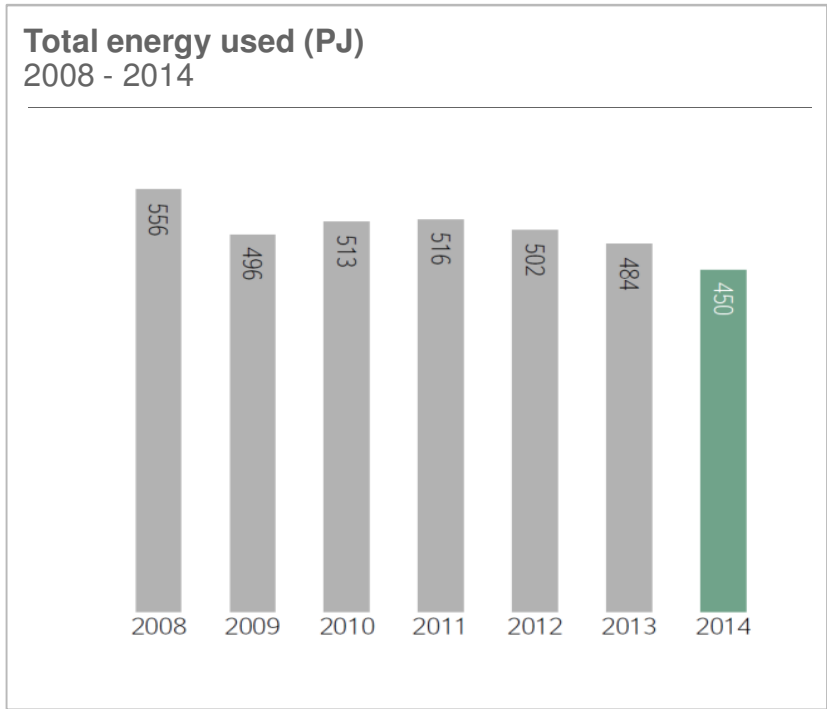
Location of Rio Tinto Group operations



Rio Tinto energy productivity context

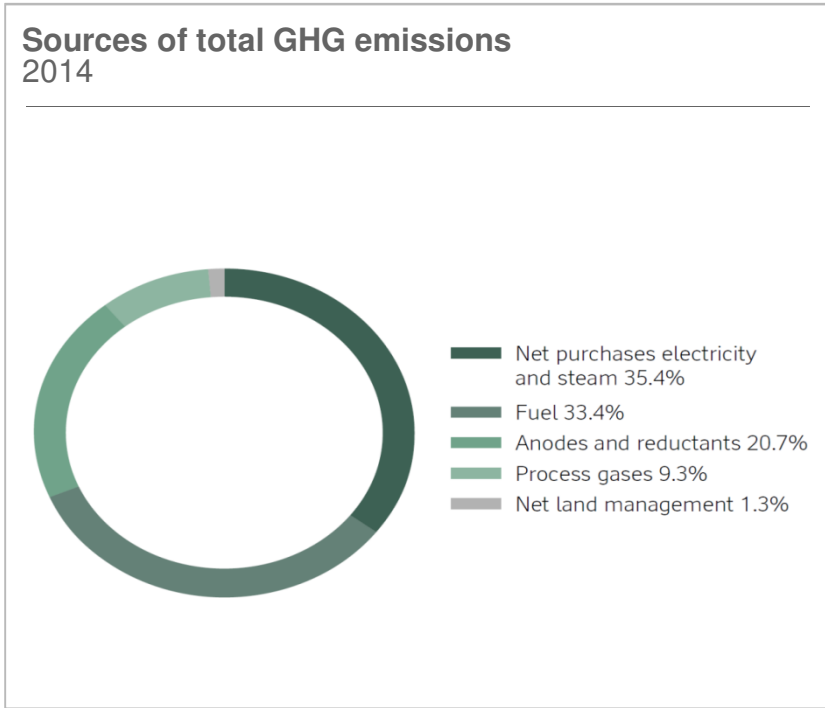
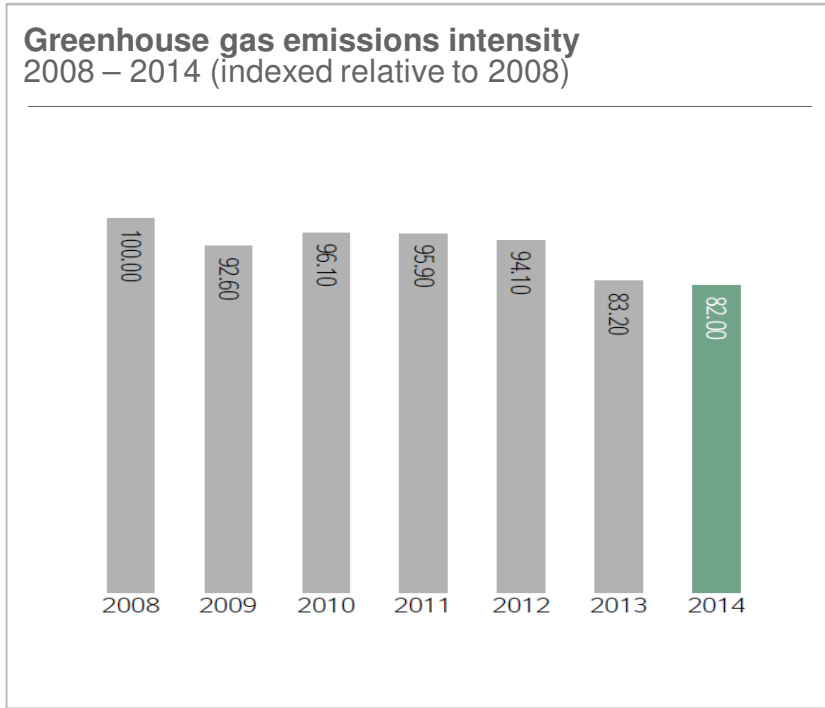


Rio Tinto Group 2014 energy consumption



<http://www.riotinto.com/sd2014/>

Rio Tinto Group 2014 greenhouse gas emissions



<http://www.riotinto.com/sd2014/>

Rio Tinto Group energy productivity drivers

1



Rio Tinto spent more than 10% of operating costs on energy during 2014

2



Volatile global energy markets

3



Changing government policies that are energy related

4



Fast pace of change in energy related technologies

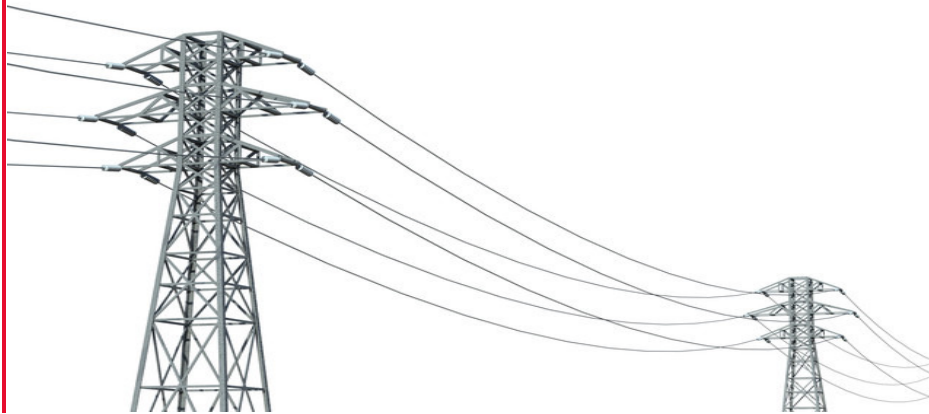
5



Orebody grades declining over time

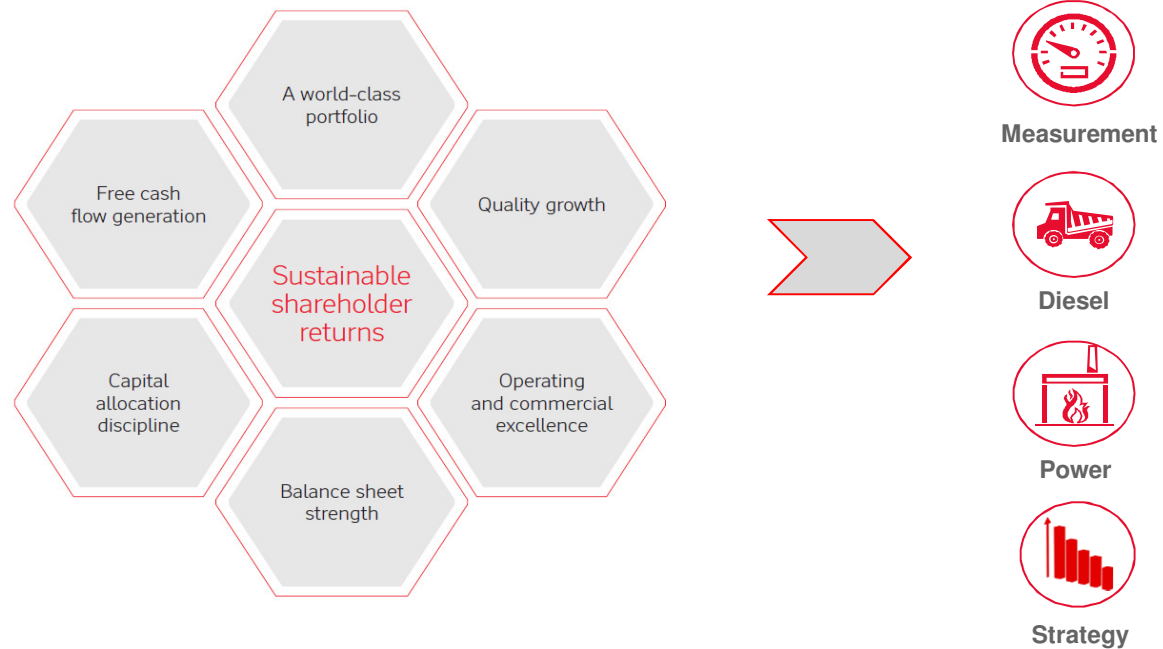
RioTinto

Rio Tinto Energy Productivity flagship

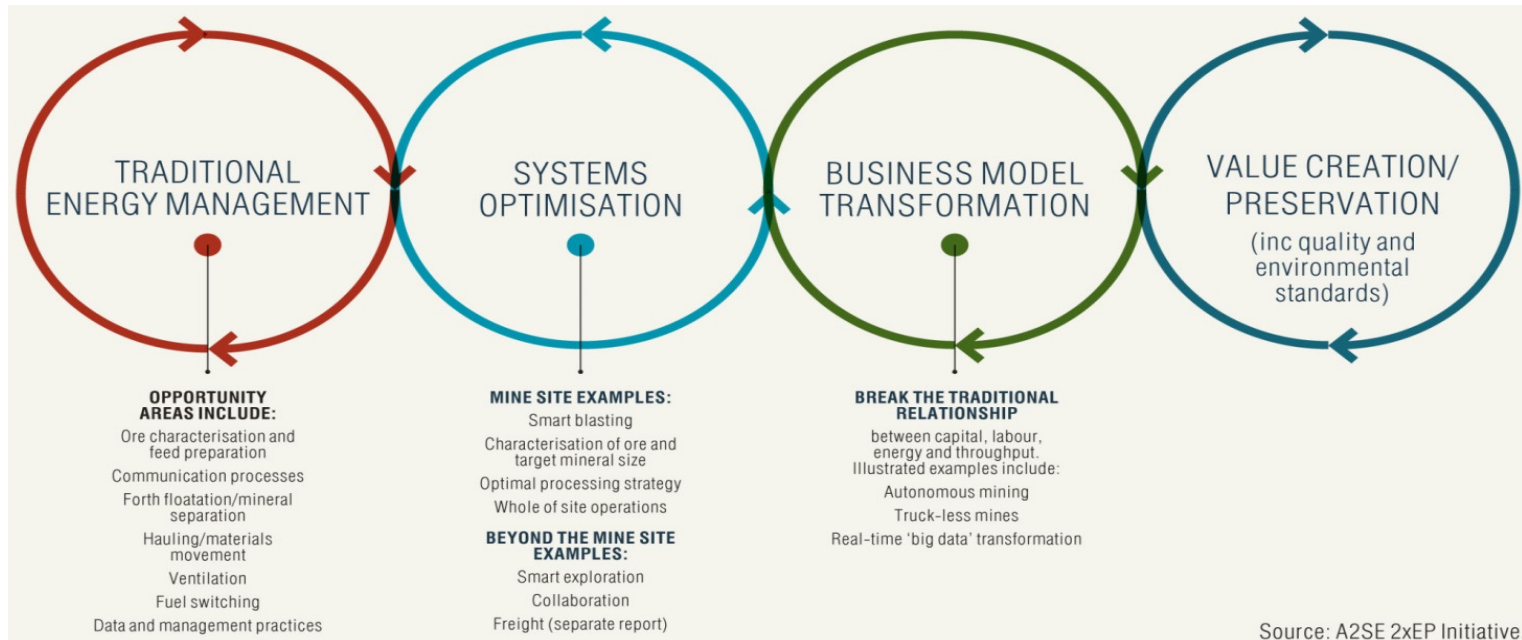


Energy Productivity (EP) flagship

Maximising Rio Tinto's energy productivity from its finite resources by extending global best practices and technologies across the business

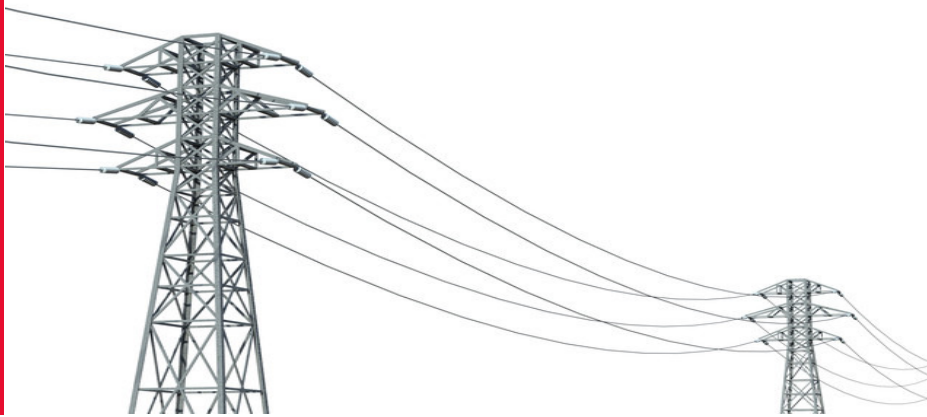


Competitive advantage



<https://www.ausimmbulletin.com/feature/unlocking-the-energy-productivity-value-proposition/>
 By Anita Stadler, Head of Research – 2xEP Roadmap, Australian Alliance to Save Energy (A2SE) and Sarah Boucaut, Executive Officer, CEEC International Ltd

Case studies



Diavik - arctic wind farm



- 9.2 MW total installed capacity
- 17 GWh projected annual output
- 98% availability during 2015
- Displaces ~5,000,000 L diesel/year
- 6% reduction in GHG/year
- 14,000 tonne reduction in CO₂-e/yr



Weipa - solar plant



- 1.7 MW capacity
- 2,800 MWh average/year
- ~20% of Weipa township daytime electricity demand
- Displaces ~600,000 L diesel/year
- Reduces ~1,600 tonnes GHG/year



Summary



- Continuous improvement
- Overall productivity improvement
- Delivery of message
- Flexibility in adopting change
- Products contributing to the renewable energy market