



RioTinto

New and Emerging Technology

Material Movement

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Net Zero Emission Mining WA Conference 2022

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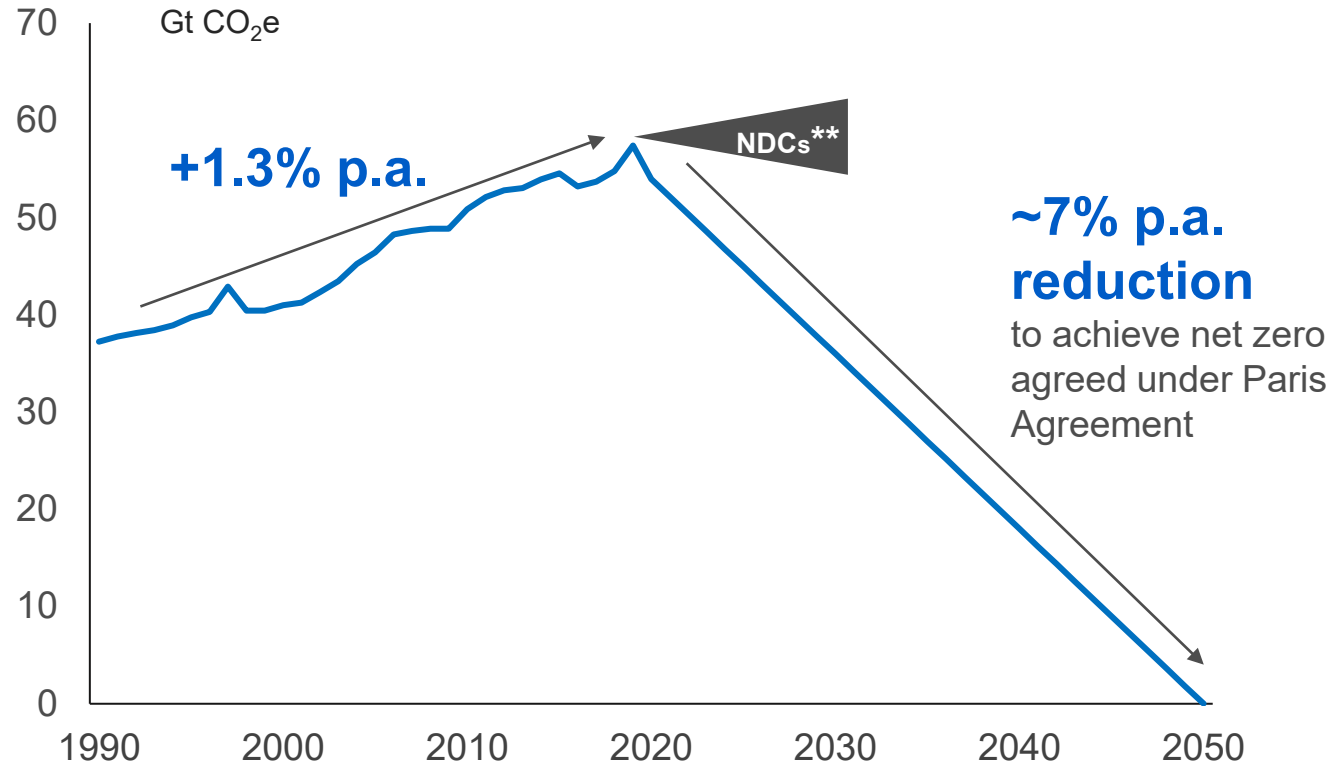
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The World Faces a Major Challenge

Annual global GHG emissions*



Limited action so far. The world has more than doubled cumulative GHG emissions since the early '90s

Momentum changing. Countries are setting ambitious targets and enacting policies

China, the world's largest consumer and a significant producer of commodities, has set clear objectives

*The source of the historic data is: Trends in global CO₂ and total greenhouse gas emissions: 2020 report. Netherlands Environmental Assessment Agency. The annual decline rate is an illustrative straight-line rate and not a forecast or scenario. | **Nationally Determined Contributions

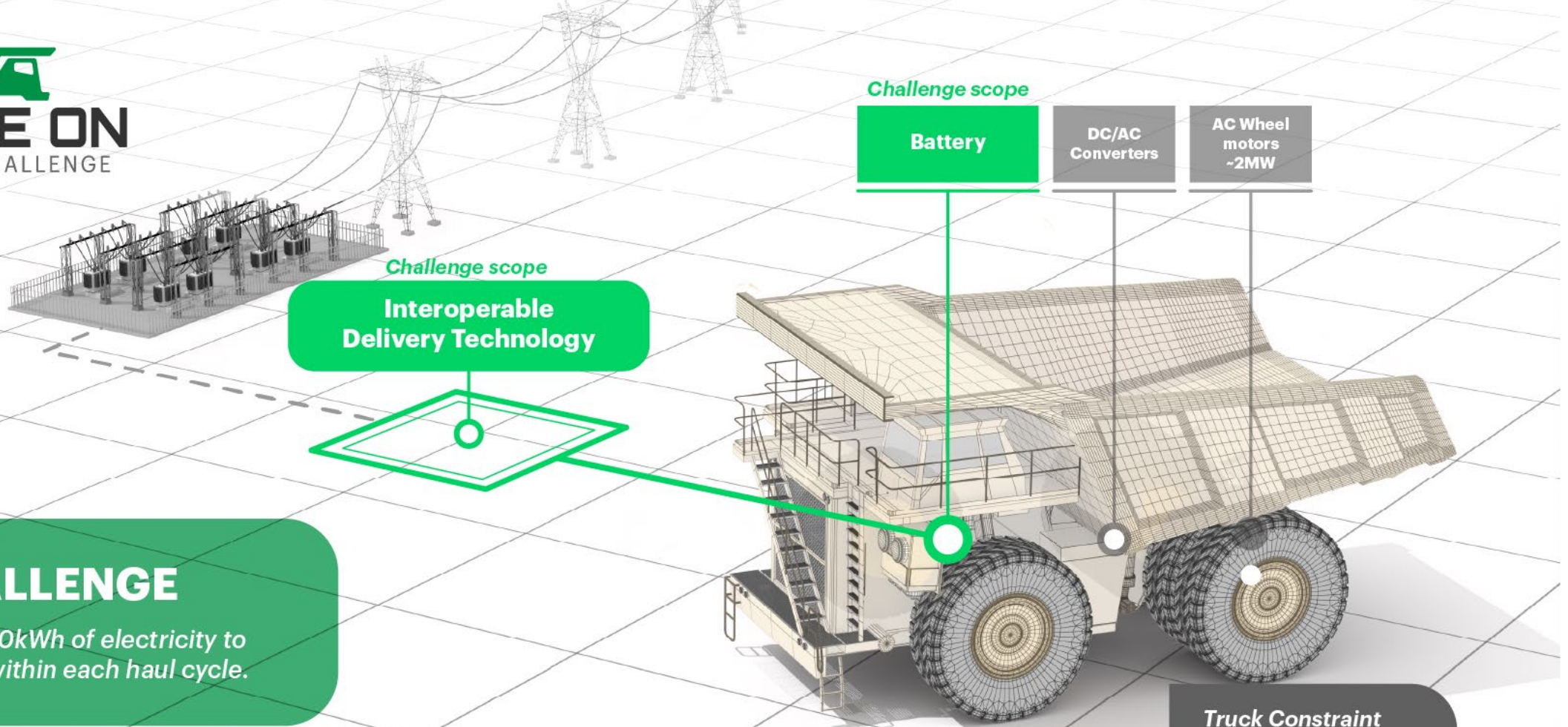
Mining in a Modern World

Gudai-Darri Solar Farm

Electrifying Our Mobile Fleet



**Driving innovation
through supplier
partnerships**



THE CHALLENGE

Safely deliver 400kWh of electricity to each haul truck within each haul cycle.

HAUL CYCLE

				
Parameter	Queue	Load	Travel	Dump
Indicative Times	Median 15 sec Q1-Q3 Range 0-180 sec	Median 180 sec Q1-Q3 Range 160-210 sec	Refer to the standard haul profiles provided.	Median 45 sec Q1-Q3 Range 40-55 sec

Truck Constraint

It is desirable that the electrical connectors, battery and cooling system on the truck is less than:

- 17 tonne
- 23m³



Electrifying Our 2000km Rail Network

A landscape photograph featuring a large array of solar panels in the foreground, tilted towards the sun. In the background, several wind turbines are visible against a clear sky. The sun is low on the horizon, creating a warm, golden glow and reflecting off the solar panels. The overall scene represents clean, renewable energy.

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