

# KOMATSU

# Hydrogen and Mining

Jeffrey Dawes – President & CEO – Komatsu Mining Corp

Virtual | August 2021

## **Green House Gas – Source Definitions**

CO2 SF6 CH4 N2O HFCs PCFs



SCOPE 2 EMISSIONS FROM ENERGY / UTILITIES

> SCOPE 1 EMISSIONS FROM DIRECT SOURCES "ON SITE"

SCOPE 3 INDIRECT EMISSIONS OF THE CHAIN SUPPLY OR SERVICE



## **Sustainability – Voice of Mining Companies**

#### Our climate change strategy update

We do not mine coal or extract oil and gas

#### Our targets<sup>1</sup>

30% reduction in emissions intensity by 2030 from 2018 levels

15% reduction in absolute emissions by 2030 from 2018 levels

Our growth, overall, between now and 2030 will be carbon neutral

Underpinned by

2

Approximately \$1 billion climate-related spend over next 5 years

Ultimately Our ambition is for net zero emissions from our operations by 2050

<sup>1</sup> Targets are for scope 1 and 2 GHG emissions, for managed and non-managed operations on an equity basis



### BHP

A **mid-term target** to reduce operational greenhouse gas (GHG) emissions by at least 30% from FY2020 levels<sup>2</sup> by FY2030

Scope 3 actions to enable decarbonisation in our value chain

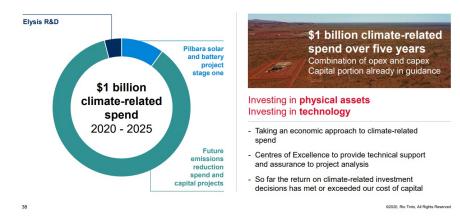
- steelmaking: support industry to develop technologies and pathways capable of 30% emissions intensity reduction with widespread adoption expected post-2030
- transportation: support emissions intensity reduction of 40% in BHP-chartered shipping of our products

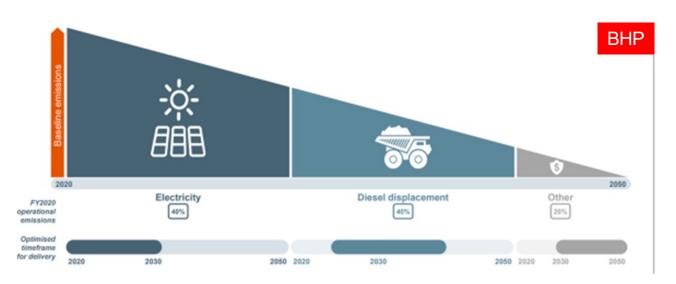
Strengthened link between climate change performance and executive remuneration

10% of the Cash and Deferred Plan scorecard
Implicit in Long-Term Incentive Plan through link to total shareholder return

Portfolio assessed against a 1.5°C scenario

#### Our commitment: \$1 billion climate-related spend over five years

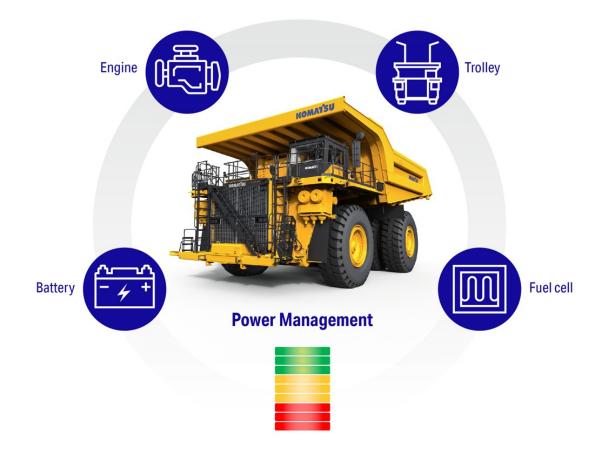




## KOMATSU

RioTinto

## **GHG Alliance – Zero Emission Mining Truck**



- GHG Alliance between BHP, Rio Tinto, Boliden and CODELCO to develop a Zero emission mining truck
- Power Agnostic, so it will run with batteries, trolley, hydrogen fuel cell, or even a diesel engine
- Will require major changes to mine infrastructure to accommodate this new technology, hydrogen storage on-site and on-board, trolley lines, recharging stations and standards, etc.



## **GHG Alliance – Zero Emission Mining Truck**



- Each Zero Emission haul truck will require an additional MW of green energy to operate
- A typical 70 truck fleet will require an additional 70 MW of power for the mine, which is double or even triple the current requirement
- This is a huge challenge to source sufficient power, even when the Zero Emission truck is available
- The first working Zero Emission haul truck concept vehicle exists, come to the Komatsu stand at MINExpo in las Vegas on September 13 and you can see it for yourself!

