BHP

Steel and iron ore market outlook

Dr Huw McKay
Vice President, Market Analysis and Economics

Dr Rod Dukino
Vice President, Sales and Marketing Sustainability

3 October 2022

Disclaimer

Forward-looking statements

This presentation contains forward-looking statements, including: statements regarding our strategy, our values and how we define success; our expectations of a competitive advantage for our business or certain products; our commitment to generating social value; our commitments under sustainability frameworks, standards and initiatives; our intention to achieve certain sustainability-related targets, goals, milestones and metrics; statements regarding trends in economic outlook; commodity prices and currency exchange rates; demand for commodities; medium-term guidance; production forecasts; operational performance; expectations, plans, strategies and objectives of management; climate scenarios; assumed long-term scenarios; potential global responses to climate change; the potential effect of possible future events on the value of the BHP portfolio; closure or divestment of certain assets, operations or facilities (including associated costs); anticipated production or construction commencement dates; capital expenditure or costs and scheduling; operating costs, including unit cost guidance, and shortages of materials and skilled employees; anticipated productive lives of projects, mines and facilities; provisions and contingent liabilities; and tax and regulatory developments.

Forward-looking statements may be identified by the use of terminology, including, but not limited to, ‘guidance’, ‘outlook’, ‘prospect’, ‘target’, ‘intend’, ‘aim’, ‘ambition’, ‘aspiration’, ‘goal’, ‘project’, ‘anticipate’, ‘estimate’, ‘plan’, ‘believe’, ‘expect’, ‘commit’, ‘may’, ‘should’, ‘must’, ‘will’, ‘would’, ‘continue’, ‘forecast’, ‘trend’, ‘annualised’ or similar words. These statements discuss future expectations concerning the results of assets or financial conditions, or provide other forward-looking information.

The forward-looking statements are based on the information available as at the date of this presentation and/or the date of the Group’s planning processes or scenario analysis processes. There are inherent limitations with scenario analysis and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes for us. Scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate, and scenarios may be impacted by additional factors to the assumptions disclosed.

Additionally, forward-looking statements in this presentation are not guarantees or predictions of future performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this release. BHP cautions against reliance on any forward-looking statements or guidance, particularly in light of the current economic climate and the significant volatility, uncertainty and disruption arising in connection with the Ukraine conflict and COVID-19.

For example, our future revenues from our assets, projects or mines described in this release will be based, in part, upon the market price of the minerals, or metals produced, which may vary significantly from current levels. These variations, if materially adverse, may affect the timing or the feasibility of the development of a particular project, the expansion of certain facilities or mines, or the continuation of existing assets.

Other factors that may affect the actual construction or production commencement dates, costs or production output and anticipated lives of assets, mines or facilities include our ability to profitably produce and transport the minerals and/or metals extracted to applicable markets; the impact of foreign currency exchange rates on the market prices of the minerals or metals we produce; activities of government authorities in the countries where we sell our products and in the countries where we are exploring or developing projects, facilities or mines, including increases in taxes; changes in environmental and other regulations; the duration and severity of the Ukraine conflict and the COVID-19 pandemic and their impact on our business; political uncertainty; labour unrest; and other factors identified in the risk factors discussed in section 9.1 of the Operating and Financial Review in the Appendix 4E and BHP’s filings with the U.S. Securities and Exchange Commission (the ‘SEC’) (including in Annual Reports on Form 20-F) which are available on the SEC’s website at www.sec.gov.

Except as required by applicable regulations or by law, BHP does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance.

Presentation of data

Unless specified otherwise: operations includes operated assets and non-operated assets; total operations refers to the combination of continuing and discontinued operations; continuing operations refers to data presented excluding the impacts of Onshore US from the 2017 financial year onwards and excluding Petroleum from the 2021 financial year onwards; references to Underlying EBITDA margin exclude third party trading activities; data from subsidiaries are shown on a 100 per cent basis and data from equity accounted investments and other operations is presented, with the exception of net operating assets, reflecting BHP’s share; medium term refers to our five year plan. Numbers presented may not add up precisely to the totals provided due to rounding. All footnote content (except in the Annexures) is contained on slide 27.

Non-IFRS information

We use various Non-IFRS information to reflect our underlying performance. For further information please refer to Non-IFRS financial information set out in section 11 of the Operating and Financial Review in the Appendix 4E for the year ended 30 June 2022.

No offer of securities

Nothing in this presentation should be construed as either an offer or a solicitation of an offer to buy or sell any securities, or a solicitation of any vote or approval, in any jurisdiction, or be treated or relied upon as a recommendation or advice by BHP. No offer of securities shall be made in the United States absent registration under the U.S. Securities Act of 1933, as amended, or pursuant to an exemption from, or in a transaction not subject to, such registration requirements.

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BHP and its subsidiaries

In this release, the terms ‘BHP’, the ‘Company, the ‘Group’, ‘BHP Group’, ‘our business’, ‘organisation’, ‘we’, ‘us’, ‘our’ and ourselves’ refer to BHP Group Limited and, except where the context otherwise requires, our subsidiaries. Refer to note 28 ‘Subsidiaries’ of the Financial Statements in the Appendix 4E for a list of our significant subsidiaries. Those terms do not include non-operated assets. This release covers BHP’s functions and assets (including those under exploration, projects in development or execution phases, sites and closed operations) that have been wholly owned and/or operated by BHP or that have been owned as a joint venture[1] operated by BHP (referred to in this release as ‘operated assets’ or ‘operations’) during the period from 1 July 2021 to 30 June 2022.

BHP also holds interests in assets that are owned as a joint venture[1] but not operated by BHP (referred to in this release as ‘non-operated joint ventures’ or ‘non-operated assets’). Notwithstanding that this release may include production, financial and other information from non-operated assets, non-operated assets are not included in the BHP Group and, as a result, statements regarding our operations, assets and values apply only to our operated assets unless stated otherwise.

1. References in this release to a ‘joint venture’ are used for convenience to collectively describe assets that are not wholly owned by BHP. Such references are not intended to characterise the legal relationship between the owners of the asset..

Portfolio positively leveraged to megatrends

Low cost assets and world class resource base across a differentiated set of commodities

BHP Portfolio	Population growth	Urbanisation	Rising living standards	Decarbonising power	Electrifying transport	Geopolitical risk	30/30 year growth BHP 1.5°C scenario
Copper Largest endowment[1]	+	++	+++	+++	+++	~	>2x
Nickel Second largest sulphide resource[2]	+	++	+++	+	++++	+	~4x
Steel Lowest cost iron ore[3] Leading met coal supplier	+	+++	++	++	~	~	~2x
Potash Large-scale resource supports up to 100 years of operation[4]	+++	+	+	~	~	+++	>2x
2050 estimate, change from current	~10 bn total population; + 2¼ bn	~7 bn urban population; + 2¾ bn	~$400 tn world GDP; 4-fold gain	¾ of power capacity wind & solar; 13-fold energy gain[5]	~2 bn EVs on the road; 100-fold gain	-	

+ Indicators are versus a baseline that does not include the theme being assessed. ~ Signifies trivial direct impact or offsetting forces that are basically in balance.

Steel is the building block of a better world

Different climate scenarios do not produce highly divergent outcomes

Traditional application

Buildings & infrastructure

Transportation & machinery

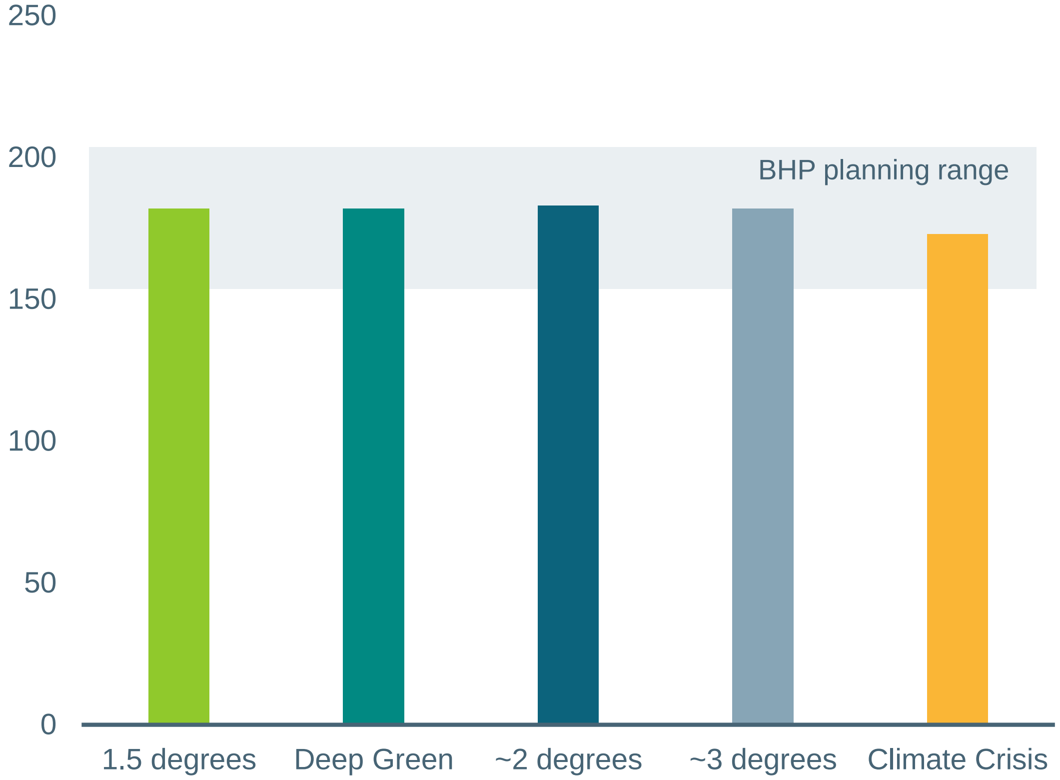
Decarbonisation & Climate adaptation

Renewable energy

Climate adaptation

Cumulative steel demand ranges and scenarios

(30yr/30yr, %)



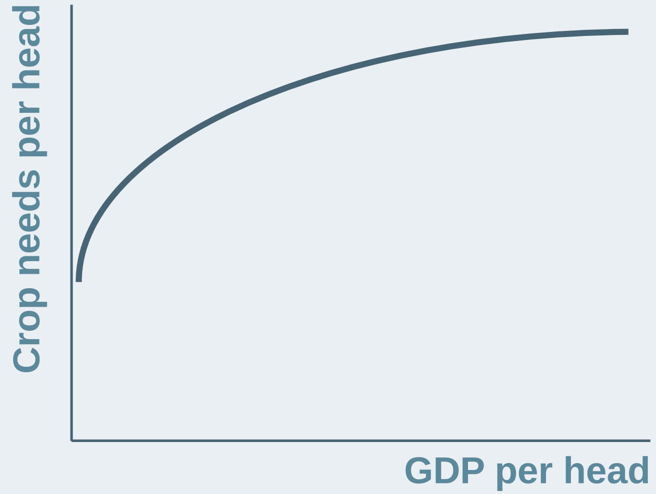
Source: BHP analysis, Vivid Economics.
Note: Our portfolio is tested across a range of future scenarios, including a scenario where warming is limited to 1.5°C. Scenarios were developed prior to the impacts of the COVID-19 pandemic, and therefore any possible effects of the pandemic were not considered in the modelling.

Essential value chains have differing demand drivers

Each is essential to our way of life and has a distinctive relationship to economic development

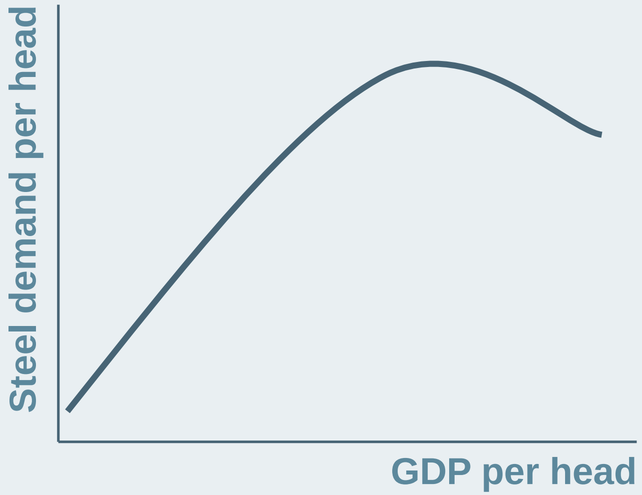
Food value chain

- Population growth and dietary change
- Food, feed, fibre, fuel
- Low degree of recycling[1]
- Steady increase in intensity through the entire development journey, high income plateau



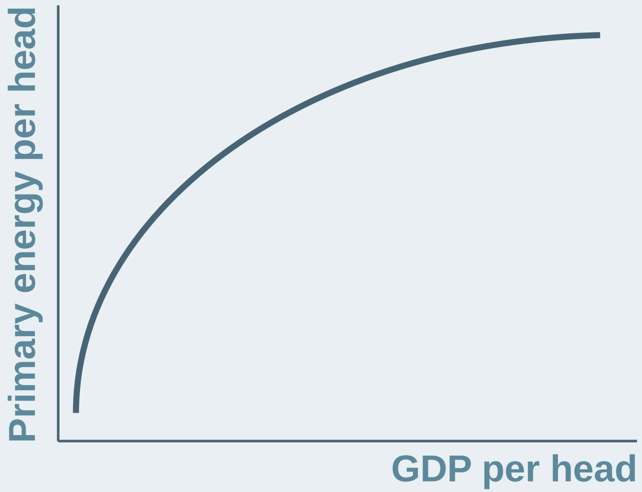
Steel value chain

- Urbanisation and industrialisation
- Buildings, infrastructure, machinery, other goods
- High degree of recycling
- Swift increase in intensity on the way to middle income, where a distinct peak forms



Energy value chain

- Motorisation, electrification, industrialisation
- Transport, power, heat, chemicals
- Low degree of recycling
- Swift increase in intensity on the way to middle income, flatter beyond, high income plateau



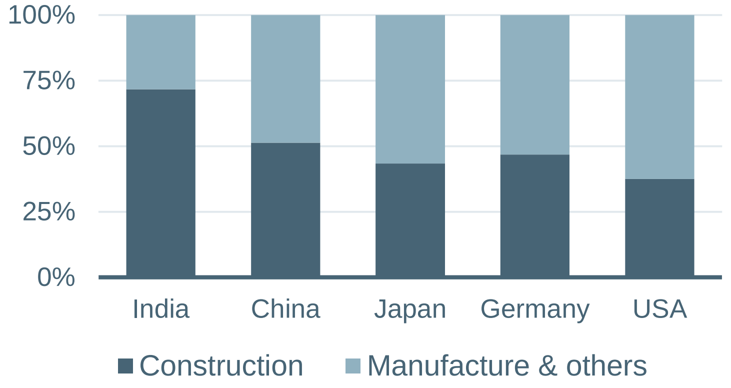
Traditional growth drivers · Major uses by society · Degree of Circularity · Relationship to living standards

Note: Illustrative only, reflecting stylised empirical path of major societies through time that have reached high income levels.
1. Recycling of nutrients via crop residue or manure occurs, but the food value chain is very inefficient and highly subject to waste.

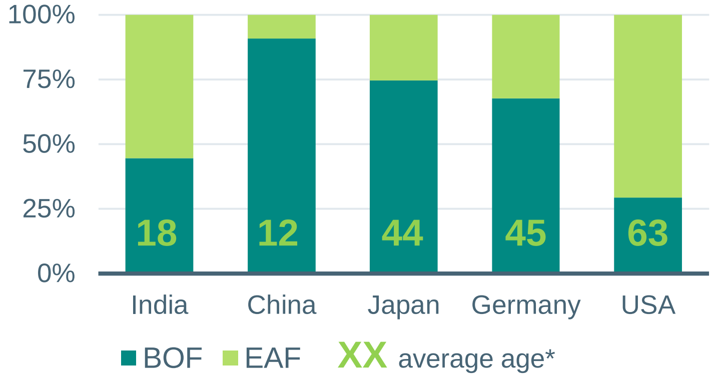
Industry has distinctive composition in each major region

Heterogeneity informs our approach to long run forecasting, with emphasis on a bottom-up methodology

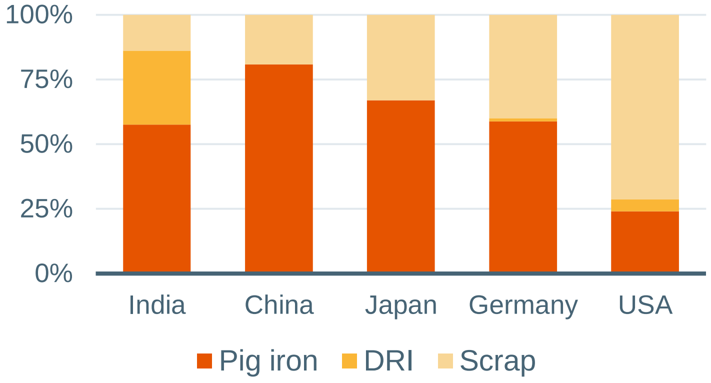
Steel demand by broad end-use



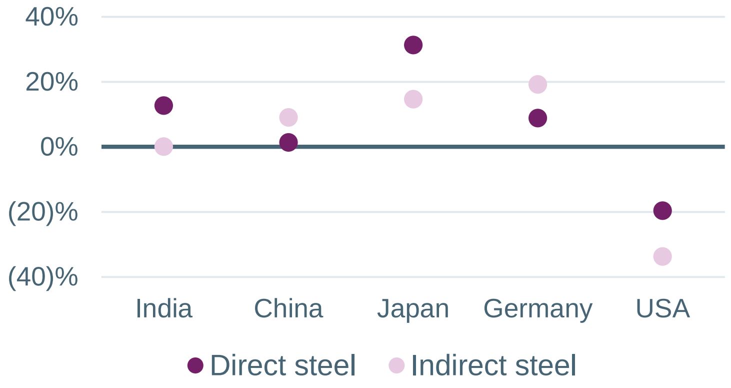
Steel supply by basic process & fleet age



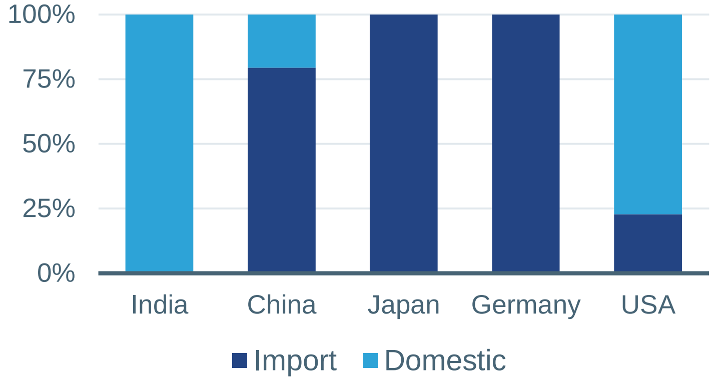
Steel supply by metallic mix



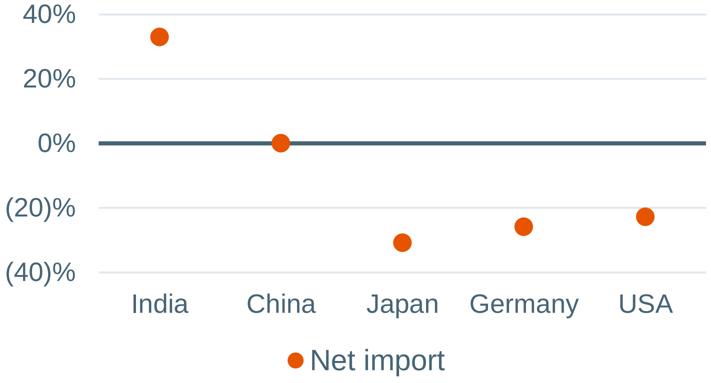
Net exports: direct and indirect, % output



Iron ore: domestic & imported sources



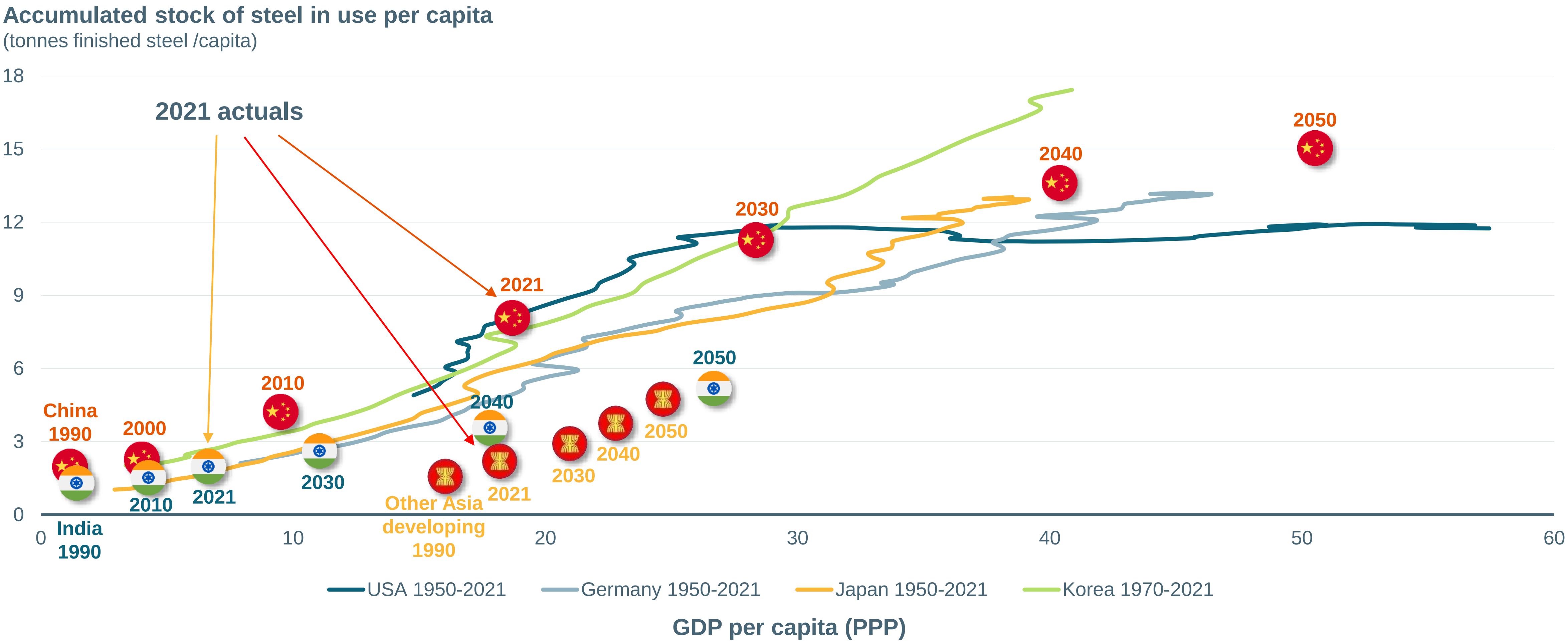
Scrap import dependency



Source: World Steel, United Nation, Global Trade Atlas, BHP analysis. * Capacity weighted estimate of integrated steelmaking facilities, based on a sample, not a Census. Germany is EU and US is North America for this metric.

Stock of steel per head plateaus at high income levels

Range of end-states in terms of capital stock depth are relatively narrow, but paths to the end-state are diverse

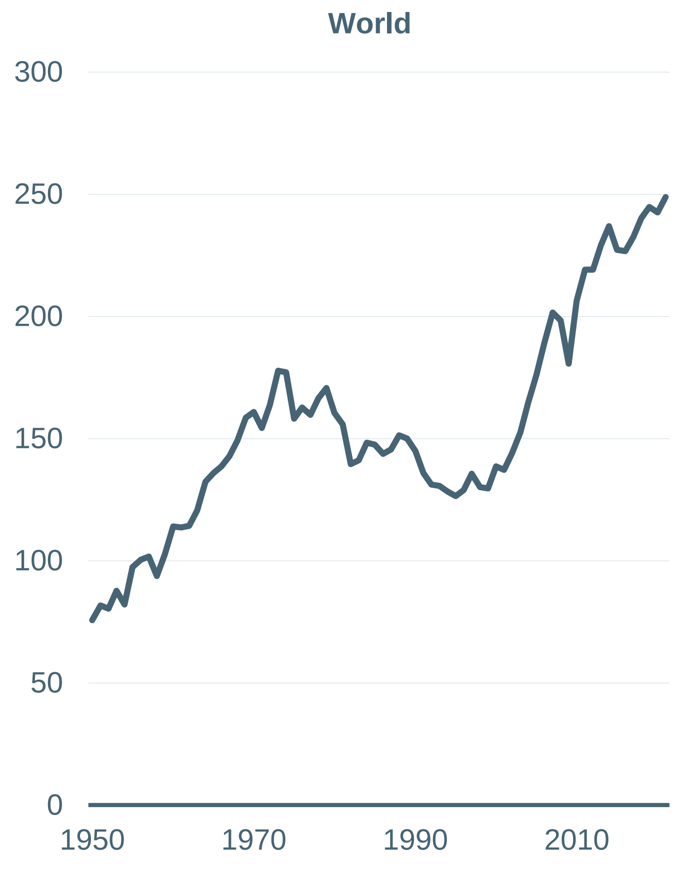


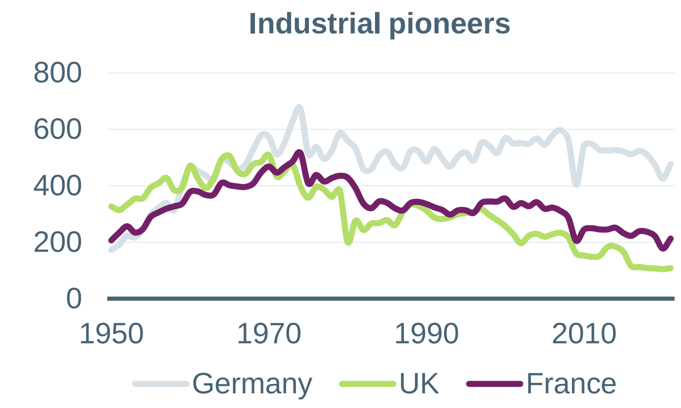
Source: BHP analysis; Global Insight; United Nation; worldsteel.
Asian developing countries include ASEAN and other Asian developing countries.

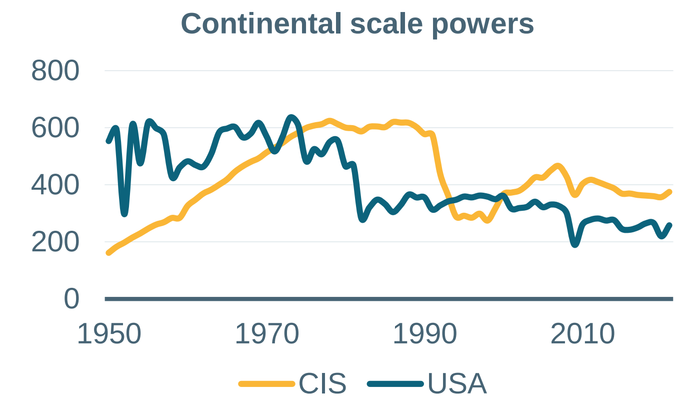
Stock levels ultimately converge, but run rates are diverse

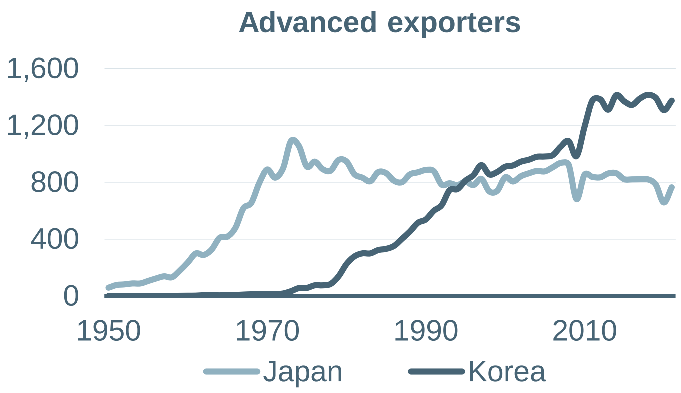
China's post-plateau run-rate trajectory remains uncertain, with diverse examples from economies already at the high income level

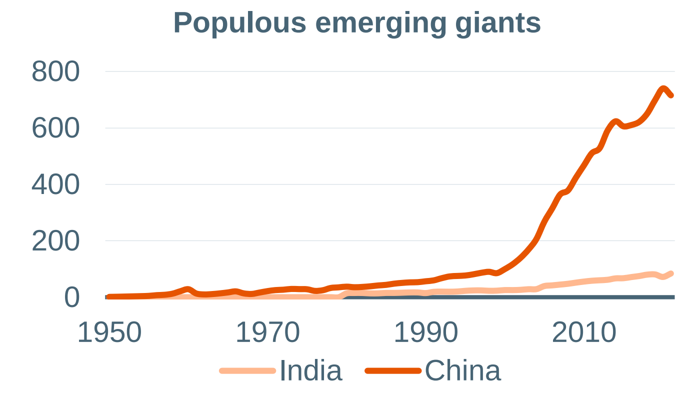
Steel production by region per head
(kg)











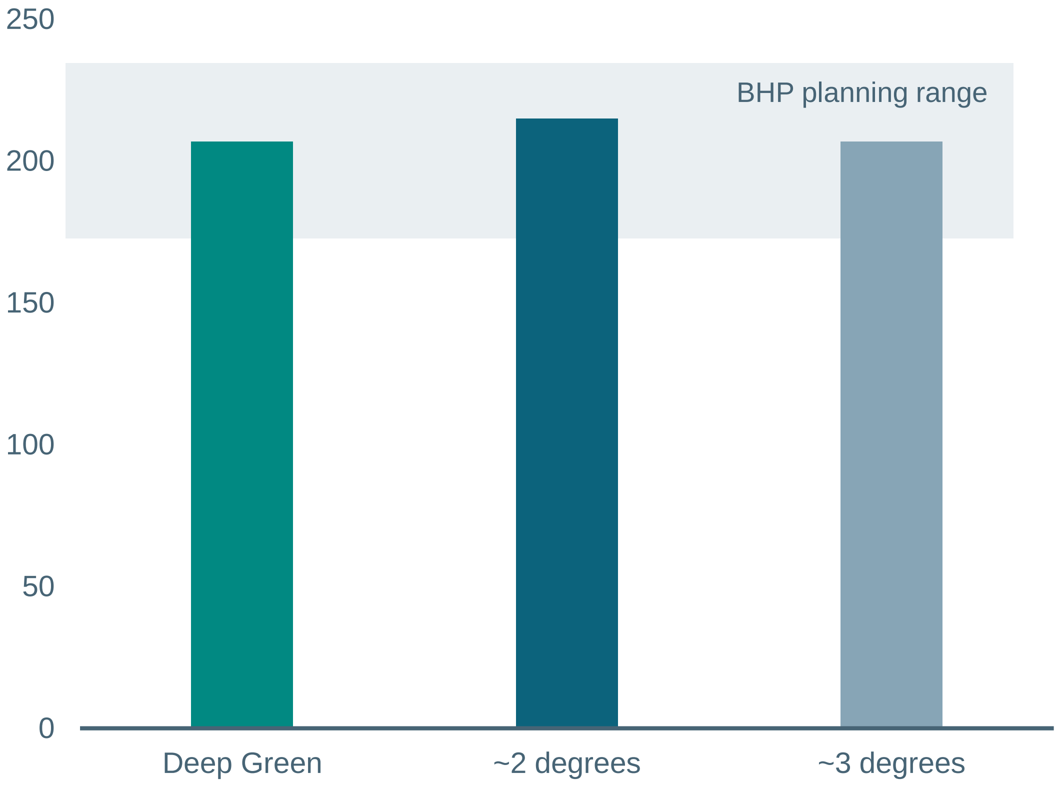
Source: World Steel, United Nations, BHP analysis.

China: a young, advanced, coastal fleet

New capacity positioned to service dynamic domestic demand centres and secure competitive access to imported raw materials

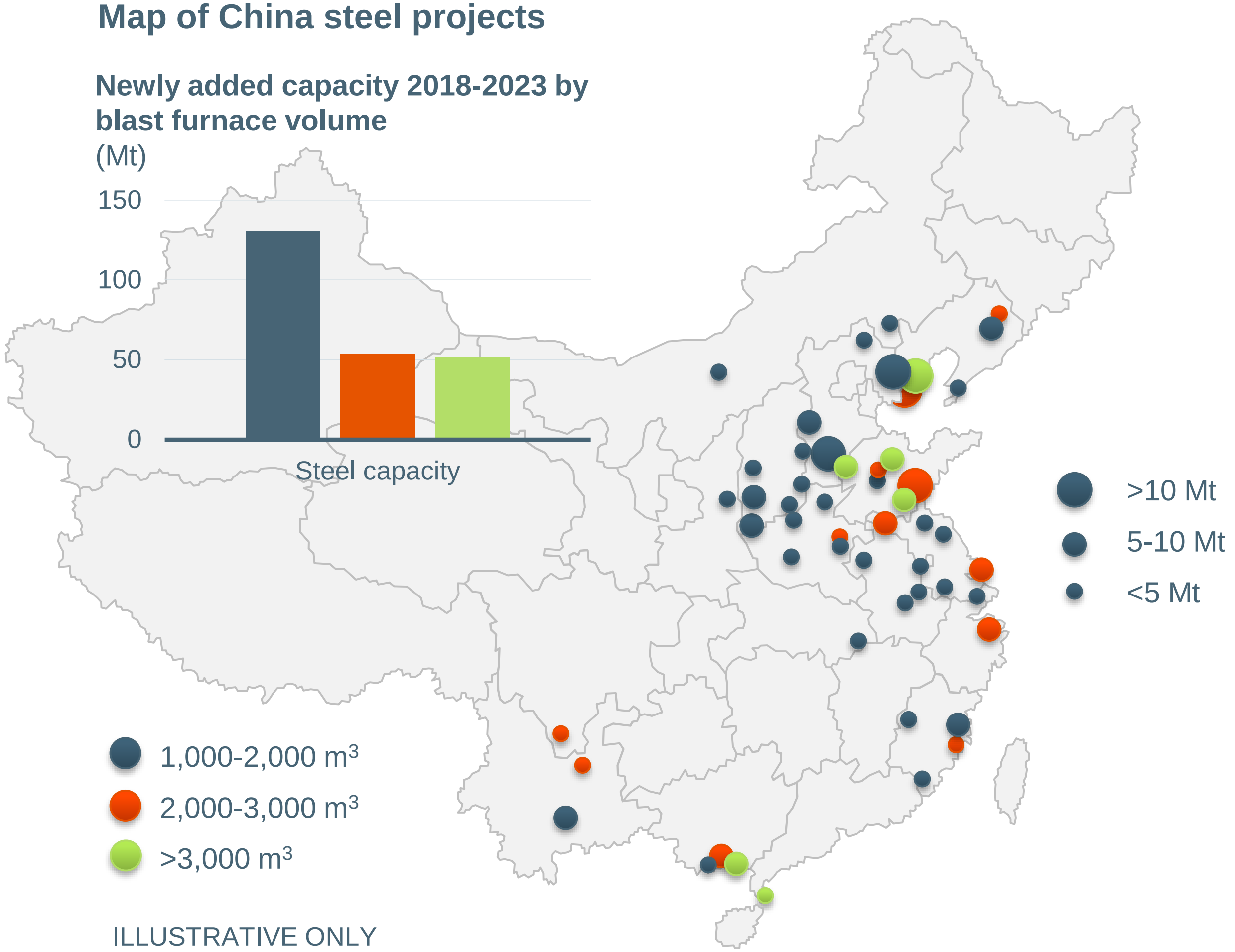
Cumulative steel demand ranges and scenarios

(30yr/30yr, %)



Source: BHP analysis.
Note: Our portfolio is tested across a range of future scenarios, including a scenario where warming is limited to 1.5°C. Scenarios were developed prior to the impacts of the COVID-19 pandemic, and therefore any possible effects of the pandemic were not considered in the modelling.

Map of China steel projects

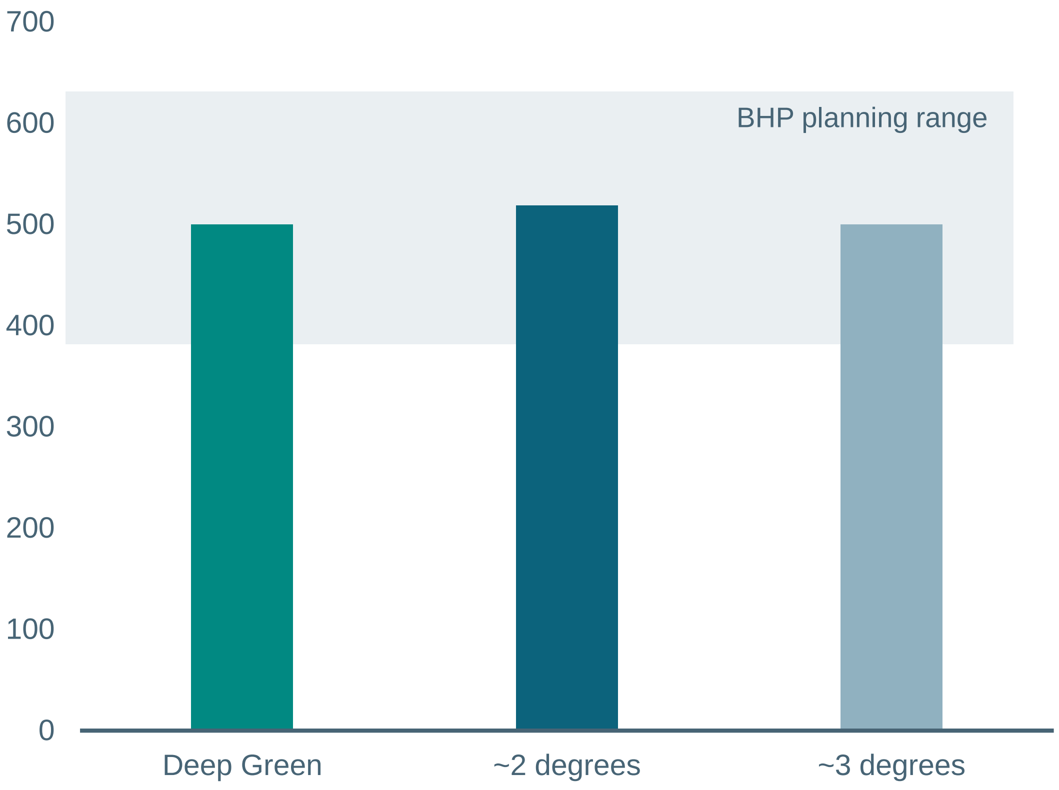


India: the major growth vector for global steel

Brownfield optionality puts official targets within reach; integrated steelmaking to gain share at expense of coal-based DRI

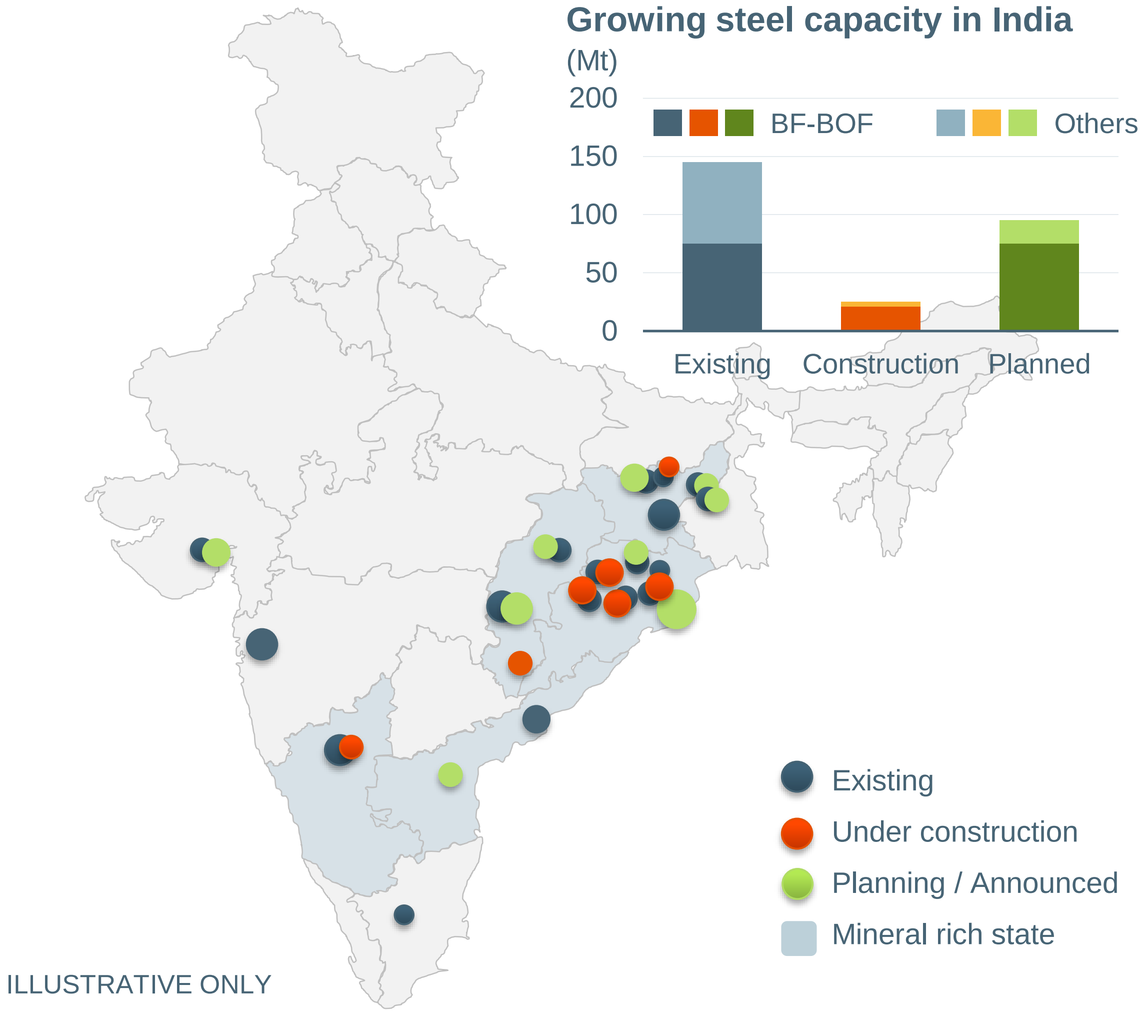
Cumulative steel demand ranges and scenarios

(30yr/30yr, %)



Source: BHP analysis.

Growing steel capacity in India

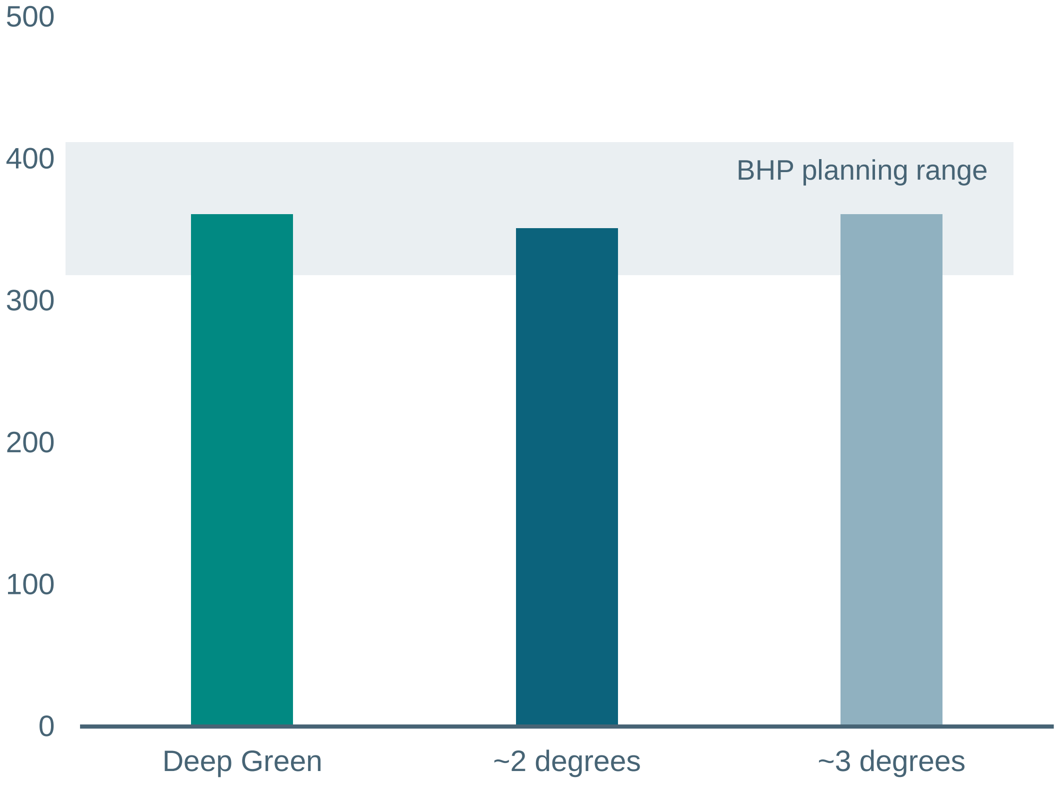


Source: BHP analysis.

South East Asia: gearing up for domestic demand

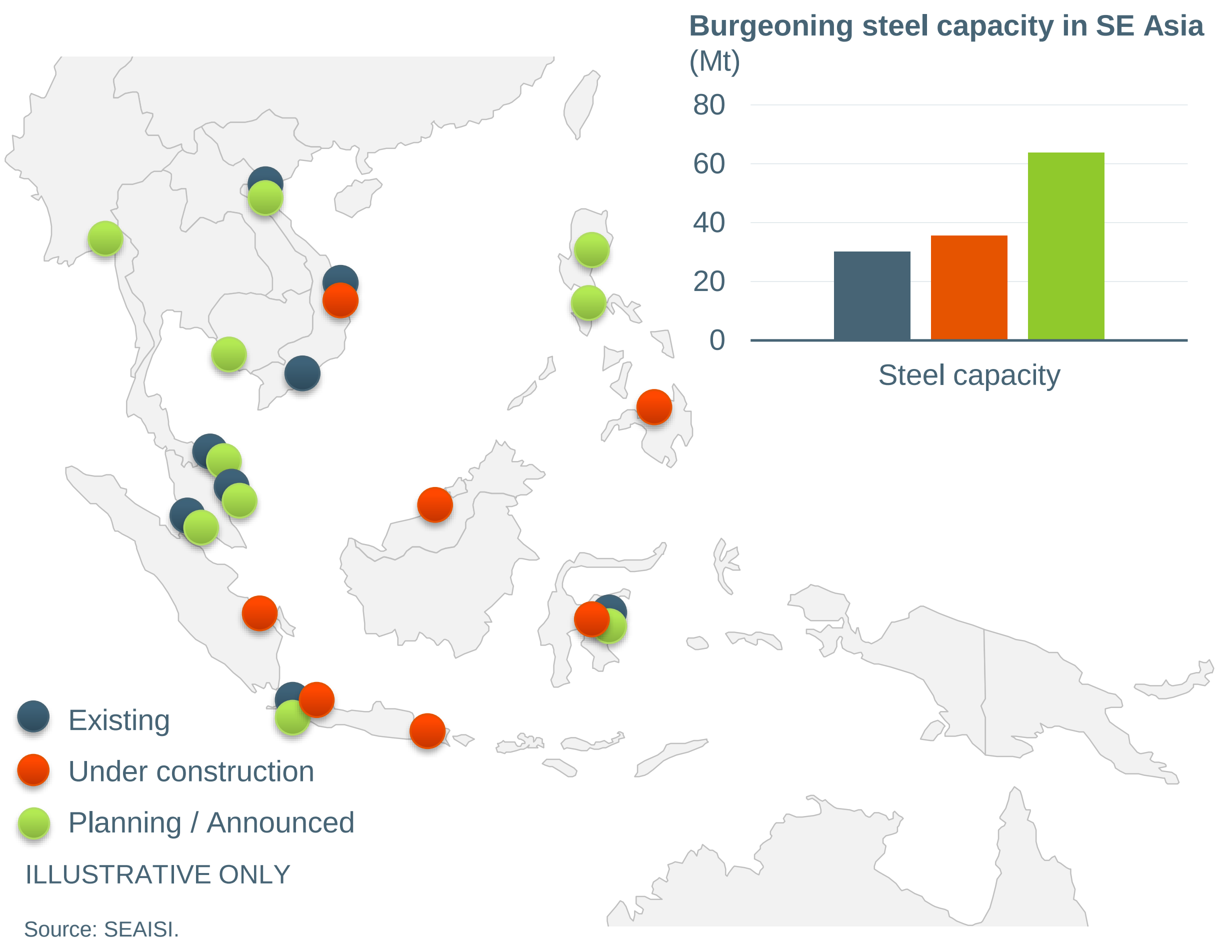
Multiple countries within the region are building up capacity at home, seeking to reduce historical import dependency

Cumulative steel demand ranges and scenarios
(30yr/30yr, %)



Source: BHP analysis.

Map of SE Asia steel projects



Source: SEAISI.

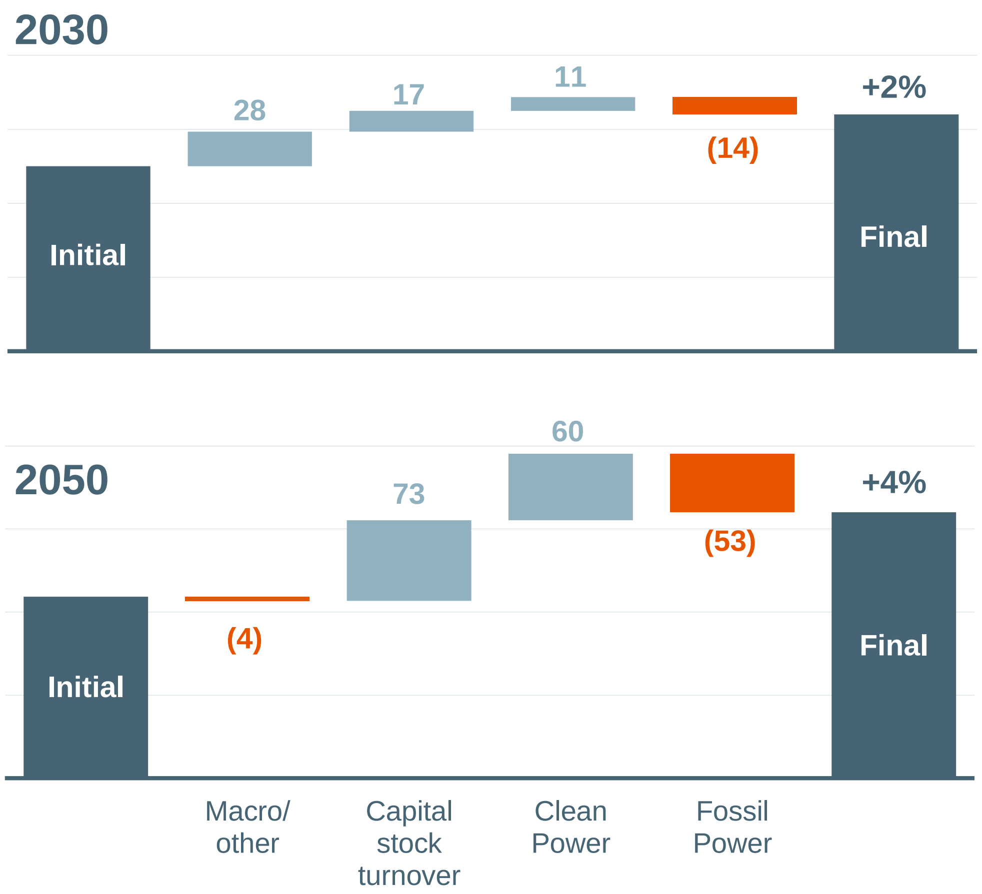
Steel a net beneficiary of decarbonisation & climate

Net impact of decarbonising power and physical impacts of climate change is a modest uplift in medium and long term demand

We estimate a modest uplift in our base case for steel demand in both 2030 and 2050 from the net impact of four forces:

- Infrastructure of **decarbonisation** [**more steel**]
- **Decline of fossil** energy demand [**less steel**]
- Higher **capital stock turnover** [**more steel**]
- Slower economic growth due to the **physical climate impacts** & carbon policies [**less steel**]

Global finished steel demand in 2030 & 2050 by driver
(million tonnes)



Essential for the decarbonisation of power

Steel consumption in power will triple from today with demand from wind and solar 5 times bigger

Renewable energy

2050 steel demand in Power Generation vs 2020

3x

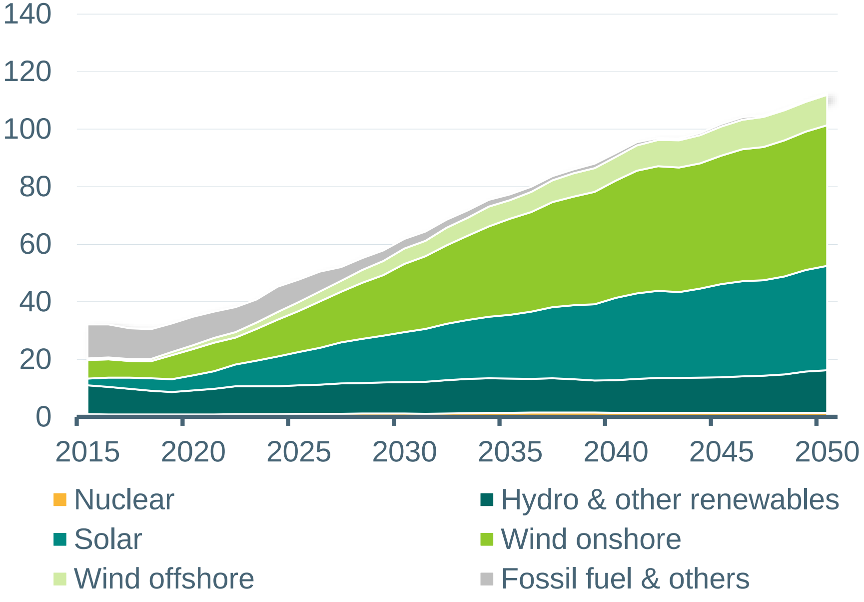
Power Gen% total steel demand 2050

5%

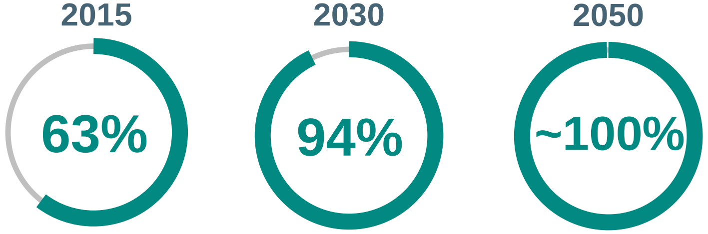
Share in 2020 <2%

Global steel demand from power generation

(Mt finished steel, new capacity + rebuild)

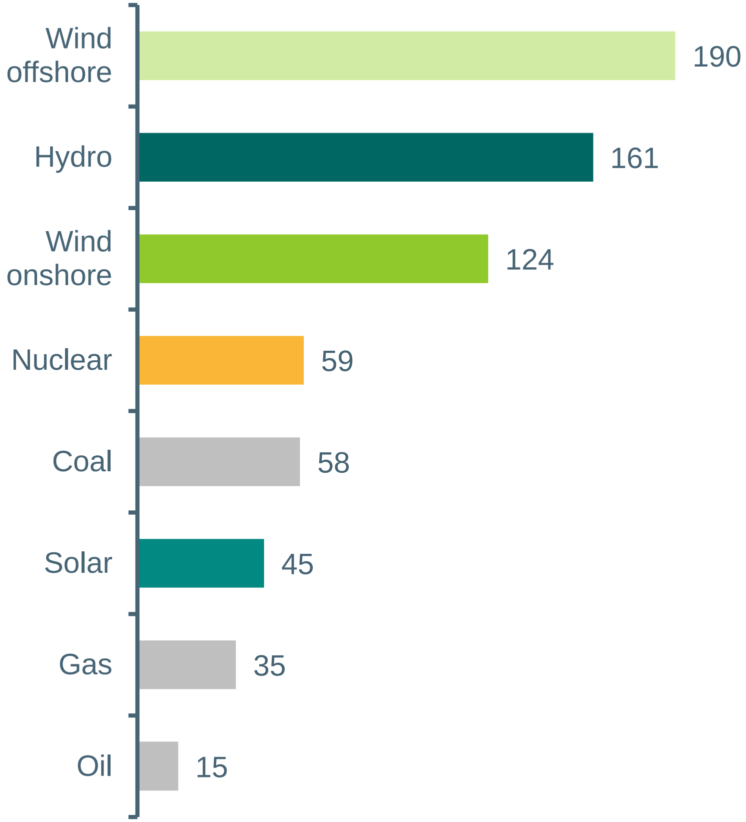


Non-fossil fuel share of steel demand in power gen (%)



Renewable power tends to require more steel compared to fossil fuels

(Steel t/MW of capacity)



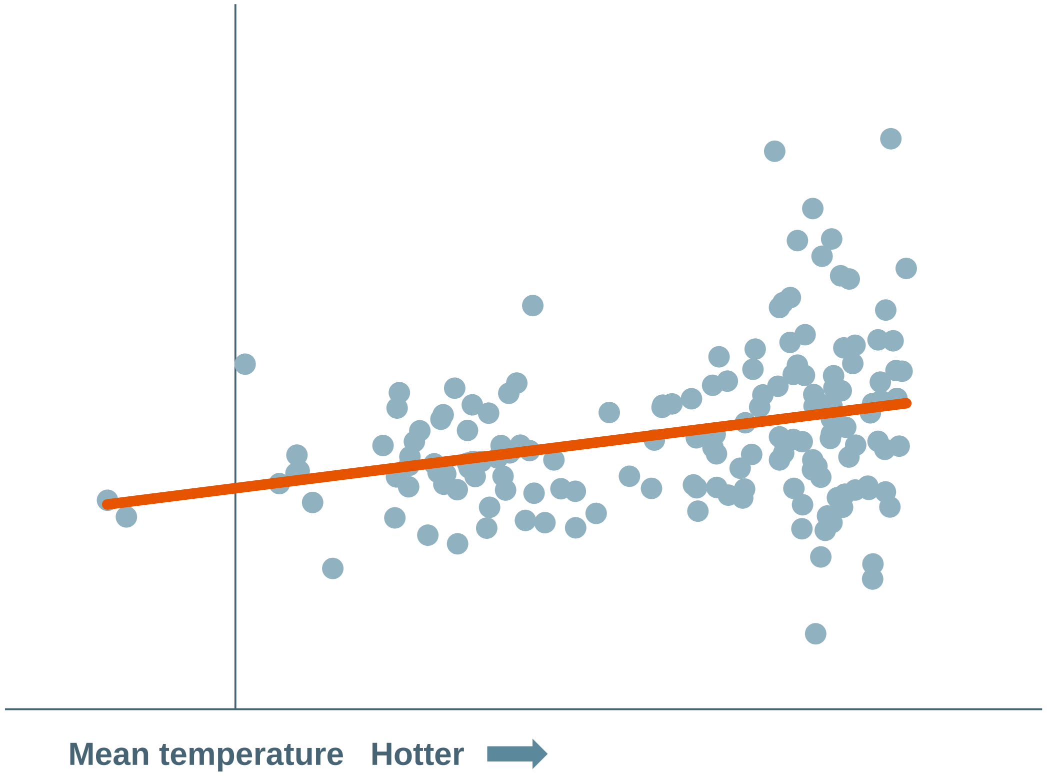
Source: Hatch, ArcelorMittal.

Capital ages faster under climate extremes

Shorter capital lifetimes and higher capital stock turnover are the intuitive outcomes of a harsher physical climate

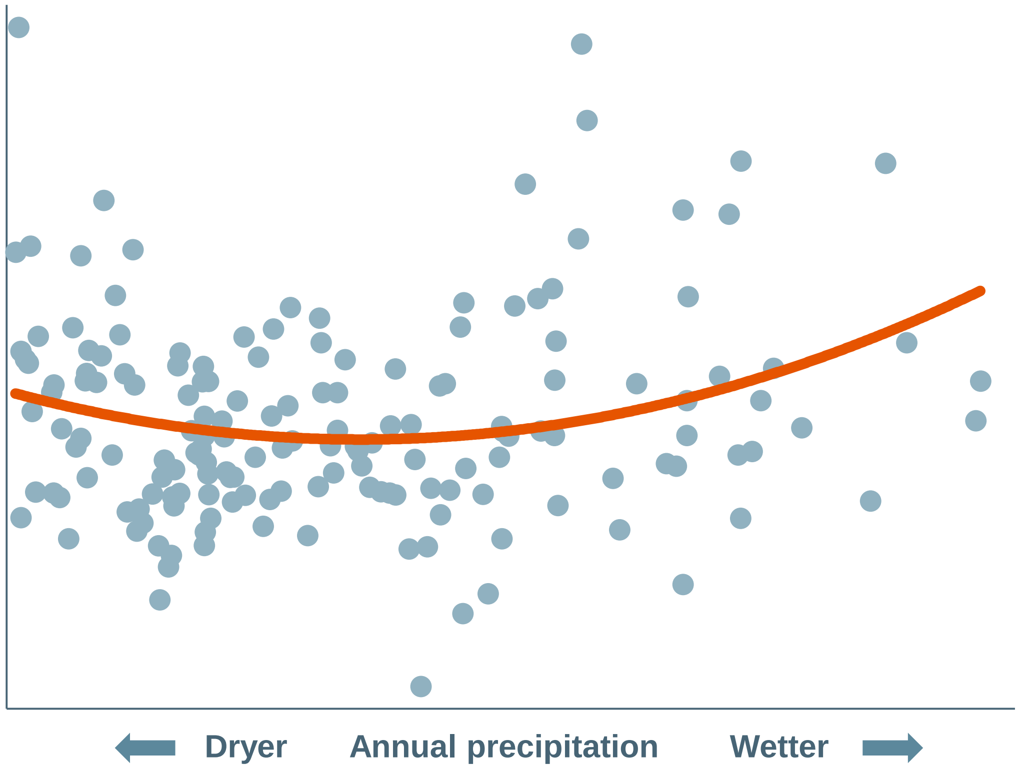
Capital ages linearly as temperatures rise …

Capital depreciation rate[1]
(%)



… but the relationship is more complex with respect to precipitation

Capital depreciation rate[1]
(%)

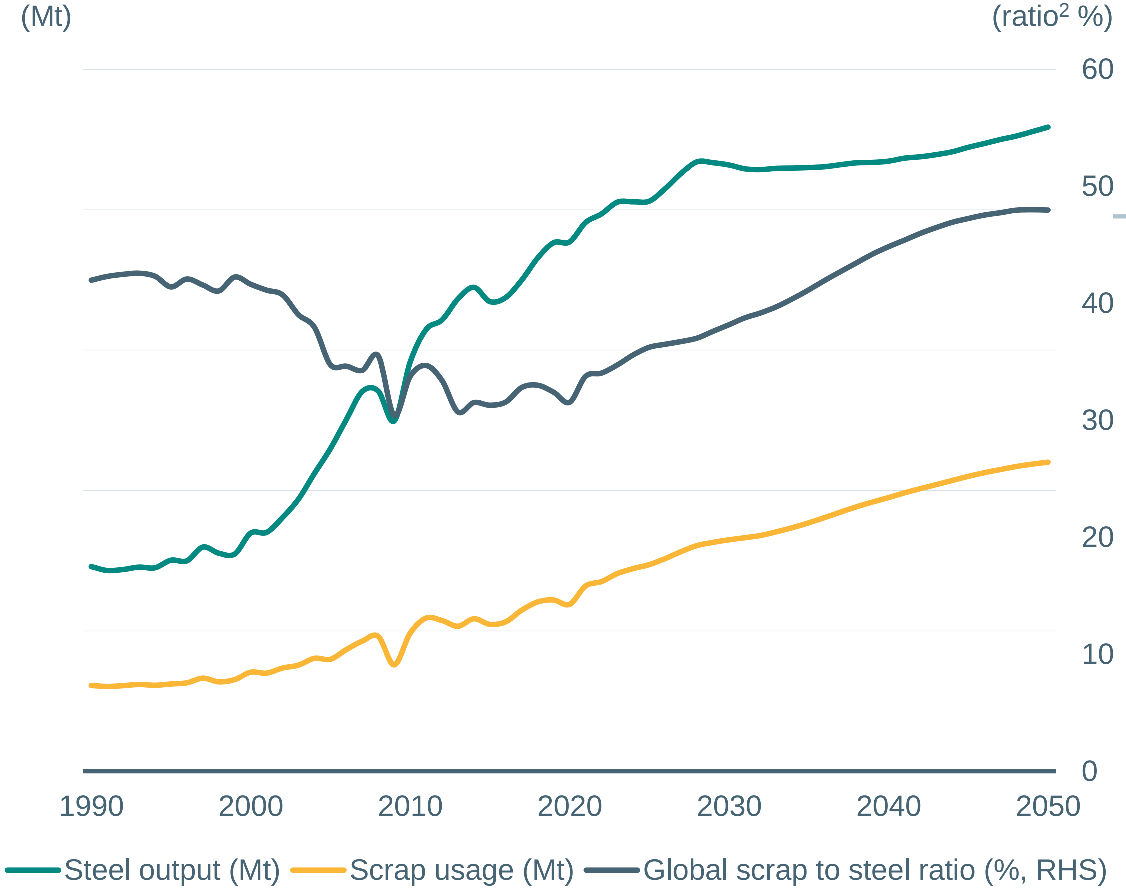


The results we present on capital depreciation are general and abstract in nature, being estimated at the whole of capital stock level, either nationally or regionally, in addition to being based on average climate parameters at the same level of aggregation. Therefore, they are not appropriate for accounting use for specific assets, where local climatic and other idiosyncratic factors will be in play. Underlying data sourced from the Penn World Table, analysis by BHP.

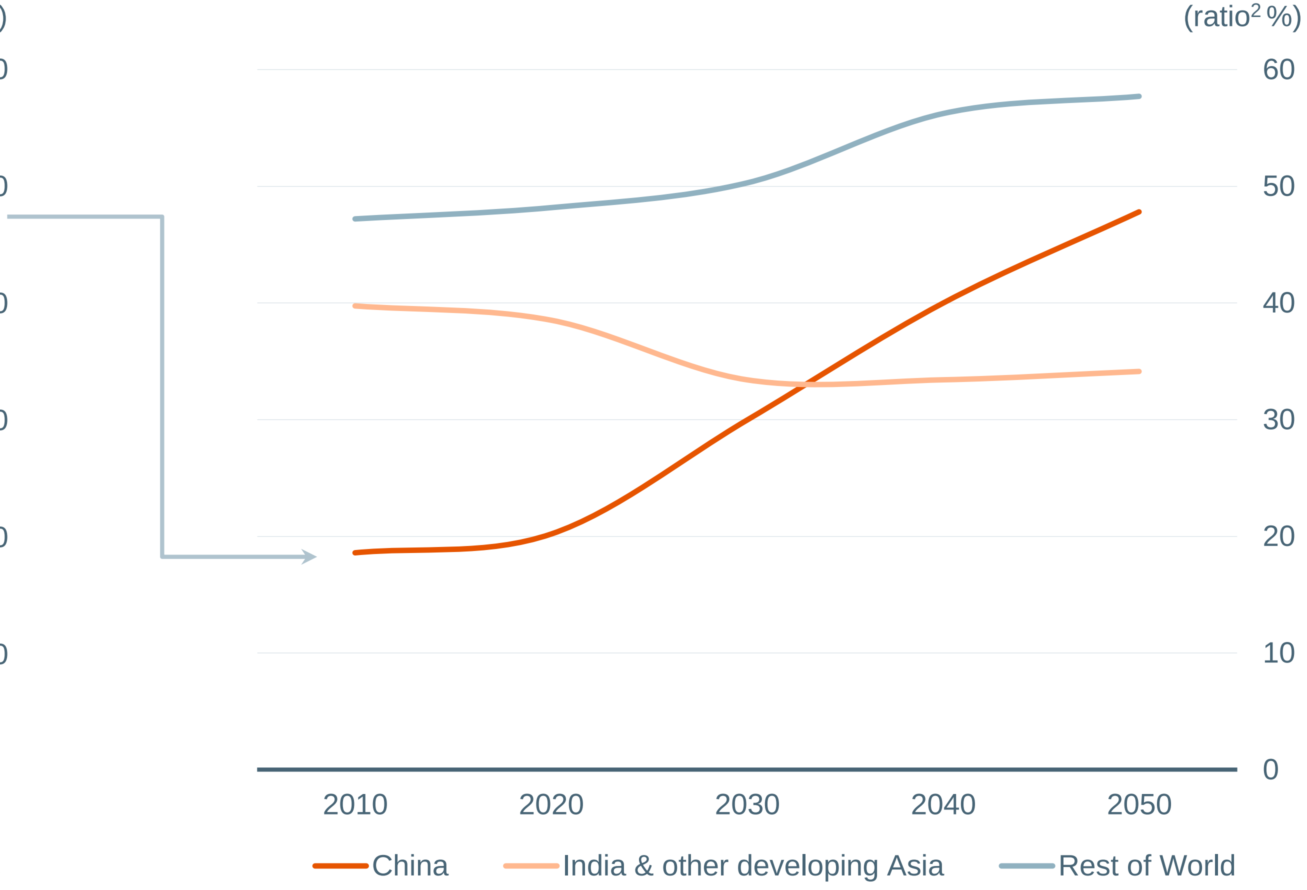
Global scrap ratio to rise steadily towards “50 in 50”

Global ratio will reach and surpass pre-China boom levels, as end-of-life scrap availability in China more than doubles by 2050

Global steel production and scrap consumption[1]



Regional scrap to steel ratio



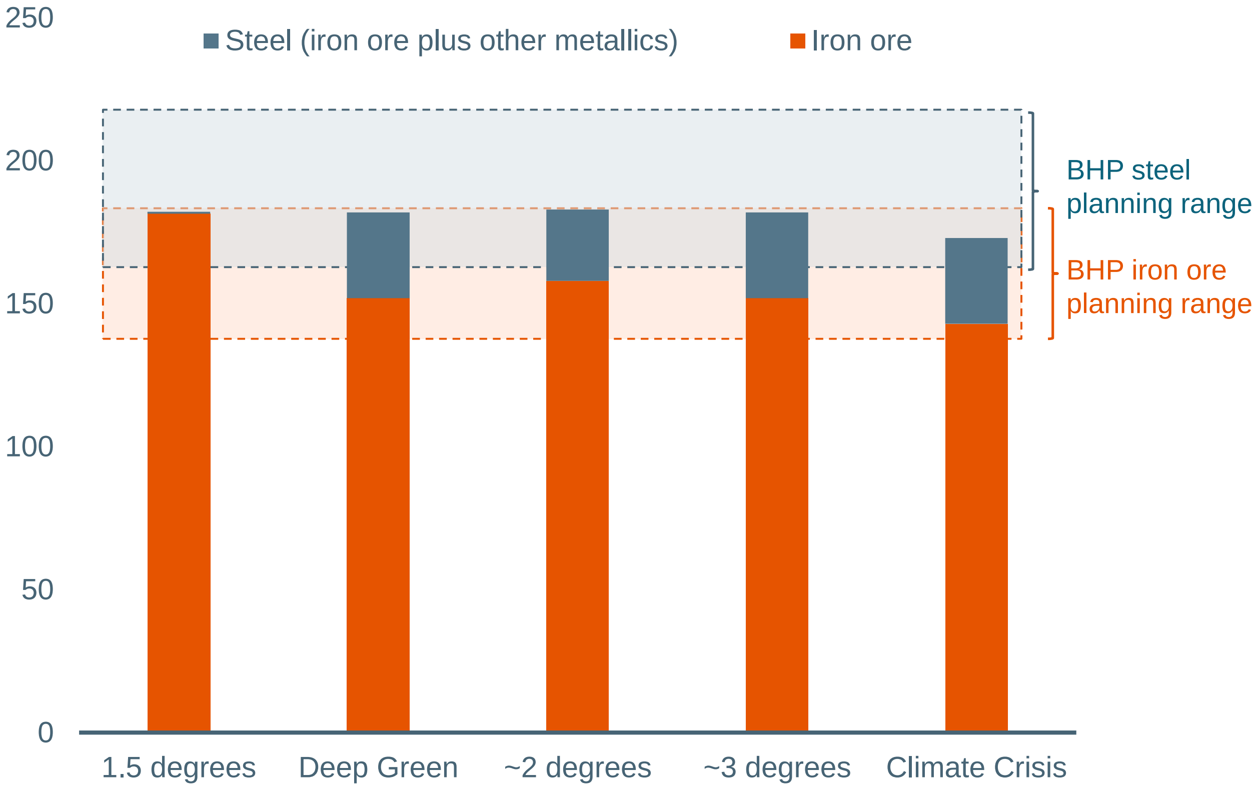
Source: BHP analysis.
1. Scrap consumption is net of estimated consumption in foundry sector and is based on steel production and consumption.
2. Scrap consumption / crude steel production.

Iron ore range is resilient, but notably lower than steel

Alternative metallics compete with primary ore in coming decades

Cumulative steel and iron ore demand ranges and scenarios

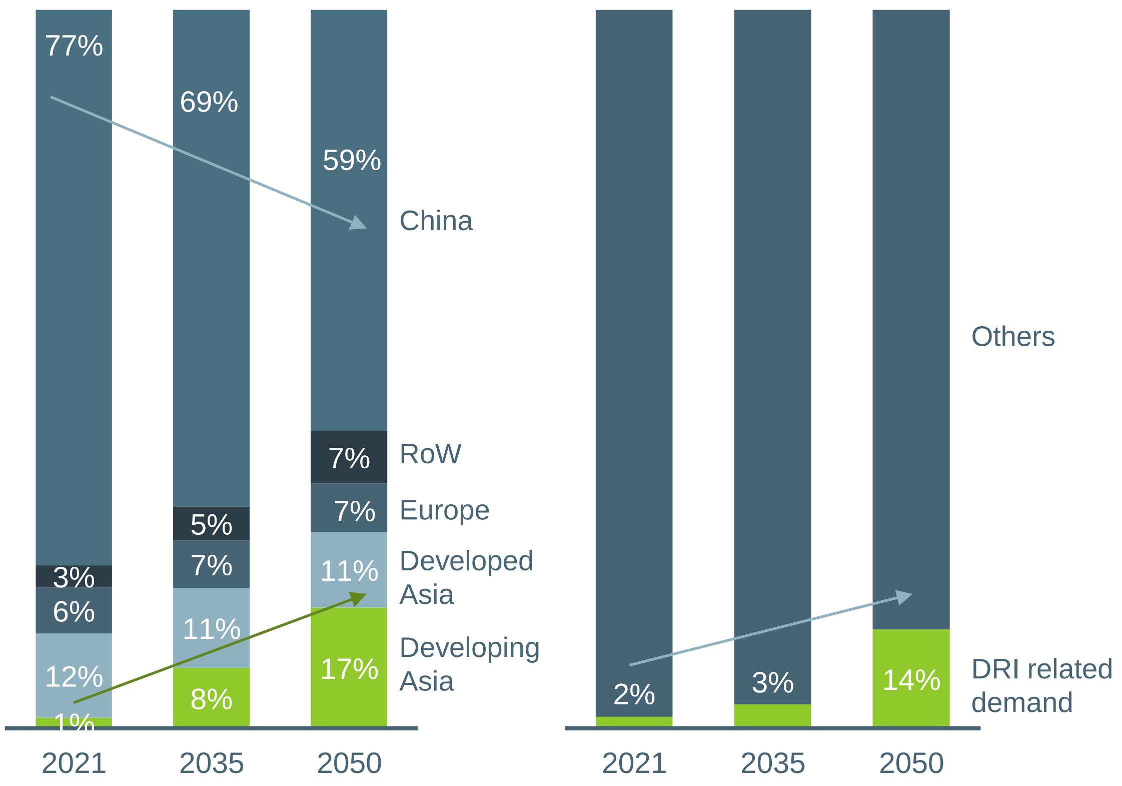
(30yr/30yr, %)



Source: BHP for all scenarios, Vivid Economics for 1.5 degrees.
Note: Our portfolio is tested across a range of future scenarios, including a scenario where warming is limited to 1.5°C. Some scenarios were developed prior to the impacts of the COVID-19 pandemic, and therefore any possible effects of the pandemic were not considered in the modelling. They are presented here “as is”.

The evolution of contestable demand: ~2 degrees

(%)

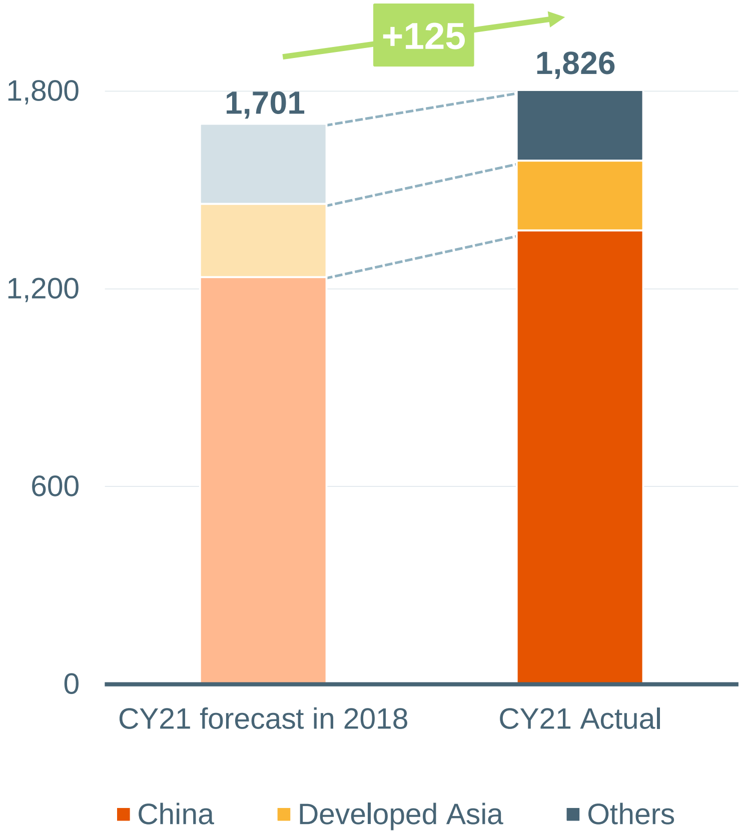


Source: BHP analysis. Contestable demand = Global seaborne + China domestic.

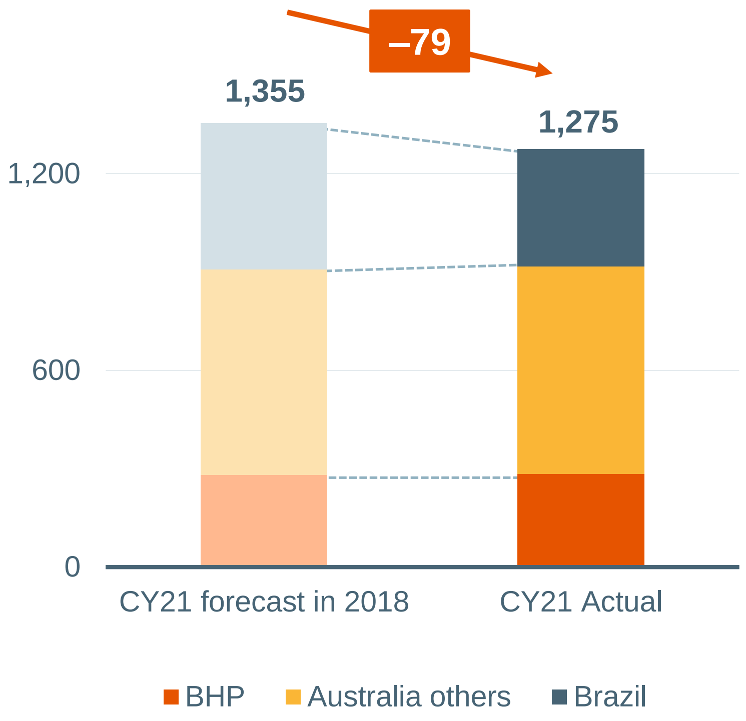
Low expectations of the late 2010s were not fulfilled

Consensus views of iron ore industry development pre-Brumadinho were a poor predictor of actual performance

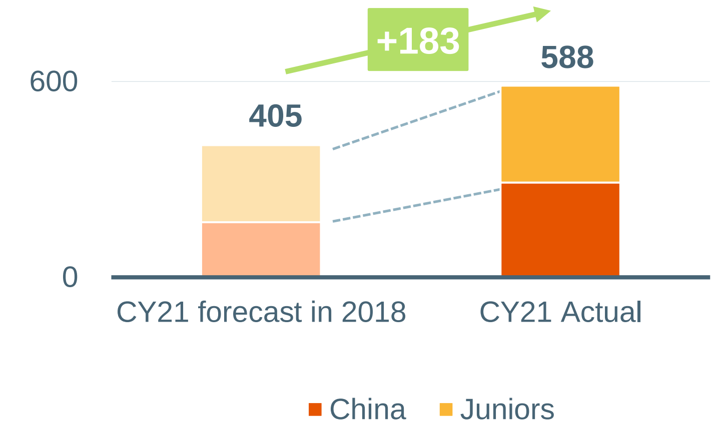
Contestable demand
(Mt)



Majors' seaborne exports
(Mt)



Juniors' seaborne exports + China's domestic iron ore production
(Mt)

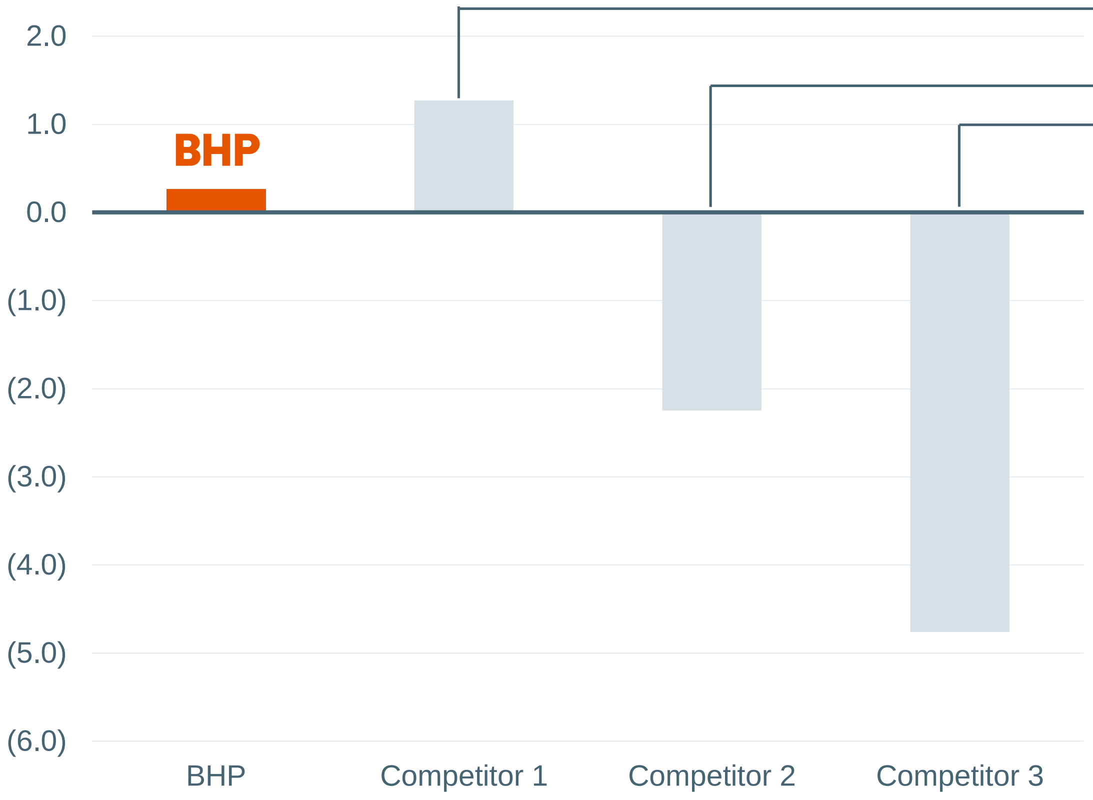


Source: 1) Wood Mackenzie. "Before" was sourced from the CY2018 Q3 long term forecast before the Brumadinho tragedy. "Now" use the version of CY2022 Q2 long term forecast.
2) BHP operational review for the half year ended 31 Dec 2021. 3) IHS GTA.

Reliability of supply is highly valuable in an uncertain world

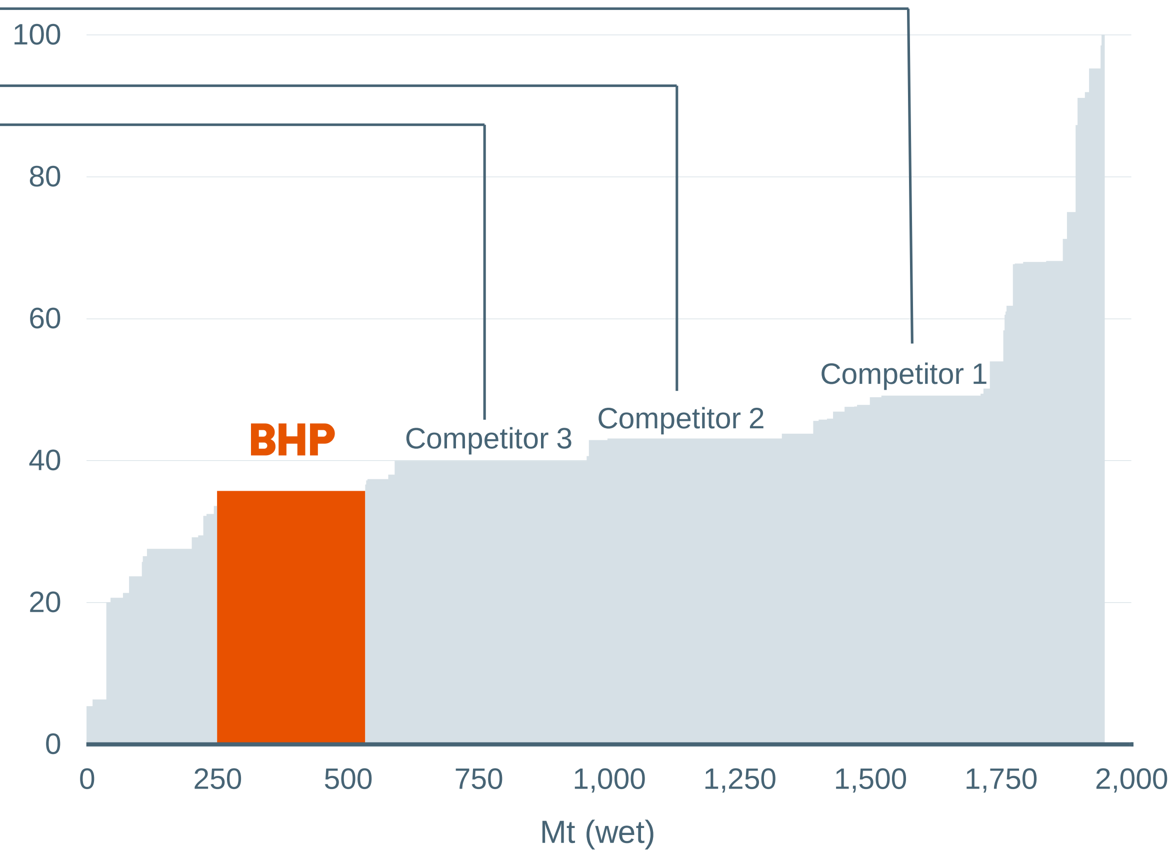
Accurate volume guidance, delivery to specifications, competitive price realisation, durably low cost operations and attractive margins

Performance versus guidance mixed across the industry
(%, average variation from initial guidance mid point, FY14-FY21)



Source: Company reports, SBG Securities, analysis by BHP.

2030 – BHP projected to remain the lowest cost major producer
(CFR China, 62% Fe Fines equivalent, US$/dry tonne)



Source: Wood Mackenzie.

BHP

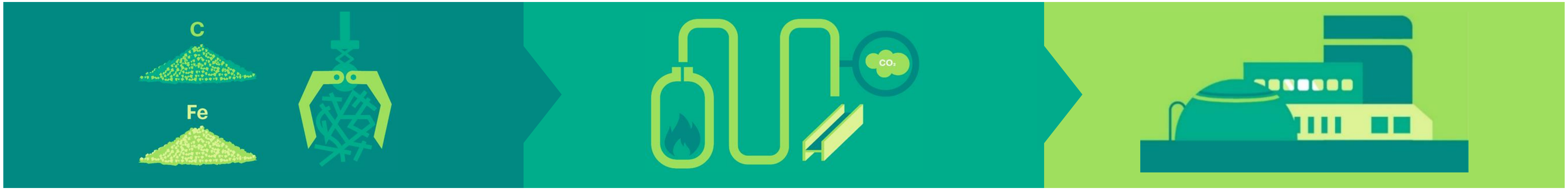
Steel decarbonisation pathways

Dr Rod Dukino
Vice President, Sales and Marketing Sustainability

3 October 2022

Steel decarbonisation in three stages

Regions will transit through these stages at different rates, based on local conditions faced by steel producers



Optimisation stage

Up to 20% CO_2 reduction vs. BAU

Incremental improvements in raw materials and process conditions for the integrated steelmaking route:

Raw Material Quality

Energy Optimisation / Efficiency

Technology Improvements

Transition stage

30-60% CO_2 reduction vs. BAU

Modifications to BF-BOF route and increased use of renewable energy sources and install low carbon technologies

Low Carbon Fuels

Blast Furnace Modifications

Carbon Capture

Green end state

>80% CO_2 reduction vs. BAU

Low carbon technologies have matured and cost competitive for development at scale

Modified BF with CCUS

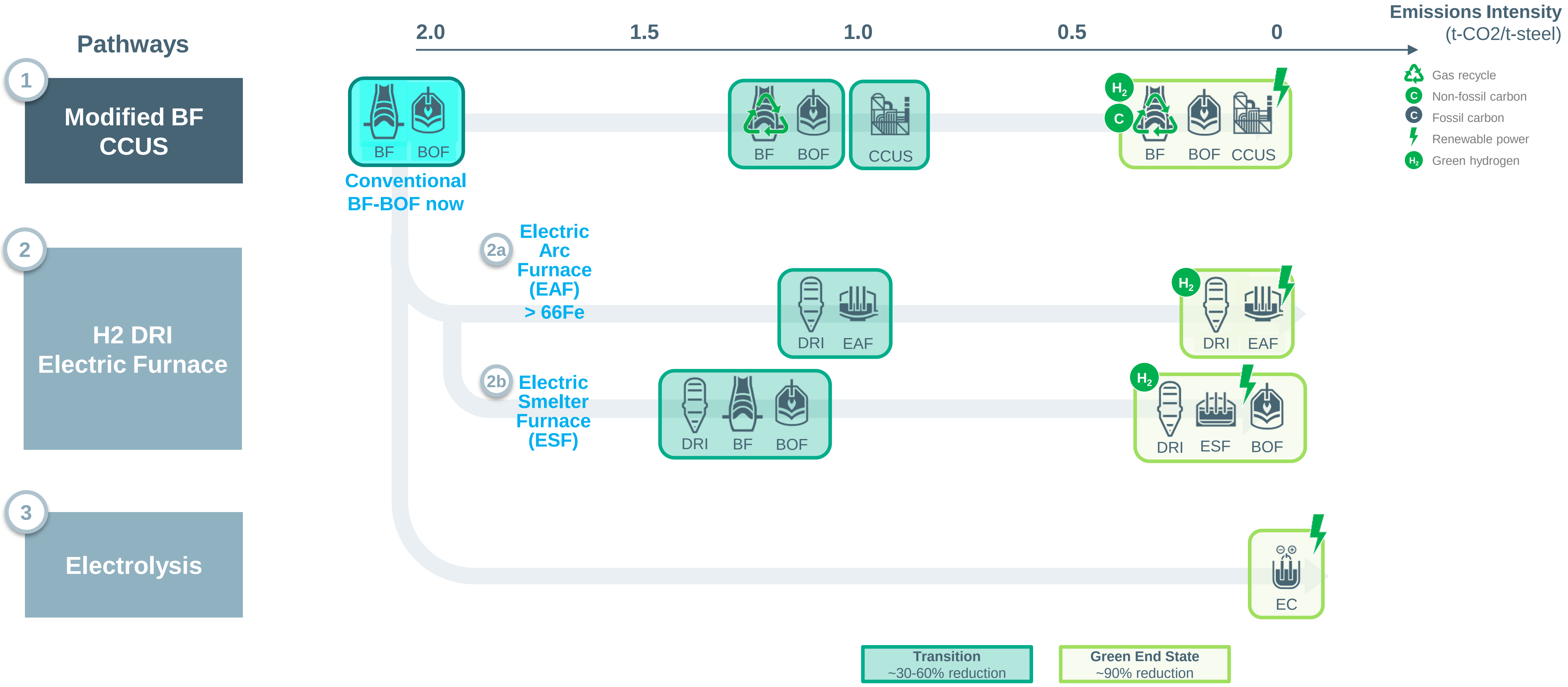
Direct Reduction with Green Hydrogen

Electric Steelmaking

Other New Technologies

Multiple ‘near’ net zero pathways for steel industry

Pathways for industry to be largely decarbonised through primary steel production from iron ore



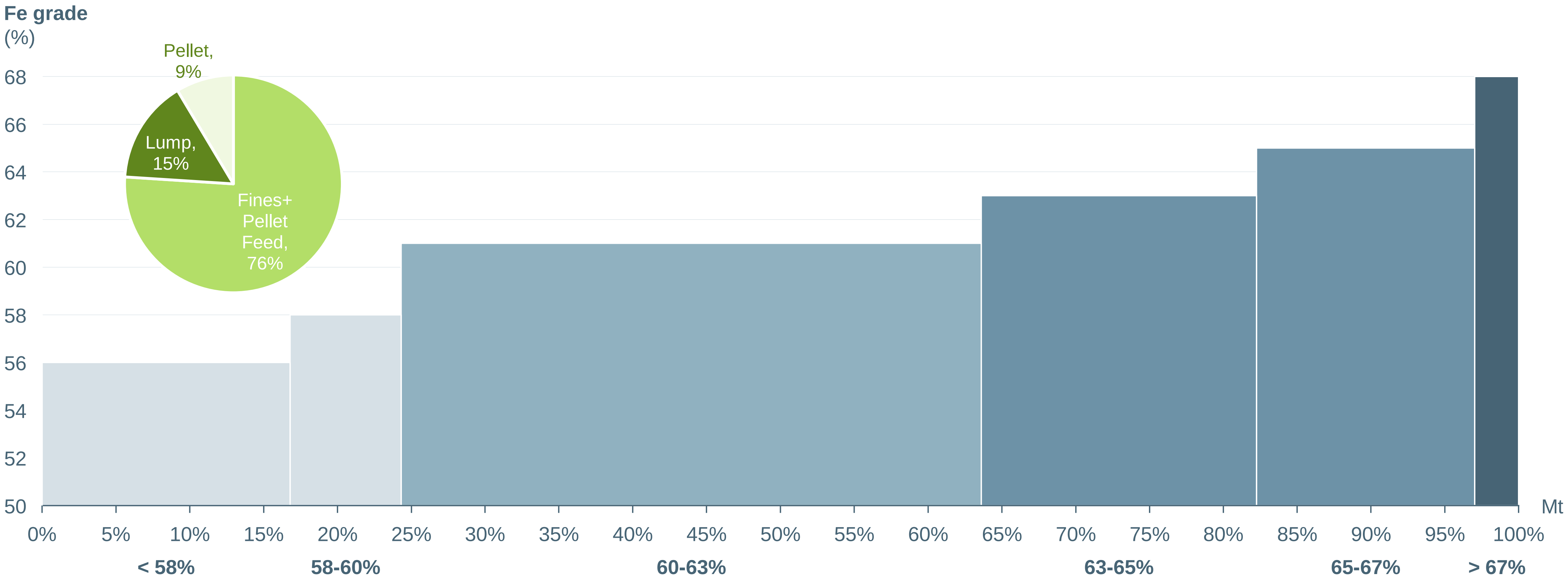
Path 1 uses carbon as primary reductant
Path 2 and 3 use hydrogen or electricity as primary reductant

BF	Blast Furnace	ESF	Electric Smelting Furnace
BOF	Basix Oxygen Furnace	SR	Smelting Reactor
EAF	Electric Arc Furnace	EC	Electrolysis Cell

3% of current iron ore supply is ‘EAF quality’ today

This will drive innovation along the value chain as steel decarbonisation scenarios develop

Iron ore supply curve by quality band (2022)



Source: Wood Mackenzie.

Differentiated regional steel decarbonisation pathways

Key enablers are policy, supply of renewable power and carbon storage capacity, age and scale of blast furnace fleet

Optimisation & Transition	BF optimisation Energy efficiency, material quality	Gas DRI Scrap, Modified BF	DRI-EF Modified BF-CCUS *Electrolysis*	Green End State

EU

2020 — 2035 — 2050

Scrap nationalism for more EAF;
gas-based DRI ramp-up as the Transition stage

Policy-supported transition drive major producers into hydrogen DRI-EF

Aging blast furnaces to be retired in the coming 1-2 decades

China

2020 — 2035 — 2050

Opportunities for better raw material quality and efficiency gains

Scrap is a steady passive abatement lever

Modified BF + CCUS

Other pathways /technologies in the mix

Developed APAC

Limited potential for raw material or process efficiency optimisation

2020 — 2035 — 2050

Comprehensive decarbonisation roadmap for Modified BF and transition to DRI-EF

Modified BF + CCUS

Lack of renewable power and carbon storage resource driving exploration of carbon transport and DRI in overseas markets

Loss in competition for export markets likely

India / ASEAN

2020 — 2035 — 2050

Build / expand modern BF fleet to replace sub-standard coal-based DRI (in India) and induction furnaces (in ASEAN)

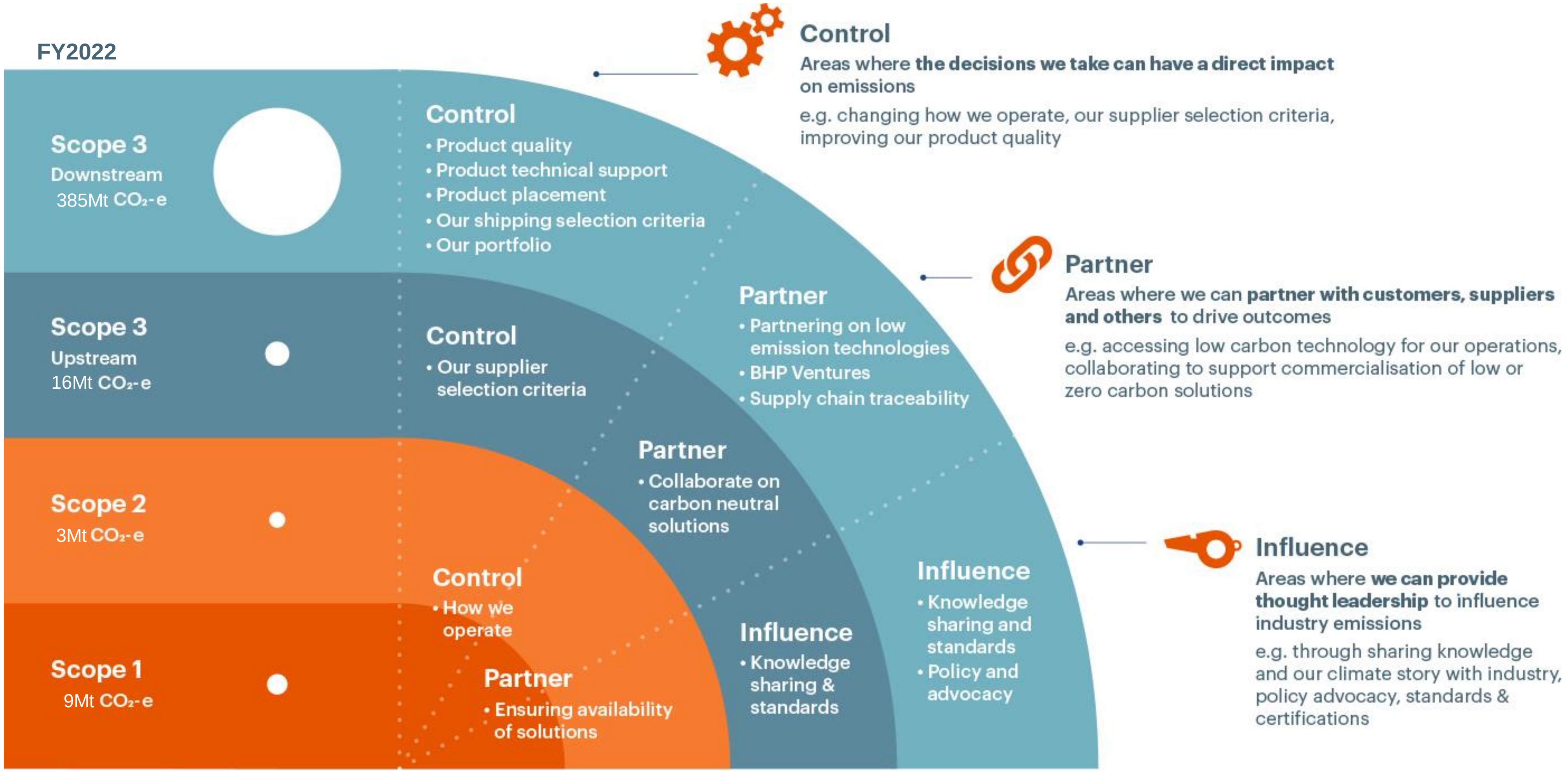
Exploration of alternative iron-making techs to replace fragmented coal RI-EAF segment

The region with perhaps the youngest modern BF fleet by 2050

CCU options developed with lack of conventional storage

BHP’s Climate Transition Action Plan

A framework to discuss our strategy and engagement



https://www.bhp.com/sustainability/climate-change

Partnerships with customers and other industry leaders

Looking to scale modified Blast Furnace (BF) projects, engaging research and technology providers to de-risk alternate pathways

Customer Partnerships	Research	Ventures
BAOWU, POSCO, TATA, JFE, HBIS GROUP **Partnerships with 5 key customers** **13% of global steel production**	**Fundamental and industrial programs in Australia, China, North America and Europe** **Leading research institutes, industrial consultants and technology providers**	BOSTON METAL, ElectraSteel **Investing in green end state technologies**
Test, design and scale Modified BF, CCUS and DRI-EF plant trials	*Optimise raw material performance in Modified blast furnace* *Develop DRI - EF processes for Pilbara ores*	*Test electrolysis in concept then assess for scale up*
Sign MOUs, scope core projects	Start exploratory test work & concept studies	Initial investments & lab testing
Complete feasibility studies & test work	Support plant trials & product performance	Pilot campaigns with BHP ores
Plan and execute plant trials	Explore demo plant options	Assess scale up options

FY22 Progress | FY23+ Focus

BHP

Footnotes

1. Slide 3: Largest copper endowment on a contained metal basis, equity share. Peers include: Anglo American, Antofagasta, Codelco, First Quantum Minerals, Freeport, Glencore, Rio Tinto, Southern Copper and Teck. Source peers: Wood Mackenzie Ltd, Q1 2022. Source BHP data: FY2021 BHP Annual Report.
2. Slide 3: Second largest nickel sulphide resource on a contained metal basis, equity share. Source peers: MinEx Consulting Global Ni Database, December 2018. Source BHP data: FY2021 BHP Annual Report.
3. Slide 3: Based on published unit costs by major iron ore producers, as reported at 30 June 2022.
4. Slide 3: Based on a Reserve life of 94 years as reported in BHP's 17 August 2021 news release, available to view on www.bhp.com, with further optionality from Jansen's 5,230 Mt Measured Resource base.
5. Slide 3: Three-quarters refers to the share of power capacity. 13-fold refers to the increase in the volume of primary energy, not the increase in the share.

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Appendix

Our decarbonisation targets and goals are clear

To support the net zero transition, we will continue to pursue sustainable provision of our products

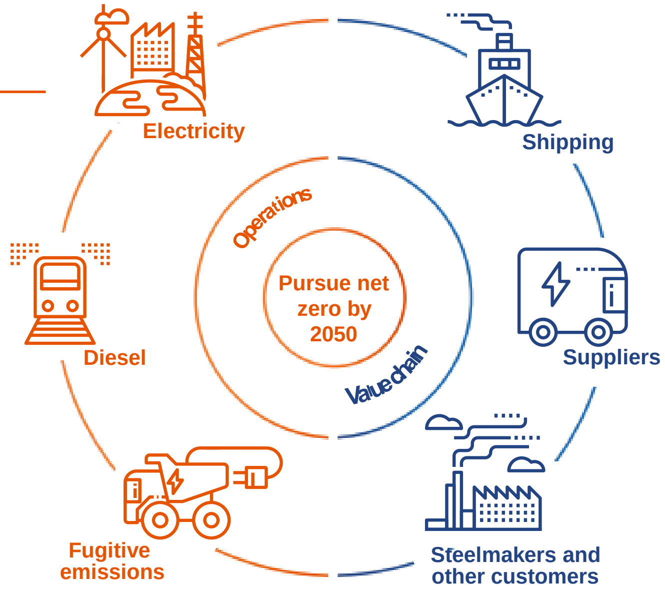
Operations (Scopes 1 and 2)

FY2030

Target Reduce operational greenhouse gas (GHG) emissions by at least 30% from FY2020 levels.

2050

Goal Achieve net zero operational GHG emissions.



Value chain (Scope 3)

2030

Goals **Steelmaking.** Support industry to develop technologies and pathways capable of 30% emissions intensity reduction in integrated steelmaking, with widespread adoption expected post 2030.

Shipping. Support 40% emissions intensity reduction of BHP-chartered shipping of BHP products.

2050

Goal Pursue the long-term goal of net zero Scope 3 GHG emissions. Achievement is uncertain and we cannot ensure the outcome alone.

Targets **Shipping.** Net zero GHG emissions from all shipping of BHP products*.

Suppliers. Net zero for the operational GHG emissions of our direct suppliers*.

Important note
Refer to the full description of BHP's climate change targets and goals, including essential definitions, assumptions and caveats, at bhp.com/climate

1 The baseline year(s) of our targets will be adjusted for any material acquisitions and divestments based on emissions at the time of the transaction, and to reflect progressive refinement of emissions reporting methodologies. The targets' boundaries may in some cases differ from required reporting boundaries. The use of carbon offsets will be governed by BHP's approach to carbon offsetting described at bhp.com/climate.

* These targets are referable to a FY2020 baseline year. Our ability to achieve the targets is subject to the widespread availability of carbon neutral solutions to meet our requirements, including low/zero-emissions technologies, fuels, goods and services.

Goal An ambition to seek an outcome for which there is no current pathway(s), but for which efforts will be pursued towards addressing that challenge, subject to certain assumptions or conditions.

Target An intended outcome in relation to which we have identified one or more pathways for delivery of that outcome, subject to certain assumptions or conditions.

Information is valid at July 2022

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