

# CHAMPION IRON

## CAPITAL MARKETS DAY

November 13th, 2023 (Montréal)



A RARE SOLUTION  
TO DECARBONIZE STEELMAKING

CHAMPION IRON 

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## FORWARD-LOOKING STATEMENTS

This Presentation contains certain information and statements, which may be deemed "forward-looking information" within the meaning of applicable securities laws (collectively referred to herein as "forward-looking statements"). Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates", "aims", "targets" or "believes", or variations of, or the negatives of, such words and phrases or state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. Inherent in forward-looking statements are risks, uncertainties and other factors beyond the Company's ability to predict or control.

## SPECIFIC FORWARD-LOOKING STATEMENTS

All statements in this Presentation, other than statements of historical facts, that address future events, developments or performance that Champion expects to occur are forward-looking statements. These statements may include, but are not limited to, management's expectations regarding: the Company's Phase II expansion project, its expected achievement of nameplate capacity, throughput, recovery rates, economic and other benefits, impact on nameplate capacity, milestones and associated costs; Bloom Lake's life of mine, recovery rates, production, expanded nameplate capacity, flowsheet, mine design, project economics, capital expenditures, economic and other benefits and potential opportunities beyond life of mine; the project to upgrade the Bloom Lake iron ore concentrate to a higher grade with lower contaminants and to convert approximately half of Bloom Lake's increased nameplate capacity of 15 Mtpa to commercially produce a Direct Reduction ("DR") quality pellet feed iron ore, expected project timeline, economics, capital expenditures, budget and financing, production metrics, technical parameters, project layout, flowsheet, environmental footprint, permitting and approvals, job creation, efficiencies, economic and other benefits and expected premium that high quality DRPF products will attract; the study evaluating the re-commissioning of the Pointe-Noire Iron Ore Pelletizing Facility to produce DR grade pellets, including its anticipated completion timeline, economics, production metrics, technical parameters, project layout, capital expenditure and expected premium that high quality DRPF products will attract; the Kami Project's study, its purpose, including evaluating the potential to produce a Direct Reduction grade product, and anticipated completion timeline, expected project economics, production metrics, flowsheet, project layout, mine design, milestones and partnership opportunities; the shift in steel industry production methods towards reducing emissions and green steel production methods and Electric Arc Furnaces ("EAFs"), including expected rising demand for higher-grade iron ore products and related market deficit and higher premiums, and the Company's participation therein, contribution thereto and vision and positioning in connection therewith, including the transition of the Company's product offering (including producing high quality DRPF products) and expected benefits thereof; green steel, emission reduction and other Environmental, Social and Governance related initiatives, programs, objectives, targets and expectations and the Company's positioning in connection therewith; the cold pelleting technology, its potential to substantially reduce emissions linked to the agglomeration of iron ore and related studies, partnerships and initiatives; greenhouse gas and CO2 emissions reduction initiatives, objectives, targets and expectations; collaboration between First Nations and Champion and related targets, objectives and expected benefits; Champion's program to reduce work-related incidents and related targets and objectives; diversity and inclusion targets and objectives; optimization work programs, safe tailings strategy, their objectives and expected results and impact on production, cash costs and financial results; expected production volumes and costs and their impact on and financial results; recovering lower stripping levels; the refinancing of the Company's credit facility, its completion, drawdowns and reimbursements thereunder and its impact on liquidity and the Company's growth projects; "Cluster II" opportunities; the Company's ability to reach average LoM Fe recovery at targeted levels; and the Company's growth and opportunities generally.

## DEEMED FORWARD-LOOKING STATEMENTS

Statements relating to "reserves" or "resources" are deemed to be forward-looking statements as they involve the implied assessment, based on certain estimates and assumptions, that the reserves and resources described exist in the quantities predicted or estimated and that the reserves can be profitably mined in the future. Actual reserves and resources may be greater or less than the estimates provided herein.

## RISKS

Although Champion believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such forward-looking statements involve known and unknown risks, uncertainties and other factors, most of which are beyond the control of the Company, which may cause the Company's actual results, performance or achievements to differ materially from those expressed or implied by such forward-looking statements. Factors that could cause the actual results to differ materially from those expressed or implied by forward-looking statements include, without limitation: the results of feasibility studies; changes in the assumptions used to prepare feasibility studies; project delays; continued availability of capital and financing and general economic, market or business conditions; fluctuations in foreign currency exchange rates; general economic, competitive, political and social uncertainties; market disruptions, including pandemics or significant health hazards, severe weather conditions, natural disasters, terrorist activities, financial crises, political crises, wars and other military conflicts (including the ongoing military conflict between Russia and Ukraine), or other major events, or the prospect of these events; future prices of iron ore; increased public concern about the environmental impact of the Company's products or their perceived safety; decreased social acceptance and increased social action to reduce the use of fossil fuels, which may negatively impact consumer perception; cyber events or attacks (including ransomware, state sponsored and other cyberattacks) failure of plant, equipment or processes to operate as anticipated; delays in obtaining governmental approvals, necessary permitting or in the completion of development or construction activities; the impact of COVID-19 on the global economy, the iron ore market and Champion's operations, including the effectiveness of Champion's efforts to respond to the COVID-19 pandemic; the pace of economic recovery when the COVID-19 pandemic subsides and the heightened impact it has on many of the risks described herein and in other reports Champion files with the Canadian Securities Administrators (the "CSA") and the Australian Securities and Investments Commission (the "ASIC"); as well as those factors discussed in the section entitled "Risk Factors" of the Company's 2023 Annual Information Form, the risks and uncertainties discussed in the Company's management's discussion and analysis for the fiscal year ended March 31, 2023 and the risks discussed in other reports Champion files with the CSA and the ASIC, all of which are available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca), the ASX at [www.asx.com.au](http://www.asx.com.au) and the Company's website at [www.championiron.com](http://www.championiron.com). There can be no assurance that such information will prove to be accurate as actual results and future events could differ materially from those anticipated in such forward-looking statements. Accordingly, readers should not place undue reliance on forward-looking statements.

## ADDITIONAL UPDATES

The forward-looking statements in this Presentation are based on assumptions management believes to be reasonable and speak only as of the date of this Presentation or as of the date or dates specified in such statements. Champion undertakes no obligation to update publicly or otherwise revise any forward-looking statements contained herein, whether as a result of new information or future events or otherwise, except as may be required by law. If the Company does update one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those or other forward-looking statements. Champion cautions that the foregoing list of risks and uncertainties is not exhaustive. Investors and others should carefully consider the above factors as well as the uncertainties they represent and the risks they entail.

## NON-IFRS AND OTHER FINANCIAL MEASURES

Certain financial measures used by the Company to analyze and evaluate its results are non-IFRS financial measures or ratios and supplementary financial measures. Each of these indicators is not a standardized financial measure under the IFRS and might not be comparable to similar financial measures used by other issuers. These indicators are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. The non-IFRS and other financial measures included in this Presentation are earnings before interest, tax, depreciation and amortization ("EBITDA"), adjusted EPS, total cash cost, net average realized selling price per dmt sold and gross average realized selling price per dmt sold. When applicable, a quantitative reconciliation to the most directly comparable IFRS measures is provided in section 21 - Non-IFRS and Other Financial Measures of the Company's management's discussion and analysis ("MD&A") for the three-month and six-month periods ended September 30, 2023, available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca) and the ASX at [www.asx.com.au](http://www.asx.com.au) and the Company's website at [www.championiron.com](http://www.championiron.com). For cumulative results since the 2018 restarts, refer to annual MD&A. On August 22, 2023, Champion announced the updated mineral resource and reserve estimates for Bloom Lake reported in the technical report prepared pursuant to National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") and Chapter 5 of the ASX Listing Rules entitled "Mineral Resources and Mineral Reserves for the Bloom Lake Mine, Fermont, Québec, Canada" by BBA Inc., SRK Consulting (U.S.), Inc., Soutex and Quebec Iron Ore Inc. dated September 28, 2023 and filed on October 3, 2023 (the "2023 Technical Report"). Champion is not aware of any new information or data that materially affects the information included in the 2023 Technical Report and confirms that all material assumptions and technical parameters underpinning the estimates in the 2023 Technical Report continue to apply and have not materially changed. The 2023 Technical Report is available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca).

Mr. Vincent Blanchet, P. Eng., Engineer at Quebec Iron Ore Inc., the Company's subsidiary and operator of Bloom Lake, is a "qualified person" as defined by NI 43-101 and has reviewed and approved, or has prepared, as applicable, the disclosure of the scientific and technical information contained in this Presentation and has confirmed that the relevant information is an accurate representation of the available data and studies for the relevant projects. Mr. Blanchet's review and approval does not include statements as to the Company's knowledge or awareness of new information or data or any material changes to the material assumptions and technical parameters underpinning the 2023 Technical Report. Mr. Blanchet is a member of the Ordre des ingénieurs du Québec.

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Reference to P62: Platts TSIOIEX 62% Fe CFR China; P65: Platts IO Fines 65% Fe CFR China.

This Presentation has been authorized for release to the market by the CEO of Champion, David Cataford.

All amounts are in Canadian dollars unless otherwise stated.

## EXECUTIVES



**MICHAEL O'KEEFFE**  
*Executive Chairman*



**DAVID CATAFORD**  
*Chief Executive Officer*



**ALEXANDRE BELLEAU**  
*Chief Operating Officer*



**DONALD TREMBLAY**  
*Chief Financial Officer*



**STEVE BOUCRATIE**  
*Senior Vice-President  
General Counsel and  
Corporate Secretary*



**MICHAEL MARCOTTE**  
*Senior Vice-President  
Corporate Development  
and Capital Markets*



**ANGELA KOUROUKLIS**  
*Senior Vice-President  
Human Resources*



**MICHELLE CORMIER**  
*Director*



**LOUISE GRONDIN**  
*Director*

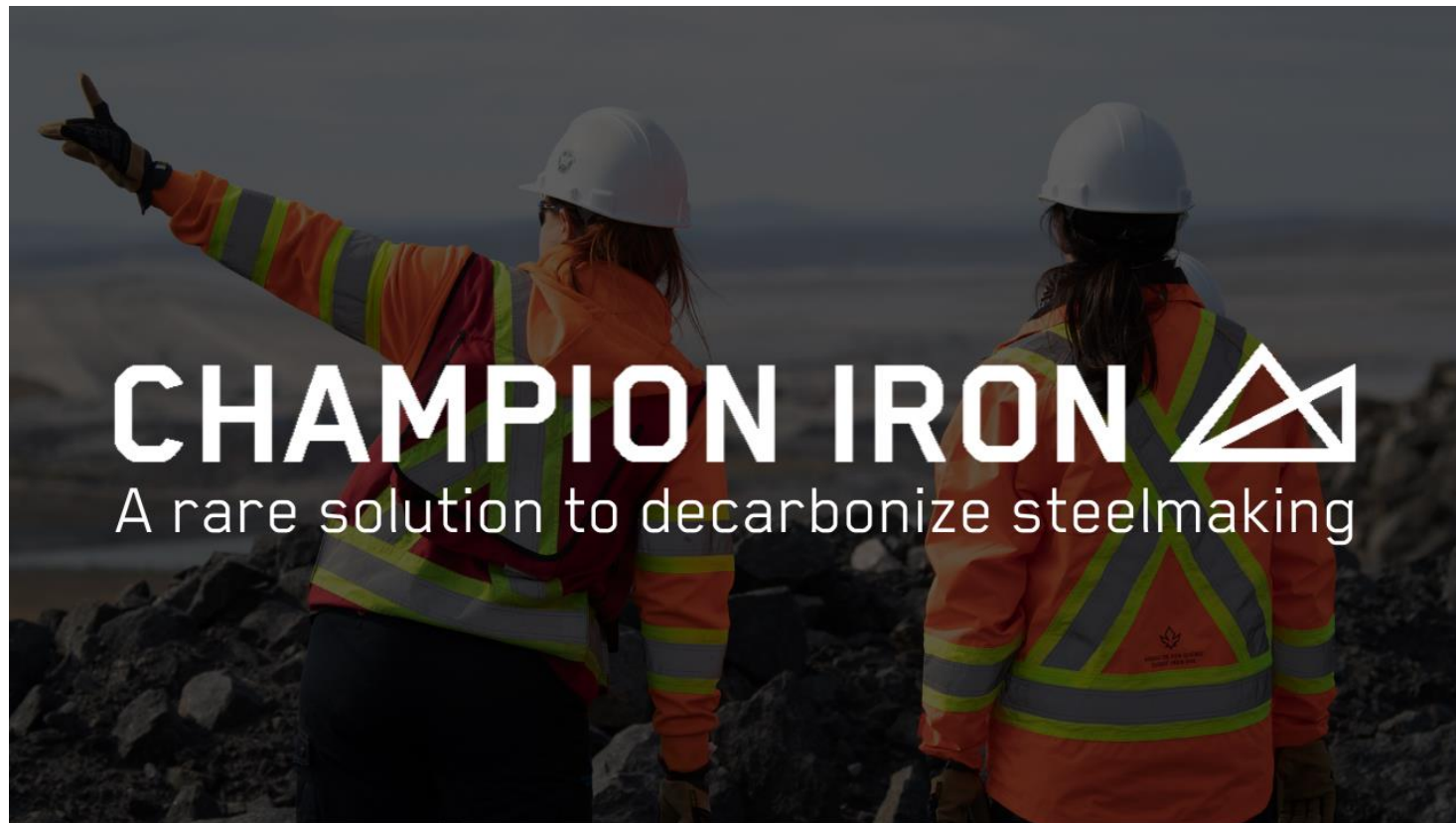
## BOARD OF DIRECTORS

# AGENDA: DAY 1

TOPIC	TIME	PRESENTERS
Welcome remarks	5 min	Michael Marcotte
Message from the Executive Chairman	10 min	Michael O’Keeffe
Message from our First Nations partners	10 min	Mike Mckenzie, Chief, Uashat Mak Mani-utenam Jean-Claude Therrien Pinette, Head of Political Cabinet
Introduction and sustainability commitment	20 min	David Cataford Alexandre Belleau
Market dynamics	30 min	David Cataford Alexandre Belleau
Industry insights and Q&A	45 min	Jeremy Jones, Continuous Improvement Experts inc.
Break	15 min	
Operational and financial performance	30 min	David Cataford Alexandre Belleau
Growth opportunities	45 min	David Cataford Alexandre Belleau
Q&A and Closing remarks	30 min	









# CHAMPION IRON

# MESSAGE FROM OUR FIRST NATIONS PARTNERS

## UASHAT MAK MANI-UTENAM



**MIKE MCKENZIE**

CHIEF, UASHAT MAK MANI-UTENAM



**JEAN-CLAUDE THERRIEN PINETTE**

HEAD OF POLITICAL CABINET



# INTRODUCTION

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF





## VISION

Leverage the force of responsible materials to decarbonize and brighten the future.



## MISSION

**Produce responsible materials  
with ingenuity to reduce the carbon  
footprint with and for those who  
seek change.**

## UPHOLDING VALUES FOR A SUSTAINABLE FUTURE



### PRIDE

Develop a collective sense of belonging in all spheres of iron ore mining



### INGENUITY

Leverage employee creativity and expertise to achieve and maintain efficient practices aimed at operational excellence



### RESPECT

It is our guiding principle: respect for people, for communities, for the environment, and for the resources at the very core of the organization



### TRANSPARENCY

Promote transparent communications through active listening and open dialogue



# INTRODUCTION

## LARGEST PUBLICLY LISTED PURE-PLAY HIGH-GRADE IRON ORE PRODUCER GLOBALLY

- 2<sup>nd</sup> largest hub of high-grade exports globally
- **High-purity iron ore** produced with renewable power and with one of the lowest carbon intensity
- 9.3%<sup>1</sup> management ownership
- 8.4% Québec government shareholding<sup>2</sup>
- >US\$4.5B cumulative investments at Bloom Lake
- >1,100 employees at the mine site and head office in Montreal



Source: Champion Iron Limited

Notes: 1. Management ownership including board of directors as of September 4, 2023 | 2. Through Investissement Québec (Ressources Québec)



# SUSTAINABILITY COMMITMENT

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# SUSTAINABILITY COMMITMENT

## THE COMPANY OF TOMORROW NOW

				
<b>Health &amp; Safety</b> <i>Core priority</i> <ul style="list-style-type: none"><li>→ Zero fatalities</li><li>→ Introduced training programs to identify work-related incidents</li><li>→ Ultimate target of zero harm</li></ul>	<b>Environment</b> <i>Minimizing impact</i> <ul style="list-style-type: none"><li>→ No major environmental violation</li><li>→ Achieved 96% recycled water at site</li><li>→ 100% compliance with the MAC tailings protocol</li></ul>	<b>Community</b> <i>Active participation</i> <ul style="list-style-type: none"><li>→ Committed to local sourcing and to First Nations suppliers</li><li>→ Active support to First Nations communities</li></ul>	<b>Inclusion</b> <i>More representation</i> <ul style="list-style-type: none"><li>→ Committed to having women represent at least 30% of the Board of Directors</li><li>→ Diversity and cultural training completed by 100% of employees</li></ul>	<b>GHG</b> <i>Reduction initiatives</i> <ul style="list-style-type: none"><li>→ 40% emissions reduction target at site by 2030</li><li>→ Targeting carbon neutral by 2050</li></ul>



## 2022 SUSTAINABILITY REPORT PERFORMANCE HIGHLIGHTS



## DEMONSTRATED CONTRIBUTION TO SOCIETY AND COMMUNITY



Ministers Fitzgibbon and Lafrenière visiting Bloom Lake in March 2023

### Since Bloom Lake recommissioning (FY 2019<sup>1</sup>)

- **\$848M** income, mining and municipal taxes paid<sup>2</sup>
- **\$470M** gains for Investissement Québec from investments since 2016<sup>3</sup>
- Approximately **\$1.5B** sourcing from regional suppliers and **\$450M** paid out in salaries and benefits
- **\$26M** community investment

Source : Champion Iron Limited

Notes: 1. As of Year Ended March 31, 2023 | 2. Includes \$1.6M in mining lease payments | 3. Realized and unrealized gains comprised of, a) Ressources Québec initial 36.2% position in MFQ worth \$45.3M in 2016, bought back in 2019 for \$211M, b) Ressources Québec initial investment in CIA of \$7.5M, market value of 43.5M shares (based on share price of \$6.8 as of November 9, 2023) of approximately \$296M and cumulative dividend of \$17M



Inauguration of the new Fermont skatepark

### As of October 31<sup>st</sup>, 2023

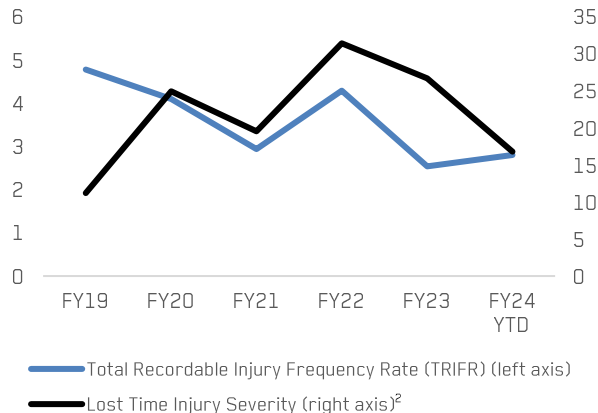
- **> 1,100** employees
- **58** local and First Nations jobs
- **Largest First Nations employer** on the Québec Côte-Nord
- Commemorated National Day for Truth and Reconciliation and declared National Indigenous Peoples Day an occasion for employees to honour First Nations culture



## A SAFE WORKING ENVIRONMENT IS TOP PRIORITY

- No major environmental issue since the recommissioning of Bloom Lake in 2018
- Fully compliant result following multiple regulatory audits by provincial and federal authorities
- Increased training and awareness programs, resulting in improved health and safety statistics
- Committed to a 2.0 incident frequency target for QIO's employees, zero fatalities and an ultimate target of zero harm<sup>1</sup>

### SAFETY PERFORMANCE



## RESPONSIBLE TAILINGS CONSTRUCTION METHOD



# Bloom Lake Mining Project **THE SAFE TAILINGS MANAGEMENT STRATEGY**

## COMMITTED TO REDUCE CARBON EMISSIONS

- Substantial investments completed since recommissioning in 2018, enabling the Company's CO<sub>2</sub> emission intensity per tonne to be reduced by approximately 30% compared to the previous owner
- Committing to greenhouse gas (GHG) emission reductions of 40% at site by 2030<sup>1</sup>
- The Company is also committed to be carbon neutral by 2050
- Targets are in line with the Paris Agreement 2°C scenarios and the Canadian government GHG reduction plan<sup>2</sup>

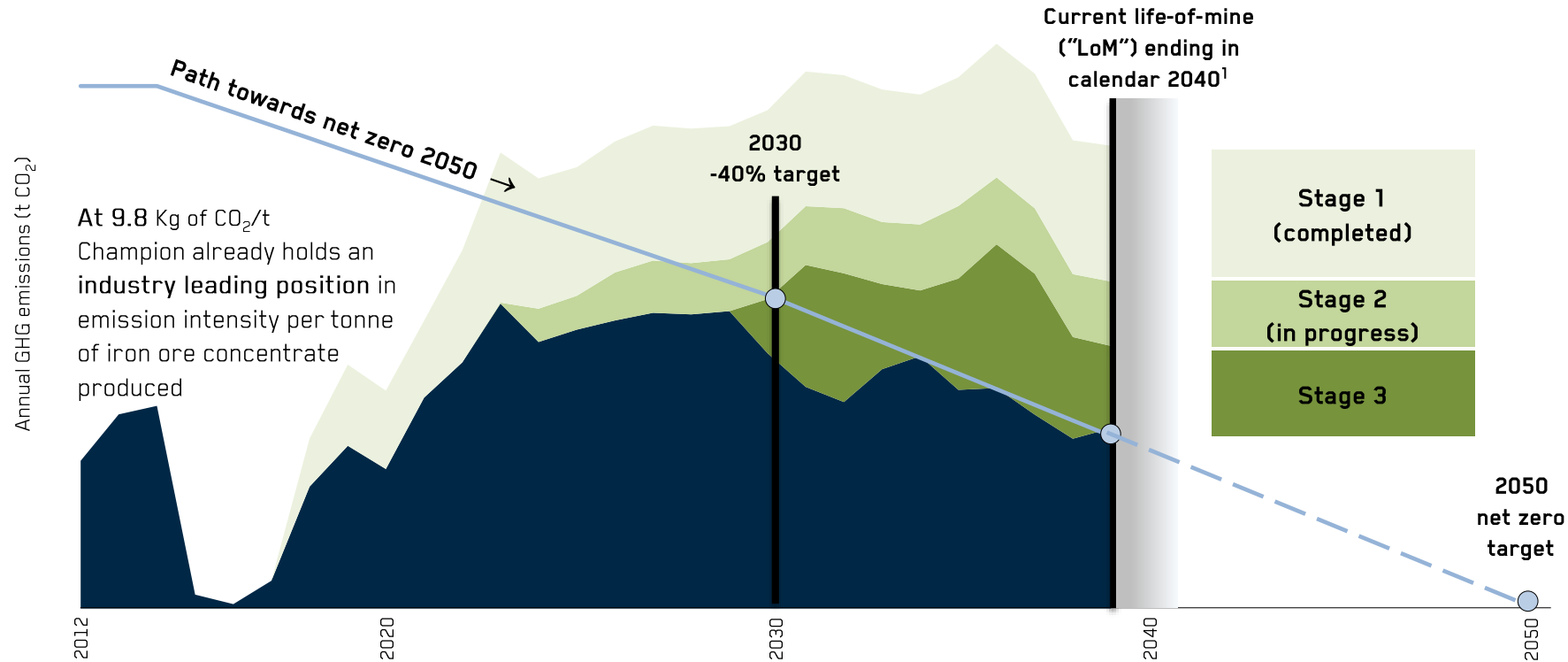


Source: Champion Iron Limited Sustainability Report 2022

Notes: 1. Based on 2014 emission intensity with additional consideration for the targeted nameplate capacity of 15 Mtpa | 2. GHG alignments are science based

ENVISIONED ROADMAP TO NET ZERO 2050

VISION TO REDUCE GHG EMISSIONS THROUGH THREE STAGES OF INITIATIVES

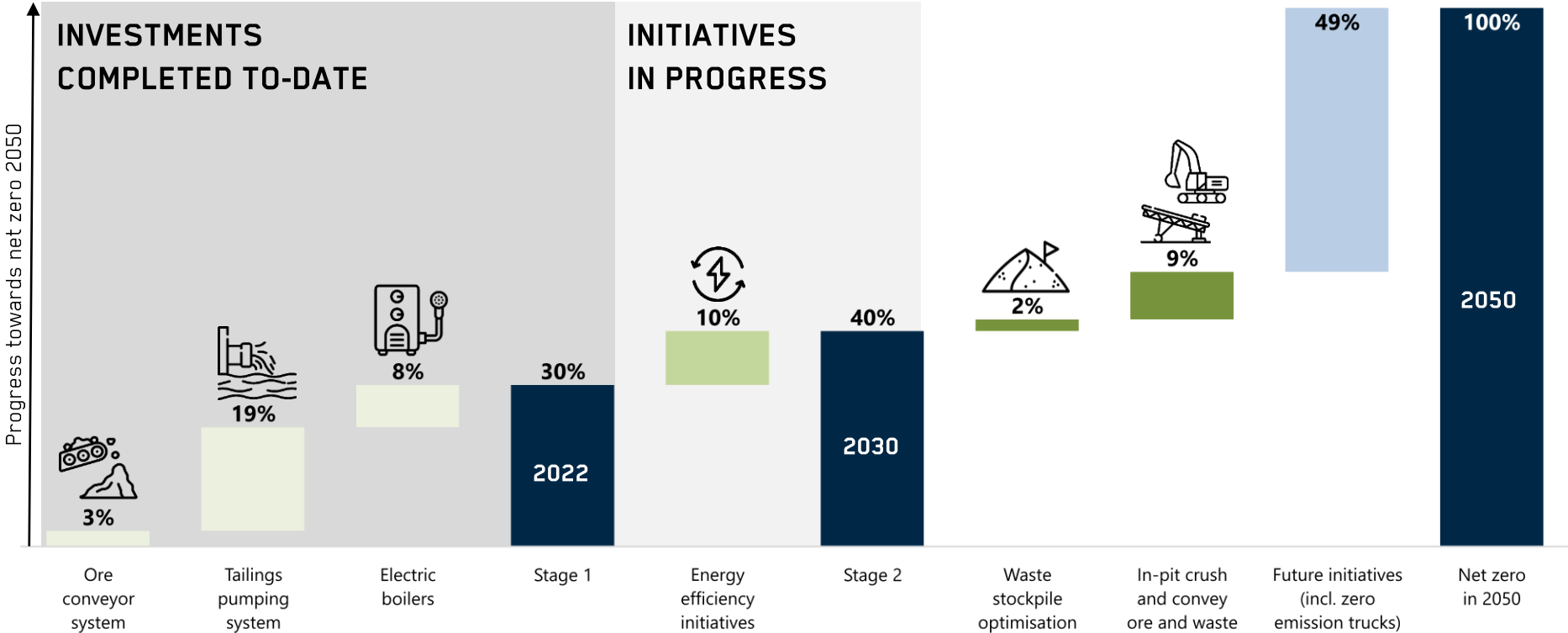


Source : Champion Iron Limited

Note: 1. 2023 LoM ends in FY41 with residual production. FY40 is therefore the last full financial year of production. For GHG calculation, 2039 is the last full calendar year of production. See disclosure page for statement regarding the 2023 Technical Report.



WORK PROGRAMS IDENTIFIED TO REDUCE EMISSIONS IN LINE WITH THE COMPANY’S TARGETS



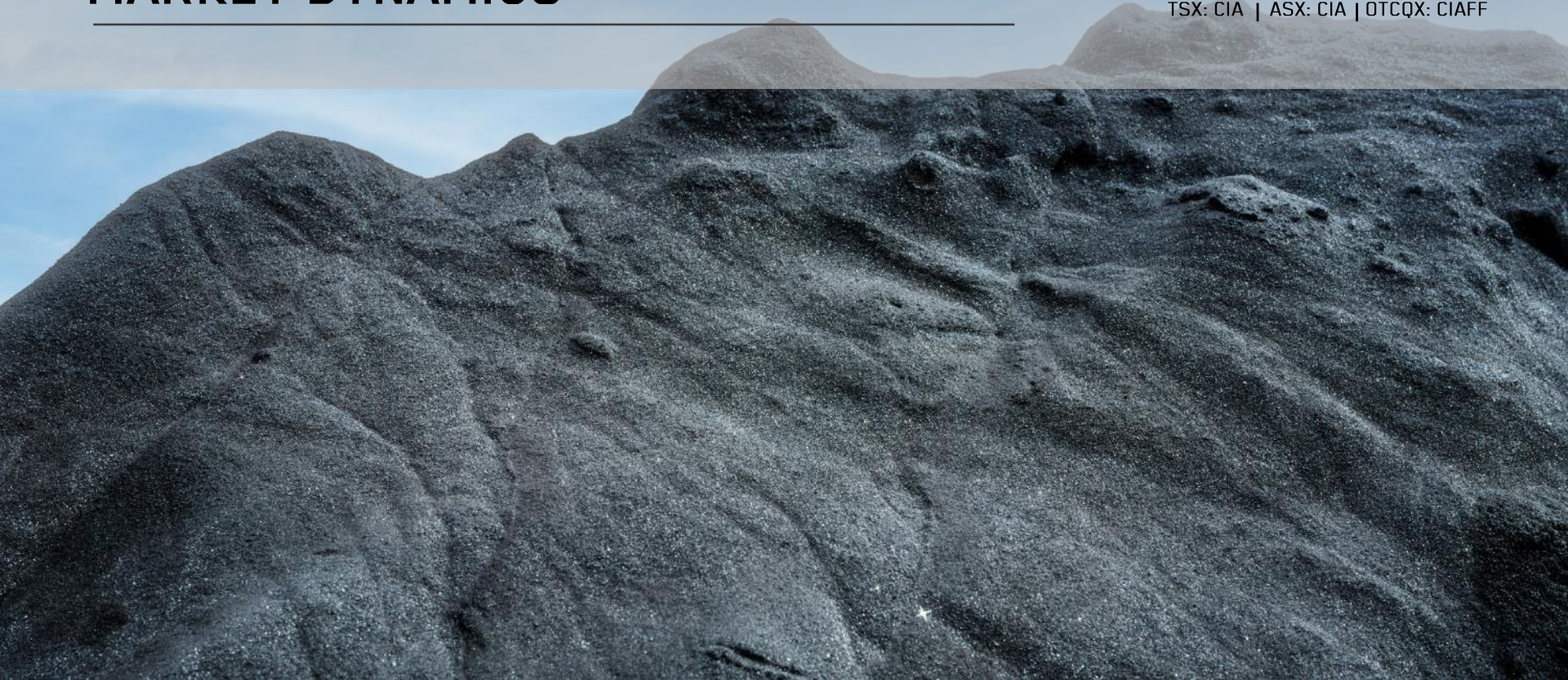
Source : Champion Iron Limited

# MARKET DYNAMICS

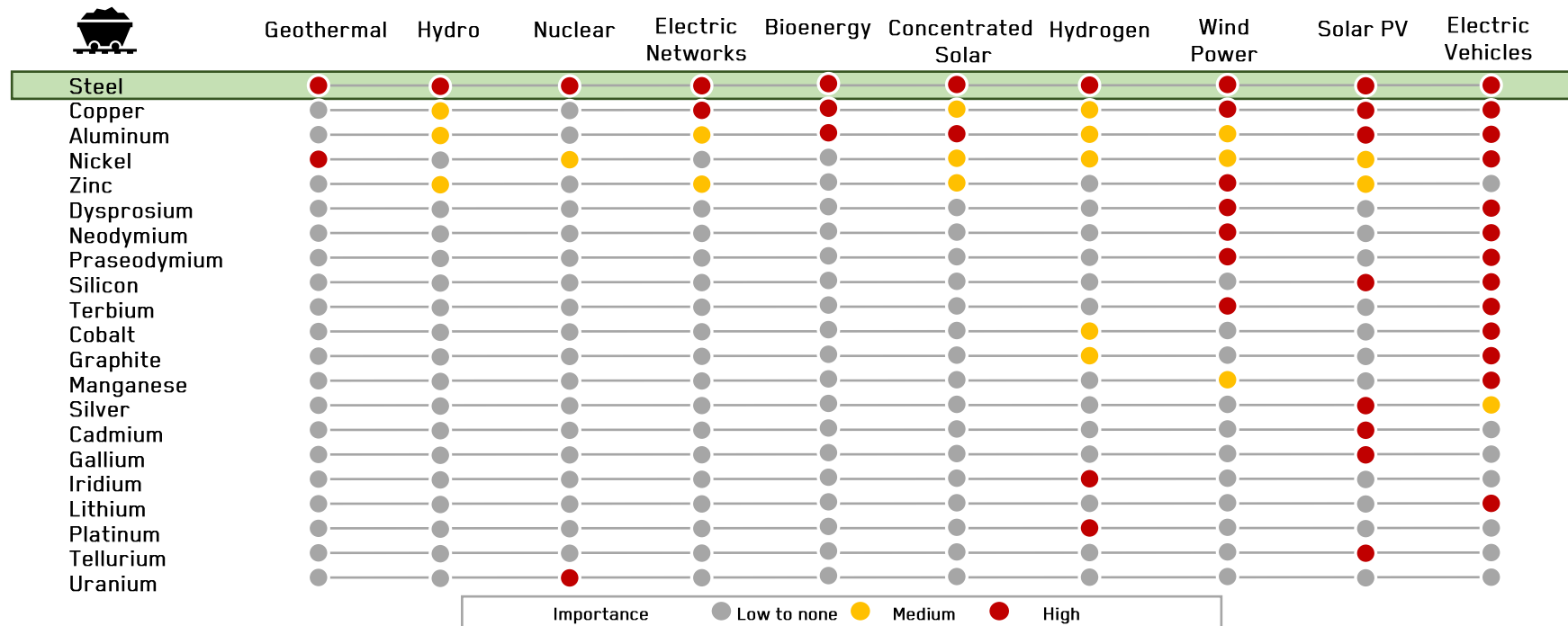
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## STEEL IS CRITICAL FOR THE TRANSITION TO A LOW CARBON ECONOMY



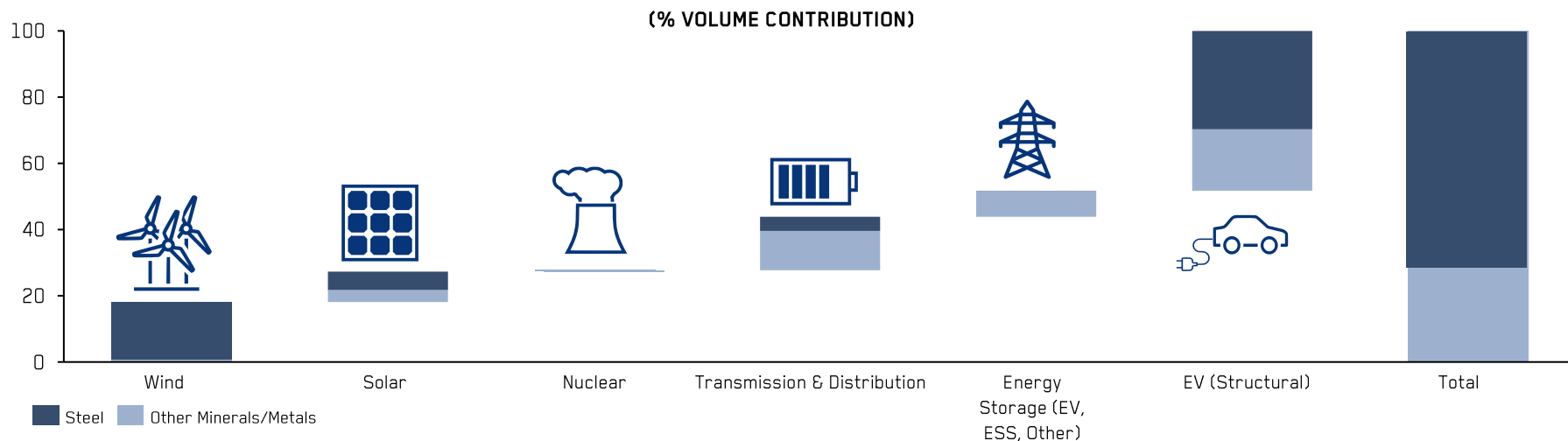
High-Purity Iron ore ("HPI") used in steelmaking is essential for low carbon technologies



## STEEL IS CRITICAL TO ENABLE INFRASTRUCTURE REQUIRED FOR DECARBONIZATION

→ Under the Accelerated Energy Transition (AET) of 1.5°C, over 3.5 billion additional tonnes of steel will be required by 2050, representing over 50% of total material used across infrastructure and applications

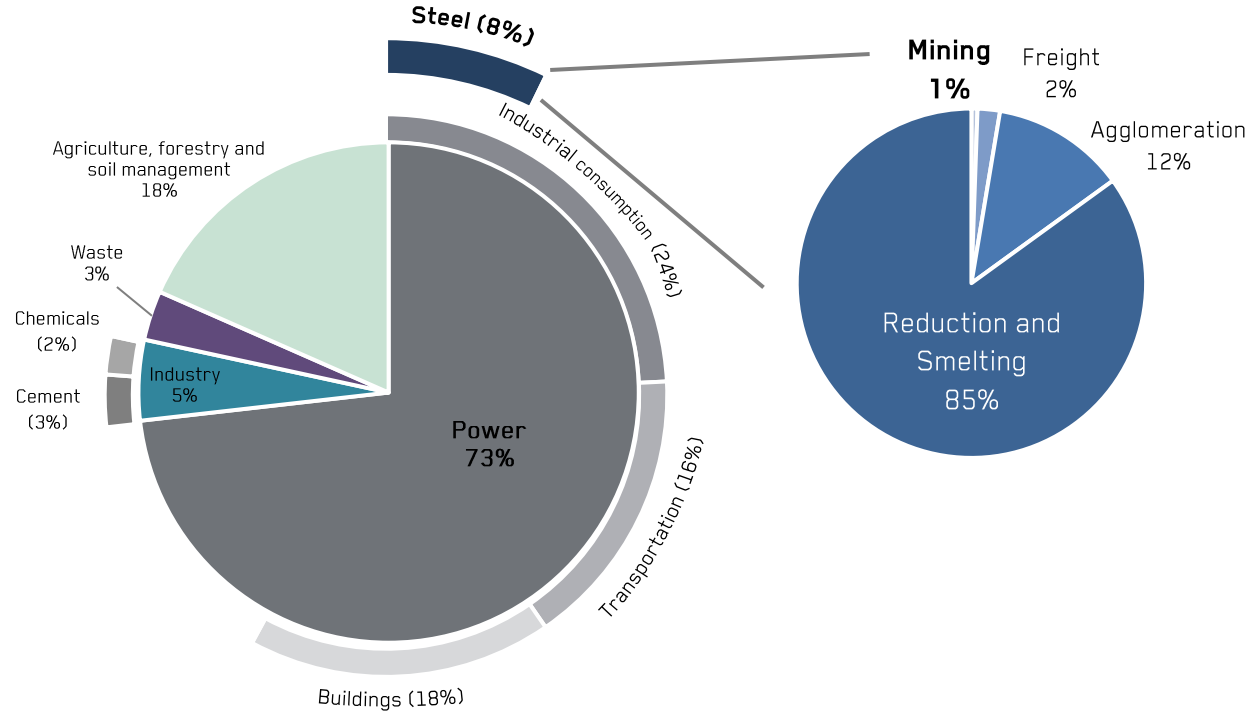
### GLOBAL VOLUME OF MATERIAL REQUIRED TO REACH AET 1.5 ACROSS SELECT ENERGY TRANSITION APPLICATIONS<sup>1</sup>



Canada will need an additional 113Mt of steel by 2050 to reach net zero targets

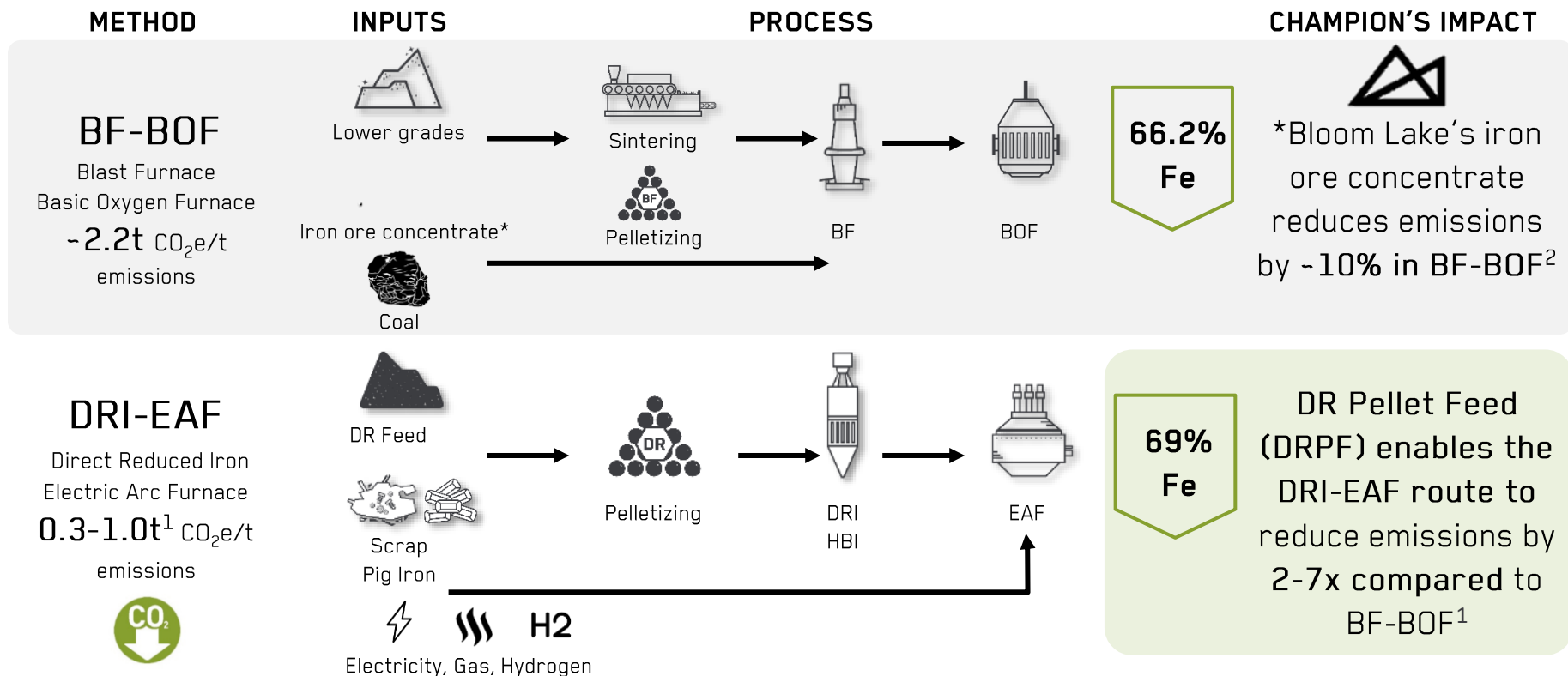
## THE STEEL INDUSTRY NEEDS TO EVOLVE TO LIMIT EMISSIONS

- Steelmaking increased its share of global emissions in the last 20 years, now representing **8%-10% of global CO<sub>2</sub> emissions**<sup>1</sup>
- **85% of steelmaking emissions are generated by the reduction and smelting of iron ore**<sup>2</sup>



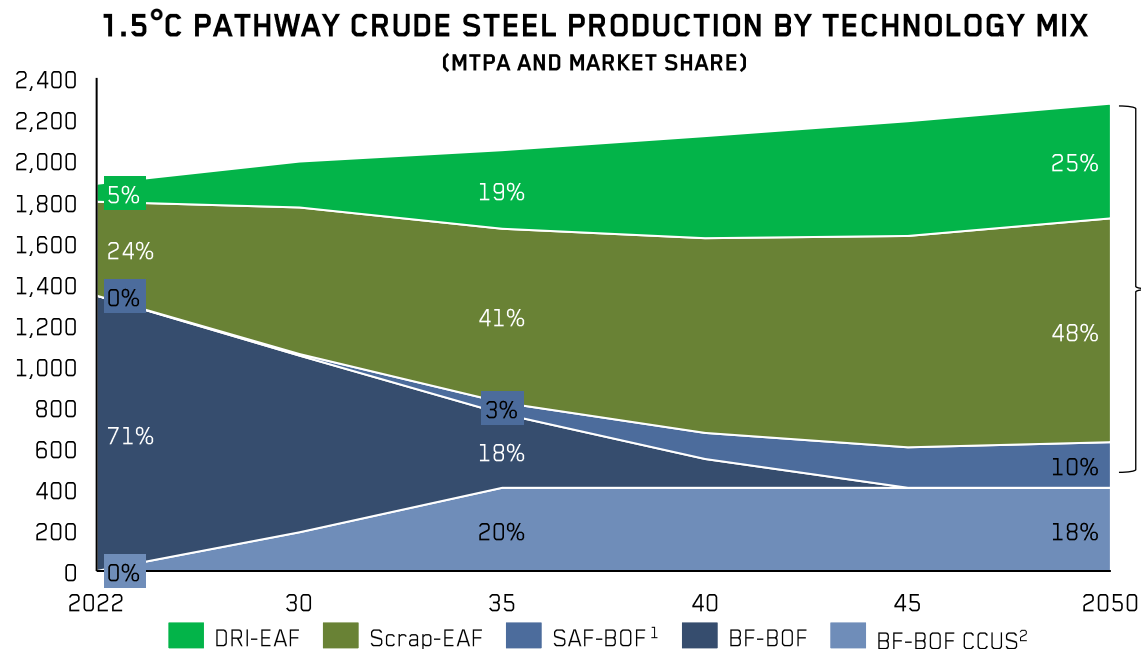
High-Purity Iron ore contributes to reducing emissions in steelmaking

## STEELMAKING METHODS AND REQUIRED SUPPLY CHAIN





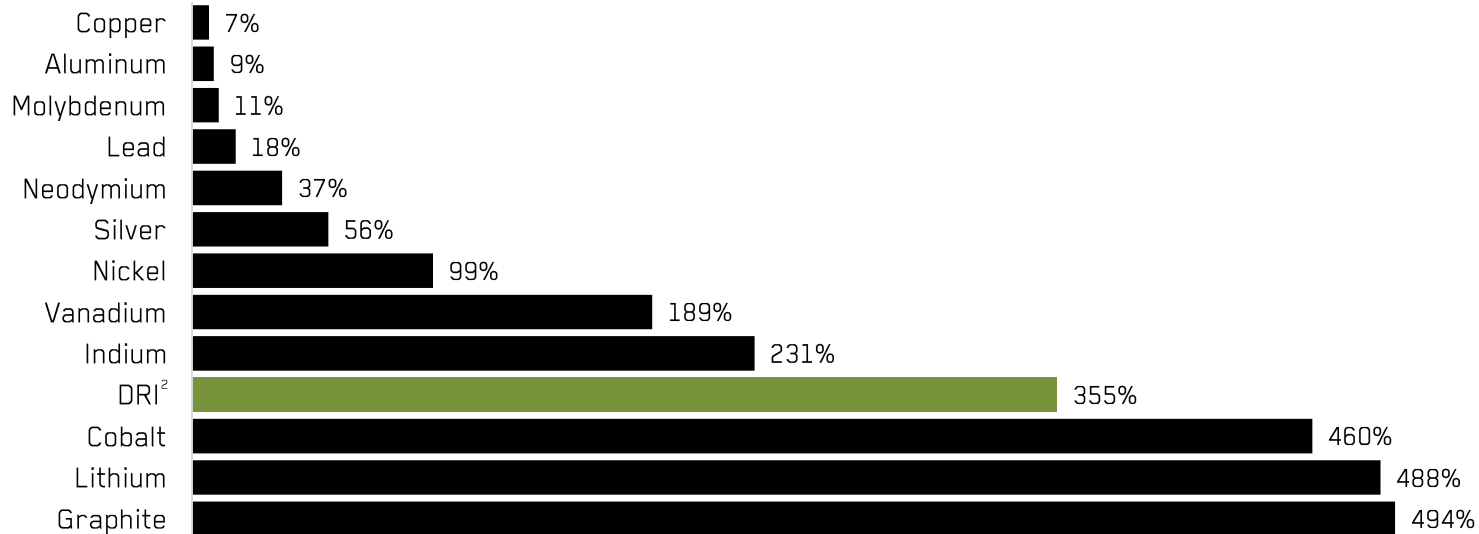
## DR QUALITY IRON ORE DEMAND WILL INCREASE ACROSS STEELMAKING METHODS



- To decarbonize the steel industry, a major transition away from BF-BOF to DRI-EAF must occur by 2050
- DRI-EAF steelmaking market share is expected to increase from 5% to 25% by 2050
- Due to limited availability of scrap steel traditionally used in EAFs, high-quality DRI will be required to supplement the industry and achieve the emission reduction targets in line with the 1.5°C pathway

## SIGNIFICANT DRI DEMAND GROWTH IS EXPECTED

### METAL DEMAND GROWTH BY 2050 EXPECTED UNDER A GLOBAL ENERGY TRANSITION (AET 2.0°C SCENARIO)<sup>1</sup>



Expected DRI demand growth compares favorably with other metals required for the global energy transition required to limit global warming to 2.0 degrees Celsius<sup>1</sup>

## DRI-EAF STEELMAKING WILL INCREASE DEMAND FOR PELLETS AND HIGH-PURITY IRON

### CUMULATIVE HISTORICAL PRODUCTION<sup>1</sup>

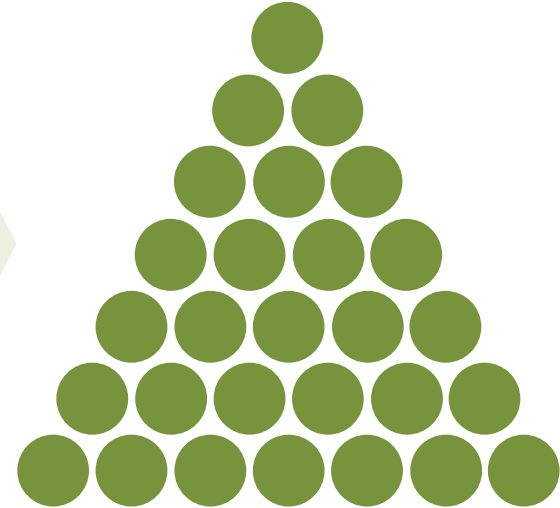


**2,300 Mt**

**6x**

More demand for DR pellets by 2050 than the cumulative historical production to support the steel industry's transition to DRI-EAF steelmaking

### FORECAST DEMAND (2023-2050)



**14,400 Mt**

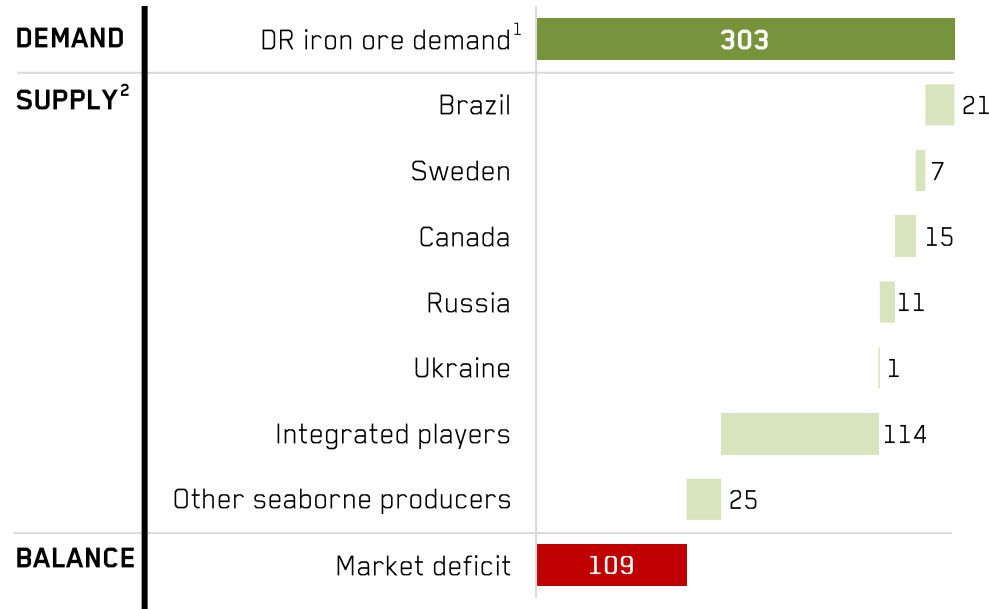
The increase in demand translates into an additional 348 Mtpa of high-purity iron needed by 2050<sup>2</sup>, equivalent to an additional ~40 average scale mines



## SIGNIFICANT DEFICIT OF DR GRADE IRON ORE EXPECTED AS A RESULT OF DRI DEMAND GROWTH

### DR GRADE IRON ORE SUPPLY/DEMAND BALANCE BY 2031

(Mtpa)



→ Global DR quality iron ore concentrate demand is expected to exceed **300 Mtpa by 2031**

→ As a result of limited expected supply, the market deficit is expected to be approximately **109 Mtpa by 2031**, representing approximately **50% of current supply** and **2x current seaborne market**

→ Potential suppliers of DR quality iron ore concentrate expected to be concentrated in a few countries including Brazil, Russia, Sweden, Canada and Ukraine

Sources: Champion Iron Limited, Minepans by McKinsey

Notes: 1. Based that all DRI production will require DR grade material (excluding SAF-DRI-BOF route) | 2. Including 50% of Baffinland lumps; Considering 3.7Mt of pig iron logistically constrained due to Russia/Ukraine conflict; Includes net imports of 6Mt of OBMs, -14Mt of obsolete scrap and 0.2Mt of prime scrap; Supply = generation + net import; Includes both pig iron and HBI/DRI

## DR QUALITY IRON ORE SUPPLY GROWTH IS REQUIRED FOR THE GREEN STEEL TRANSITION

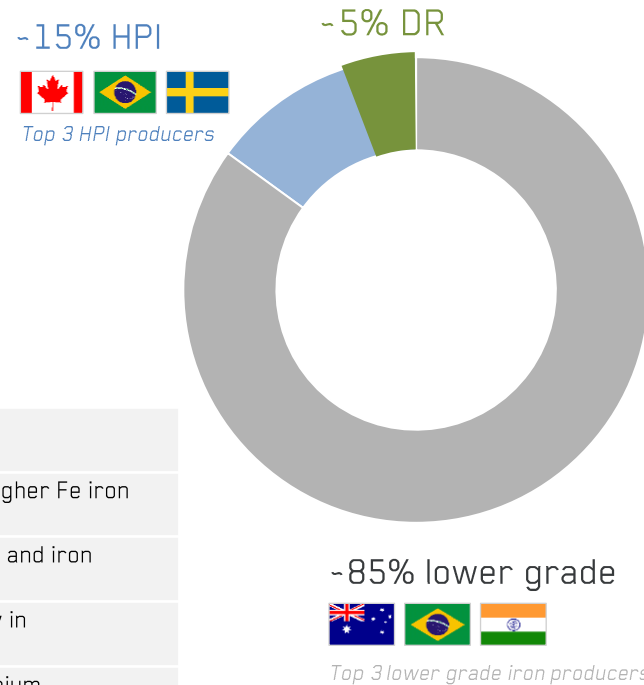
### WHY IS HIGHER GRADE AND LOWER IMPURITY IRON ORE IMPORTANT?

- Reduces energy consumption and coal in traditional steelmaking
- Processed in a more energy efficient manner as fewer impurities need to be processed
- Qualifies for lower emitting steelmaking methods, including DRI/EAF steelmaking

### IRON ORE CONCENTRATE SPECIFICATIONS

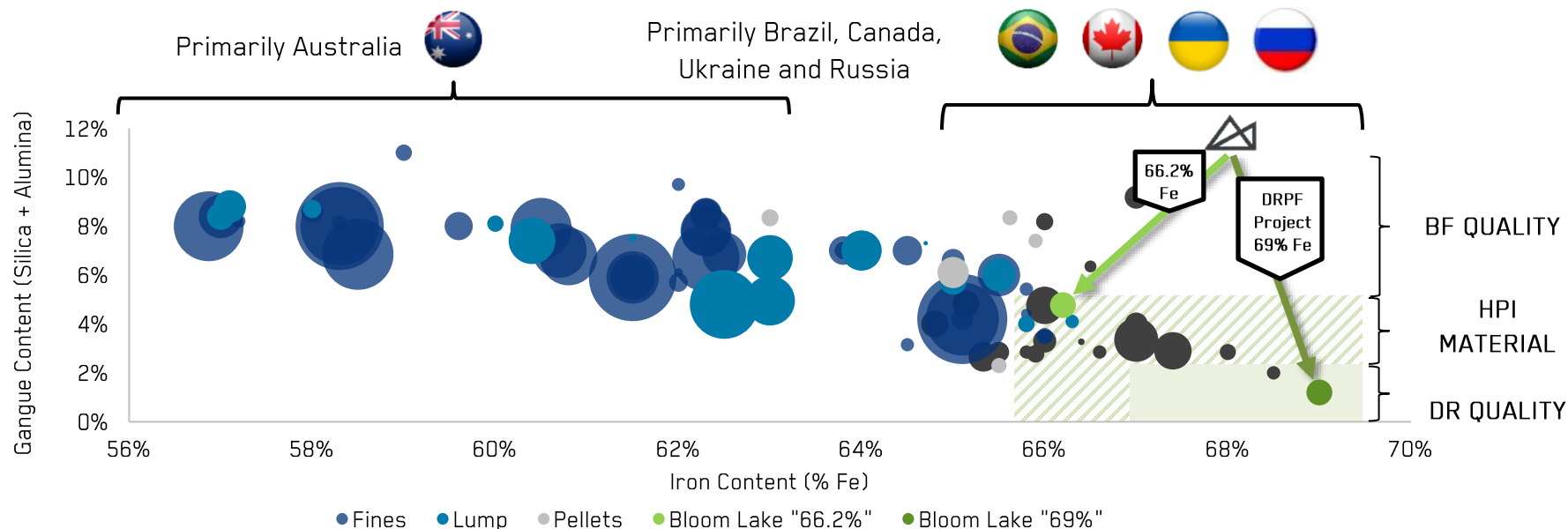
HIGH-PURITY IRON (HPI)	DIRECT REDUCTION (DR)	COMMENTS
> 65% Iron Content	> 67% Iron Content	Not all ore can be economically upgraded to a higher Fe iron ore concentrate
< 5.5% Alumina & Silica	< 2.5% Alumina & Silica	Lower acid-gangue increases energy efficiency and iron yield
< 0.1% Phosphorus	< 0.1% Phosphorus	Lower impurities increases quality and usability in steelmaking
< 1.4% Impurities	< 1.4% Impurities	Impurities can include copper, manganese, titanium, vanadium etc.

### GLOBAL IRON ORE SUPPLY



## MARKET LEADING HIGH-PURITY DR QUALITY PRODUCT IN A GROWING MARKET

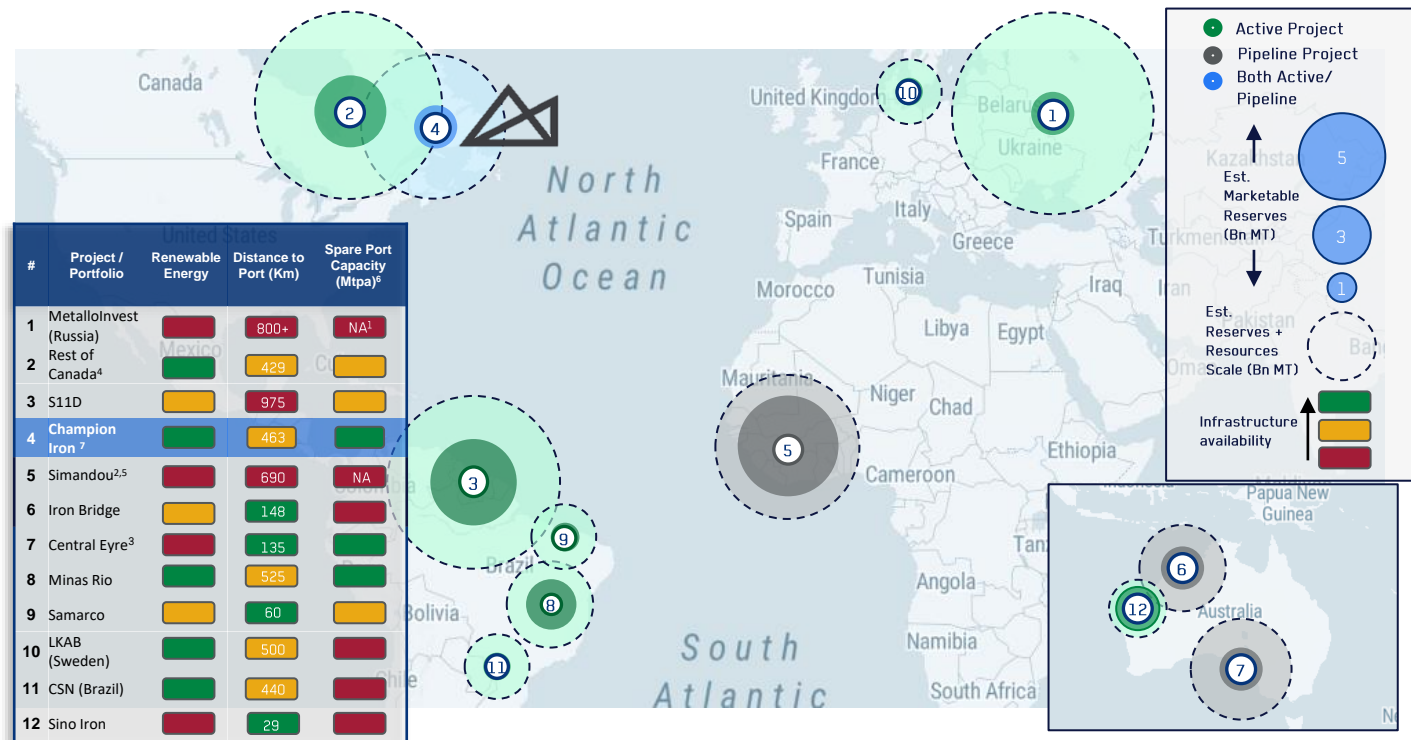
### SUMMARY OF IRON AND GANGUE CONTENTS



Few deposits can produce DR quality iron ore concentrate required in DRI-EAF steelmaking to produce advanced steels. Champion's 69% Fe iron ore concentrate is expected to be a market leading DR quality product



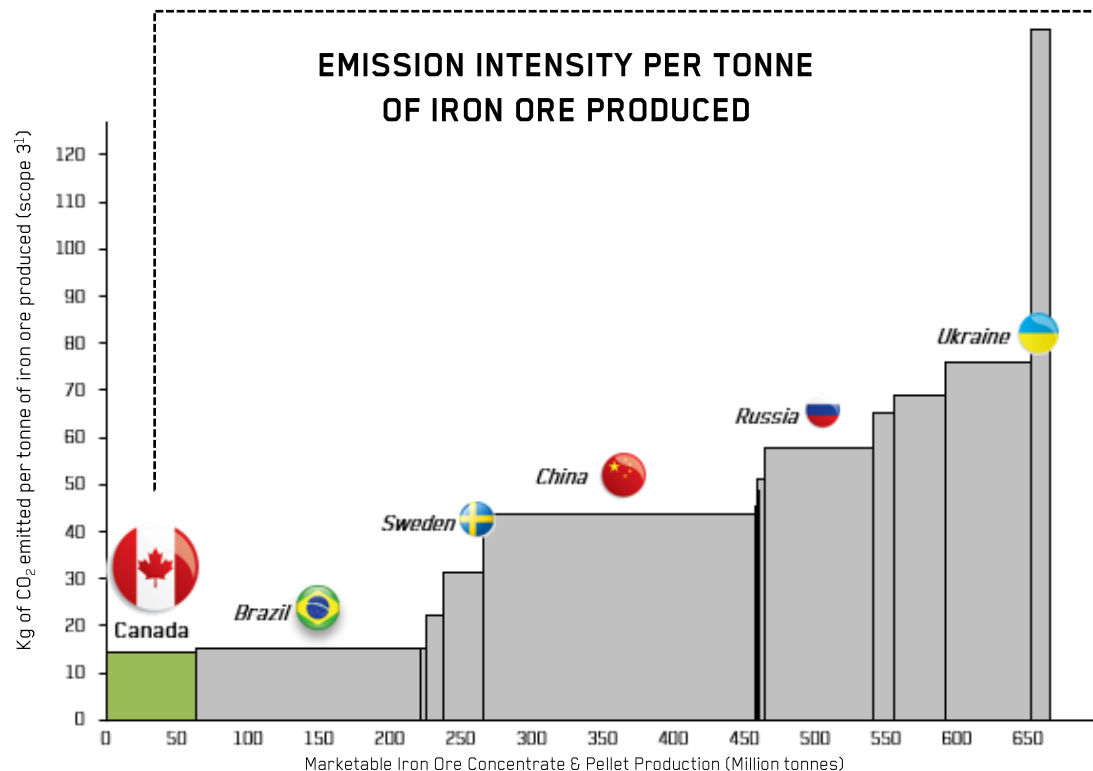
## THE LABRADOR TROUGH IS STRATEGICALLY POSITIONED TO MEET DEMAND FOR HIGH-PURITY IRON ORE



Sources: Wood Mackenzie, Corporate Reports, PFS Studies, Public Information (can include estimates); Data as of 2022.

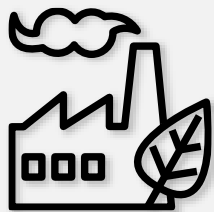
Notes: Billion Metric tonne reserves; Resources are estimated on a Measured, Indicated, and Inferred Basis. Global snapshot is not exhaustive, (1) Port capacity estimate could not be reasonably identified, (2) Port not yet constructed, (3) Port not yet constructed, (4) Rest of Canada data is not exhaustive (Mont Wright, Carol Lake, Fire Lake, Baffinland...), (5) Simandou includes Blocks 1-4 (6) Spare port capacity estimated; Green-40+, Yellow-20-39, Red-0-19, (7) Champion Iron Limited reported distance from Bloom Lake to Pointe Noire.

## CANADIAN IRON ORE IS PRODUCED WITH ONE OF THE LOWEST CARBON INTENSITY GLOBALLY



Benefiting from renewable hydropower capacity generating 53% of all energy consumed on site<sup>2</sup>, Champion has an industry leading position in emission intensity per tonne of iron ore produced of 9.8 Kg of CO<sub>2</sub>/t

### EXTRACTING HPI IN CANADA WILL HELP REDUCE STEELMAKING EMISSIONS GLOBALLY



0.018t of CO<sub>2</sub>e  
emitted by HPI  
production in  
Canada<sup>1</sup>

100x



1.96t of CO<sub>2</sub>e/t  
steel-related emissions<sup>1</sup>  
abated with DRI-EAF steel  
produced with HPI in  
Canada

A transition of Bloom Lake's 15 Mtpa nameplate capacity to DRPF quality could reduce nearly 9.7 Mt of CO<sub>2</sub>e/year in the steelmaking process<sup>2</sup>, representing over 100x the emissions generated by the Company

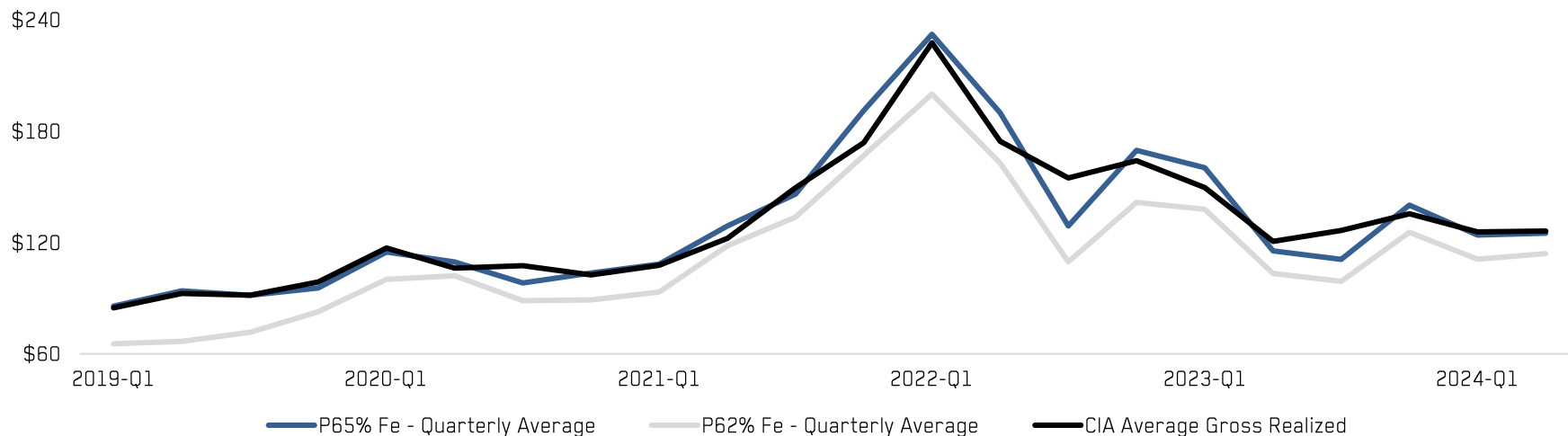
Sources: Champion Iron Limited, data by Minespans by McKinsey

Notes: 1. For one tonne of steel produced elsewhere, assuming average mining emissions in Canada of 12.6 kg CO<sub>2</sub>e per tonne of iron ore concentrate and 1.47 tonne of pellet feed iron ore concentrate per tonne of steel produced. Comparing emissions between BF-BOF steel production using coal as a reductant with ROW average mining emissions of 49 kg of CO<sub>2</sub>e per tonne iron ore concentrate and DRI-EAF using hydrogen as a reductant with HPI produced in Canada, using 1.50 tonne of iron ore concentrate per tonne of steel produced with BF-BOF, and assuming 2.0t of CO<sub>2</sub>e/t of steel delta between ROW - BF-BOF and Canada - DRI-EAF | 2. Emissions compared to traditional steelmaking method of BF-BOF



## CHAMPION'S 66.2% FE IRON ORE CONCENTRATE ATTRACTS A PREMIUM OVER THE P62 INDEX

**CHAMPION'S GROSS REALIZED PRICE VS P65 AND P62 INDEX**  
(US\$/DMT)

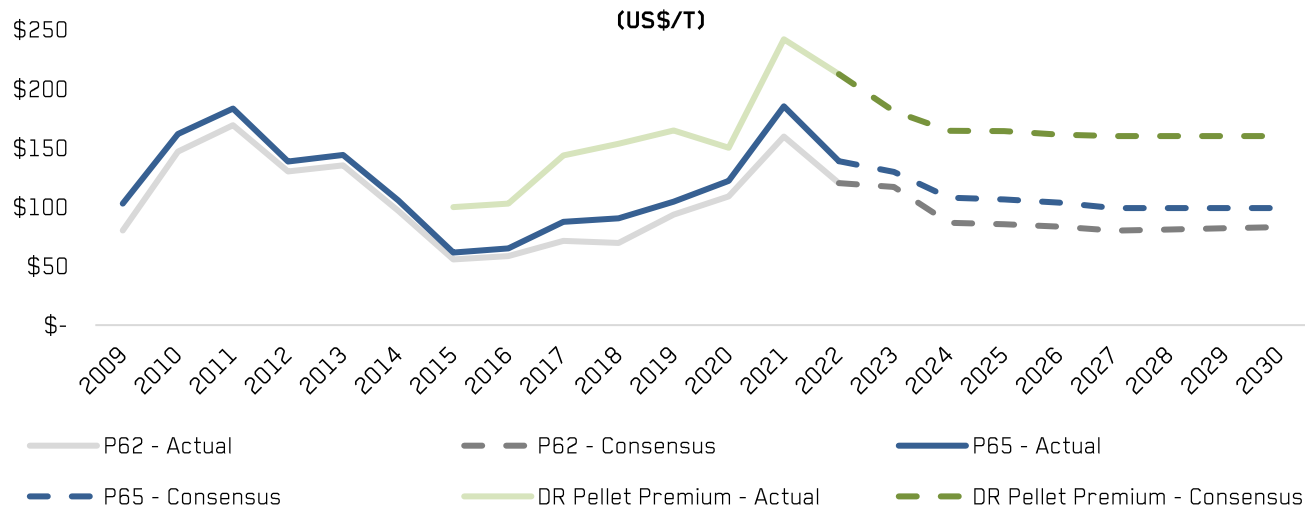


→ Since 2018 restart: Champion's quarterly gross realized price averaged US\$130.0/dmt<sup>1</sup>, compared to the P65 high-grade index average of US\$130.2/dmt, representing an average premium of 15% compared to the P62 index

## LONG-TERM IRON ORE CONSENSUS PRICES ARE WELL BELOW HISTORICAL AVERAGE

- P62 and P65 index consensus prices are 25% and 18% below their respective historical averages<sup>1</sup>
- Iron ore supply growth is limited by low price expectations, inflationary pressures, rising cost of capital, increasing ESG expectations and long lead time to deliver projects compared to other commodities

### P62, P65 AND DR PELLETS HISTORICAL AND CONSENSUS PRICES

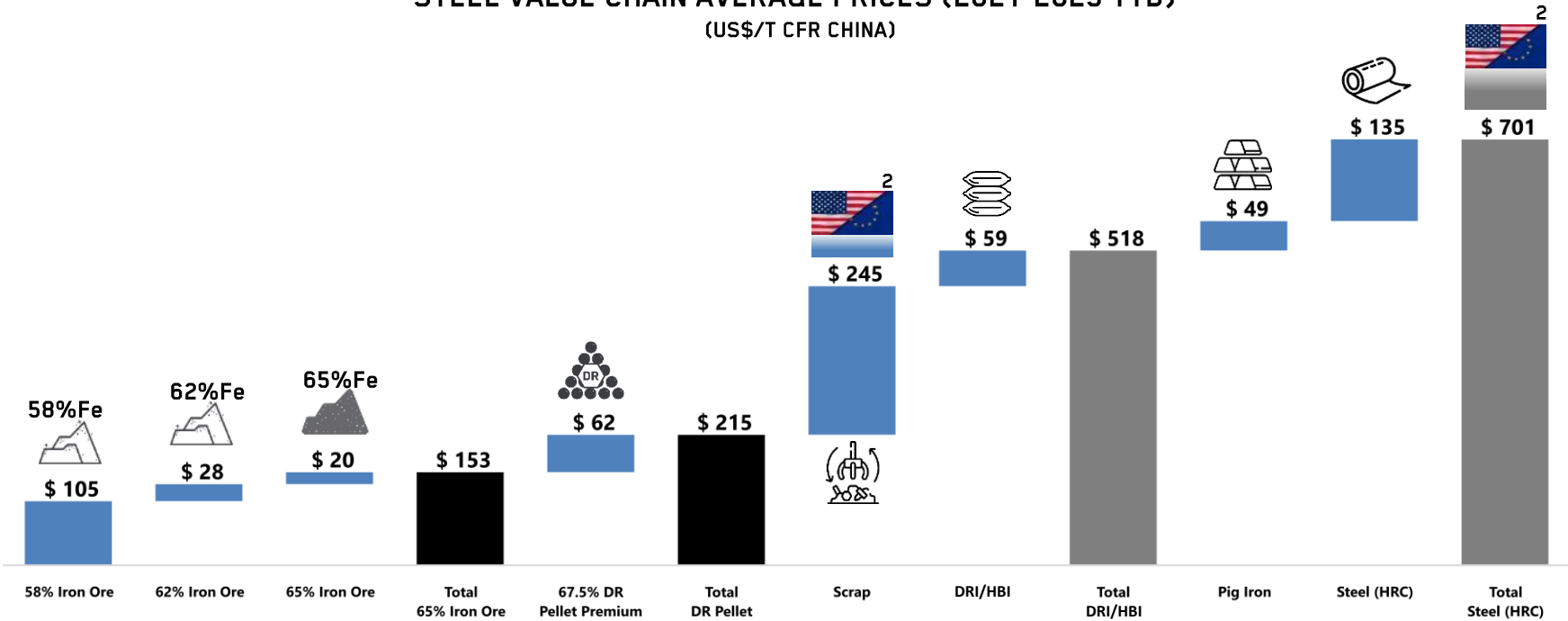


Sources: Champion Iron Limited, Bloomberg, Platts data, Wood Mackenzie

Notes: 1. Historical average from 2009 to 2022 for P62 and P65 and 2015-2022 for DR pellets | 2. P62 and P65 consensus as of July 2023, including BMO, Bank of America, B. Riley FBR, Canaccord Genuity, Citi, CLSA, Cormark, Euroz, Goldman Sachs, Laurentian Bank, Macquarie, Paradigm, Raymond James, RBC Securities, Scotiabank, TD Bank

HIGH-PURITY IRON OFFERS THE OPPORTUNITY TO CAPTURE PREMIUMS ACROSS THE GREEN STEEL SUPPLY CHAIN

STEEL VALUE CHAIN AVERAGE PRICES (2021-2023 YTD)<sup>1</sup>  
(US\$/T CFR CHINA)

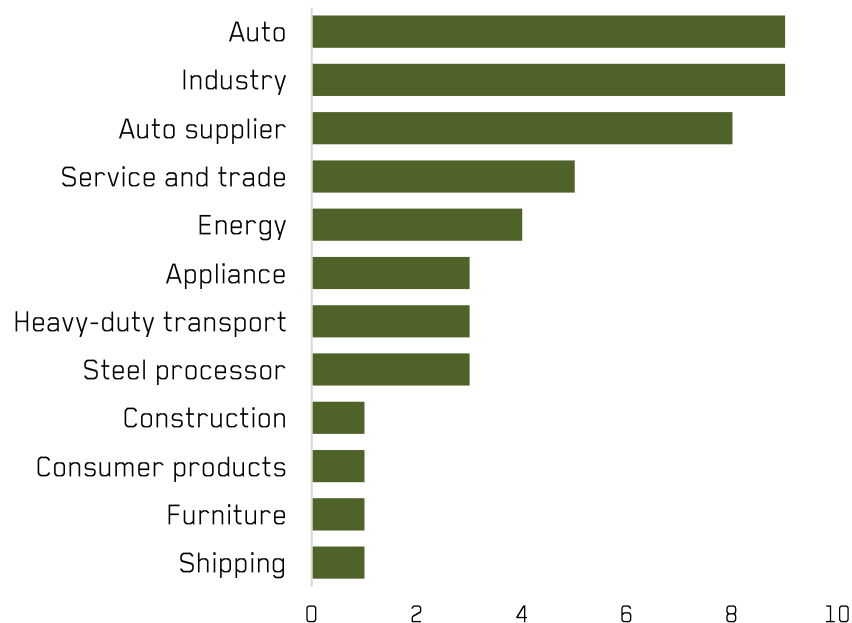


Sources: Champion Iron Limited, Platts data, Fastmarkets, Wood Mackenzie  
Notes: Numbers may not add up due to rounding. | 1. 58, 62, 65% index, BF 6 DR pellet, Scrap = CFR China; HBI = FOB New Orleans, adjusted for shipping; Pig Iron = FOB Brazil, adjusted for shipping; HRC = CFR China | 2. Scrap and HRC in US/EU have on average been trading above Chinese prices.

## RIISING DEMAND AND EMERGING PREMIUMS FOR GREEN STEEL

- Recent acceleration in announcements related to green steel supply agreements
- Prominent steelmakers and commodity index providers recently introduced green steel premium mechanisms, including:
  - A Nordic based steelmaker initiated an anticipated €300/tonne premium for near-zero emission steel
  - A US-based steelmaker initiated a US\$40/tonne surcharge for steel produced with DRI/HBI
  - First European flat green steel premium<sup>1</sup> index launched with an inaugural assessment at €200-300/tonne of CO<sub>2</sub> reduced steel

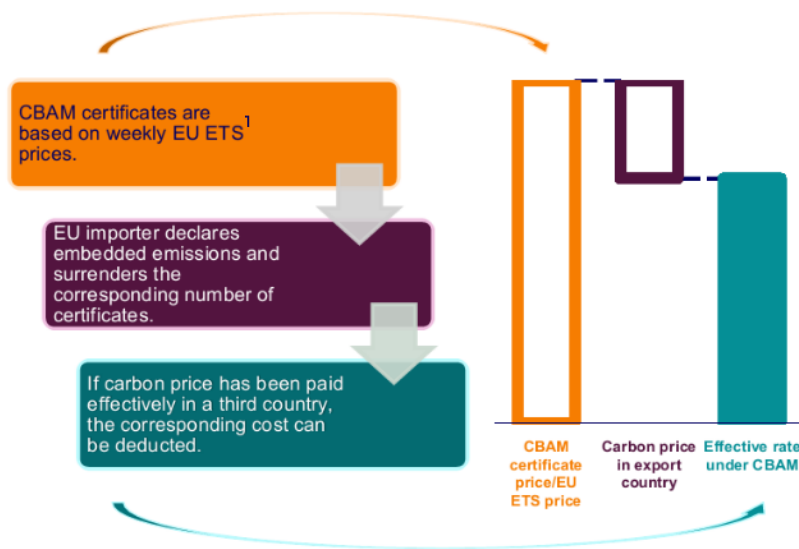
## TRACKED GREEN STEEL SUPPLY AGREEMENTS



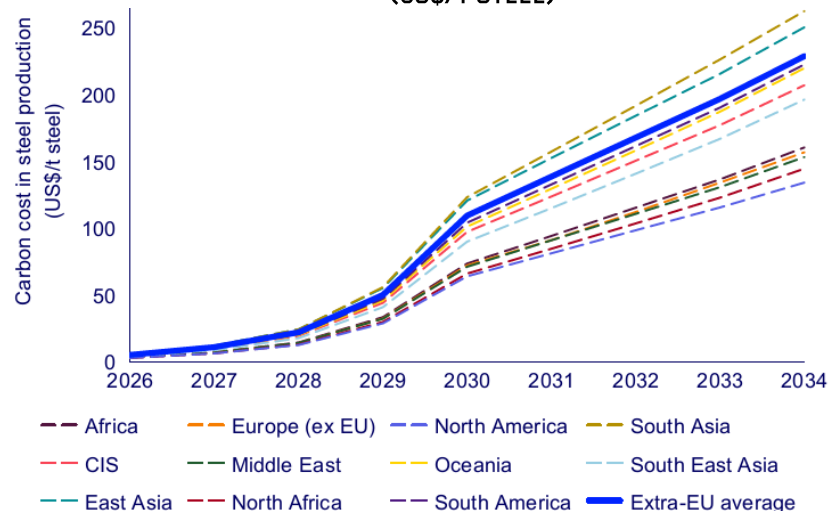


## CARBON COSTS ADJUSTMENTS

- Carbon Border Adjustment Mechanism (CBAM) implemented by the EU aims to address the issue of carbon leakage and encourage decarbonization practices globally
- CBAM will be implemented in 2026, and reach its full impact by 2034, which will impact the iron and steel sector
- As CBAM financial obligations are progressively deployed, carbon emission considerations will be an increasingly important cost component in international steel trade



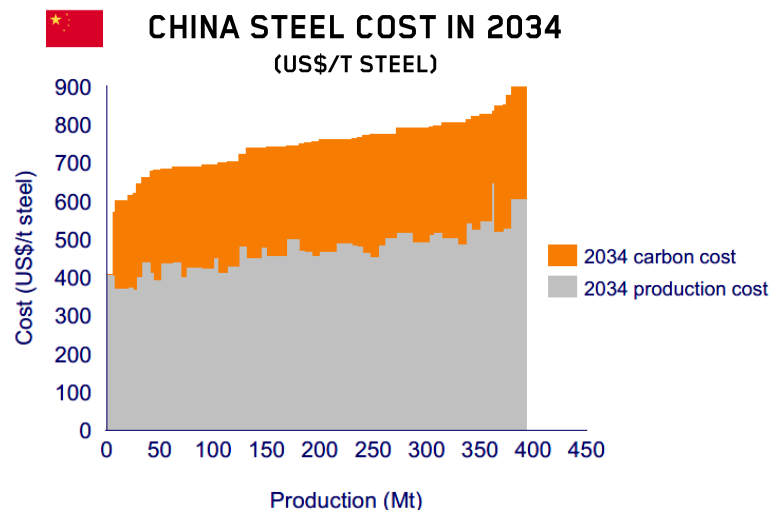
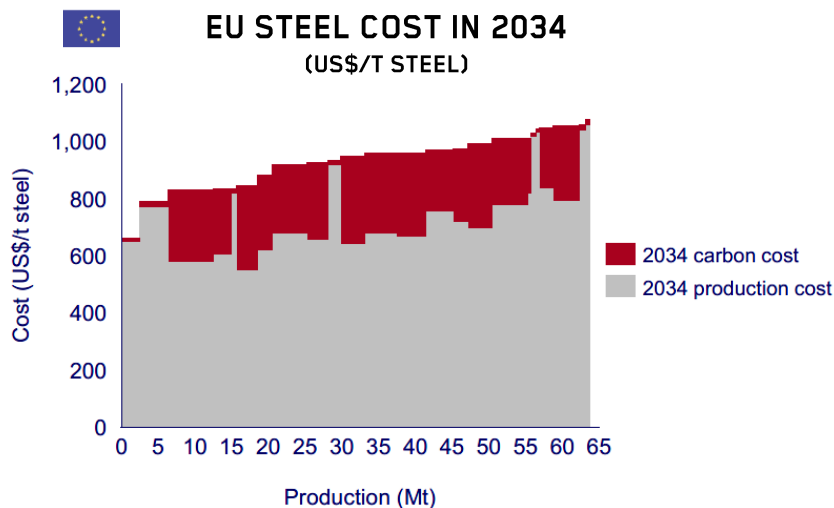
## AVERAGE CARBON COST IN STEEL PRODUCTION (US\$/T STEEL)



## CARBON COSTS ADJUSTMENTS CASE STUDIES: EU AND CHINA

- Post-2034, all EU steel producers will be exposed to carbon cost obligations
- BOF producers carbon costs are forecasted to be nearly 16 times higher than their EAF peers once CBAM is fully deployed

- In China, significant CBAM will be expected to be passed onto steel producers who want to export to the EU market
- Similar legislation recently proposed in the US with "Foreign Pollution Fee Act of 2023"



# INDUSTRY INSIGHTS

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## Disclaimer:

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# PRESENTER BIO

- Jeremy was born in Tonbridge, England in 1961 and emigrated to Canada in 1966. Jeremy grew up in Ottawa and attended Queen's University in Kingston, Canada, earning a BSc in Chemical Engineering in 1983 followed by an MSc in Chemical Engineering in 1985.
- Jeremy is a founding partner and President of Continuous Improvement Experts (CIX). Previously, he has held senior positions at Transfield Services, Tenova, WorleyParsons, Nupro Corporation, Bechtel Corporation, Florida Steel and Hatch Associates.
- Jeremy was made an honorary member of the American Institute of Mining, Metallurgical and Petroleum Engineers. He is a distinguished Member of the AIST, a recipient of the John Bell Award for advancing EAF technologies and a Fellow of the International Iron Metallics Association (IIMA). He is the past chairman of the AIST EAF Committee and the past chairman of the WorldSteel EAF Technology Committee. He is also a frequent contributor to AIST conferences, a frequent session chairman at its annual convention and the author of over 100 technical papers and articles.
- Jeremy's steelmaking experience spans direct reduction, smelting reduction, EAF steelmaking, blast furnace operations, BOF operations, ladle metallurgy, vacuum treatment and casting operations for all grades of steel.



**Jeremy Jones**

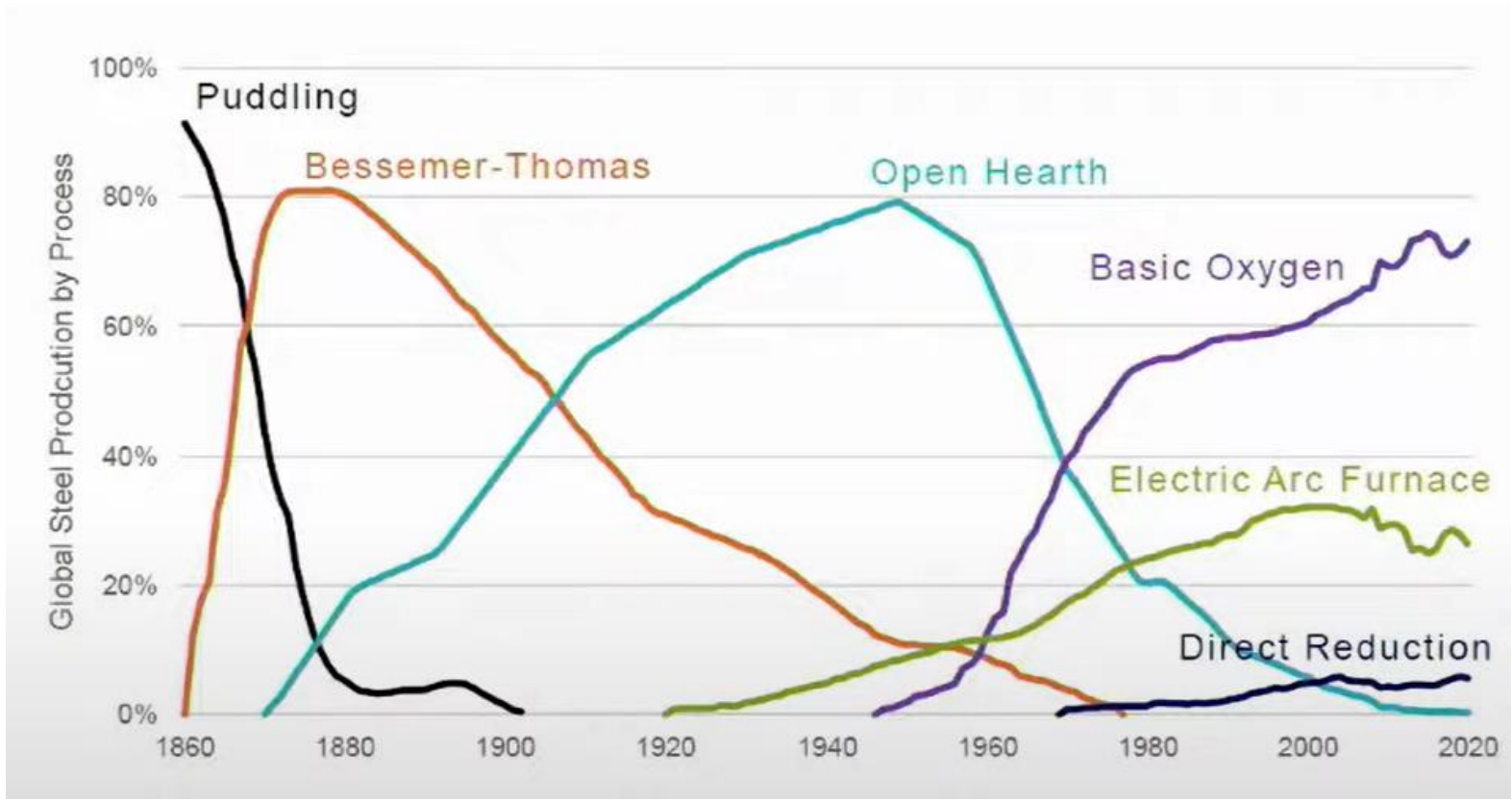
President, CIX





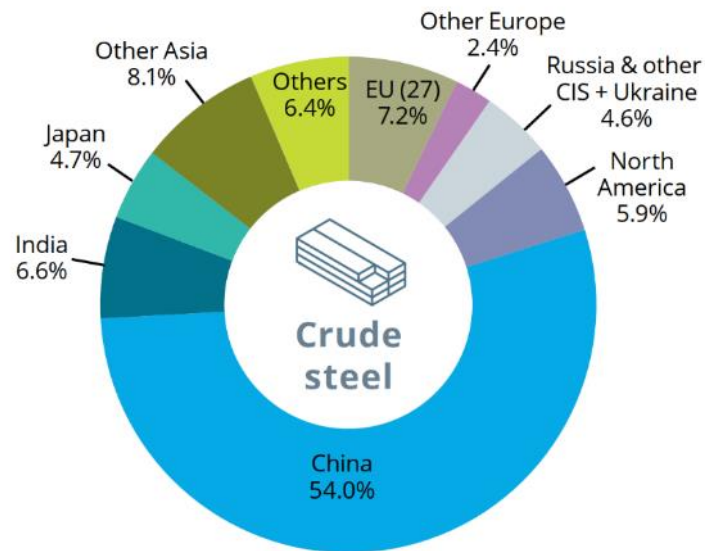
# STEELMAKING PROCESSES

# HISTORICAL STEELMAKING PRODUCTION BY PROCESS



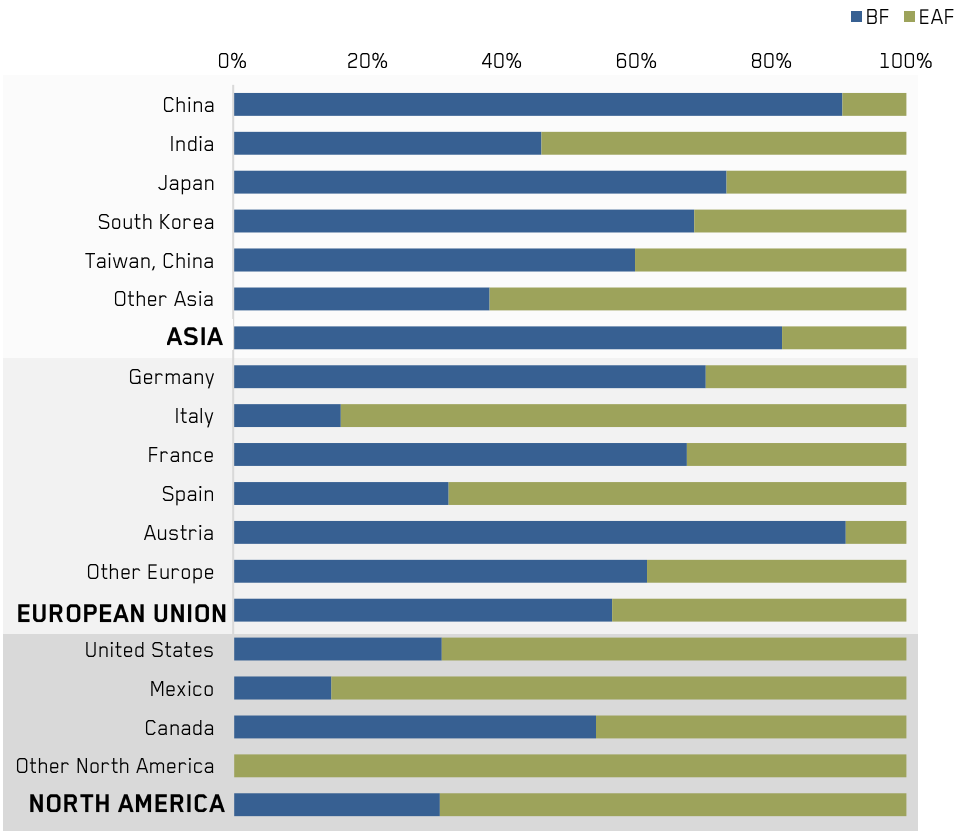
# CURRENT ANNUAL STEELMAKING PRODUCTION BY PROCESS

CRUDE STEEL PRODUCTION IN 2022

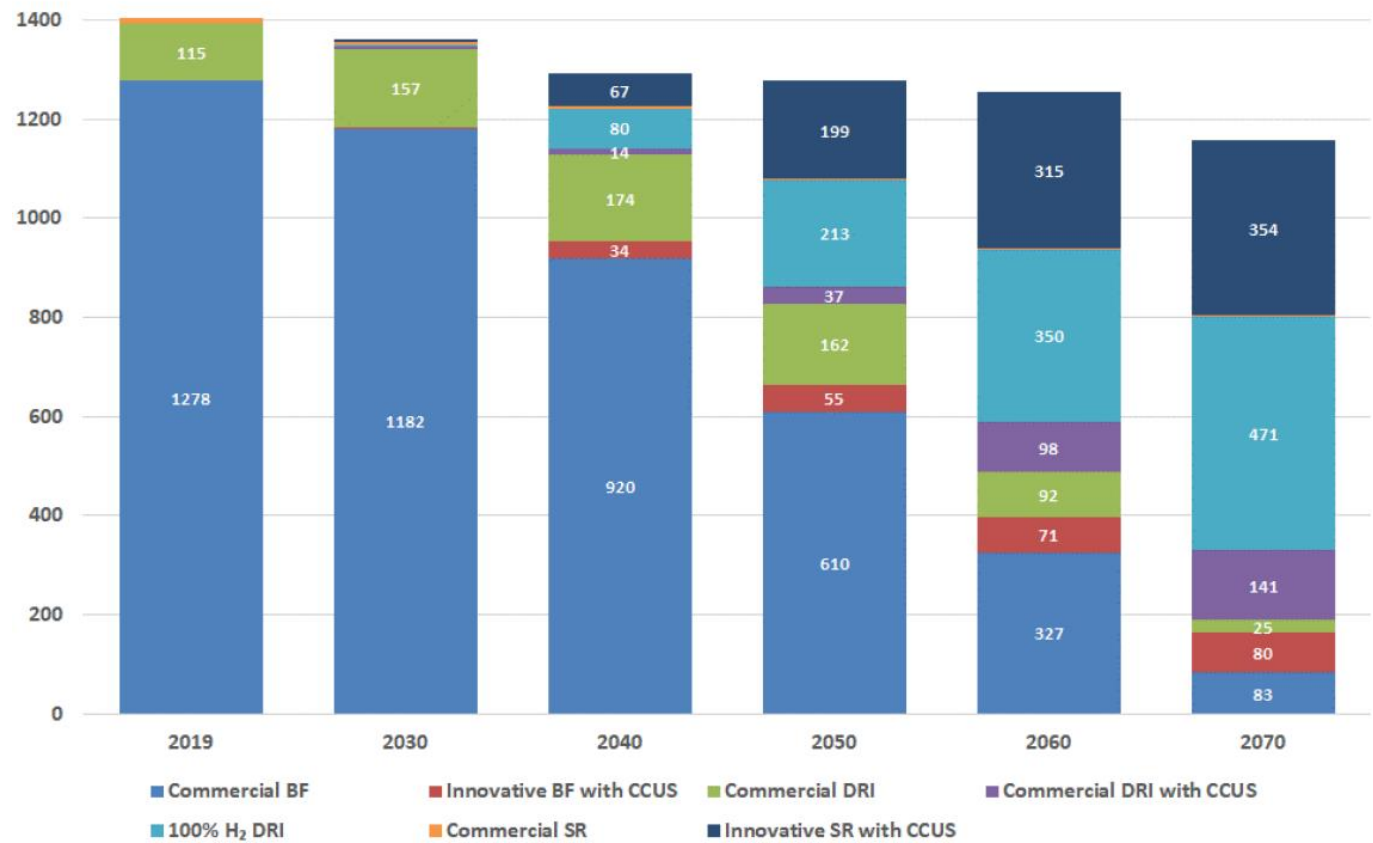


Source: WorldSteel

CRUDE STEEL PRODUCTION BY PROCESS IN 2022



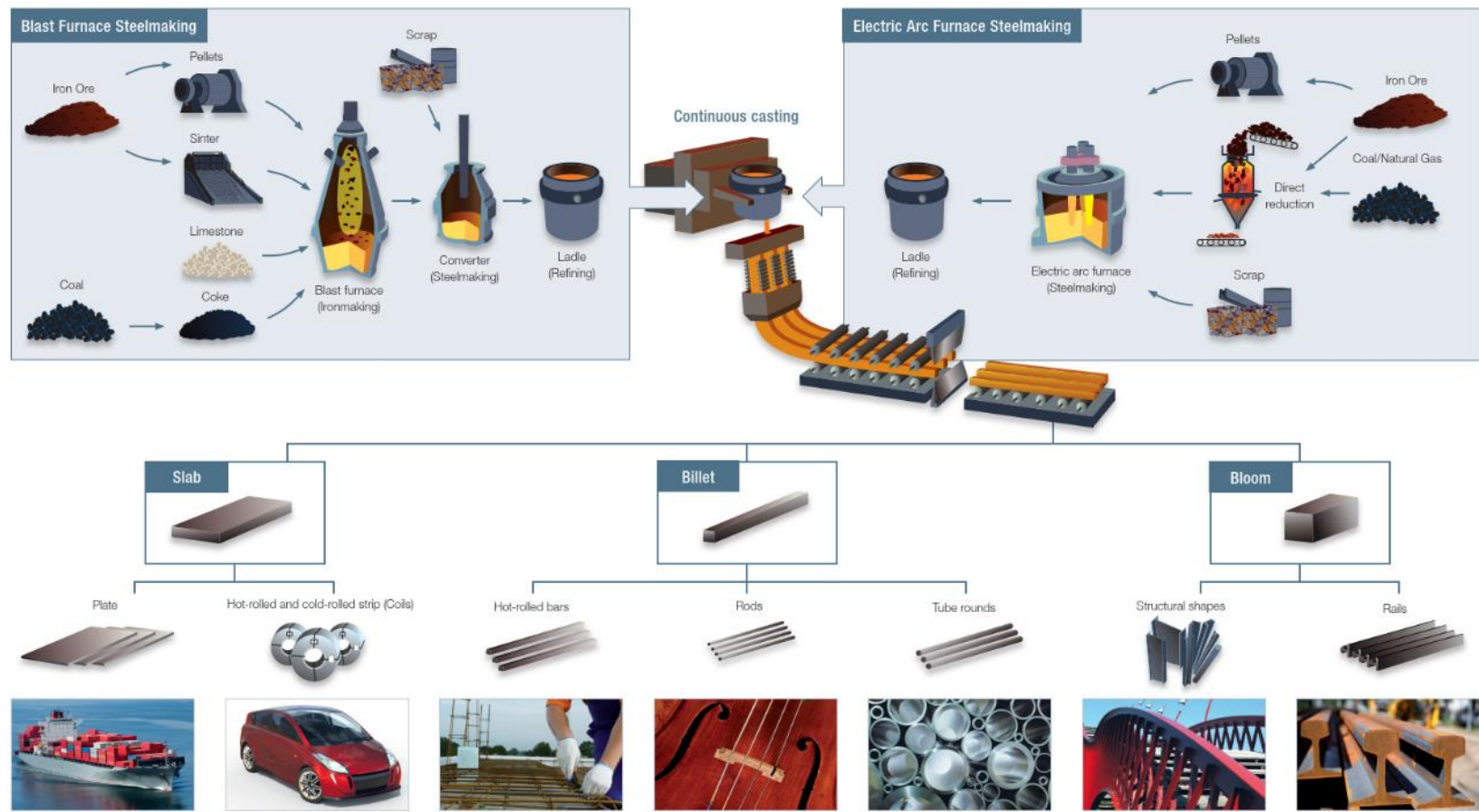
# FUTURE STEELMAKING PRODUCTION BY PROCESS



Source: IEA Energy Technology Perspectives 2020



# OVERVIEW OF THE STEELMAKING PROCESS

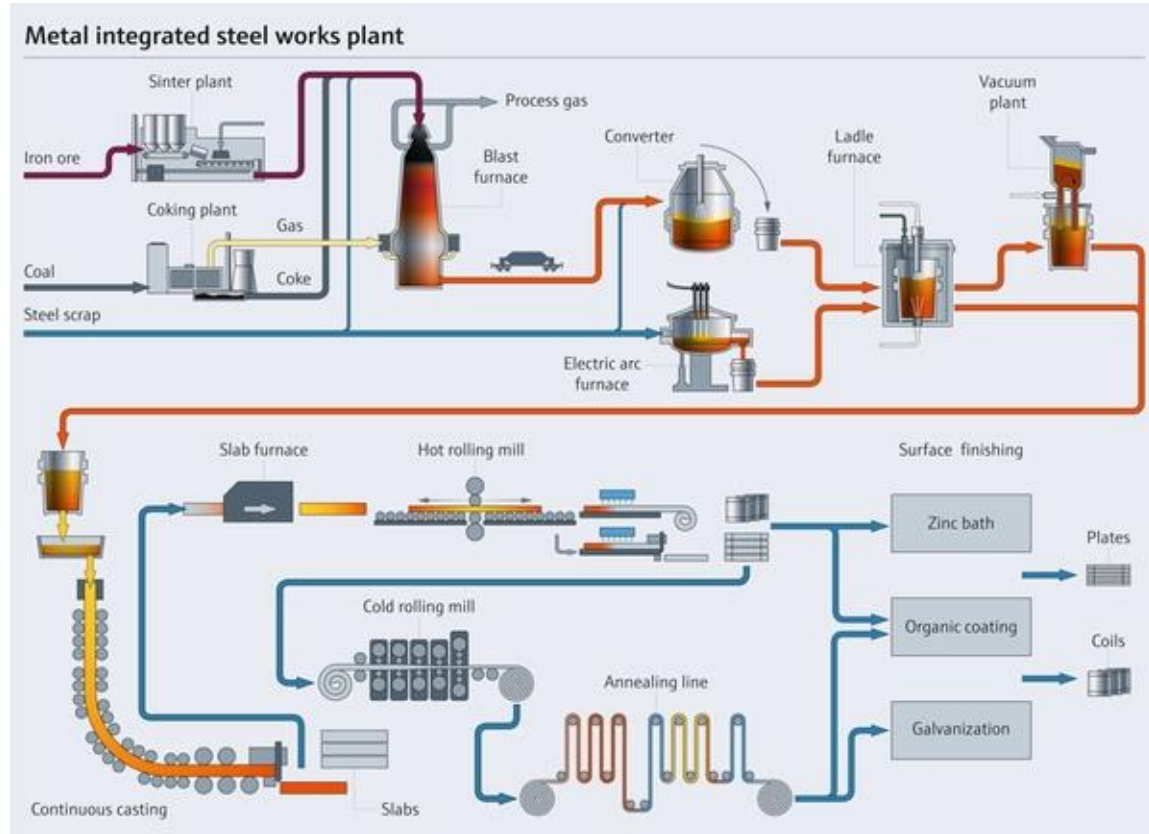


## INTEGRATED STEEL PLANT

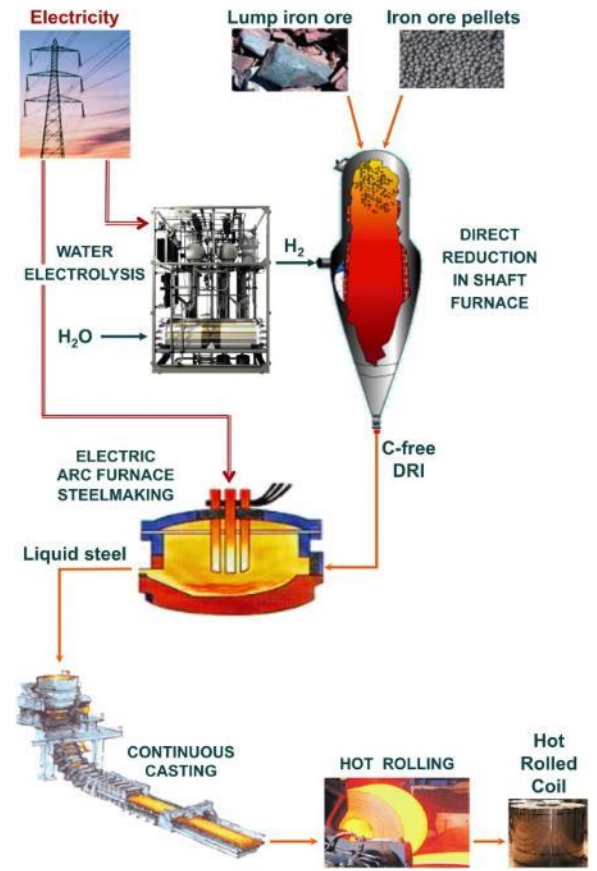
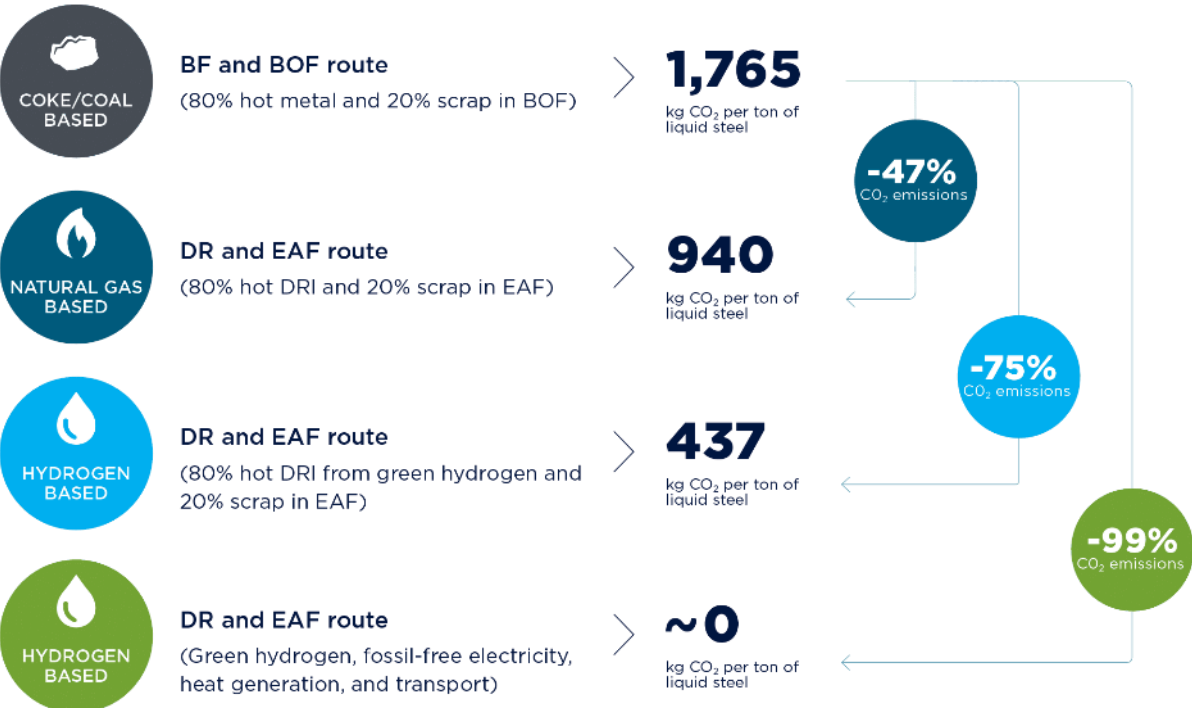
- Huge associated infrastructure – high cost of investment
- Several environmental concerns
- Utilizes 70-85 % hot metal in BOF charge, 15-30 % scrap (depends on HM chemistry)

## EAF

- Less associated infrastructure – requires large electrical power supply
- Can utilize up to 100 % ore-based metallics ("OBMs") or 100 % scrap depending on the product being made
- EAF route can produce any product currently made by integrated route



# H2-DRI-EAF: PREFERRED SOLUTION TO DECARBONIZE STEEL

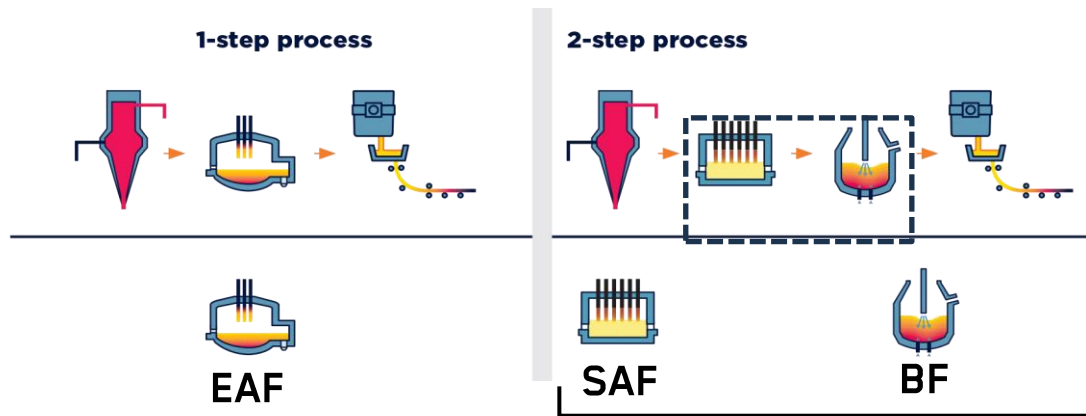


Sources: Primetals, ULCOS

# USE OF BF PELLETS AND INTERMEDIATE ELECTRIC SMELTING

- A potential solution for the use of lower grade BF pellets as DRI feedstock is an intermediate smelting/melting step between DR plant and steel plant. This technology is already offered by suppliers and plant builders (Tenova, Primetals, Metso Outotec, Hatch and SMS) whereby lower grade DRI is refined under reducing conditions in an electric smelter (e.g. submerged arc furnace, open slag bath furnace) prior to being charged to the steel plant or cast into pig iron ingots. This technology is expected to be utilized by Thyssenkrupp Steel, ArcelorMittal (Dunkerque and Gijon), Acciaierie d'Italia (Taranto). **Aggregate volume of DRI from these plants is estimated at -11 mt (requiring -16 mt pellets)**
- Tata Steel Ijmuiden's transition to green steelmaking will involve DR plants coupled with intermediate electric smelting capability. This solution is under active consideration for the medium term by iron ore producers in Western Australia whose Pilbara ores are difficult and expensive to beneficiate

## ALTERNATIVE DR PROCESS ROUTES



## OTHER POTENTIAL ROUTES

- Molten electrolysis (Boston Metals)
- Electrolytic process (Electra)
- Plasma process



**SIGNIFICANT ADDITIONAL ENERGY REQUIREMENTS**





# INTERMEDIATE ELECTRIC SMELTING

USING AN INTERMEDIATE STEP TO ENABLE THE USE OF LOW-GRADE IRON ORE IN DRI-EAF IS SIGNIFICANTLY MORE COMPLEX AND COSTLY

Electrical energy supplied by three transformers – energy is required for melting, final reduction

Hot DRI transport connects direct reduction plant with Smelters

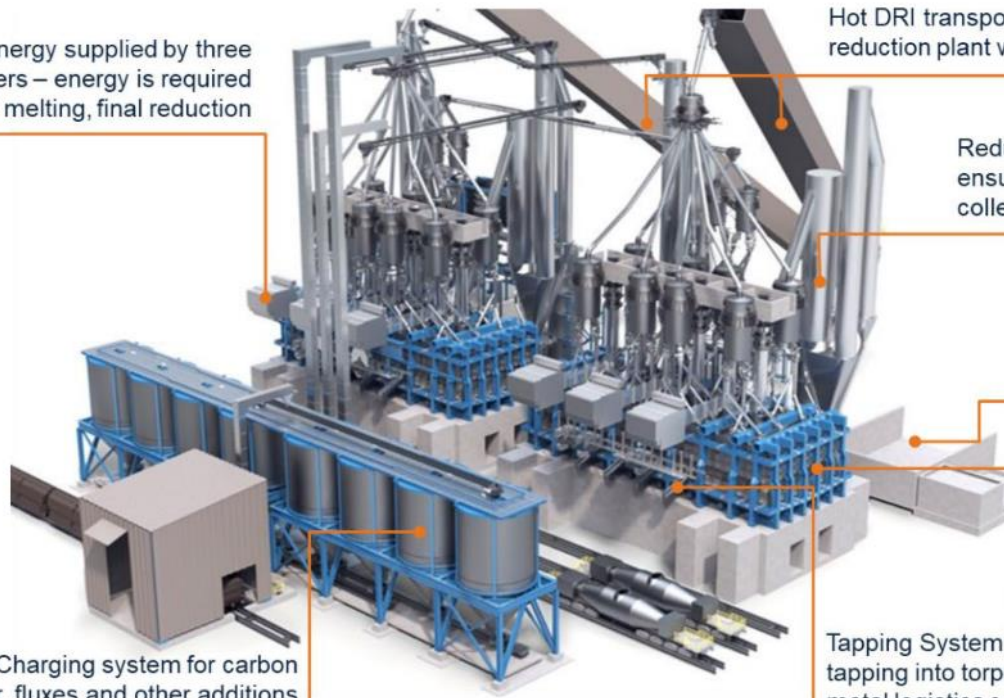
Reducing atmosphere in the furnace ensures CO rich off gas – off gas is collected and prepared for further usage.

Slag is adjusted to fit for application in cement industry. Slag is tapped on one side and granulated right after tapping.

Large furnace ensure big surface between slag and metal and good slag reduction, big hot heel to buffer hot metal before tapping as well as long refractory lifetime

Tapping System for hot metal tapping into torpedo car. Existing hot metal logistics can be reused

Charging system for carbon carrier, fluxes and other additions (e.g. recycling materials, scrap)

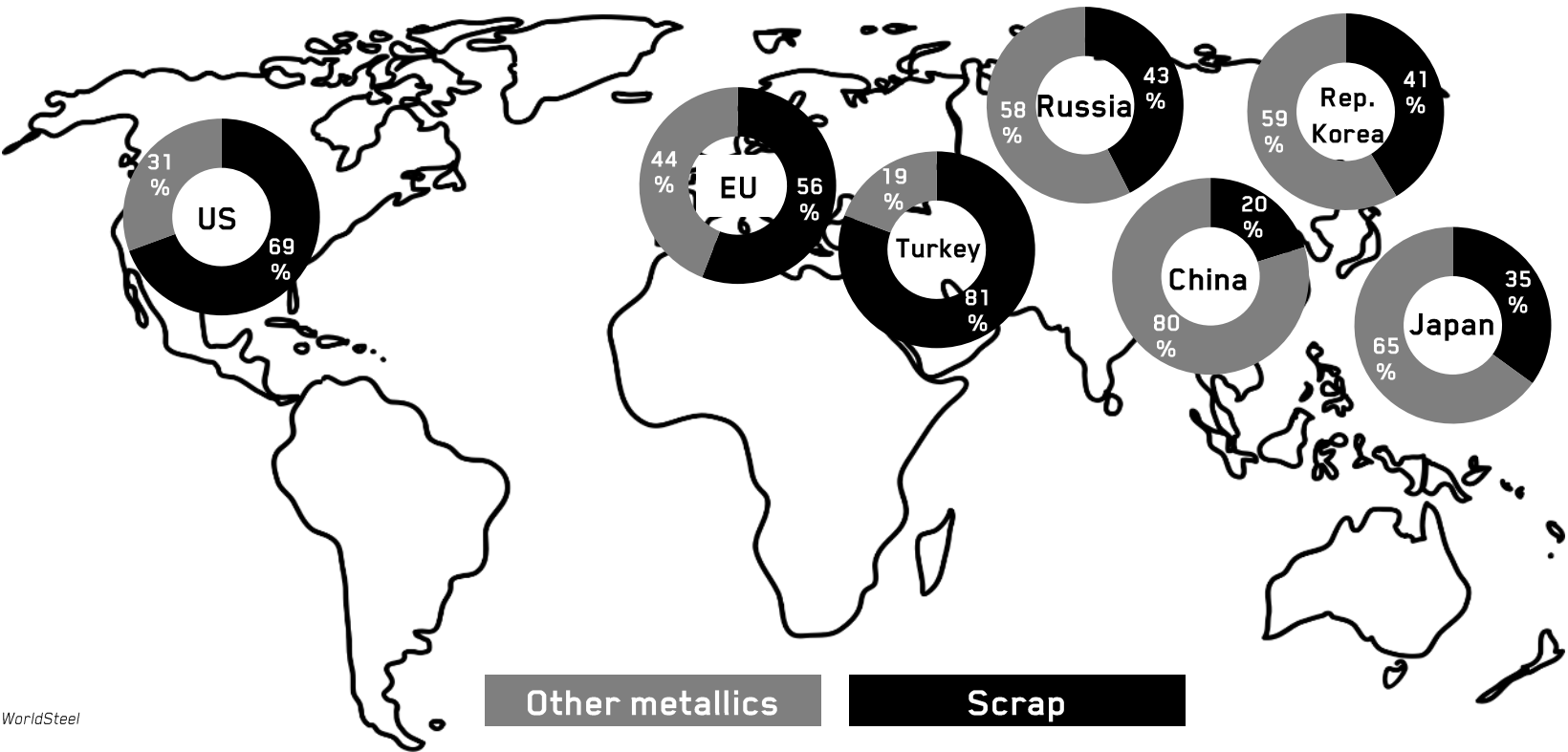




# THE PROBLEM WITH SCRAP

# PROPORTION OF SCRAP USED IN STEELMAKING

DEVELOPED ECONOMIES HAVE ALREADY OPTIMIZED SCRAP COLLECTION WHILE EMERGING ECONOMIES WILL FACE CHALLENGES IN SCRAP COLLECTION

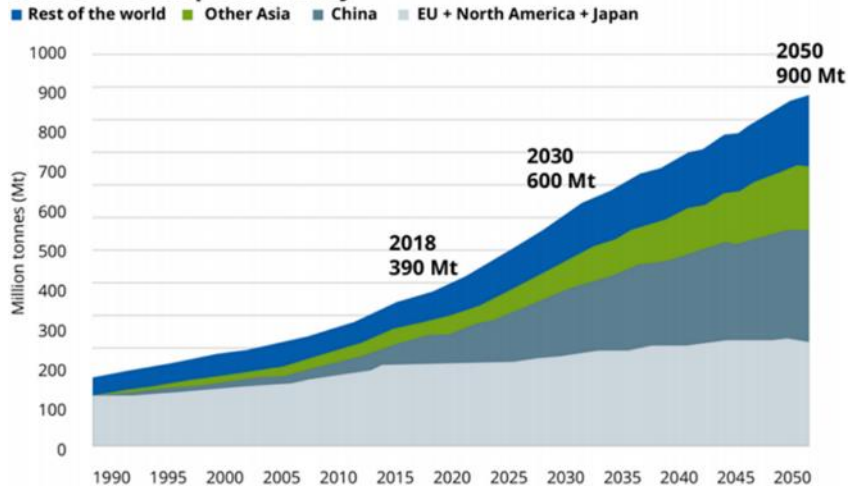


Source: WorldSteel

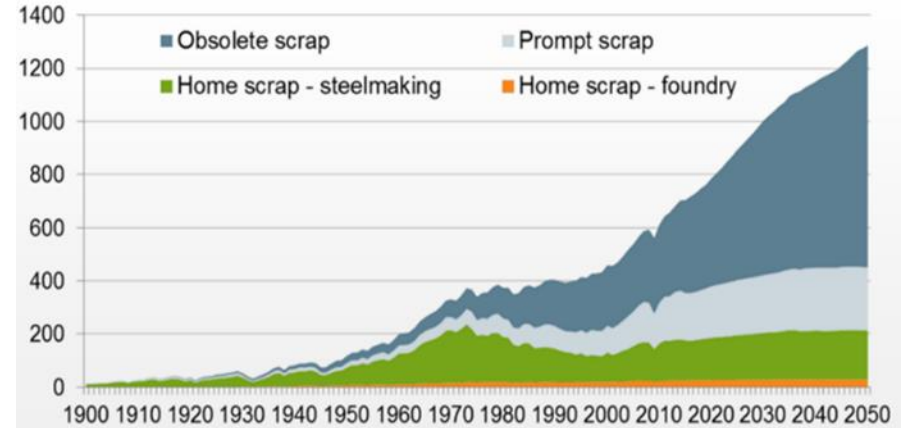
# SCRAP SUPPLY CHALLENGES

- Rising residual levels – copper, tin, nickel, molybdenum/chrome
- Extraneous materials – dirt, oil, grease fluff, coatings
- Proximity of scrap to steelmaking hubs – logistics of collection/transportation and associated CO<sub>2</sub> footprint
- Lack of common global nomenclature for scrap grades and large degree of variability in obsolete scrap
- Declining availability of prime/prompt scrap
- Copper content in products expected to rise with increased electrification

**End-of-life scrap availability**



**Global scrap availability, Mt**





# A SOLUTION IS NEEDED TO ACHIEVE HIGH SCRAP RECYCLE RATE

- In North America, the short-term solution is dilution; this is evidenced by the high use of ore-based materials (pig iron, DRI and HBI) in the charge mix to dilute residual levels in the recycled steel
- The added benefits of DRI and HBI on GHG emissions will also be a factor leading to increased use
- Currently, OBMs enable the recycling of high-residual obsolete scrap; without OBMs, a significant amount of obsolete scrap would not be recycled, but would be destined for landfills
- “Prime” scrap availability is shrinking in many mature economies as manufacturers become more efficient and generate lower quantities of scrap
- As steel technology evolves (i.e. advanced high-strength steels), the quantity of steel used is also shrinking
- At the same time, several automakers are calling for high quality flat products made without pig iron



# THE CHALLENGE WITH RESPECT TO SCRAP RESIDUAL LIMITS

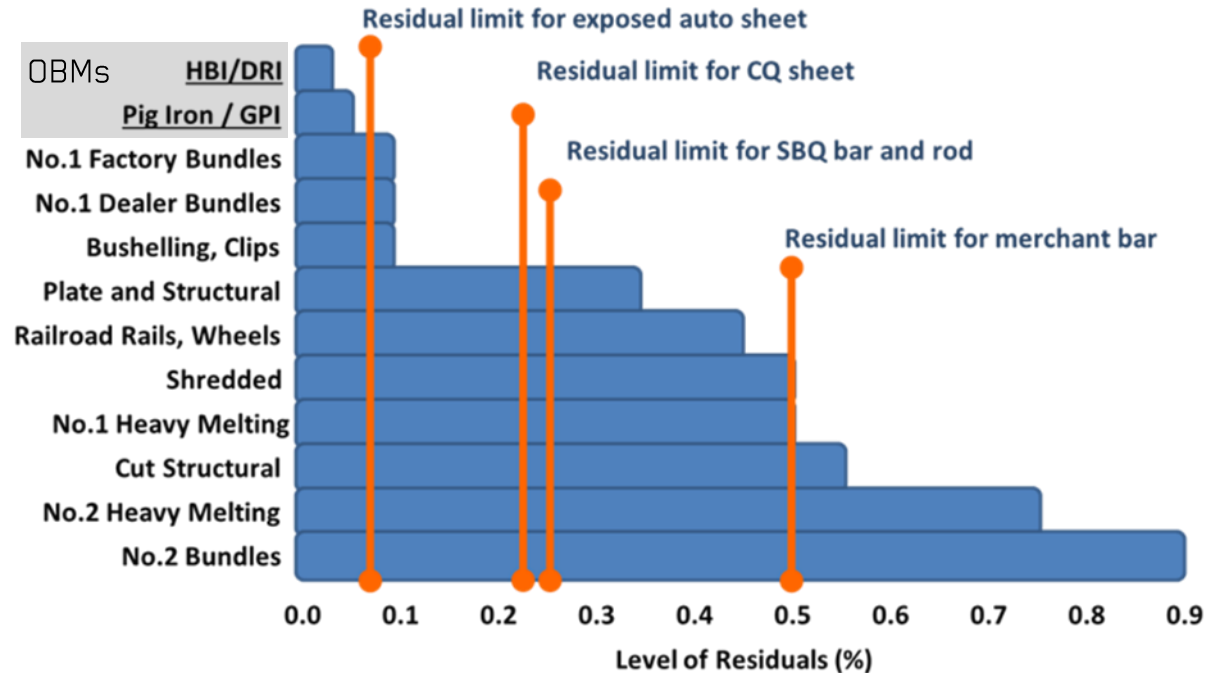
## Key Drivers

- A shortage in prime scrap
- Rising copper levels in obsolete scrap
- Increased EAF based steel production

## Impacts

- Result in shortages of higher quality scrap to support the steel industry
- The demand for “clean” iron units will grow considerably
- This demand can only be satisfied with OBMs (MPI, GPI, DRI and HBI)

## SCRAP PRODUCTS AND RESIDUAL LIMITS FOR CERTAIN STEEL



As the average copper content in recycled scrap increases, more ore-based material is required to dilute the residuals in the scrap to produce certain steel products

# AN EXAMPLE WITH COPPER RESIDUALS IN SCRAP

- Currently, the average copper content of scrap recycled in North America is about 0.25–0.30 weight %
- Even at this level, to make a product with 0.10 wt. % Cu max, it is necessary to blend around 65% OBM to achieve the targeted chemistry
- It is expected by 2050, the average copper content in obsolete scrap could reach 0.50 wt.%

## NECESSARY OBM CONTENT OF THE SCRAP MIX

		Desired product maximum copper content (wt.% Cu)									
		0.10	0.20	0.25	0.30	0.40	0.50				
Obsolete scrap copper content (wt. % Cu)	0.10	0%	<div></div>						Current average North American scrap		
	0.20	51%								0%	
	0.25	61%								20%	0.0%
	0.30	67%								34%	17%
	0.40	75%	50%	38%	25%	0.0%	2050 expected scrap				
	0.50	80%	60%	50%	40%	20%		0.0%			
		0.60	84%	67%	59%	50%	33%	17%			

By 2050, it may not be possible to produce even basic steel products such as rebar using only obsolete scrap, without the use of OBMs to dilute the scrap residual impurities

# VARIOUS STEEL PRODUCTS AND SCRAP RESIDUALS

## TYPICAL MAXIMUM RESIDUALS LEVELS FOR DIFFERENT STEEL GRADES

	S	Cu	N	Mo	Cr	Sn	Total
Rebar	0.05	0.40	0.35	0.08	0.15	0.08	1.06
Structural	0.03	0.40	0.15	0.08	0.15	0.03	0.81
Plating	0.03	0.20	0.10	0.02	0.10	0.02	0.44
Low quality flat	0.03	0.15	0.08	0.02	0.08	0.02	0.35
Deep drawing	0.03	0.06	0.10	0.02	0.07	0.02	0.27

## TYPICAL RESIDUALS LEVELS IN SCRAP AND IN DRI/HBI

	S	Cu	Ni	Mo	Cr	Sn	Total
No.1 Bundles	0.07	0.07	0.03	0.008	0.04	0.008	0.23
Shredded	0.07	0.22	0.11	0.02	0.18	0.03	0.63
No.1 Heavy Melt	0.07	0.25	0.09	0.03	0.10	0.025	0.57
No.2 Heavy Melt	0.07	0.55	0.20	0.04	0.18	0.04	1.08
DRI/HBI	0.005	0.002	0.009	<0.001	0.003	trace	0.02



DRI produced with high-purity iron ore is the key to produce high-grade, low residual steel grades



# **THE SOLUTION: ORE-BASED METALLICS ("OBMs")**



## PAST

- Ore based metallics “OBMs” (pig iron, DRI and HBI) are derived from iron ore as opposed to scrap
- OBMs have been utilized in EAF operations for many years
- In the early days, geographical areas lacked sufficient scrap to support EAF operations turned to DRI
- This was most prominent in areas that have access to cheap and plentiful natural gas
- Chronologically, the next phase in OBM utilization involved the use of pig iron in the EAF
- The reasons for this were many – improved carbon yield to the bath, increased productivity and more consistent operations
- Eliminated the need for charge carbon
- Resulted in increased oxygen utilization in the EAF
- The next big milestone in OBM utilization occurred when EAF operations transitioned to the production of flat products
- Insufficient supply of prompt scrap necessitated the utilization of DRI, HBI and pig iron to achieve the desired product chemistry
- This trend continued as EAFs moved into the production of higher and higher quality flat products resulting in the use of larger and larger quantities of OBMs

## PRESENT AND FUTURE

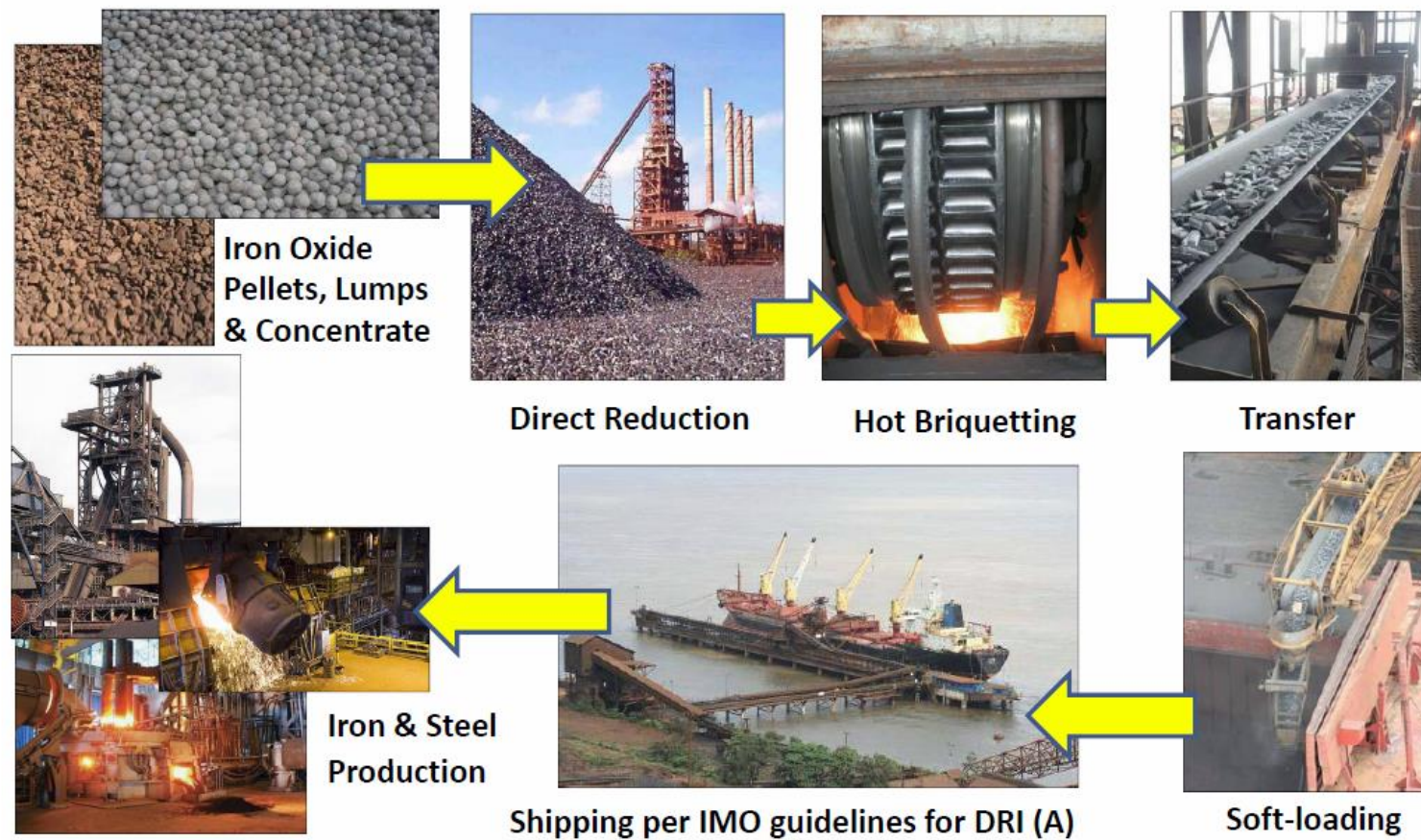
- As the world moves into the next evolution of steelmaking, and consider the scrap market out to 2050, **OBMs are no longer a luxury, but have become a core feedstock for EAF steelmaking**

## OTHER CONSIDERATIONS FOR OBM UTILIZATION

- Helps to close the loop on the circular economy
- Enables utilization of more medium/low grade scrap
- Greater steelmaking capacity moving to EAF based production
- Consistency of EAF operations
- Pacing of operations



# EXAMPLE OF MERCHANT MATERIAL FLOW FOR HBI

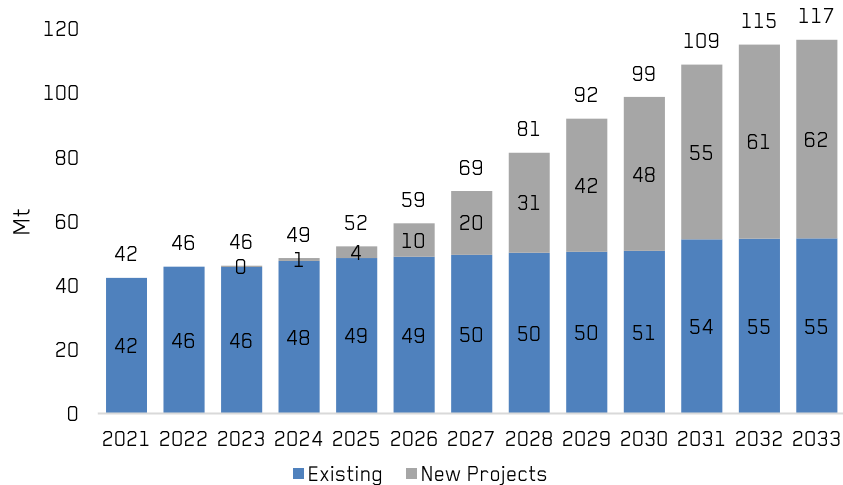


Source: Midrex

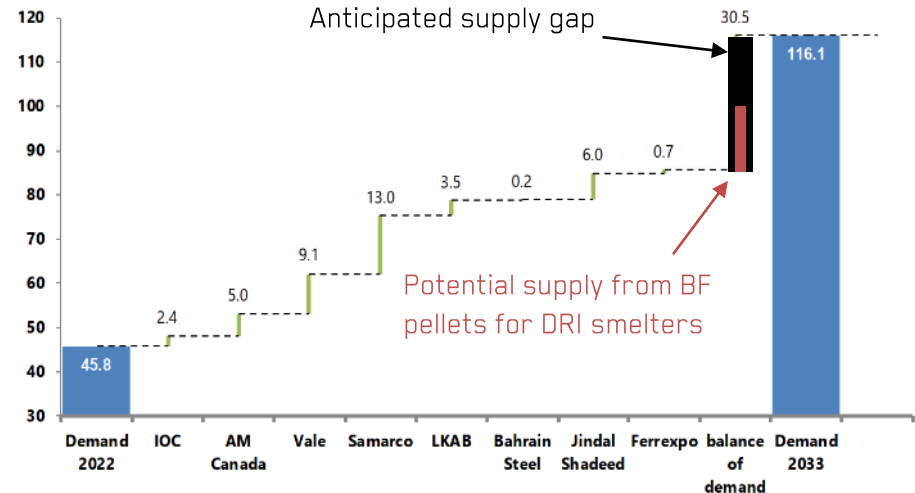
# MERCHANT DR PELLETT SHORT-TERM DEMAND PROJECTION

- Iron ore pellet prices are largely a function of demand for the Chinese steel industry
- In the latter part of 2021, as China reduced integrated steel production, pellet prices have dropped
- However, increased demand globally for EAF based steelmaking has placed increased demand on EAF feedstocks

## MERCHANT DR PELLETT DEMAND



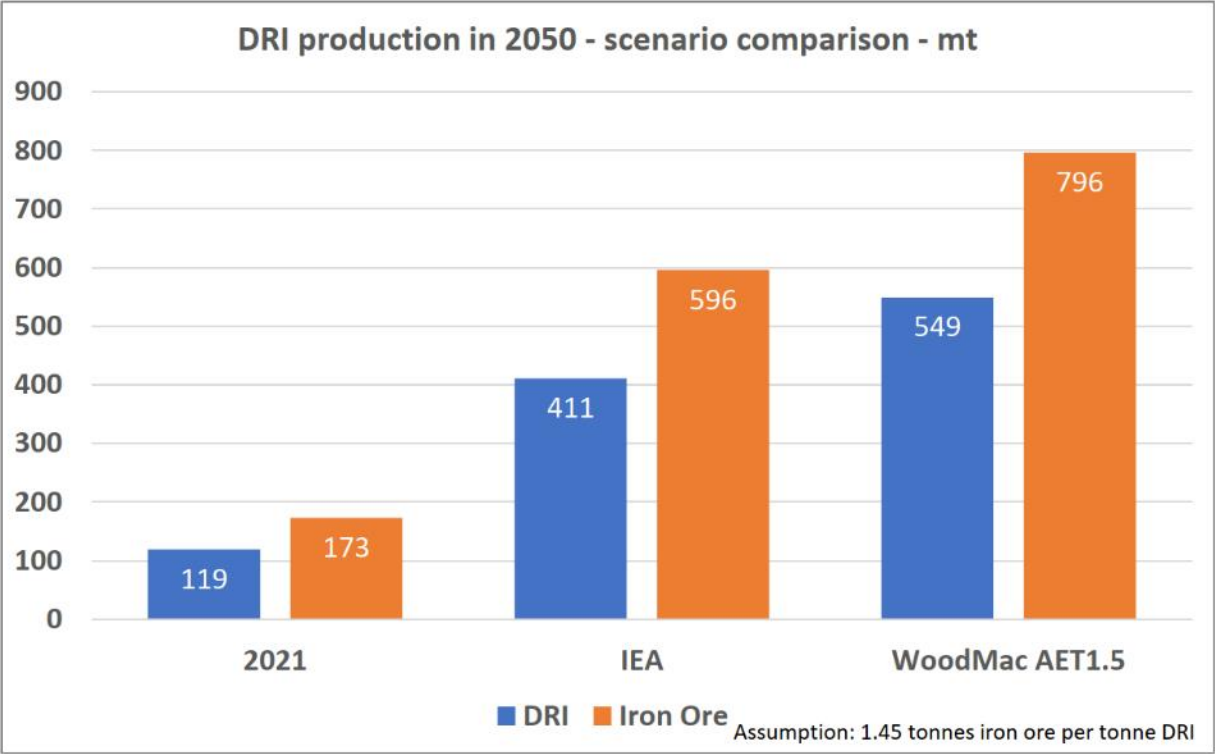
## MERCHANT DR PELLETT SUPPLY



Source: C Barrington

Notes: Numbers may not add up due to rounding | 1.45 tonne pellets required per 1 tonne DRI

# DRI DEMAND LONG-TERM PROJECTIONS



Metallics demand			
Metallics undergo a major overhaul			
Mt —	Scrap	DRI	Hot Metal
Base (2021)	750	117	1369
Base (2050)	1200 (1.6x)	279 (2.4x)	1150 (0.84x)
AET1.5 (2050)	1294 (1.7x)	549 (4.7x)	608 (0.45x)

x: change as compared to Base (2021)

*Metallics demand will have to evolve under AET1.5 –  
Scrap pool needs doubling from current levels  
DRI production must rise five-fold to touch 550Mt  
Hot metal to halve from current levels*

**Wood Mackenzie: October 2022**  
“Iron and steel’s US\$ 1.4 trillion shot at decarbonization”

AET = Accelerated Energy Transition



# NEW DRI PROJECTS BASED ON MERCHANT IRON ORE

Annual expected production	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
HBIS	0.3	0.6	0.6	0.6	0.6	0.9	1.2	1.2	1.2	1.2	1.2
Baosteel Zhangjiang			0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
AM Hamburg			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Salzgitter phases 1 & 2			0.3	1.5	2.1	2.1	2.1	2.6	3.6	4.2	4.2
H2GreenSteel Sweden			0.5	1.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1
TKS phases 1 & 2				0.5	1.5	2.5	2.5	3.0	4.0	5.0	5.0
AM Gijon				0.5	1.5	2.3	2.3	2.3	2.3	2.3	2.3
AM Bremen				0.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
Ternium, Pesqueria, Mexico				0.5	1.5	2.1	2.1	2.1	2.1	2.1	2.1
AM Eisenhuettenstadt					0.5	1.0	1.0	1.0	1.0	1.0	1.0
AM Dunkirk					0.5	1.5	2.5	2.5	2.5	2.5	2.5
DRI d'Italia, Taranto					0.5	1.5	2.5	2.5	2.5	2.5	2.5
JFE-Itochu-Emirates Steel					0.5	1.5	2.3	2.3	2.3	2.3	2.3
Baosteel/Aramco					0.5	1.5	2.5	2.5	2.5	2.5	2.5
AM Gent						0.5	1.5	2.5	2.5	2.5	2.5
Mistui - Kobe Steel Oman						0.5	1.5	2.5	3.0	4.0	5.0
Gravithy, Fos-sur-Mer						0.5	1.5	2.0	2.0	2.0	2.0
Rogesa/Saarstahl								0.5	1.5	2.5	2.5
Salzgitter - Wilhelmshafen								0.5	1.5	2.0	2.0
<b>Total</b>	<b>0.3</b>	<b>0.6</b>	<b>2.0</b>	<b>6.7</b>	<b>14.4</b>	<b>23.6</b>	<b>30.7</b>	<b>35.2</b>	<b>39.7</b>	<b>43.8</b>	<b>44.8</b>

# INCREASED NORTH AMERICAN DEMAND FOR OBMs

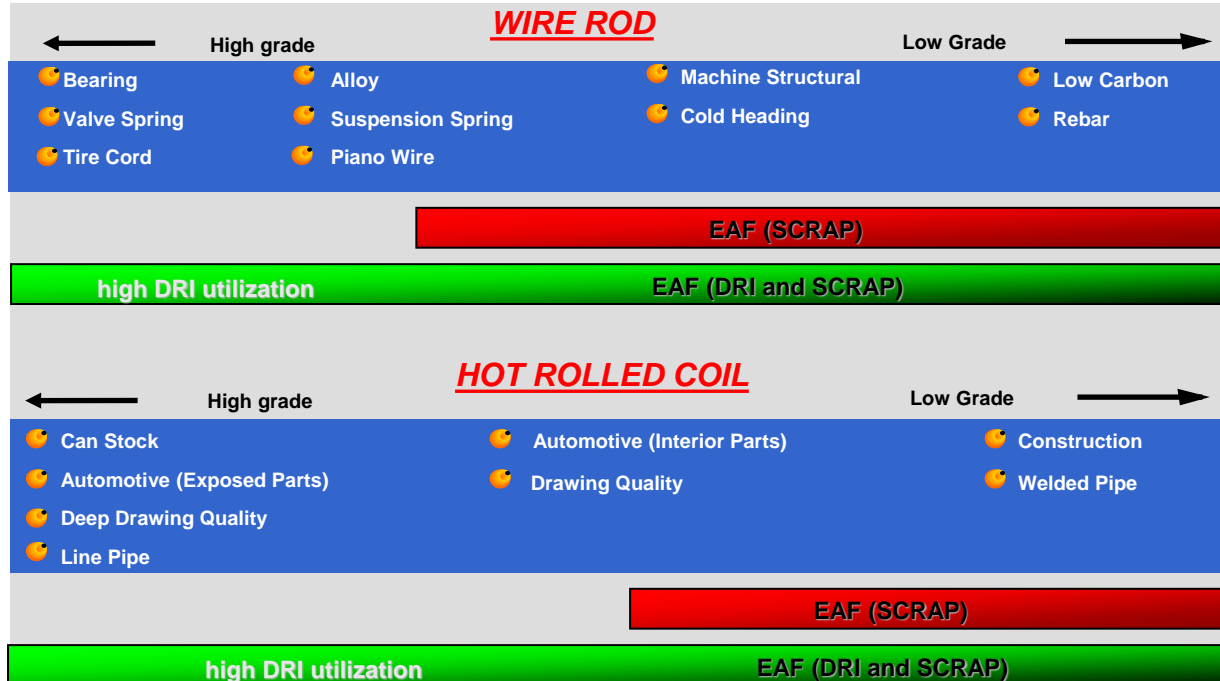
Steelmaking Units	Annual capacity	Clean iron units in charge	Clean iron units in charge
	<i>tpa</i>	<i>%</i>	<i>tpa</i>
Nucor North East	2 721 555	30 - 40	952 544
Nucor Brandenburg	1 088 622	20	217 724
SDI Texas	2 721 555	30 - 40	952 544
Nucor Gallatin Phase 2	1 270 059	20 - 30	317 515
NorthStar Bluescope Phase 2	852 754	30	208 653
AM/NS Calvert	1 496 855	40 - 50	674 038
Big River Phase 2	1 496 855	30 - 35	449 057
Big River (New facility)	2 721 555	30 - 40	952 544
Algoma	3 356 584	25	839 146
Other	5 443 110	25	1 360 777
<b>Total</b>	<b>23 169 505</b>		<b>6 924 543</b>

Source: CIX

Note: Numbers may not add up due to rounding

# DRI UTILIZATION ENABLES HIGHER GRADE STEEL PRODUCTS

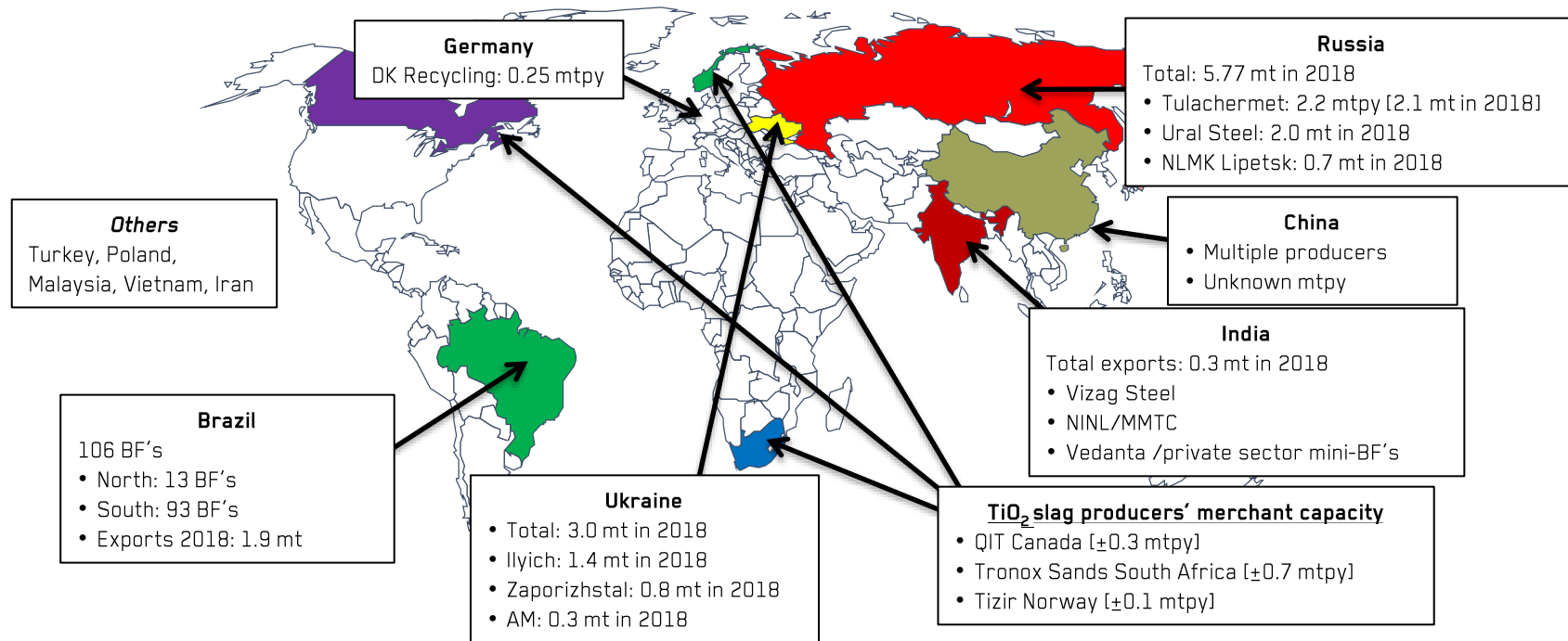
- For flat products, wires, springs, there is a much greater need for OBMs to reduce residual contents
- Demand is higher in developed countries for flat products vs. lower grade products like rebar
- Many announced EAF projects in North America are for higher flat products



# GLOBAL MERCHANT PIG IRON SUPPLY

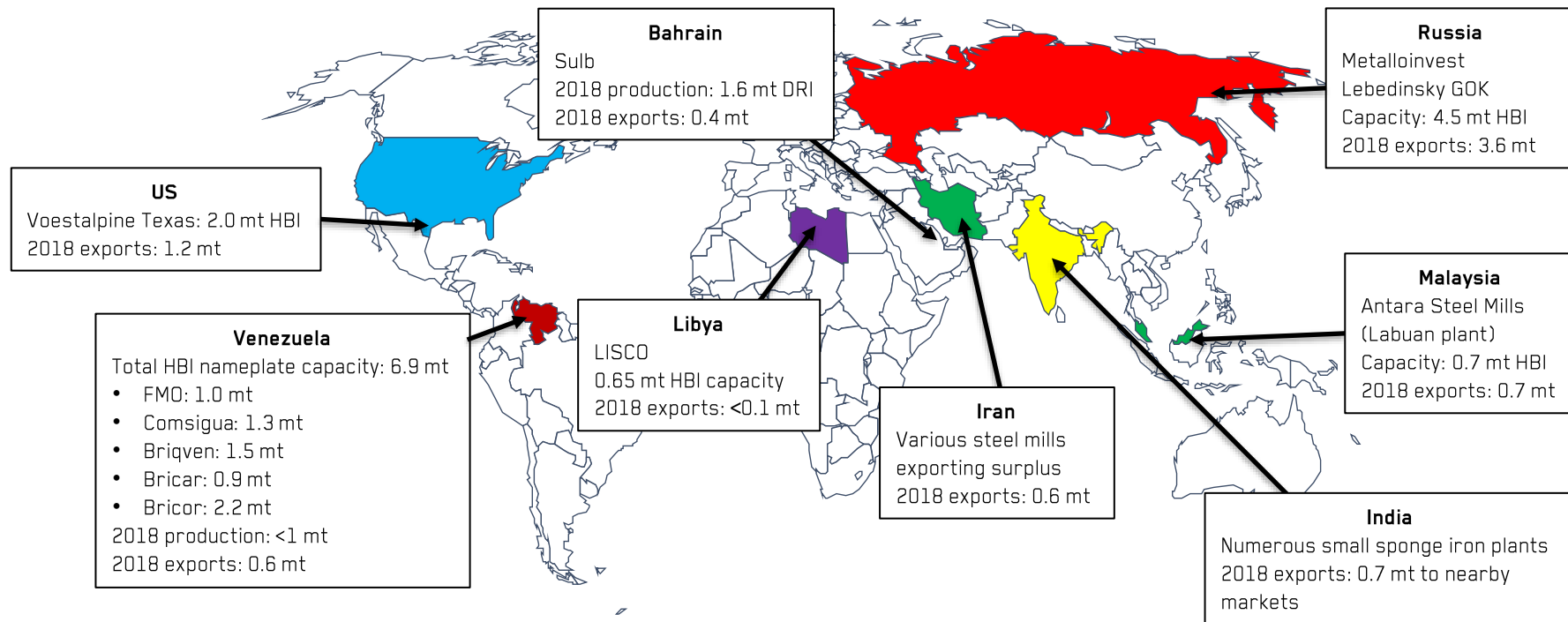
MPI pricing has traditionally been closely related to the price of iron ore pellets. In the past 2 years, it has coupled more closely to the pricing of prime scrap and even obsolete scrap. This is because flat product producers began to produce higher quality shredded scrap, thus reducing demand for MPI.

## PRE-RUSSIA/UKRAINE CONFLICT MERCHANT PIG IRON PRODUCTION BY COUNTRY



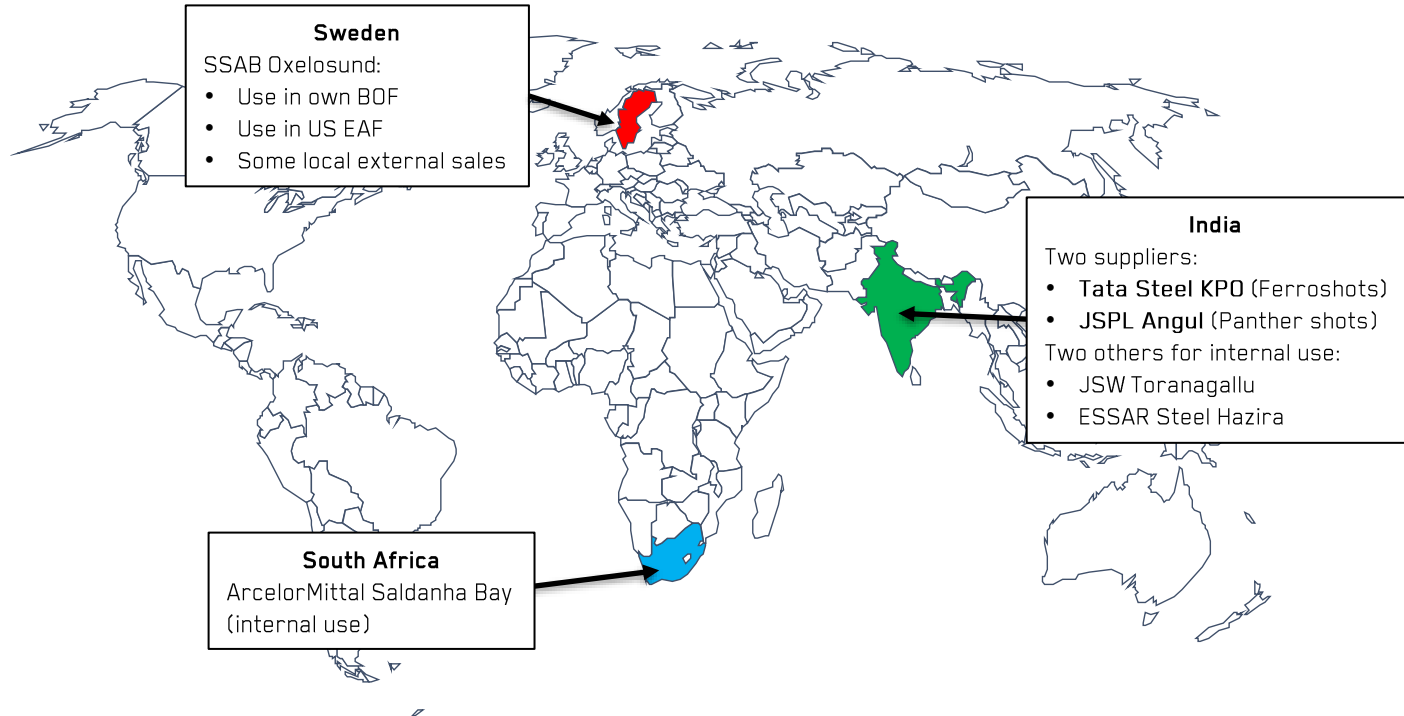
# GLOBAL MERCHANT DRI/HBI SUPPLY

## PRE-RUSSIA/UKRAINE CONFLICT MERCHANT DRI/HBI PRODUCTION BY COUNTRY





## GRANULATED PIG IRON PRODUCTION BY COUNTRY





# VALUE-IN-USE (“VIU”) CONCEPT

## LOW IS GOOD

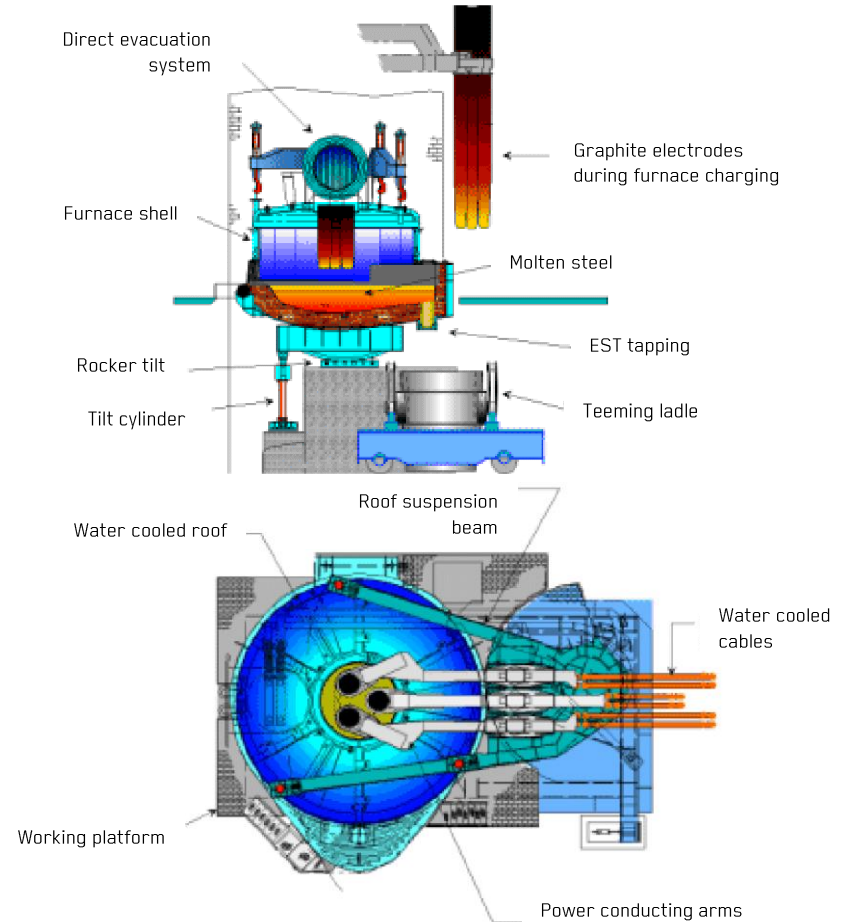
- **% ACID GANGUE ( $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ )** - Higher gangue results in increased kWh, higher yield losses, higher flux requirements, higher slag generation
- **% OTHER GANGUE** - May consider % P if over a target level, % S in some cases. Ore source determines S and P levels - want low levels
- **% OTHER RESIDUAL** - May assign additional value due to lack of Cu and other residuals
- **% FeO** - This can be recovered but takes reductant and energy
- **%  $\text{H}_2\text{O}$**  - Represents a yield loss and impacts energy consumption
- **% FINES** - Some fine materials will be lost to the off-gas system (yield loss)
- **% C** - Requirements depend on how you operate the EAF

## HIGH IS GOOD

- **% Fe TOTAL** - As high as possible
- **% METALLIZED Fe (PURE Fe)** - Want this as high as possible
- **DRI/HBI QUALITY** - Use of high % of DRI/HBI is only economical if the quality is high (QASCO/SULB)
- **DRI TEMPERATURE** - Hot charging is preferred - temperature as high as practical (integrated site advantage)
- **% C** - Requirements depend on how you operate the EAF

# IMPACT OF ACID GANGUE CONTENT IN EAF EXPLAINED

- The higher the gangue content, the greater the flux requirement in the EAF
- Fluxes combine to form calcium silicate, di-calcium silicate – consumes about 740 kWh per tonne of slag
- Larger slag quantity results in greater yield loss – both FeO in the slag and Fe droplets trapped in the slag
- Need more MgO in order to protect furnace refractories
- + 0.5% acid gangue in DRI result in approximately + 20 Kwh/t melting power in EAF
- + 0.5% acid gangue in DRI result in + 0.09 kg/t electrode consumption in EAF
- + 0.5% acid gangue in DRI result in approximately + 2-4 minutes of Power On time



# DR PELLET VIU CALCULATION INPUTS

DR pellet provenance	Bloom Lake	Lead competitor 1	Lead competitor 2	Lead competitor 3
<b>Assumed purchase cost (US\$/t)</b>	400	400	400	400
<b>Fe Tot</b>	93.1%	92.1%	92.0%	92.4%
<b>Fe Met</b>	87.5%	86.6%	86.5%	86.8%
<b>Metallization</b>	94.0%	94.0%	94.0%	94.0%
<b>C</b>	2.0%	2.0%	2.0%	2.0%
<b>SiO<sub>2</sub></b>	1.5%	1.7%	2.4%	1.7%
<b>Al<sub>2</sub>O<sub>3</sub></b>	0.3%	0.8%	0.5%	0.7%
<b>MgO</b>	0.5%	0.1%	0.4%	0.1%
<b>CaO</b>	0.9%	1.0%	0.9%	1.0%
<b>P</b>	0.01%	0.05%	0.01%	0.07%
<b>Fines &lt; 4 mm</b>	3.0%	3.0%	3.0%	3.0%
<b>FeO</b>	7.2%	7.1%	7.1%	7.1%
<b>Metallic Fe</b>	87.5%	86.6%	86.5%	86.8%
<b>H<sub>2</sub>O</b>	0.5%	0.5%	0.5%	0.5%
<b>wt. % Cu</b>	0.002%	0.002%	0.002%	0.002%
<b>Other</b>	0.1%	0.7%	0.2%	0.4%
<b>C required to reduce 100 % FeO</b>	1.2%	1.2%	1.2%	1.2%

→ A VIU model attempts to determine the value of the commodities under consideration

→ The result of such model is a value to be compared to the prevailing alternatives



# DR PELLET VIU CALCULATION OUTPUTS

	UNITS	BLOOM LAKE	COMPETITOR 1	COMPETITOR 2	COMPETITOR 3
Assumed DRI purchase cost	US\$/t	400	400	400	400
(+) ADJUSTMENTS					
Change C	US\$		-0.03	-0.03	-0.02
Dolo Lime	US\$		2.48	2.32	2.47
Lime	US\$		-0.41	0.83	-0.52
Kwh	US\$		0.7	1.03	0.66
Productivity	US\$		0.38	0.56	0.36
(÷) Fe YIELD	Kg Fe/Kg DR pellet	0.876	0.859	0.853	0.862
(=) VIU adjusted cost to steelmaker to produce a tonne of steel (lower = better)	US\$/t Fe	457	469	474	467
Implied DRI break-even purchase cost to steel producers based on Bloom Lake Quality VIU <sup>1</sup>	US\$/t Fe		411	415	409

Bloom Lake's expected DR quality iron ore would result in cost savings for steelmakers compared to competing products

## STEELMAKING

- DRI and HBI have evolved into a high-quality charge material for the EAF with multiple benefits
- Benefits are highly dependent on practices and local plant parameters
- Benefits are best quantified using a VIU model
- Roof feeding gives considerable benefits

## SCRAP vs. OBMs

- Demand for OBMs will continue as OBMs will be used to increase the recycling rate of steel scrap
- Currently, hydrogen based DRI/HBI is projected to have the lowest carbon footprint for production
- Gangue level in DRI/HBI has a significant impact on Scope 3 emissions for the EAF steelmaking process
- Demand for OBMs will be a function of the quality of the recycled scrap

## CHAMPION'S SOLUTION

- The projected chemistry of DRI/HBI produced using Champion's DR quality iron ore is projected to bring significant benefits to the EAF steelmaking process beyond what are currently achieved utilizing current DR grade pellets
- DRI/HBI made using Champion's DR quality iron ore is projected to provide energy savings, increased Fe yield and reduced operating costs as compared to current commercial DR grade pellets
- DRI/HBI made using Champion's DR quality iron ore is projected to provide reduced carbon footprint for EAF steelmaking

# Q&A

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF





**BREAK**

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**A RARE SOLUTION  
TO DECARBONIZE STEELMAKING**

**CHAMPION IRON** 



# OPERATIONAL AND FINANCIAL PERFORMANCE

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF

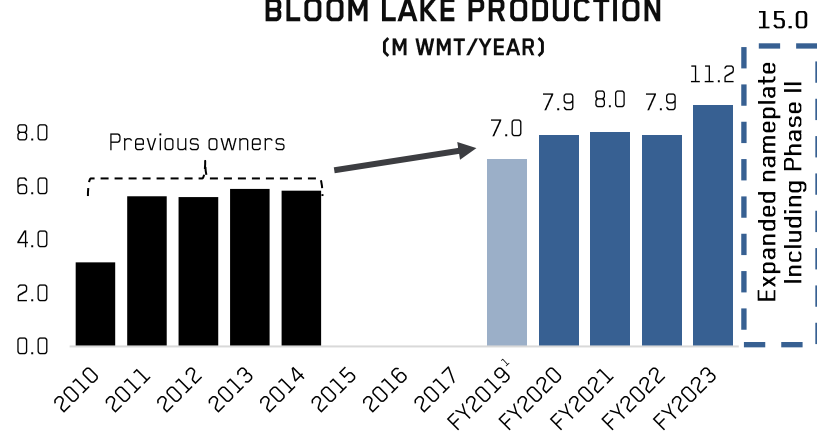




## BLOOM LAKE A WORLD CLASS ASSET

- Significant investments completed to recommission the Bloom Lake Phase I in 2018 and complete the Phase II expansion in 2022
- Q2/FY24 quarterly production of 3.45M wmt, representing over 90% of Bloom Lake's expanded nameplate capacity of 15 Mtpa
- Benefiting from ongoing optimization work programs, the Company expects to reach and maintain Bloom Lake's expanded nameplate capacity in the near-term

### BLOOM LAKE PRODUCTION (M WMT/YEAR)



Recently commissioned mining equipment



Proven and completed processing plant



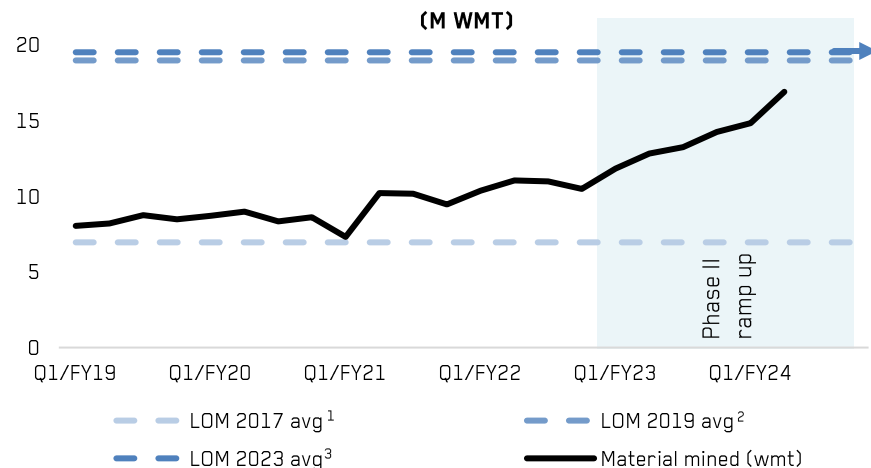
Commissioned third-party infrastructure

Note: 1. FY2019 reflects Bloom Lake's commissioning year

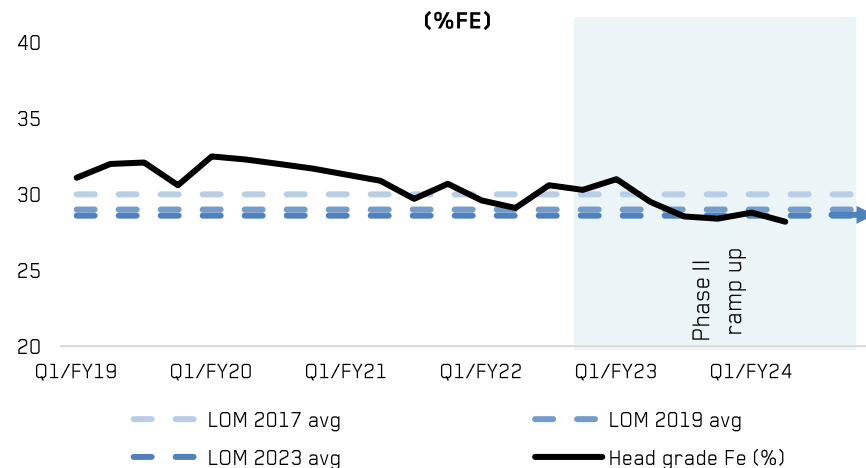
## PRODUCTION AND OPERATIONS

- Since 2018 restart: Bloom Lake mine consistently exceeded mining tonnage targets set out in the Phase I restart study, demonstrating bulk mining expertise, while ore grades reconciled with expectations
- Recent performance: Material mined rate negatively impacted by delays in delivery of mining equipment. Lower stripping levels expected to be recovered with the recent commissioning of additional equipment. Head grade in line with latest LoM

### MATERIAL MINED QUARTERLY



### HEAD GRADE QUARTERLY



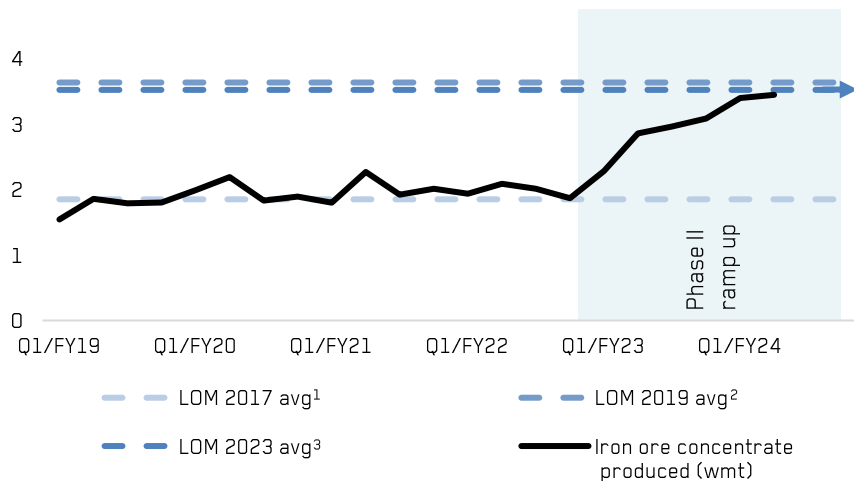
Notes: 1. Refers to report entitled "NI 43-101 Technical Report on the Bloom Lake Mine Re-Start Feasibility Study" with effective date March 17th, 2017 and available on Sedar+ | 2. Refers to the technical report prepared pursuant to NI 43-101 entitled "NI 43-101 Technical Report Bloom Lake Mine Feasibility Study Phase 2" with effective date June 20th, 2019, and available under Champion's profile on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca) | 3. See disclosure page for statement regarding the 2023 Technical Report

## PRODUCTION AND OPERATIONS

- Since 2018 restart: Iron ore concentrate production in line with Phase I restart study, including low variability quarter over quarter
- Recent performance: Record quarterly iron ore production of 3.45M wmt in Q2/FY24, representing over 90% of Bloom Lake's expanded nameplate capacity of 15 Mtpa

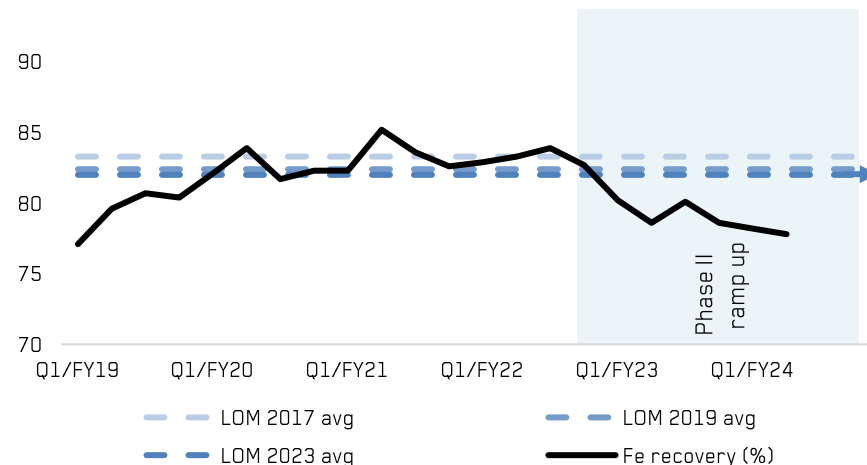
### IRON ORE CONCENTRATE PRODUCED QUARTERLY

(M WMT)



### FE RECOVERY QUARTERLY

(%)

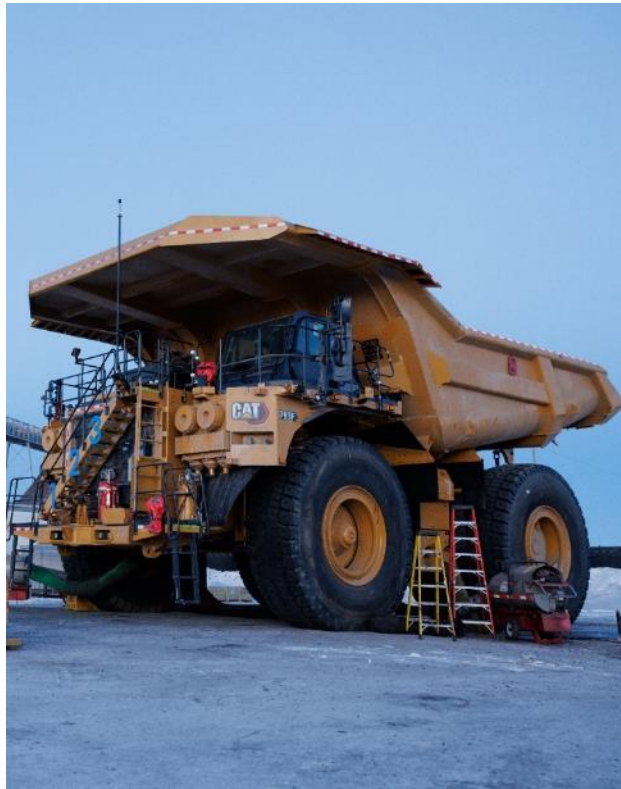


Notes: 1. Refers to report entitled "NI 43-101 Technical Report on the Bloom Lake Mine Re-Start Feasibility Study" with effective date March 17<sup>th</sup>, 2017 and available on Sedar+ | 2. 2. Refers to the technical report prepared pursuant to NI 43-101 entitled "Québec Iron Ore Inc., Bloom Lake Mine Technical Report 43-101" by G Mining, Ausenco, Met-Chem/DRA and WSP Canada Inc. dated March 17, 2017 and filed on July 31, 2017, and available under Champion's profile on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca) | 3. See disclosure page for statement regarding the 2023 Technical Report

# OPERATIONAL PERFORMANCE

## RECENTLY COMMISSIONED EQUIPMENT

### HAUL TRUCKS



### LOCOMOTIVES



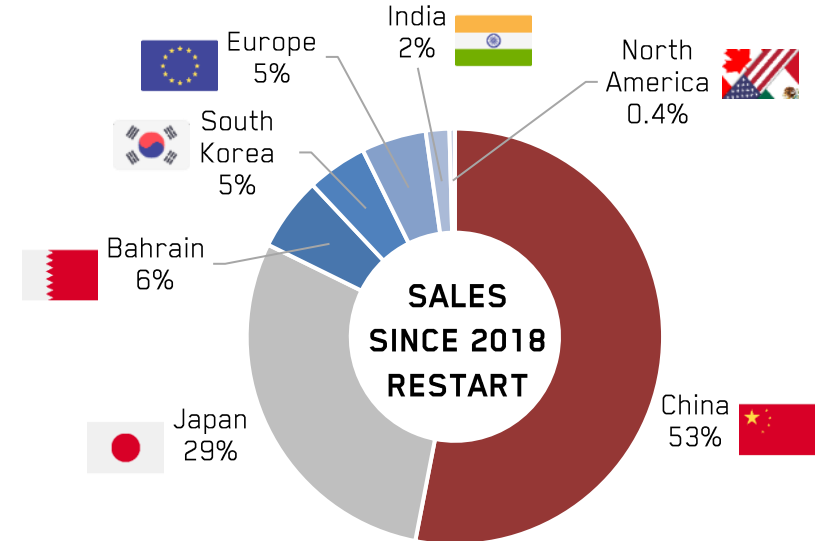
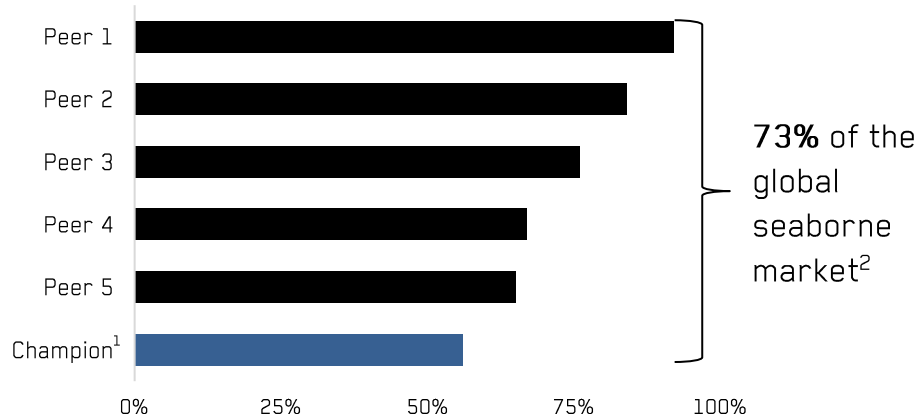
### STACKER-RECLAIMER



## DIVERSIFIED GLOBAL CUSTOMER BASE

- Benefiting from its high-purity iron ore concentrate, Champion completed sales to a large array of global customers, including over 35 customers since the 2018 recommissioning
- A significant portion of sales are secured with long-term sales agreements based on market prices

### IRON ORE PRODUCERS' % SALES TO CHINA<sup>1</sup>

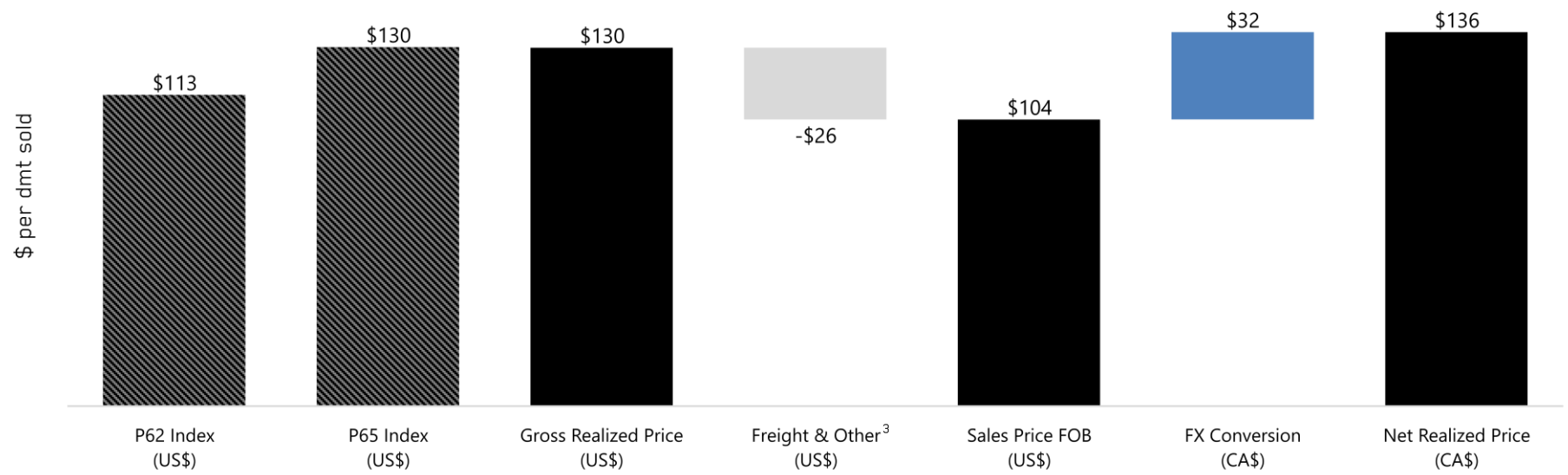




PREMIUM PRODUCT PRICING

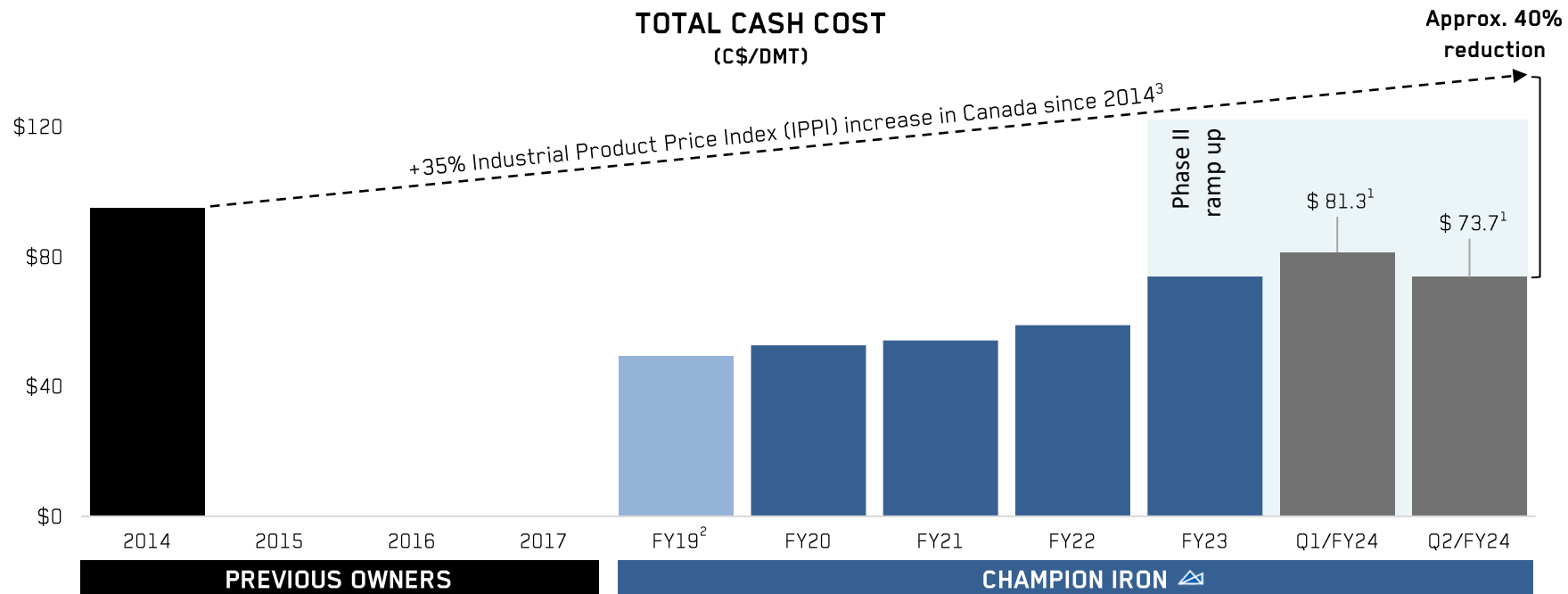
→ Gross realized price of US\$130/dmt<sup>1</sup> since 2018 restart, which compares favourably with the P65 high-grade index average of US\$130/dmt and 15% premium over P62

AVERAGE REALIZED SELLING PRICE SINCE 2018 RESTART<sup>2</sup>



Notes: 1. Refer to the disclaimer at page 2. / 2. Amounts shown are arithmetic average of quarterly actuals / 3. "Freight & Other" includes freight cost, ice premium, demurrage, marketing fee and provisional pricing adjustments.

COMPETITIVE COST STRUCTURE

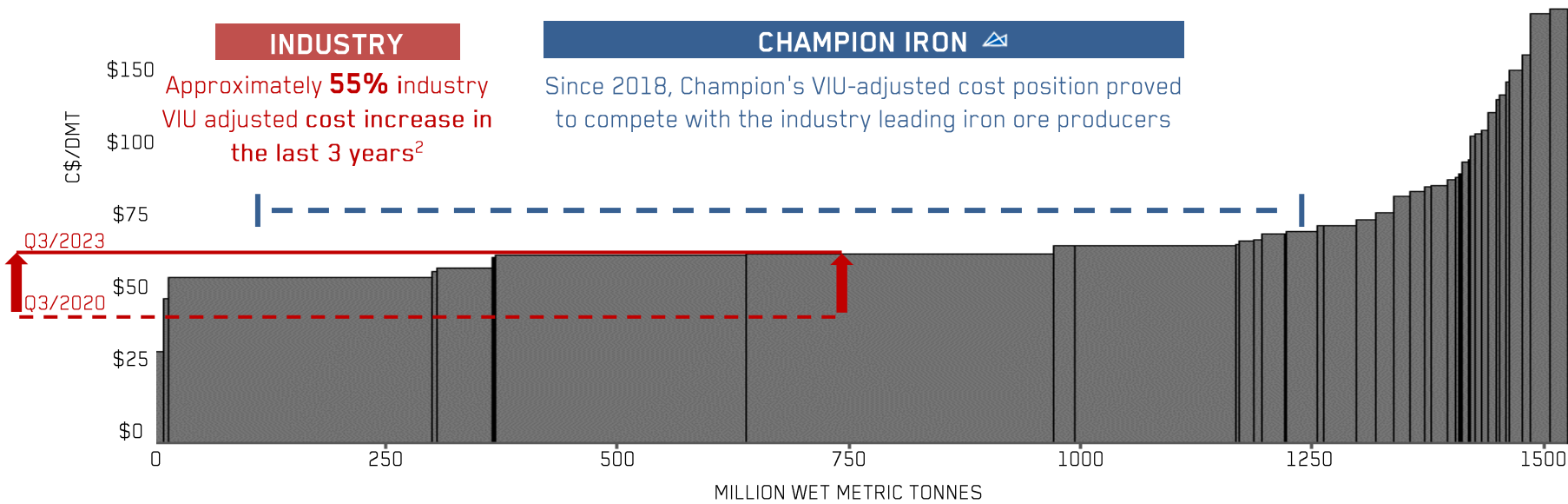


Despite 35% industrial products inflation since 2014, Champion reduced total cash costs per tonne compared to Bloom Lake’s previous owners by completing significant investments and optimizing operations while completing the Phase II expansion project

Notes: 1. Non-IFRS financial measure, ratio or other financial measure. Refer to the disclaimer at page 2 | 2. FY2019 reflects Bloom Lake’s commissioning year | 3. Sourced from Statistics Canada, Industrial product price index (IPPI) in January 2014 at 94.0, and September 2023 at 127.0

COMPETITIVE COST STRUCTURE

VALUE-IN-USE (VIU) ADJUSTED IRON ORE COST CURVE (CFR, 62% FE FINES EQUIVALENT)<sup>1</sup>



Competitive cost profile, adjusted for VIU, compared to global iron ore producers despite recent transitional costs required for Bloom Lake's ramp-up expanded capacity and current high-grade quality premium at historical low level

Notes: 1. Cost curve by Wood Mackenzie for calendar period Q3/2023, converted to CAD at Q3/2023 average USD/CAD rate of 1.315 according to Bloomberg | 2. 50<sup>th</sup> percentile cost as of Q3/2023, compared to Q3/2020 of US\$30/dmt. Data provided by Wood Mackenzie.

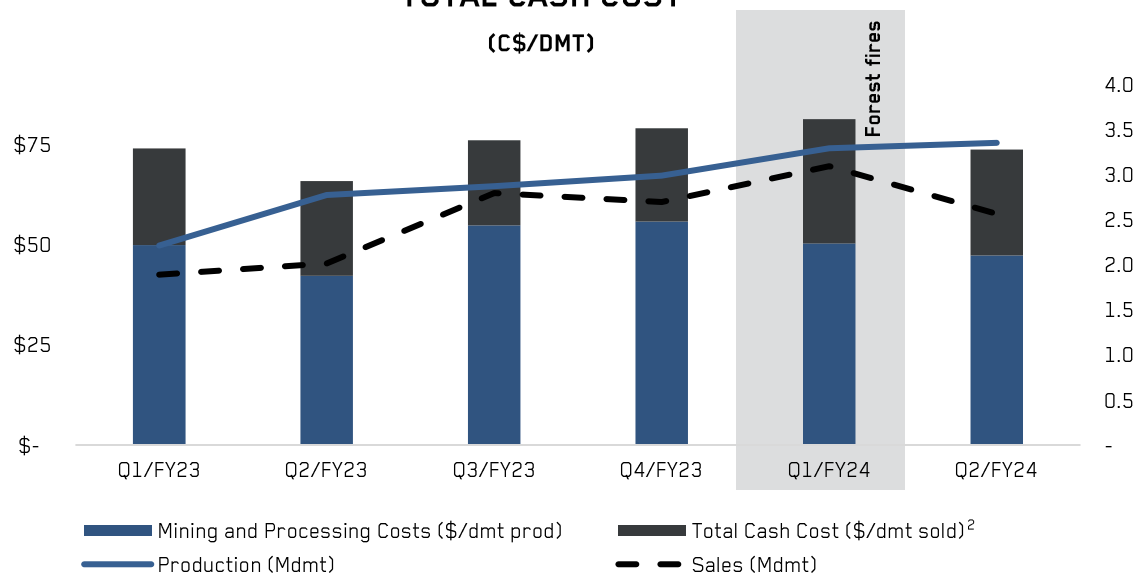
88

## COMPETITIVE COST STRUCTURE

→ Near-term outlook: Ongoing work programs to optimize operations as the Company completes the ramp-up of the Phase II expansion project are expected to benefit total cash cost per tonne in the near-term

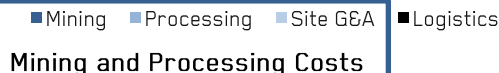
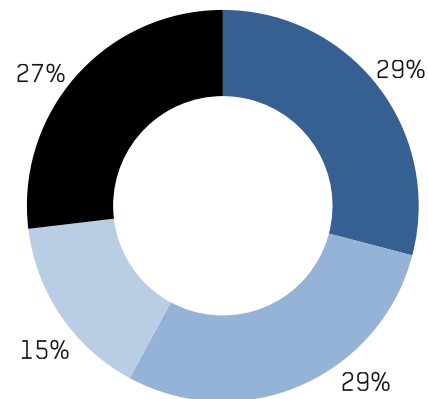
### TOTAL CASH COST

(C\$/DMT)



### TOTAL CASH COST BREAKDOWN<sup>1</sup>

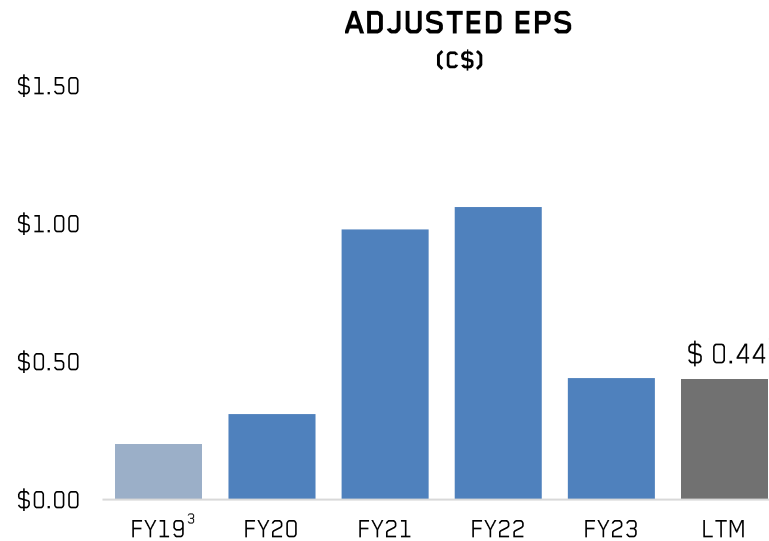
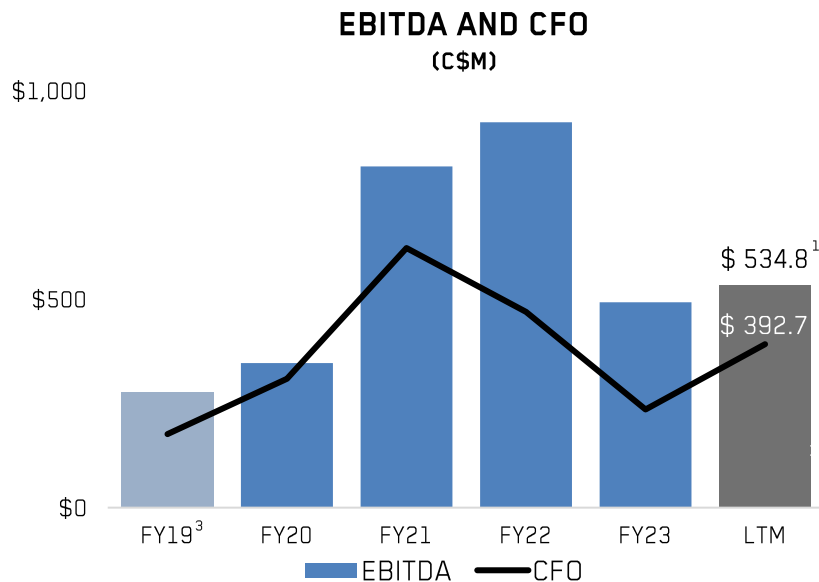
(Q1/FY23 - Q2/FY24)



Notes: 1. Arithmetic average of quarterly actuals for the period Q1/FY23 to Q2/FY24 | 2. Total Cash Cost should be read as full length of bar. Mining and Processing Costs and Total Cash Cost bars are not additive.

## FINANCIAL RESULTS

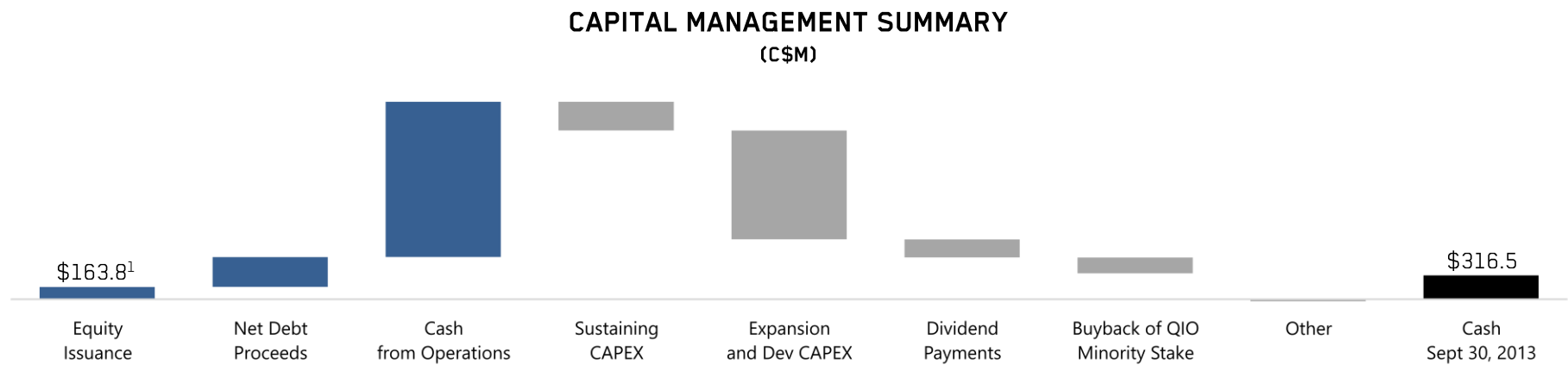
- Total cash flow from operations (“CFO”) represents 66% of total EBITDA since Bloom Lake restart in 2018<sup>2</sup>
- Near-term outlook: Financial results expected to benefit in the near-term from increasing production volumes and normalizing operating costs per tonne



Notes: 1. Last twelve months results (Q3 FY2023 to Q2 FY2024). Non-IFRS financial measure, ratio or other financial measure. Refer to the disclaimer at the p.2 | 2. Sum of cash flow from operations divided by sum of EBITDA for FY19-Q2/FY24 | 3. FY2019 reflects Bloom Lake's commissioning year



CHAMPION HAS A TRACK RECORD OF RESPONSIBLE CAPITAL MANAGEMENT



AS OF SEPT. 30, 2023

BALANCE SHEET



\$316.5M Cash  
\$196.9M Working capital<sup>2,3</sup>



\$486.5M Short-term & Long-term debt<sup>4</sup>

LIQUIDITY POSITION



Cash net of debt of \$26.9M  
(including working capital)



\$329.4M Available & undrawn loans<sup>5</sup>

Notes: 1. Comprises all exercise of warrants, exercise of stock options, exercise of compensation options, public offering of subscription receipts, private placement of common shares in Quebec Iron Ore Inc., private placement of ordinary shares and issuance of preferred shares offset by withholding taxes paid pursuant to the settlement of RSUs, redemption of preferred shares, net of transaction costs and share issue cost, from the statements of cash flow from annual consolidated financial statements, available on SEDAR + at [www.sedarplus.ca](http://www.sedarplus.ca) 2. Non-IFRS financial measure, ratio or other financial measure. Refer to the disclaimer at the p.2 3. Receivables: \$123.6M; Income and mining taxes receivables: \$14.0M; Prepaid expenses and advances: \$37.2M; Inventories: \$252.8M; accounts payable and other: (\$221.9M); Income tax payable: (\$8.8M) 4. Short-term and long-term debt face value includes US\$180M Revolving Facility, US\$81.8M from Caterpillar Financial Services, \$75M from FTQ and \$57.6M from Investissement Québec 5. Undrawn loans included US\$220M Revolving Facility and US\$23.6M from Caterpillar Financial Services.

# OVERALL PERFORMANCE

## FINANCIAL YEAR 2024-2025 FOCUS



Ongoing sustainable environmental management and priority on the health and safety of employees, partners and communities



Advance the DRPF project and position the Company for growth opportunities, including the completion of studies for the Kami project and the DR pellets project



Optimize operations at Bloom Lake to complete the Phase II ramp up to achieve a sustained expanded nameplate capacity of 15 Mtpa while mitigating inflationary pressures



Diligent capital management and shareholder returns



# GROWTH OPPORTUNITIES

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF



# WORLD CLASS INFRASTRUCTURE

RARE SOLUTION FOR THE GREEN STEEL SUPPLY CHAIN IN A PROVEN OPERATING HUB AND NEAR AVAILABLE INFRASTRUCTURE

## MINING HUB



Mining hub perduring since 1960s  
with proven skilled labor

## ENERGY



Renewable energy and power  
transmission infrastructure

## RAIL



Proximity to rail with available  
capacity, including the common  
carrier rail network (QNSL)

## PORT



Deepwater port of Sept-Iles  
provides capacity to accommodate  
large vessels



## GLOBAL OPPORTUNITY FOR THE GREEN STEEL SUPPLY CHAIN



### GLOBAL SCALE OPPORTUNITY

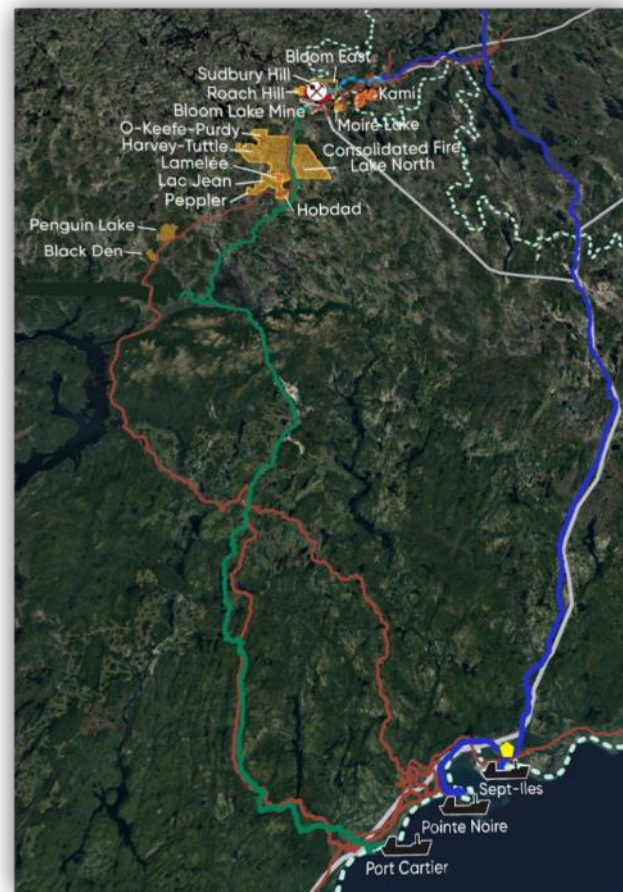
- 7 iron-rich properties within 60 km of Bloom Lake
- More than 4.1 billion tonnes of current and historical Measured and Indicated resources and 5.7 billion tonnes of current and historical Inferred resources<sup>1</sup>



### DEMONSTRATED LOCAL EXPERTISE

- Proven ability to deliver projects on time and on schedule
- Local partnerships to create a positive impact for all stakeholders
- Ability to attract and retain skilled workforce and contractors

Notes: 1. See appendix 1.6.2 for additional details on historical measured and indicated resources and current and historical inferred resources. The historical mineral resources and reserves are historical estimates and should not be relied upon. A qualified person has not done sufficient work to upgrade or classify the historical estimates as current mineral resources or mineral reserves and Champion Iron is not treating the historical estimates as current mineral resources or mineral reserves, including the Bloom Lake mine. Certain reserves and resources mentioned are foreign estimates from an Australian perspective. See disclosure page for statement regarding the 2023 Technical Report.





## DE-RISKING A VAST PROJECT PORTFOLIO REQUIRED FOR THE GREEN STEEL SUPPLY CHAIN

### PRODUCTS OPTIMIZATION



#### UPGRADE BLOOM LAKE

Concentrator(s) to  
Direct Reduction Pellet Feed (DRPF)  
quality iron ore



#### POINTE-NOIRE PELLET PLANT

Study to rebuild and produce DR  
grade pellets



#### COLD PELLETIZING

Invested and collaborating with  
Binding Solutions Limited ("BSL")

### MINING VOLUME INCREASE



#### KAMI

Study expected near-term



#### BLOOM LAKE BEYOND 15 MTPA

Significant mineral resources  
creating opportunities beyond LoM



#### CLUSTER II

Sizeable opportunity comparable in  
scale to Simandou Block 3 & 4<sup>1</sup>

# GROWTH OPPORTUNITY MINING VOLUME INCREASE

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF

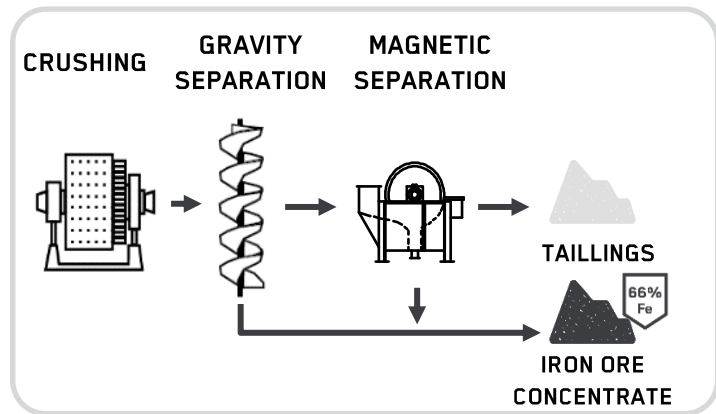




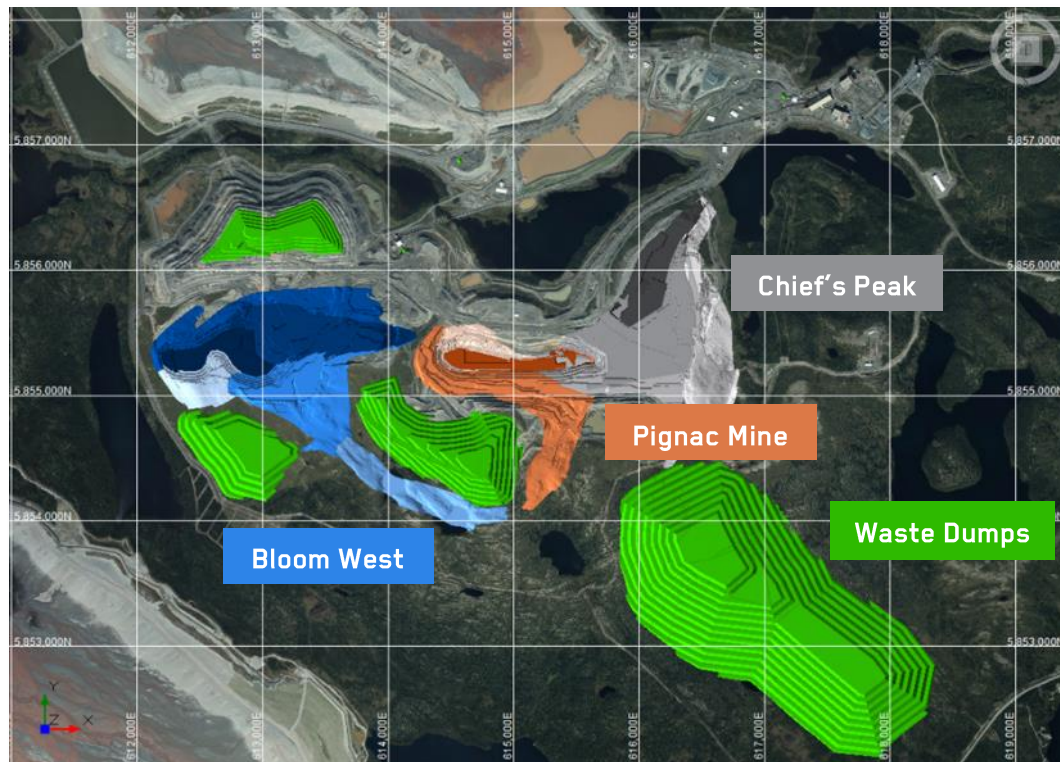
# MINING VOLUME INCREASE

## BLOOM LAKE MINE: A LONG-LIFE ASSET WITH A PROVEN FLOWSHEET

### SIMPLIFIED FLOWSHEET



### FINAL PIT AND WASTE DUMPS CURRENT DESIGNS



# MINING VOLUME INCREASE

## 2023 BLOOM LAKE TECHNICAL REPORT HIGHLIGHTS

- **Confirmed 18 years' LoM** based on the mineral reserves
- **40% increase** in Measured and Indicated ("M&I") Resources
- **360% increase** in Inferred Resources
- Mineral resources and reserves based on a long-term price of US\$110.24/t and US\$99.0/t, respectively, compared to the 3 and 5-years average P65 iron ore price of US\$148.6/t and US\$128.5/t<sup>1</sup>
- Technical Report mineral reserves exclude DRPF and nearby exploration potential
- Sizeable resources offers opportunity beyond LoM, including debottlenecking Bloom Lake to produce beyond its 15 Mtpa expanded nameplate capacity

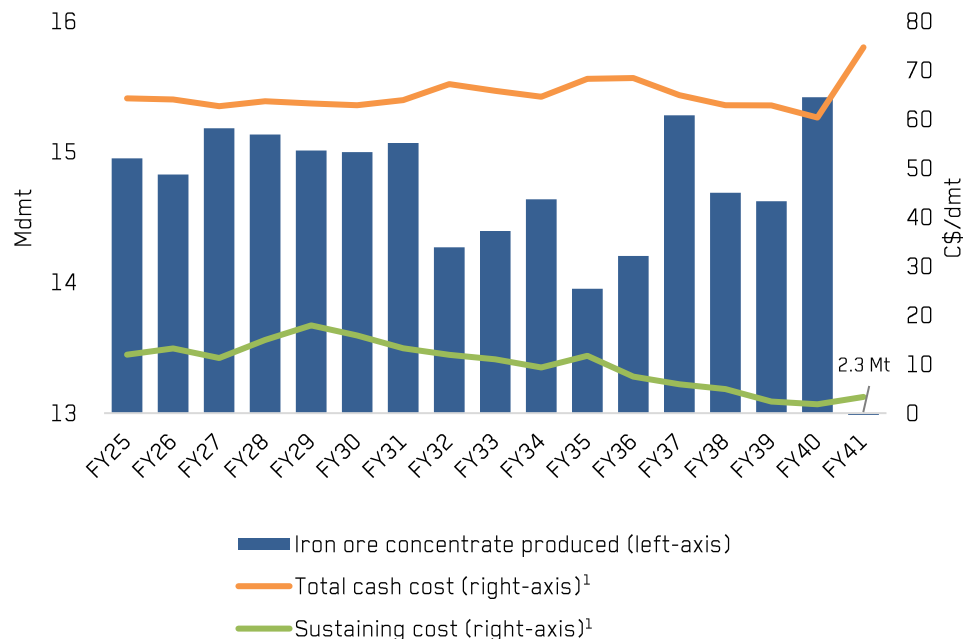
MINERAL RESOURCES (15% Fe Cut-Off Grade, Undiluted)						
Category	Tonnes (M dmt)	Fe (%)	CaO (%)	Sat (%)	MgO (%)	Al <sub>2</sub> O <sub>3</sub> (%)
Measured	186.7	30.4	1.3	5.5	1.3	0.3
Indicated	1,065.5	28.4	1.3	6.1	1.2	0.5
<b>Total M+I</b>	<b>1,252.2</b>	<b>28.7</b>	<b>1.3</b>	<b>6.0</b>	<b>1.2</b>	<b>0.5</b>
Inferred	246.3	26.6	1.4	6.4	1.2	0.5

MINERAL RESERVES (15% Fe Cut-Off Grade, Diluted)						
Category	Diluted Ore Tonnes (M dmt)	Fe (%)	CaO (%)	Sat (%)	MgO (%)	Al <sub>2</sub> O <sub>3</sub> (%)
<b>Proven</b>	<b>183.7</b>	<b>30.0</b>	<b>1.3</b>	<b>5.6</b>	<b>1.3</b>	<b>0.3</b>
<b>Probable</b>	<b>532.5</b>	<b>28.1</b>	<b>2.1</b>	<b>9.2</b>	<b>2.0</b>	<b>0.5</b>
<b>Total P&amp;P</b>	<b>716.2</b>	<b>28.6</b>	<b>1.9</b>	<b>8.3</b>	<b>1.8</b>	<b>0.4</b>

# MINING VOLUME INCREASE

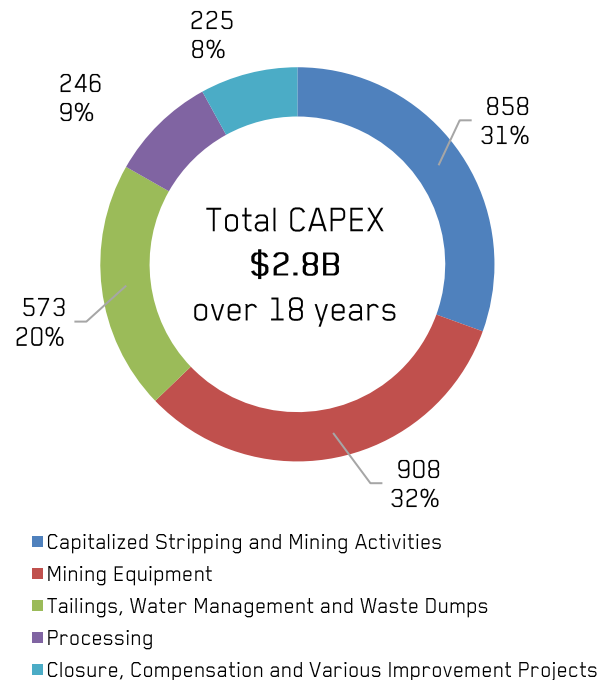
## 2023 BLOOM LAKE TECHNICAL REPORT HIGHLIGHTS

### LOM PRODUCTION, TOTAL CASH COST AND SUSTAINING COST



Note: 1. See disclosure page for statement regarding the 2023 Technical Report.

### LOM CAPITAL EXPENDITURES (C\$M)





# GROWTH OPPORTUNITY DIRECT REDUCTION PELLET FEED (DRPF)

CHAMPION IRON 

TSX: CIA | ASX: CIA | OTCQX: CIAFF



# DIRECT REDUCTION PELLET FEED

## POSITIVE IMPACT FOR ALL STAKEHOLDERS

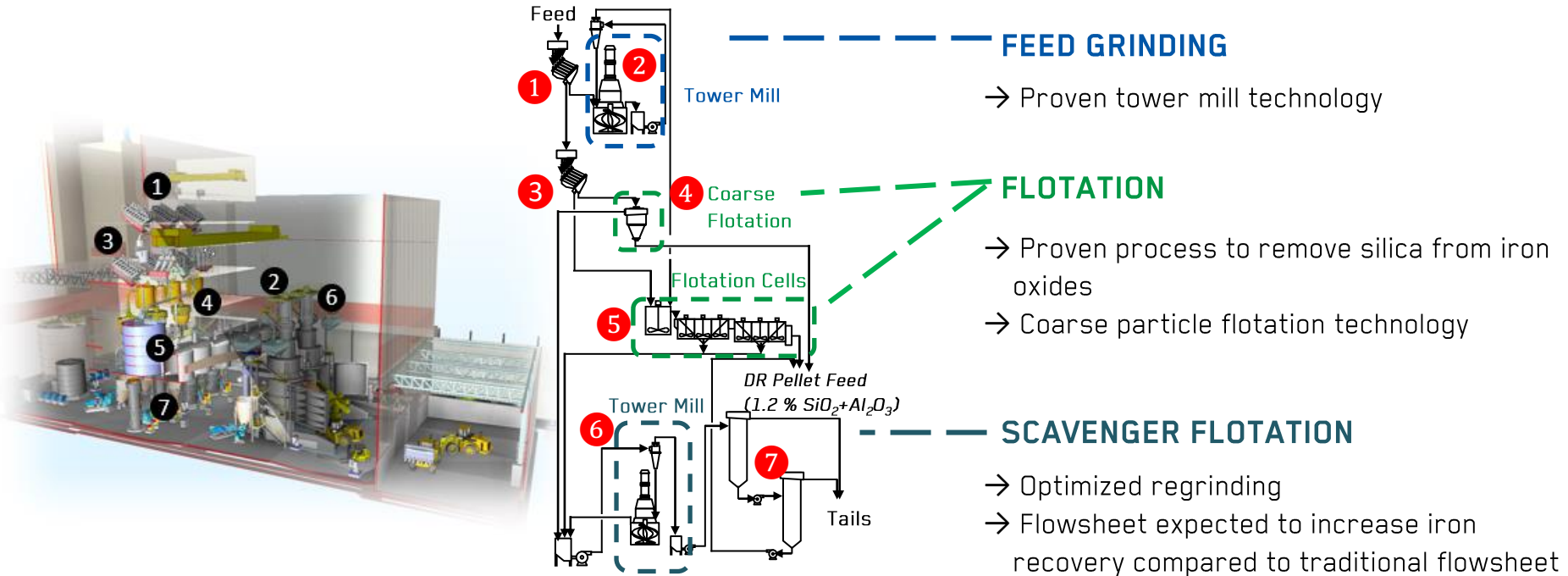
- Project to upgrade the Phase II plant (7.5 Mtpa) from **66.2% to a 69% Fe** (industry leading DR quality iron ore)
- Expected to attract significant additional pricing premium over the P65 index
- One of the few iron ore deposits in the world capable of upgrading to DR quality
- Project designed to be carbon neutral and not expected to create additional environmental impact
- Construction phase of the Project expected to create approximately 150 jobs with 70 permanent quality jobs once completed



Opportunity for regional communities to benefit from the transformation to DRPF, while creating a positive impact globally by contributing to greener steelmaking

# DIRECT REDUCTION PELLET FEED

## PROJECT USING PROVEN AND OPTIMIZED TECHNOLOGIES



Significant research and development, combining local and global expertise, resulting in an efficient project expected to significantly reduce energy consumption

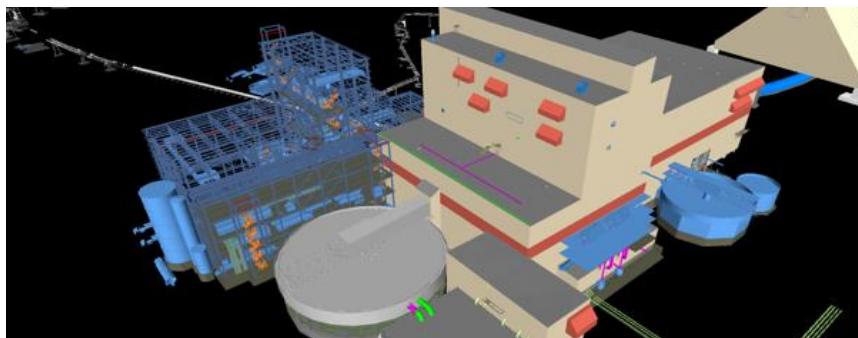


# DIRECT REDUCTION PELLET FEED

## A TRANSFORMATIONAL PROJECT SUPPORTED BY ROBUST ECONOMICS

### PROJECT MILESTONES

- Positive findings of the study released in January 2023 include robust economics
- **\$28.9M in investments completed as of September 30, 2023**, from the **\$62M initial budget** approved by the Board
- **Project's final investment decision** expected in the near-term for a potential commissioning in calendar H2/2025



Source: Champion Iron Limited press release dated January 26, 2023

### PROJECT ECONOMICS

Valuation	C\$M	US\$M
Net Present Value ("NPV")	Pre-tax NPV <sub>8%</sub> \$1230.1M	Pre-tax NPV <sub>8%</sub> \$918.0M
	After-tax NPV <sub>8%</sub> <b>\$738.2M</b>	After-tax NPV <sub>8%</sub> <b>\$550.9M</b>
Internal Rate of Return ("IRR")	Pre-tax IRR of 30.1% After-tax IRR of <b>24.0%</b>	

CAPEX Pre-Production	C\$M	US\$M
Phase II circuit optimization	348.1	259.8
Electrical upgrade and port related infrastructure	46.4	34.6
Contingencies	76.2	56.9
<b>TOTAL</b>	<b>470.7</b>	<b>351.3</b>

# DIRECT REDUCTION PELLET FEED

## 5 LEVERS TO JUSTIFY PREMIUMS FOR DR PELLET FEED QUALITY IRON ORE



Premium pricing for DR quality iron ore over BF feed



Higher Fe content versus DR benchmark should attract additional premiums vs other DR quality iron ore



Lower gangue versus DR benchmark should attract additional premium vs other DR quality iron ore

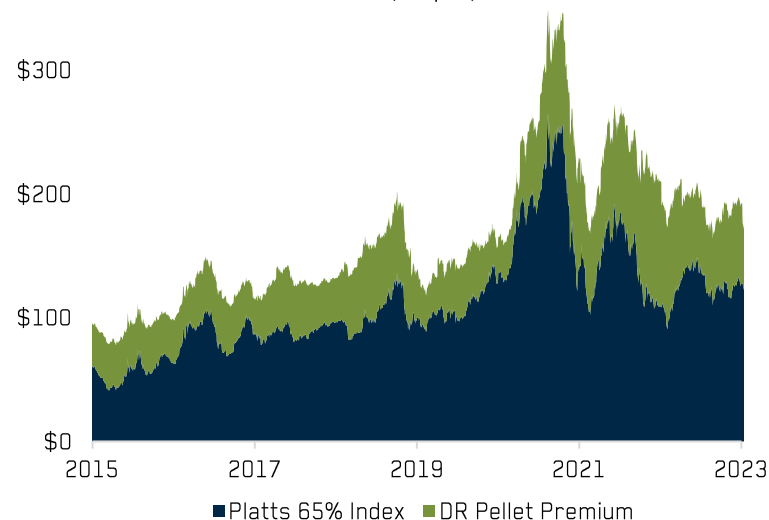


Potential freight savings to service leading DRI/EAF hubs in EU and US



Potential carbon cost savings in steelmaking

**P65 AND DR PELLET PREMIUM**  
(US\$/T)



Bloom Lake's DRPF is expected to capture a significant portion of the DR pellet premium and attract additional premiums compared to other DR quality iron ore due to its higher quality specifications



# GROWTH OPPORTUNITY KAMI PROJECT

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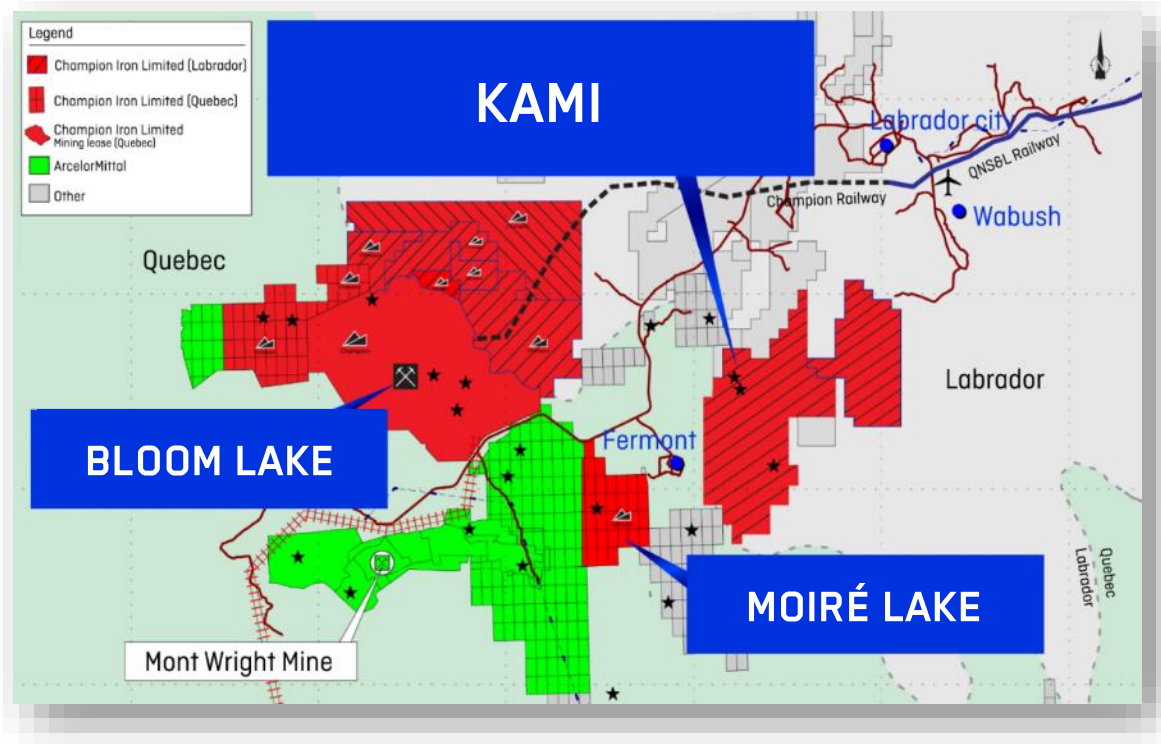
**CHAMPION IRON** 

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## A HIGH-PURITY IRON RESOURCE EXPECTED TO PRODUCE DR QUALITY IRON ORE



- Strategically located near available infrastructure only a few kilometers southeast of Bloom Lake in the province of Newfoundland and Labrador
- Potential to access the same rail and port infrastructure as Bloom Lake

## TAKING INITIATIVE TO MOVE THE PROJECT FORWARD



Study expected in the near-term



Initial project includes one concentrator to produce DR quality iron ore



Similar geology and flowsheet is anticipated to also be similar to Bloom Lake



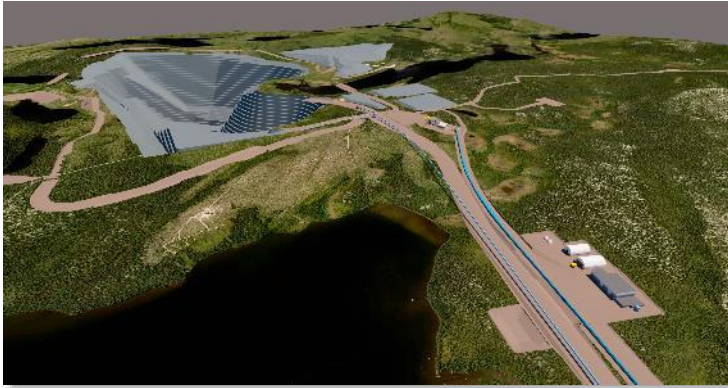
Operating costs are anticipated to be similar to Bloom Lake



*Preliminary rendering of the proposed Kami concentrator*



## TAKING INITIATIVE TO MOVE THE PROJECT FORWARD



*Open pit – Looking West*



*Concentrator Area – Looking South*



Ongoing work with government authorities to assess previously issued permits required for the project

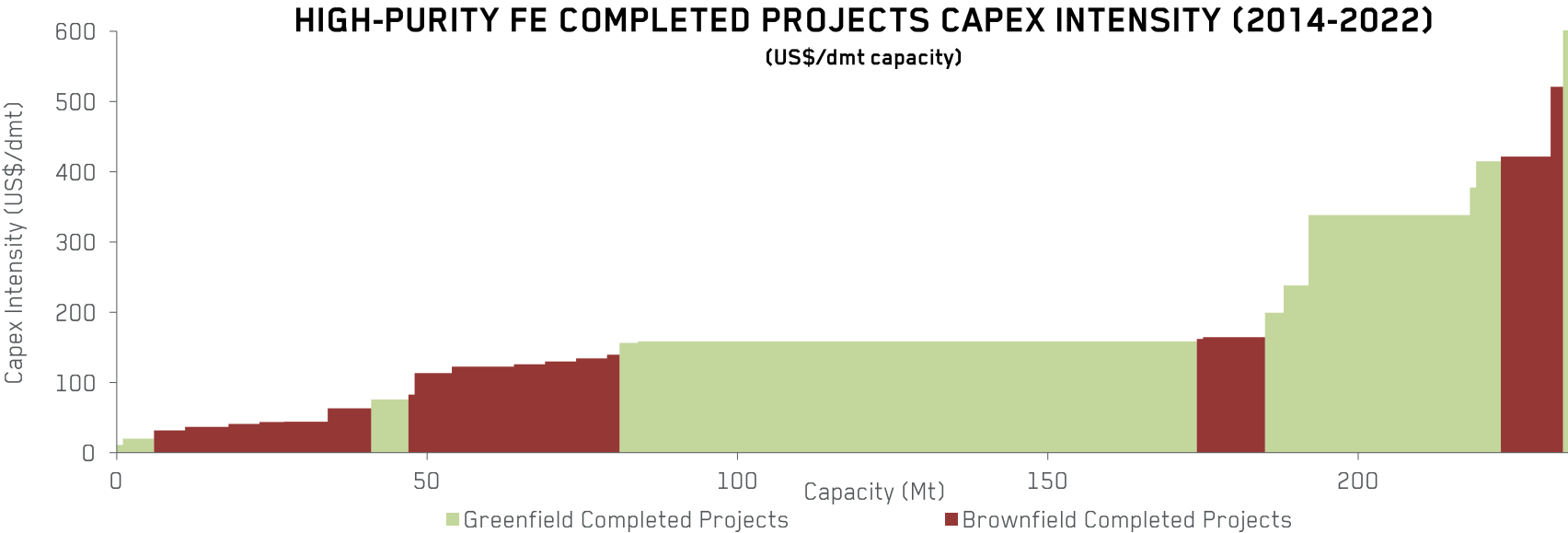


Company expects to sequence the project with other organic growth opportunities to preserve its prudent approach to capital management



Opportunity to attract partners and accelerate project development

PEER IRON ORE CONCENTRATE GREENFIELD PROJECTS CAPITAL INTENSITY AVERAGED US\$290<sup>1</sup> PER TONNE OF CAPACITY IN THE PREVIOUS CYCLE (UNADJUSTED FOR INFLATION)



High-grade iron ore projects, critical for the green steel transition, require significant capital investments

Source: Wood Mackenzie, August 2022  
Note: 1. 2014-2022 data, excluding Bloom Lake Phase I and Phase II



## "HIGH-GRADE, LOW-IMPURITY" IRON ORE ON THE PROVINCIAL CRITICAL MINERAL LIST

- High-grade and low impurity iron ore was listed on the province of Newfoundland and Labrador's critical minerals list joining other minerals such as nickel, copper and cobalt
- Identified as critical due to its **positive impact** in **reducing greenhouse gas emissions** in steelmaking and the **potential for further value-added activity as a green steel input**
- Newfoundland and Labrador provincial government is **actively investing** to support the implementation of the Critical Minerals Plan





# GROWTH OPPORTUNITY REGIONAL EXPLORATION

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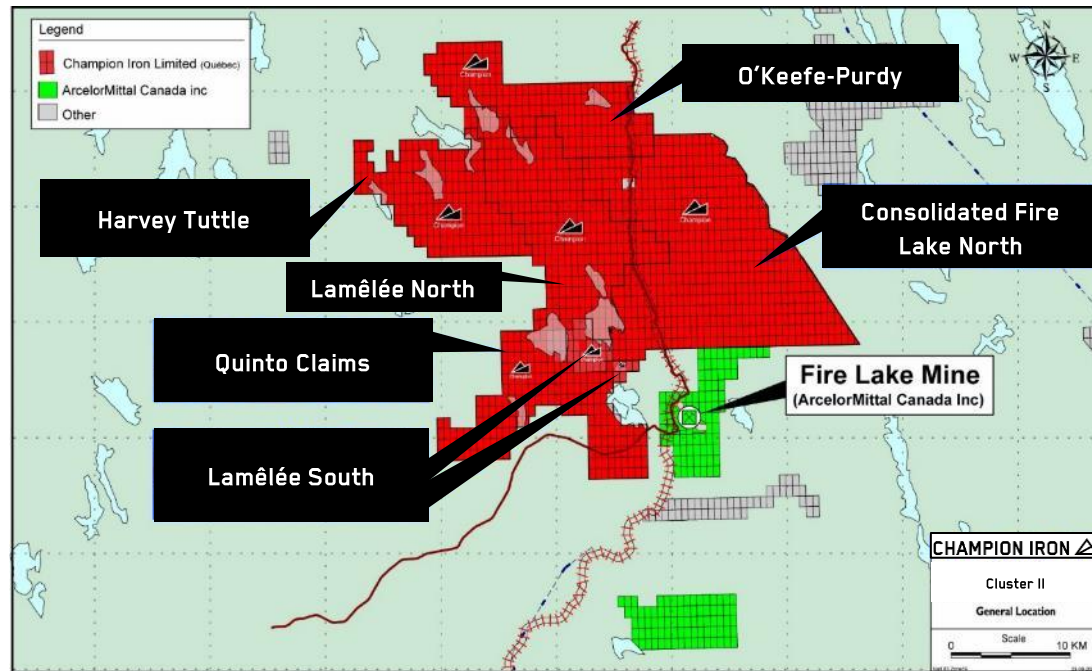
**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF

## DE-RISKING ONE OF THE WORLD'S LARGEST HIGH-PURITY IRON ORE RESOURCE OPPORTUNITIES

- **One of the largest undeveloped hubs of high-purity iron ore resources globally**
- **\$9.3M** in exploration and evaluation expenditures in FY23, including over 2,200 meters drilled
- **Repurchased most royalties** on regional resources in recent years

### CLUSTER II

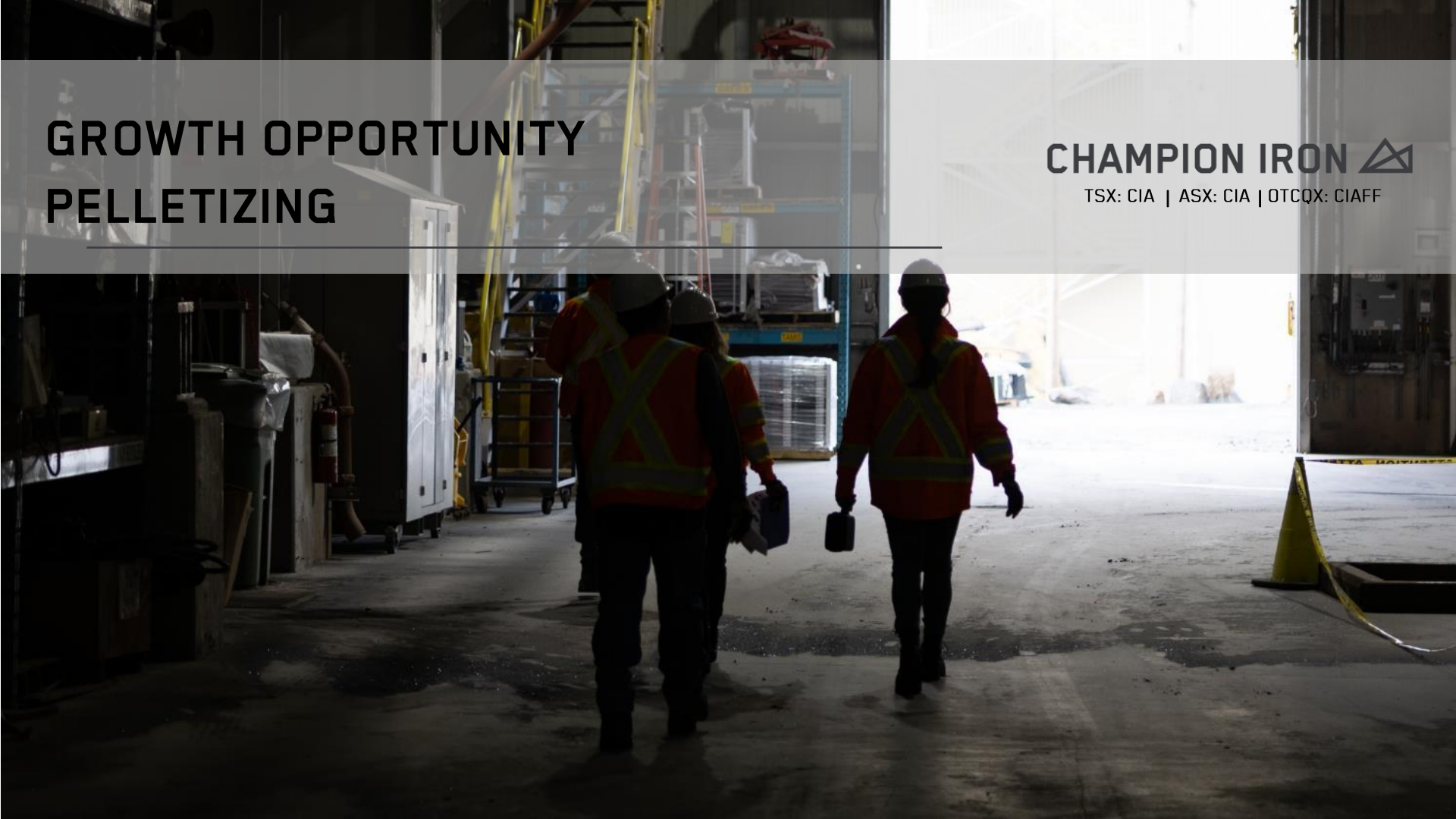


# GROWTH OPPORTUNITY PELLETIZING

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**CHAMPION IRON** 

TSX: CIA | ASX: CIA | OTCQX: CIAFF





CHAMPION IS EVALUATING THE OPPORTUNITY FOR ADDITIONAL PRODUCT TRANSFORMATION TO INCREASE ITS PARTICIPATION IN THE GREEN STEEL SUPPLY CHAIN

## DIRECT REDUCTION PELLETS



### STUDY STAGE

Study to produce DR pellets at the Pointe-Noire pellet plant

## COLD BONDED PELLETS









### SEMI-INDUSTRIAL PROTOTYPE

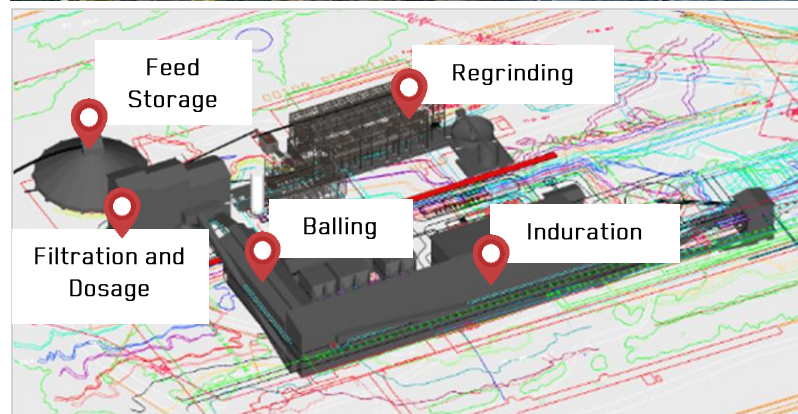
Collaborating with BSL to de-risk a promising cold pelletizing technology



# POINTE-NOIRE PELLET PLANT

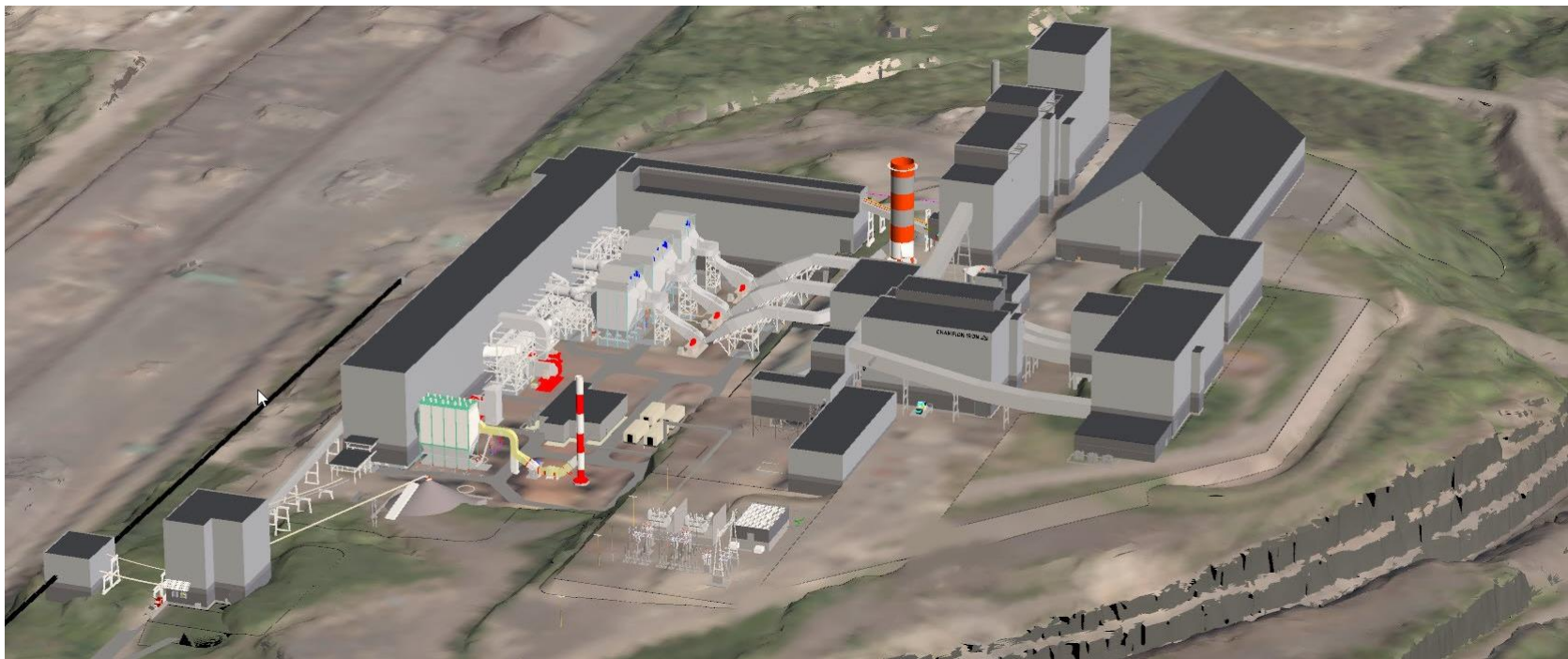
## ADVANCING A STUDY WITH A MAJOR INTERNATIONAL STEELMAKER

-  Opportunity to leverage the DR quality iron ore from the DRPF project and produce DR pellets
-  Direct access to port and Champion's existing loadout
-  Potential to reconnect to **renewable power and water access**
-  **High end metallization** and metallurgical properties
-  Champion's ore is proven to be able to produce a **high strength pellet**
-  **High tumble index** with lower degradation during handling



# POINTE-NOIRE PELLET PLANT

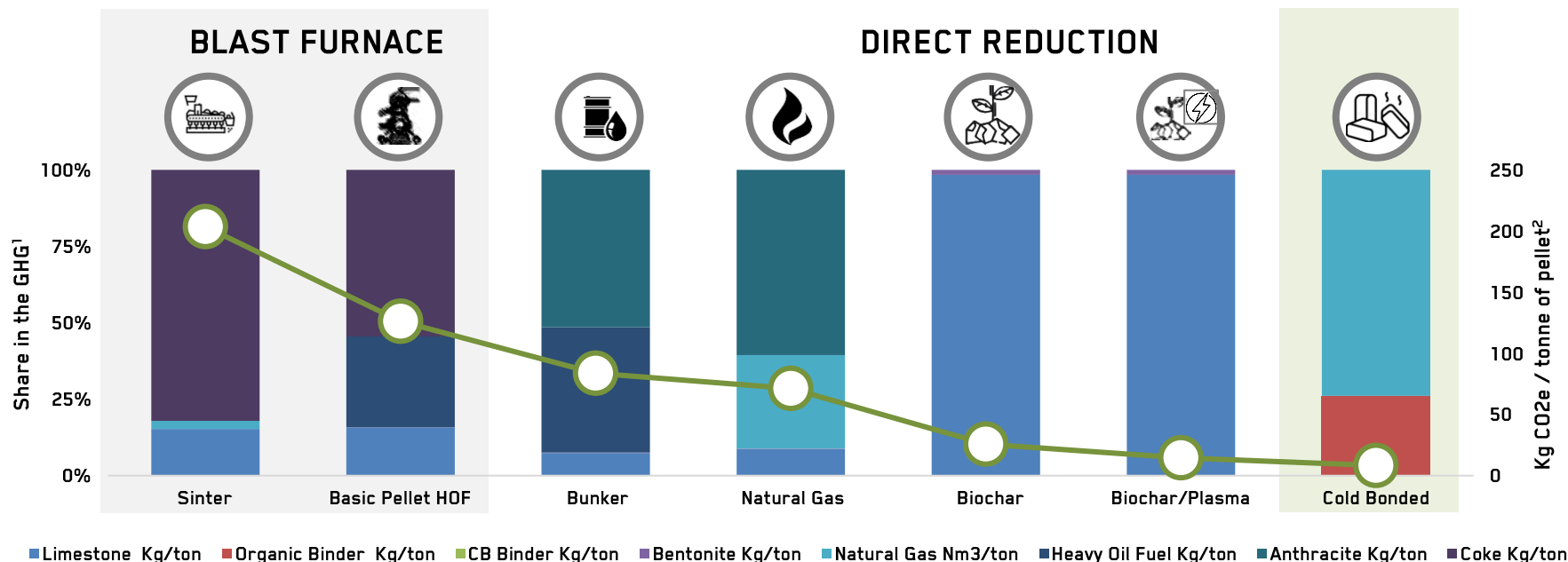
STUDY COMPLETION EXPECTED IN THE NEAR-TERM



The project study is expected in the near-term with significant required investments and it represents another growth opportunity in keeping with Champion's prudent capital management approach

# COLD BONDED PELLETS

CHAMPION IS AN EARLY INVESTOR AND COLLABORATOR IN AN INDUSTRY LEADING SOLUTION



Champion is collaborating to de-risk a technology to produce some of the lowest CO<sub>2</sub> intensity cold bonded pellet globally

## PERFORMING IN HIGH TEMPERATURE SIMULATION

→ Champion has been developing **Cold Bonded Pellets** (“CBP”) in partnership for 4½ years to identify the best combination between:

**Process**

**Binder**

**Iron ore**

→ CBP are stable in different BF operational modes, simulating various clients, and are expected to qualify for DR-EAF route

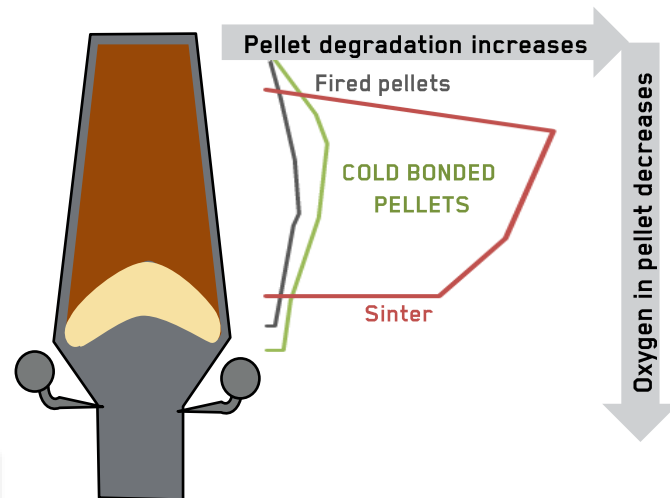
→ CBP reached a satisfactory strength level comparable to seaborne fired pellets

## COLD PELLETIZING SAMPLE EQUIPMENT



Source: Champion Iron Limited

## BLAST FURNACE DEGRADATION TEST



As pellets descend in the furnace, intense heat causes iron to react with CO gas from burning coke resulting in the iron's “reduction” (loss of oxygen). Due to the need for CO and other gases to percolate, it is important the pellets retain integrity and not generate fines.



# CLOSING REMARKS

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**CHAMPION IRON** 

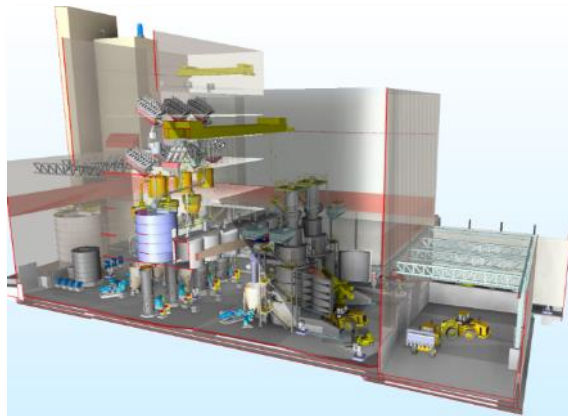


# CLOSING REMARKS

## A GLOBAL SOLUTION FOR THE GREEN STEELMAKING TRANSITION

**Champion Iron is strategically positioned to deliver the critical materials required to decarbonize steelmaking**

Bloom Lake  
Efficient  
Ramp-up  
Debottleneck



DRPF  
Kami  
Pellet Plant  
Cold Pelletizing

Cluster II  
Exploration  
Evaluation  
Research



# Q&A

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# THANK YOU!

**CHAMPION IRON** 

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## Contact us for more information

David Cataford, CEO

Michael Marcotte, Senior Vice-President Corporate Development and Capital Markets

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[www.championiron.com](http://www.championiron.com)

## NOTES ON HISTORICAL ESTIMATES USED IN THE PRESENTATION

1. The historical Kami Project resource estimates are based on the National Instrument 43-101 technical report entitled "Feasibility Study of the Rose Deposit and Resource Estimate for the Mills Lake Deposit of the Kamistiasusset (Kami) Iron Ore Property, Labrador" prepared for Alderon Iron Ore Corp. by BBA Inc., Stantec and Watts, Griffis and McQuat Ltd. dated January 9, 2013, and having an effective date of December 17, 2012. The historical Kami Project reserve estimates are based on the National Instrument 43-101 (NI 43-101) technical report entitled "Updated Feasibility Study of the Kamistiasusset (Kami) Iron Ore Property, Labrador" prepared for Alderon Iron Ore Corp. by BBA Inc., Gemtec Ltd., Watts, Griffis and McQuat Ltd. and Golder Associates Ltd. dated October 31, 2018 and having an effective date of September 26, 2018. Kami Project mineral resources include Kami Project mineral reserves. The historical mineral resources and reserves mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near the Company's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules. As stated above, the Company has initiated work to revise the Kami Project's scope and update the feasibility study.
2. The historical Moiré Lake resource estimates are based on the NI 43-101 technical report entitled "Technical Report and Mineral Resource Estimate on the Moiré Lake Property" by P&E Mining Consultants Inc. dated May 11, 2012 and having an effective date of March 28, 2012. The historical mineral resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near the Company's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
3. The historical Lac Lamélie resource estimates are based on the National Instrument 43-101 (NI 43-101) technical report entitled "NI 43-10 Technical Report and Mineral Resource Estimate on the Lac Lamélie South Resources Quebec - Canada" by Met-Chem, a division of DRA Americas Inc. dated July 28, 2017, and having an effective date of January 26, 2017. The historical mineral resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion Iron Limited is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near Champion Iron Limited's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
4. The historical Consolidated Fire Lake resource and reserve estimates are based on the National Instrument 43-101 technical report entitled "Preliminary Feasibility Study of the West and East Pit Deposits of the Fire Lake North Project" by BBA Inc., P&E Mining Consultants Inc. and Rail Cantech Inc. dated February 22, 2013 and having an effective date of January 25, 2013. The historical mineral resources and resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion Iron Limited is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near Champion Iron Limited's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
5. The historical Quinto Claims resource estimates are based on the National Instrument 43-101 technical reports entitled "Mineral Resource Technical Report, Peppier Project, Quebec" (as regards Peppier Lake), "Mineral Resource Technical Report, Lamelee Project, Quebec" (as regards Lamélie) and "Mineral Resource Technical Report, Hobdad Project, Quebec" (as regards Hobdad), each by G H Wahl & Associates Consulting dated February 15, 2013 and having an effective date of December 31, 2012. The historical mineral resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion Iron Limited is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near Champion Iron Limited's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
6. The historical Harvey Tuttle resource estimates are based on the National Instrument 43-101 technical report entitled "Technical Report and Resource Estimate on the Harvey-Tuttle Property Québec, Canada" by P&E Mining Consultants Inc. dated April 13, 2011 and having an effective date of February 25, 2011. The historical mineral resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion Iron Limited is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near Champion Iron Limited's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
7. The historical Penguin Lake resource estimates are based on the National Instrument 43-101 technical report entitled "43-101 Technical Report and Mineral Resource Estimate on the Penguin Lake Project" by MRB & Associates dated February 3, 2014 and having an effective date of May 1, 2013. The historical mineral resources mentioned are strictly historical in nature, are non-compliant with NI 43-101 and the JORC Code (2012 edition) and should therefore not be relied upon. A qualified person or competent person has not done sufficient work to upgrade or classify the historical estimates as current "mineral resources", "mineral reserves" or "ore reserves", as such terms are defined in NI 43-101 and the JORC Code (2012 edition), and it is uncertain whether, following evaluation and/or further exploration work, the historical estimates will be able to be reported as mineral resources, mineral reserves or ore reserves in accordance with NI 43-101 or the JORC Code (2012 edition). Champion Iron Limited is not treating the historical estimates as current mineral resources, mineral reserves or ore reserves. These reserves and resources are not material mining projects and are for properties adjacent to or near Champion Iron Limited's existing mining tenements and therefore the reports on these mineralisations have not been prepared in accordance with the JORC Code (2012 edition) and the ASX Listing Rules.
8. Certain resources mentioned are foreign estimates from an Australian perspective.

## CHAMPION IRON LIMITED MINERAL RESOURCES AND MINERAL RESERVES

CHAMPION IRON LIMITED - MINERAL RESOURCES (MILLION DRY METRIC TONNES)										
PROPERTY	GROUP	MEASURED		INDICATED		MEAS + IND		INFERRED		SOURCE
		Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	
Bloom Lake	Bloom Lake	187	30.4	1,066	28.4	1,252	28.7	246	26.6	Bloom Lake mineral resources are based on the Mineral Resources and Mineral Reserves for the Bloom Lake Mine 2023 Technical Report, dated September 28, 2023 and filed on October 3, 2023.
Consolidated Fire Lake*	Fire Lake North (West Area)	24	35.4	405	32.6	429	32.7	329	30.9	Historical estimates. See notes 4.
	Fire Lake North (East Area)	3	34.2	262	29.6	265	29.6	192	28.7	
	Fire Lake North (Subtotal)	27	35.2	667	31.4	694	31.5	522	30.1	
	Bellechasse	-	-	-	-	-	-	215	28.7	
	Dil can	-	-	-	-	-	-	967	33.2	
	Total	27	35.2	667	31.4	694	31.5	1,704	31.7	
Moiré Lake*	Moiré Lake	-	-	164	30.5	164	30.5	417	29.4	Historical estimates. See note 2.
Quinto Claims*	Peppler Lake	-	-	327	28.0	327	28.0	216	27.5	Historical estimates. See note 5.
	Lamélee North	-	-	272	29.4	272	29.4	653	30.5	
	Hobdab	-	-	-	-	-	-	508	27.4	
	Total	-	-	599	28.6	599	28.6	1,377	28.9	
Lamélee South*	Lamélee South	-	-	75	31.6	75	31.6	229	30.5	Historical estimates. See note 3.
Harvey Tuttle*	Harvey Tuttle	-	-	-	-	-	-	947	23.2	Historical estimates. See note 6.
Kami*	Rose North	236	30.3	313	30.5	549	30.4	287	29.8	Historical estimates. See note 1.
	Rose Central	250	29.4	295	28.5	544	28.9	161	28.9	
	Mills Lake	51	30.5	131	29.5	181	29.8	75	29.3	
	Total	537	29.9	738	29.5	1,275	29.7	523	29.5	
Penguin Lake*	Penguin Lake (45% CIA interest)	-	-	-	-	-	-	239	33.1	Joint Venture with Cartier Iron Corporation. Champion has 45% interest in the mining claims. Historical estimates. See note 8.
	Grand total	750	30.2	3,308	29.5	4,058	29.6	5,682	29.0	Partially historical estimates. See notes 1 through 6.

	CHAMPION IRON LIMITED - MINERAL RESERVES (MILLION DRY METRIC TONNES)							
PROPERTY	GROUP	PROVEN		PROBABLE		P&P	SOURCE	
		Mt	Fe%	Mt	Fe%	Mt		Fe%
Bloom Lake	Bloom Lake	184	30.0	533	28.1	716	28.6	Bloom Lake proven and probable reserves are based on the Mineral Resources and Mineral Reserves for the Bloom Lake Mine 2023 Technical Report, dated September 28, 2023 and filed on October 3, 2023.
Consolidated Fire Lake*	Fire Lake North (West Pit)	21	36.2	268	33.4	289	33.6	Historical estimates. See note 4.
	Fire Lake North (East Pit)	3	34.2	173	30.2	176	30.3	
	Fire Lake North (Subtotal)	24	36.0	441	32.2	465	32.4	
Kami*	Rose deposits (Single Pit)	393	29.0	125	28.2	517	28.8	Historical estimates. See note 1.
	Grand total	600	29.6	1,098	29.7	1,698	29.7	Partially historical estimates. See notes 1 and 4.

\* The historical mineral resources and reserves are historical estimates and should not be relied upon. A qualified person has not done sufficient work to upgrade or classify the historical estimates as current mineral resources or mineral reserves and Champion Iron is not treating the historical estimates as current mineral resources or mineral reserves

\*\* Certain reserves and resources mentioned are foreign estimates from an Australian perspective.



## NOTES ON MINERAL RESOURCES AND MINERAL RESERVES FOR THE BLOOM LAKE MINE

### Mineral Resources

1. Mineral resources are not mineral reserves and have not demonstrated economic viability under the assumptions contained in the 2023 Technical Report. All figures have been rounded to reflect the relative accuracy of the estimates.
2. The resource estimate is reported undiluted at a cut-off grade of 15% iron.
3. The 2023 resource shell is based on a long-term P65 iron price of US\$110.24/dmt, a premium of US\$2.04/dmt for the 66.2% Fe concentrate and an exchange rate of 1.27. It was made using Geovia Whittle (software version 4.7.2).
4. The qualified person ("QP") for the mineral resource estimate, as defined by NI 43-101, is Erik Ronald, P. Geo., of SRK. The effective date of the estimate is April 1, 2023.
5. The geological interpretations for the Bloom Lake deposit were based on lithological logging, analyses from drill core, grade control data, geological maps, historical models, and ground magnetic surveys. The geology and controls on the mineralization are considered well understood.
6. The mineralized iron formation units in the lithology model include iron formation, silica iron formation, and limonite. The iron formation model further differentiates the iron formation units into operational quality categories of low (under 0.6%), moderate and elevated (over 16%) CaO + MgO values.
7. All 3D digital geological modelling was performed using Leapfrog Geo™ software. In the QP's opinion, the geological model is appropriate for the size, grade distribution, and geometry of the mineralized zones and is suitable for mineral resource estimation of the Bloom Lake project.
8. The mineral resource model is based on 6.0 m composite intervals within the iron formation. Grade capping was reviewed but deemed unnecessary and was not applied. Ordinary kriging (OK) was used for the estimation of CaO, Fe, MgO, and SAT. Al2O3 was estimated into the block model using inverse distance weighting to a power of three (ID3) estimation.
9. Mineral Resources were classified into measured, indicated, and inferred mineral resources categories based on the geological understanding of mineralization and structure on the property, the quality of the underlying drilling data, history of mining production and reconciliation, mineralization and grade continuity, and drillhole spacing.
10. The QP is satisfied that the mineral resources were estimated following CIM Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (November 2019). The mineral resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent mineral resource estimates. The mineral resources may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors.

### Mineral Reserves

1. The mineral reserves were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards for Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014.
2. The QP for the mineral reserve estimate, as defined by NI 43-101, is Olivier Hamel, P. Eng., of Quebec Iron Ore Inc. ("QIO"), a subsidiary of the Company. The effective date of the estimate is April 1, 2023.
3. In the ultimate pit design, all measured resources and associated dilution/ore loss were converted to proven mineral reserves. All indicated resources and associated dilution/ore loss were converted into probable mineral reserves.
4. Stockpiles are excluded from reserve calculations due to their small size (<1 Mt).
5. Bulk density of ore is variable but averages 3.39 t/m<sup>3</sup> [pre-dilution].
6. Remaining strip ratio is 0.96:1 (including overburden).
7. Mining dilution was calculated using a 2-m contact skin.
8. The average mining dilution is 1.73% at a grade of 0% Fe. Dilution was applied block by block and shows a wide range of local variability.
9. The average ore loss is 1.91% at a grade of 29% Fe. Ore loss was applied block by block and shows a wide range of local variability.
10. Mineral reserves are based on a mining surface projected to April 1, 2023. The last survey was done in Q3 2022.
11. Mineral reserves are estimated at a cut-off grade of 15% Fe (diluted), which has historically been used. Current cost/revenue model allows to calculate a break-even cut-off grade and the result of 14.1% Fe supports the current practices.
12. Mineral reserves are estimated using a long-term iron ore reference price (Platt's 65%) of USD99/dmt and an exchange rate of 1.27 CAD/USD. A price adjustment to 66.2% of USD1.83/dmt was added.
13. Reserve open pit optimization was conducted using Geovia Whittle (software version 4.7.2) to determine the optimal economic shape of the open pit to guide the pit design process.
14. SAT stands for SATMAGAN, an industry standard device that measures the magnetic content by weight of a sample. This value is assumed to be the magnetite content by weight.
15. The author is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issues not reported in the 2023 Technical Report, that could materially affect the mineral reserve estimate.
16. Numbers may not add up due to rounding.