

2 – 3 December 2025



Collaborating to accelerate decarbonisation
across the steel value chain



Disclaimer

The information contained in this presentation is provided for information purposes only. No warranty of any kind is provided in relation to the information, including with respect to its completeness or accuracy, and no reliance should be placed on the information for any purpose. Any use of the information in this presentation shall be at your own independent judgment and risk. Neither the NeoSmelt Joint Venture Manager nor the NeoSmelt Joint Venture Participants (together, the NeoSmelt Joint Venture and each, a member of the NeoSmelt Joint Venture) take any responsibility for the consequences of any such use, nor for any error or omission in the information. To the maximum extent permitted by law, each member of the NeoSmelt Joint Venture, their affiliates, and their respective officers, directors, employees and agents, give no representation, warranty or other assurance in connection with, and disclaim all responsibility for, the currency, accuracy, reliability or completeness of any information provided in this presentation.

Forward looking statements

This presentation contains forward-looking statements. All statements, other than statements of historical or present facts, are forward-looking statements and generally may be identified by the use of forward-looking words such as ‘guidance’, ‘foresee’, ‘likely’, ‘potential’, ‘anticipate’, ‘believe’, ‘aim’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘target’, ‘plan’, ‘strategy’, ‘forecast’, ‘outlook’, ‘project’, ‘schedule’, ‘will’, ‘should’, ‘seek’ and other similar words or expressions. Similarly, statements that describe objectives, plans, goals or expectations are forward-looking statements.

Forward-looking statements in this presentation are not guidance, forecasts, guarantees or predictions of future events or performance, but are in the nature of future expectations that are based on the NeoSmelt Joint Venture’s current expectations and assumptions. Those statements and any assumptions on which they are based are subject to change without notice and are subject to inherent known and unknown risks, uncertainties, assumptions and other factors, many of which are beyond the control of the NeoSmelt Joint Venture members, their affiliates and their respective officers, directors, employees and agents.

Recipients of this presentation are strongly cautioned not to place undue reliance on any forward-looking statements. Actual results or performance may vary materially from those expressed in, or implied by, any forward-looking statements.

Introduction



Chris Page
General Manager NeoSmelt JV
BlueScope Head of Future Technologies
chris.page@bluescope.com



Project overview



Joint Venture

Collaboration
between BHP,
BlueScope, Mitsui Iron
Ore Development, Rio
Tinto and Woodside
Energy

Location

19.9 ha site in
Rockingham, Western
Australia

Technology

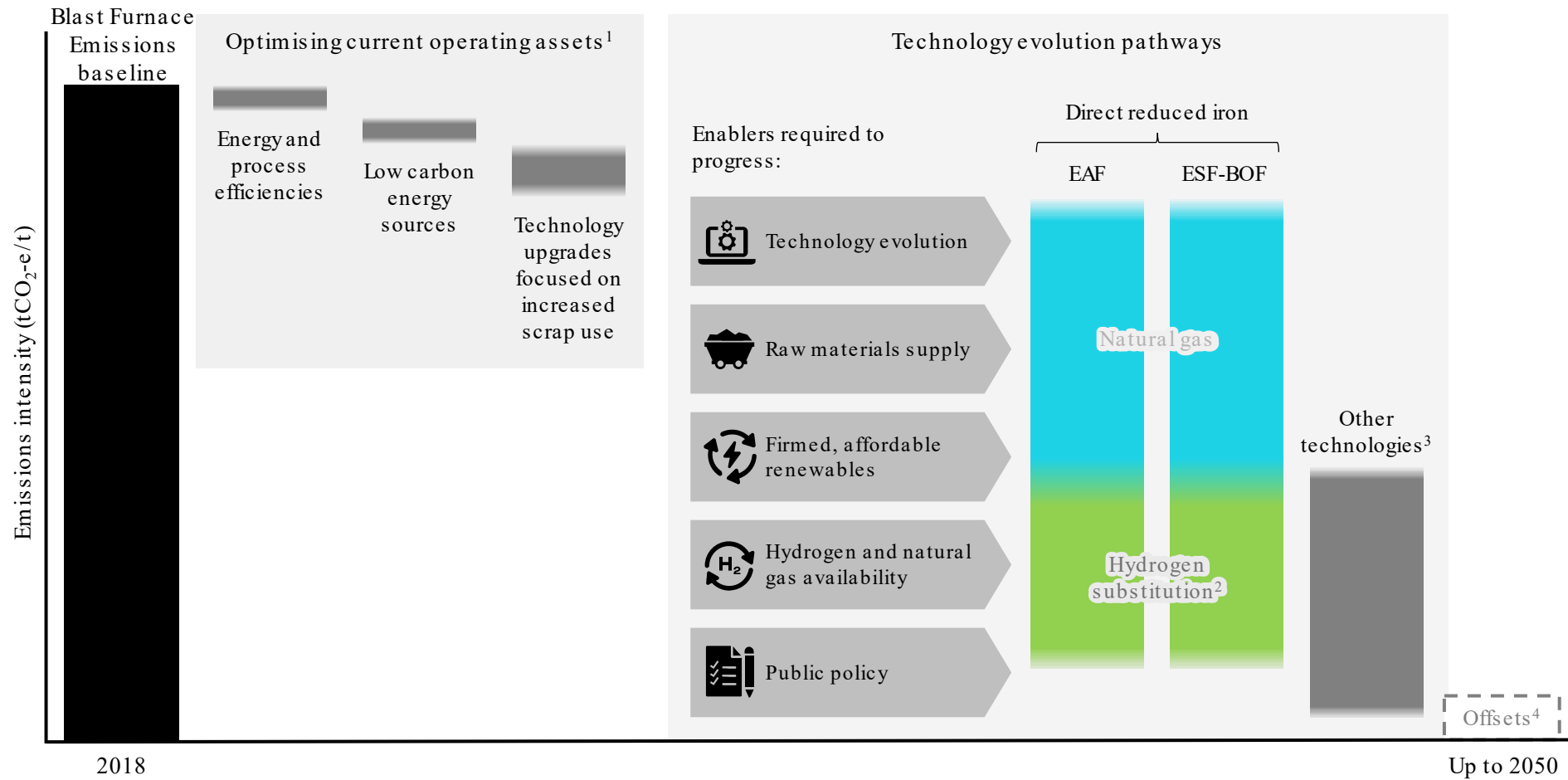
Direct Reduction Plant
and Electric Smelting
Furnace

Capacity

Up to 30,000 to
40,000 tonnes/year
(~8tph pilot)

BlueScope's Steelmaking Decarbonisation Pathway

The dual-stream approach to steelmaking decarbonisation through both the near-term asset optimisation and longer-term technology evolution



1. Optimising current assets involves working within currently available technology options to improve the efficiency of assets and processes, including upgrading technology where there are supportive enablers. This continues beyond 2030 until such time as it is feasible to convert to lower emissions iron and steelmaking technology. Continuous improvement principles will apply to future production processes.

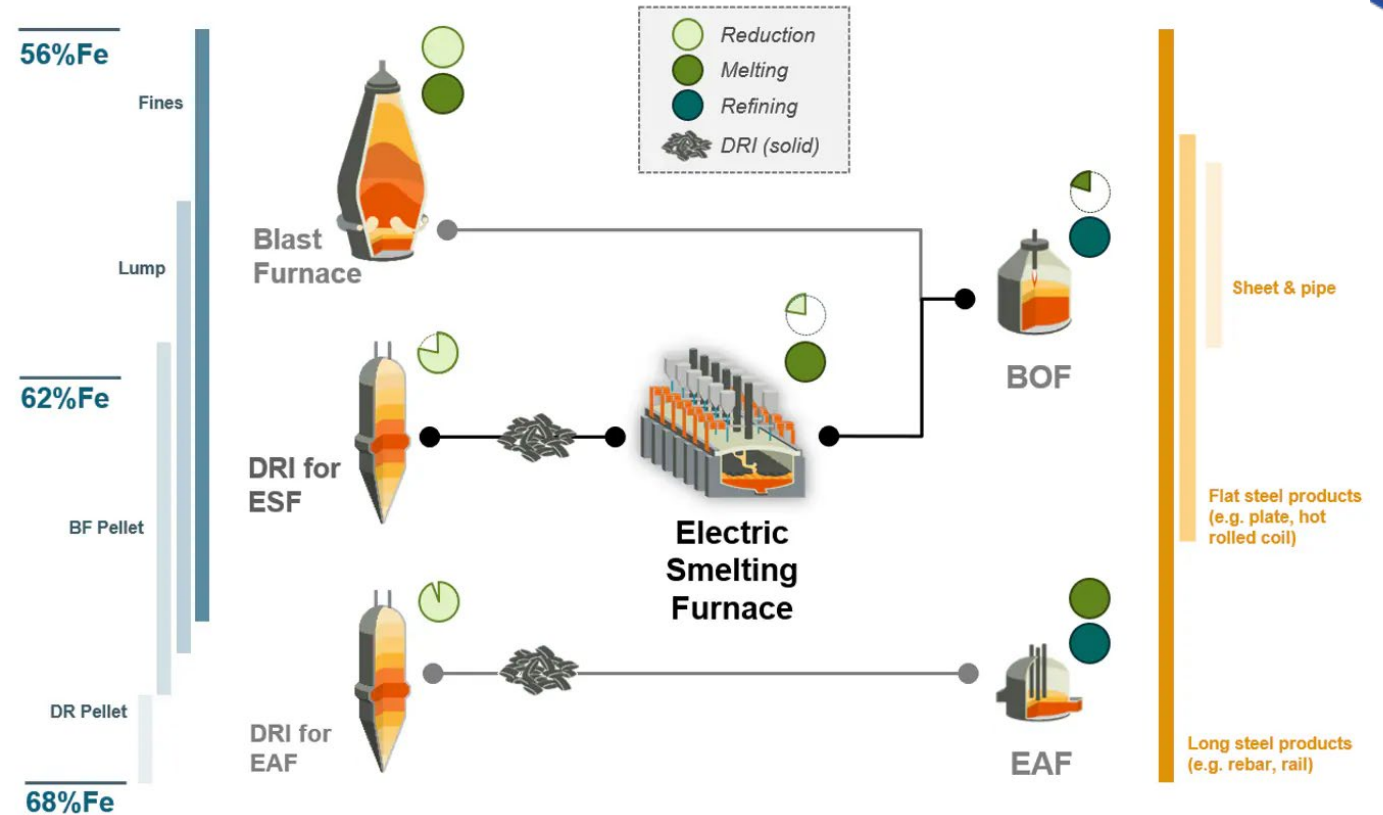
2. Contingent upon commercial supply of hydrogen from renewable sources.

3. Other technologies include electrolysis, CCS and biocarbon, etc.

4. We retain the option to use offsets to meet our 2050 net zero goal where direct abatement is not technically or commercially feasible.

Why we are doing NeoSmelt

- Traditional primary steelmaking (Blast Furnace – Basic Oxygen Furnace) is highly carbon-intensive, emitting ~2.33 t CO₂-e per tonne of steel, contributing ~8% of global CO₂ emissions
- Increasing scrap recycling and supplementing this with Direct Reduced Iron (DRI) in an Electric Arc Furnace (EAF) is commercially available – hence a focus for decarbonisation in our industry, however both scrap and DR grade ore availability is limited
- Although commercially mature, the DRI-EAF process alone will not allow decarbonisation across the breadth of our industry
- Technological and commercial development of the DRI-ESF process is critical to helping achieve decarbonisation of global supply chains
- NeoSmelt will build this knowledge – and share it



Current & Future Technology Pathways
Source: Hatch

Why NeoSmelt Matters

- Steel underpins every modern economy, but contributes about 8% of global CO₂ emissions and 5% of Australia's total.
- The Pilbara produces around 860Mt¹ of iron ore for the global steel market, representing 52%² of the world's global iron ore exports
- Current commercially developed lower-emissions² steel technologies rely on high-grade iron ore (high Fe, low gangue), but Pilbara ores are medium grade, limiting their use in these pathways.
- The NeoSmelt Pilot aims to validate and scale an alternative pathway for lower-emissions² iron and steelmaking by further processing of DRI produced using Pilbara iron ores
- By sharing the technology and IP into existing and new markets, we aim to accelerate and help proliferate a commercially viable pathway to near zero emissions intensity steelmaking.



862 Mt
of iron ore
produced in WA
(FY24)¹

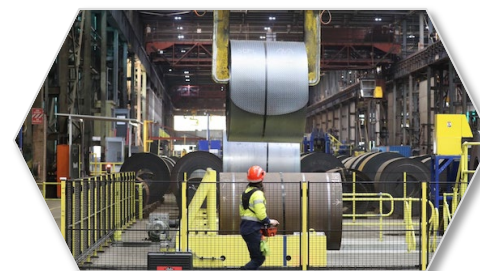
\$153b
of iron ore
sales from WA
(FY24)¹



52%
of global iron
ore exports
(CY23)³

4%
of Australia's
GDP
(FY24)

\$9.9b
of royalties to
WAGov
(FY24)¹



61,203
employed within
the WA Iron Ore
industry
(FY23)⁵

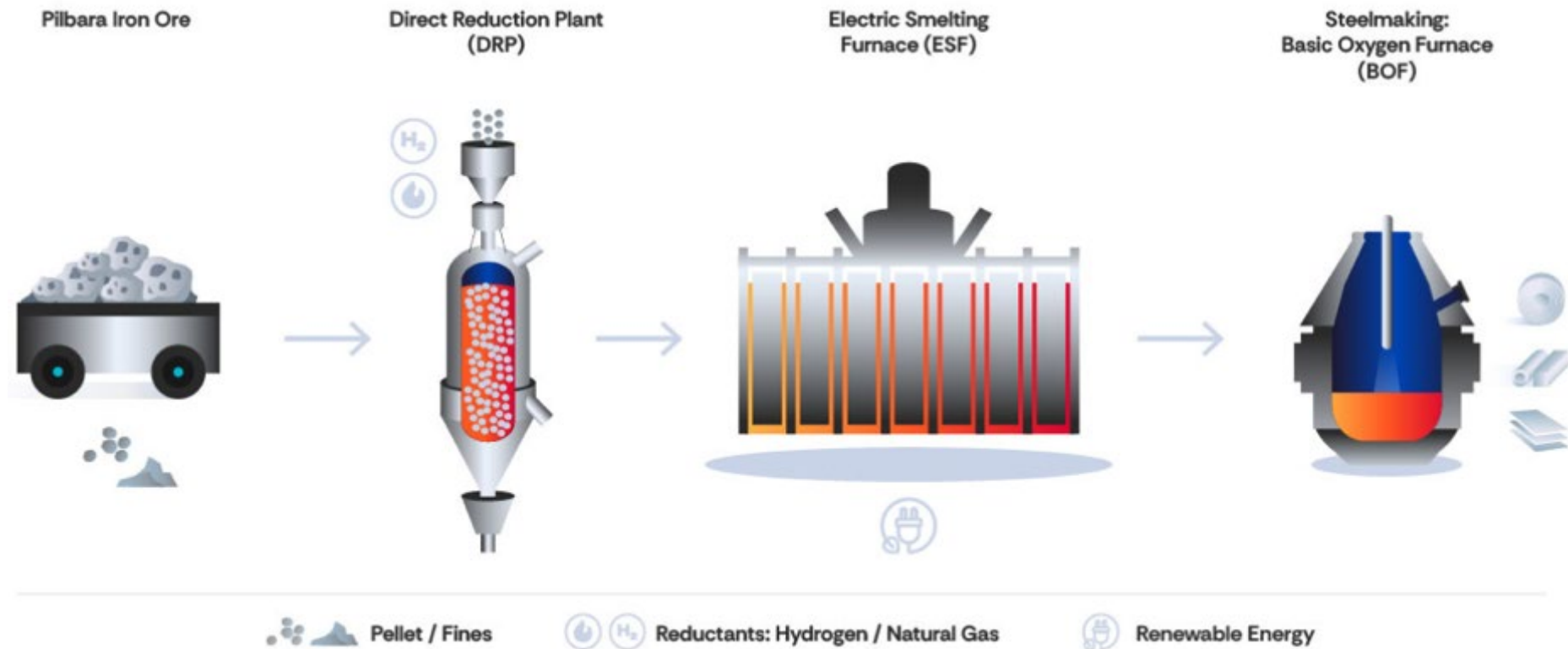
\$13b
Australia domestic
steel production
industry
(FY22)⁶

1. Western Australia State Budget 2024-25, Budget Paper No. 3
 2. Compared to the conventional blast furnace – basic oxygen furnace (BF-BOF) process
 3. Worldsteel, Steel Statistical Yearbook 2024
 4. Australian Bureau of Statistics, 5204.0 Australian System of National Accounts, Table 5. Gross Value Added (GVA) by Industry
 5. Government of Western Australia, Department of Jobs, Tourism, Science and Innovation, Western Australia Iron Ore Profile (March 2024)
 6. Australian Steel Institute

The DRI-ESF Pathway

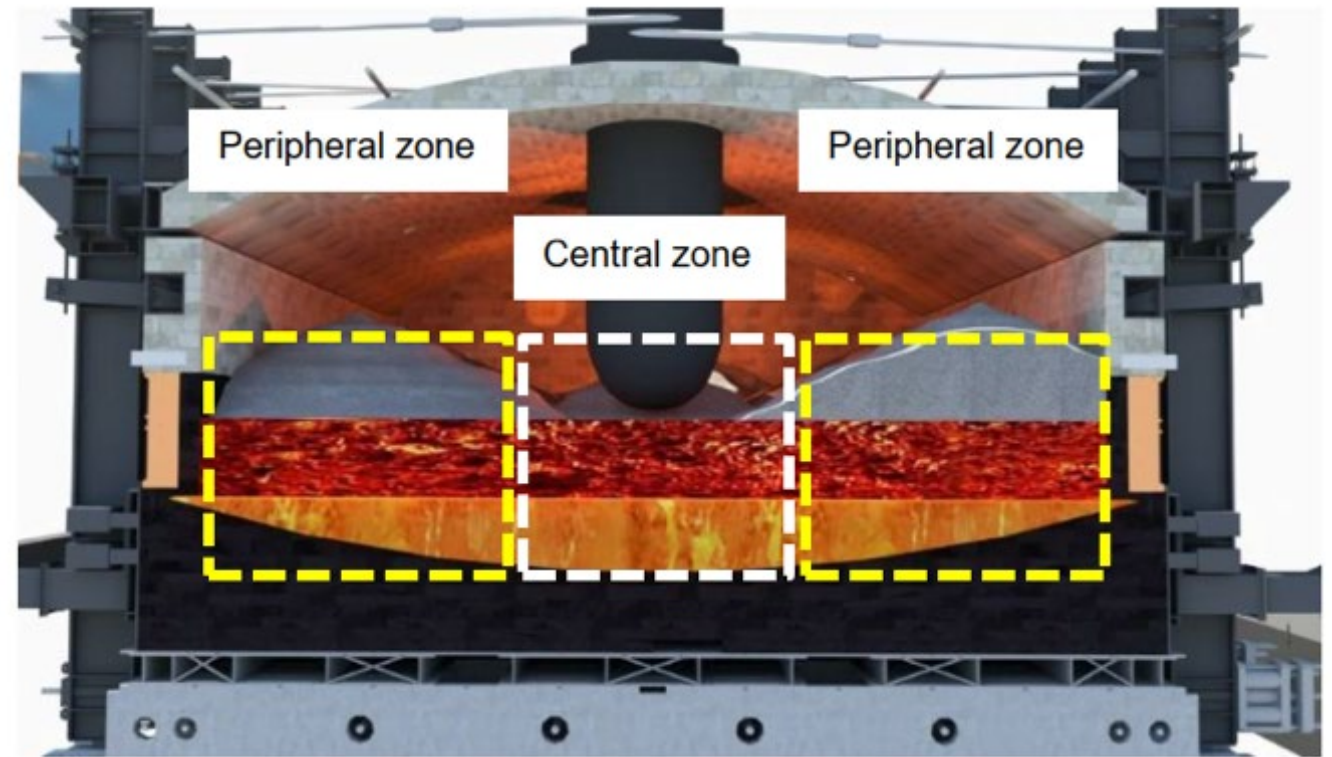
Iron ore is converted into DRI using natural gas or hydrogen as a reductant. DRI is charged into the ESF, removing the remaining impurities as a slag product to produce iron suitable for the basic oxygen steelmaking process.

The NeoSmelt facility will be capable of producing 30-40,000tpa of molten iron product.



The Electric Smelter Furnace (ESF)

- ESFs provide a unique solution that can process lower grade materials more economically and allow for existing Basic Oxygen Furnace (BOF) assets to be used.
- Although limited ferrous installations exist, the ESF equipment has been proven through decades of ironmaking operations (New Zealand Steel, Highveld) and non-ferrous commercial installations (FeNi Smelters)
- A key unknown for our industry with the ESF is the most appropriate operating mode to smelt Pilbara DRI products into hot metal suitable for BOF steelmaking. The ESF is flexible to operating mode, but several key processes need to be understood and optimized to allow further commercialization.



Source: Hatch

Proposed pilot scope and testing strategy

①



DRI Plant:

- ENERGIRON(R) ZR (HYL) process supplied by Tenova
- 8.2tph DRI production
- Capable of operation on 100% natural gas or hydrogen

③



Raw Materials Sourced:

- Pelletising is not in project scope
- Pellets, lump and some DRI products will be sourced commercially
- Potential for pellet or DRI producers to work with NeoSmelt to collaborate on further development

②



ESF Plant:

- Hatch supplied technology
- 6MW design power
- 8tph hot metal production
- 15m² crucible size with 2 electrodes, representing 1/3 of potential commercial scale

④



Testing Strategy:

- 3-year core testing strategy
- Validate lower-emission¹ molten iron from Pilbara ores
- Focussed on optimising the DRI-ESF route
- The facility allows 3rd party testing to be integrated with the core testing strategy

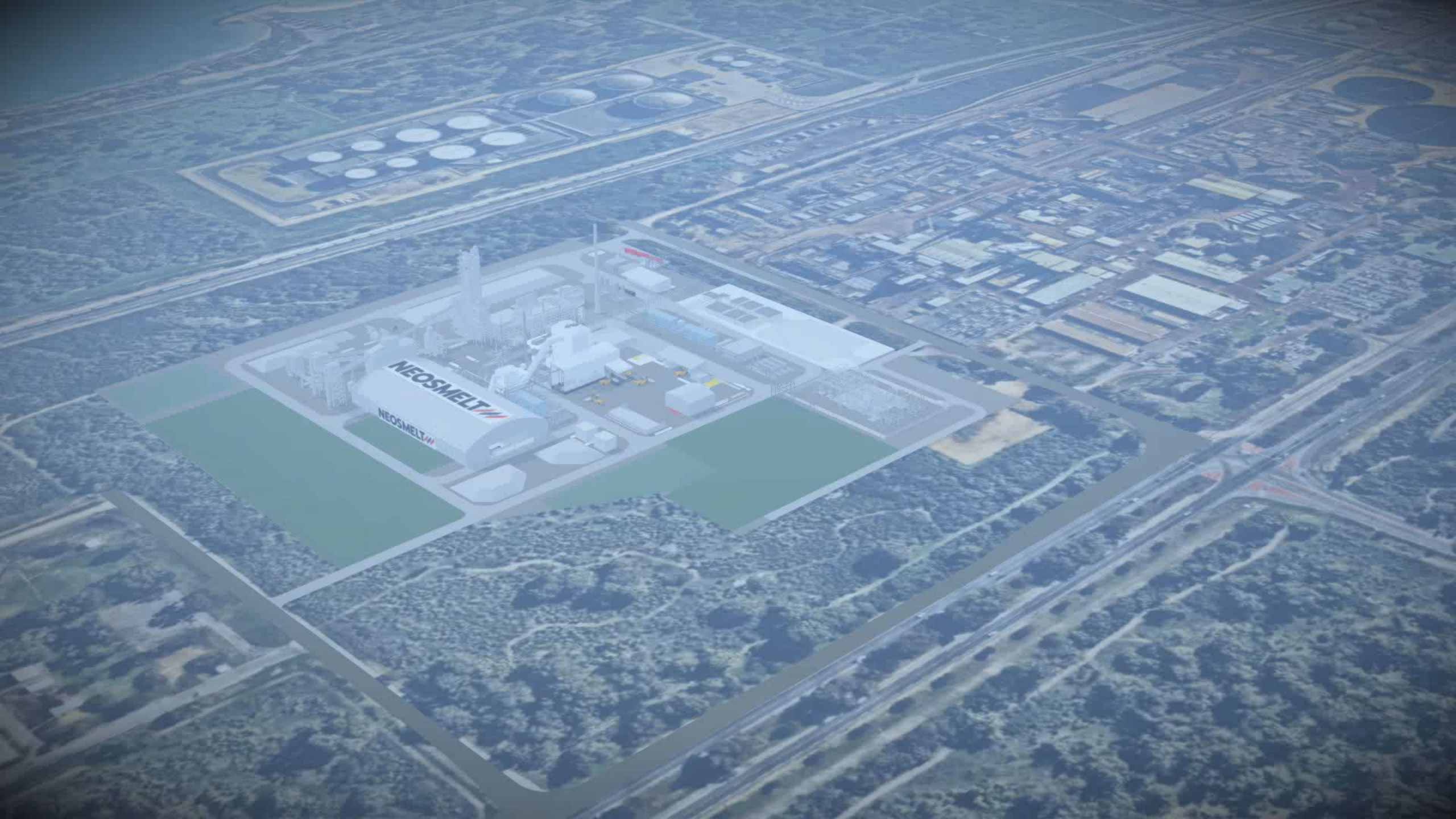
Scale-up and commercialisation

- The scale of the Pilot facility was chosen so an interim demonstration scale plant would not be required.
- The likely scale for an industrial scale ESF is >100MW, though the scale and configuration of the plant will be dependent on the outcome of further studies.
- The timing of the adoption of the DRI-ESF flowsheet at industrial scale for decarbonisation purposes will be dependent on several key enablers including:
 - Technology and commercial readiness of the process
 - Internationally cost competitive natural gas and hydrogen
 - Affordable, abundant, firm renewable energy
 - Supportive and consistent policy supporting the adoption of lower-emissions¹ ironmaking technology.

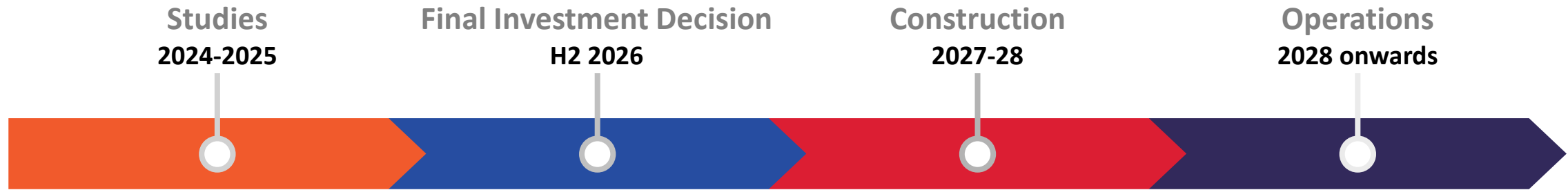
1. Compared to the conventional blast furnace – basic oxygen furnace (BF-BOF) process



Existing ESF Processing New Zealand Iron Sands
(Source, BlueScope)



Next Steps and planned schedule



Please talk to us if you are interested in:

- Technical exchange – Join a collaborative technical exchange / technical steelmaker panel on the DRI-ESF ironmaking pathway to accelerate innovation, share operational insights and collectively advance low-emission steelmaking.
- Using the facility – Leverage our pre-commercial DRI and ESF pilot facility to accelerate your own testing and development—gain hands-on access to the technology while contributing to a shared pathway toward decarbonised steel.
- Pellet development - Partner with us to innovate Pilbara pellet solutions and play a role in shaping the raw material foundations for lower-emission¹ steelmaking.

1. Compared to the conventional blast furnace – basic oxygen furnace (BF-BOF) process

NEOSMELT 

<https://www.neosmelt.au/>

