



Hawsons IRON

WORLD'S BEST IRON ORE PRODUCT

BFS to assess increased Hawsons Iron Project capacity from 10 Mtpa to 20 Mtpa

Hawsons Iron Ltd (**HIO**) advises that it has extended the scope of the Hawsons Iron Project's Bankable Feasibility Study (**BFS**) to incorporate assessment of a 20 million tonne per annum (**Mtpa**) option that potentially offers significantly lower operating costs, improved Environment, Social and Governance (**ESG**) outcomes, and increased project value.

Key points

- **As a result of the Mineral Resource upgrade to 400 Mt (Oct 2021):**
 - **BFS scope extended to investigate larger project from 10 Mtpa to 20 Mtpa**
 - **A deep-dive analysis to include the 20 Mtpa project**
 - **Project economics expected to be significantly improved**
 - **BFS budget raised by \$12.4 million as a result of additional works**
 - **Additional funding available through LDA Capital \$200 million equity facility, if required**

PFS (2017) based on 10 Mtpa iron ore project (Transport Option 1)	BFS Scope extended to assess 20 Mtpa iron ore project (Transport Option 2)
Slurry pipeline to Broken Hill	Underground slurry pipeline direct to port
Rail from Broken Hill to Port Pirie	No rail
Barge trans-shipment of ore from Port Pirie	Shipment of ore from port alternative/s in the Eastern Spencer Gulf

- **Preliminary assessment of Transport Option 2 reveals:**
 - **Potentially significant transport operating cost savings offsetting higher capital cost**
 - **Doubling production offers significant improvement in project value**
 - **Potential ESG benefits associated with pipeline and port alternatives**
 - **Additional studies incorporated into existing delivery schedule timeline**

The HIO Board has approved expansion of the BFS scope to include assessment of a 20 Mtpa option, based on preliminary work that indicates improved economies of scale for the Hawsons Iron Ore Project. The additional work planned increases the BFS budget by \$12.4 million.

This will enable an assessment of both the 10 Mtpa rail and the 20 Mtpa slurry pipeline options to be completed through the BFS.

Executive Chairman, Bryan Granzien said the BFS additional cost included an estimated \$5 million for the pipeline and port component and \$7.4 million for an associated Environmental Impact Study, process engineering and regulatory approvals.

“This is a compelling opportunity to maximise the value of the Hawsons Iron Project,” Mr Granzien said. “It has been enabled by the Mineral Resource upgrade announced on 19 October 2021, which increased Indicated and Inferred Resources by nine and 18 per cent respectively, compared to the 2017 Preliminary Feasibility Study (PFS).”

“We have custodianship of this world-class asset and we owe it to our shareholders and all other stakeholders to investigate a 20 Mtpa operation to unlock the full potential of this world-class and large-scale iron ore resource.”

Mr Granzien said independent consultant, KPS Innovation confirmed that the outer boundary of the total resource had yet to be fully defined, even though the economic pit-shell is now significantly larger than that used in the PFS. *(Refer ASX announcement dated 19 October 2021: Hawsons Iron Mineral Resource upgrade.)*

“Preliminary work has identified a direct-to-port slurry pipeline as a 20 Mtpa transport option,” he said. “Whilst the expanded scope will assess the economic viability of this option, we expect the transport cost savings may be significant and we also expect a reduced-carbon logistics footprint and other ESG benefits.

“As you would expect, a 20 Mtpa option would increase the total capital cost for developing the Project. However, the potential benefits are so compelling, the option warrants thorough evaluation. Both the 10 Mtpa and 20 Mtpa options and ways to mitigate risk are being assessed,” he said.

Mr Granzien said the PFS had capped production at 10 Mtpa due to the carrying capacity of the existing rail export route.

“The scale, quality and homogeneity of the Hawsons’ orebody and the demand for high-quality magnetite due to the shift to green steel enables us to consider transport options to remove that capacity constraint,” he said.

“A direct-to-port slurry pipeline offers Hawsons a higher level of autonomy and potentially opens up the Braemar minerals province for further development.

“The assessment process will look at port options in Eastern Spencer Gulf. Modelling and re-evaluating PFS assumptions, will enable us to select the optimum scale and transport option to take Hawsons Supergrade® product to market.

“Importantly, if required, the equity financing Put Option Agreement with LDA Capital Limited announced on 22 December 2021 can cover the cost of extending the BFS scope.”

Mr Granzien said the Company was leaving no stone unturned to select optimal solutions for power, water, transport, processing and tailings management.

“This is crucial because of the emerging business environment that encompasses new technologies, ESG considerations and decarbonisation strategies,” Mr Granzien said.

Key Activities for the March Quarter 2022

Priority BFS works this current Quarter include:

- Site resource investigations, including completion of resource, geotechnical and hydrogeological drilling works and post-drilling rehabilitation following mobilisation of additional rigs on double shifts and a re-prioritisation of the drilling program. Drilling teams continue to perform exceptionally well to overcome rain and COVID interruptions
- Analysis of drilling results to provide improved confidence of Indicated, Inferred and Measured resources to progress mine design
- Appointment of consultants for mine design, process plant, facilities, services, slurry pipeline and port transport options
- Reassessing against current market conditions all aspects of power, water, transport, process, and tailings management
- Progressing Environmental Impact Studies and engagement with New South Wales and South Australian Governments
- Preliminary discussions with potential project financiers, including financial institutions, steel mills and commodity trading houses prior to completion of the BFS

Released by authority of the Board

Hawsons Iron Limited
21 February 2022

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About Hawsons Iron Limited

Hawsons Iron Limited (ASX: HIO) is an iron ore developer and producer listed on the Australian Stock Exchange. The company is focused on developing its flagship Hawsons Iron Project near Broken Hill into a premium provider of high-quality iron ore products for the global steel industry.

The Hawsons Iron Project is situated 60km southwest of Broken Hill, New South Wales, Australia in the emerging Braemar Iron Province. Prefeasibility Study (PFS) results for its Hawsons Iron Project completed in 2017 showed it capable of producing the world's highest-grade iron product (70% Fe), making it the world's leading undeveloped high-quality iron ore concentrate and pellet feed project. Leading research firm Wood Mackenzie in Q2 FY 2019 rated the project one of the world's best high-grade iron ore development projects excluding replacement or expansion projects owned by the established miners.

For more information go to <https://hawsons.com.au>.

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Company update

**Hawsons Iron Project
Bankable Feasibility Study (BFS)**

Monday, 21 February 2022



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BFS extended budget and scope





BFS extended to assess option to increase Hawsons Iron Project capacity

The Hawsons Iron Board has approved the extended budget and scope of the Hawsons Iron Project BFS to incorporate a 20 million tonne per annum (Mtpa) production option that potentially offers significantly lower operating costs, improved Environment, Social and Governance (ESG) outcomes, and increased project value.

This enables both 10 Mtpa and 20 Mtpa options to be completed through the BFS.

- + Mineral Resource upgrade to 400 Mt announced on 19 October 2021, prompted a deeper dive into project optimisation to include a 20 Mtpa project.
- + Since 2017 PFS, changed market conditions, emergence of new technologies, ESG considerations and decarbonisation strategies require further attention.
- + BFS budget and scope extended to incorporate an option for 20 Mtpa production. Doubling production offers the opportunity to maximise project value.
- + Studies to include port options and underground, direct-to-port slurry pipeline. Studies will take 8-10 months to complete and will be incorporated in existing schedules.
- + Preliminary studies identified potentially significant mine-to-port transport operating cost savings and ESG benefits, offsetting any higher capital costs.
- + The additional studies will cost approximately \$12.4 m (estimated \$5 m for pipeline and port studies; and \$7.4 m on process engineering, EIS, approvals & ESG goals).
- + Additional funding available through LDA Capital \$200 million equity facility, if required.



Extended BFS scope needed

Resource upgrade in October 2021

- ✓ A material Mineral Resource upgrade for the Hawsons Iron Project was announced on 19 October 2021, including a 9% increase in Indicated Resources to 132 Mt and an 18% increase in Inferred Resources to 268 Mt.

Production potential

- ✓ KPS Innovation confirmed that the outer boundary of the total resource has not been fully identified and that the economic pit-shell for the Hawsons Iron Project was significantly larger than the one used in the 2017 Preliminary Feasibility Study (PFS).
- ✓ The Mineral Resource upgrade compels us to look beyond a 10 Mtpa project to assess how we can scale up to 20 Mtpa for over 20 years.

Drilling program underway

- ✓ A confirmatory drilling program is currently underway and on schedule, with up to seven drill rigs on site, to further define the resource.

Preliminary research

- ✓ With greater production targets, preliminary scoping studies found greater economies of scale and ESG outcomes could be achieved by using transport alternatives such as an underground slurry pipeline direct from the mine to port. The potential cost savings may be significant.
- ✓ A 20 Mtpa option would increase the project's capital cost but potential benefits are so compelling the option warrants investigation.



We have an obligation to shareholders to investigate all possible ways to maximise the project's commercial returns, given the size of our ore body.

Bryan Granzien,
Executive Chairman





Focus of extended BFS studies

2017 Prefeasibility Study (PFS) review

- ✓ The extended scope of the BFS will review all the 2017 PFS assumptions and transport options, which focused solely on transporting 10 Mtpa of product via a short slurry pipeline to rail and then to market via Port Pirie.
- ✓ The expanded BFS scope will assess the economic viability of a 20 Mtpa transport option, as well as a 10 Mtpa option.

New port options

- ✓ The extended scope of the BFS will examine other port options on the Eastern Spencer Gulf and be based upon a production target of 20 Mtpa.
- ✓ The new BFS studies will explore innovative ways to enable Hawsons Iron to select the optimum scale and transport option to take Hawsons Supergrade® product to market.

New technologies and ESG principles

- ✓ The new BFS studies will select optimal solutions for energy, water, transport, ore processing and tailings management – underpinned by new technologies and ESG principles that have emerged since the PFS was completed.





Transport options to be reviewed as part of the BFS

Rail and trans-ship (PFS base case)



Product from the concentrator directly enters the slurry pipeline and transported to the rail load point



Product is received at the dewatering plant, reducing the moisture level to the desired TML. Product is then stacked to stockpiles for transport by rail



Product is received via a dump station and stacked on stockpiles at the terminal



Product is loaded onto transhippers and transported to the OGV in deeper water



Product is loaded into the OGV from the transhippers

Slurry pipeline to a new port option



Product from the concentrator directly enters the slurry pipeline and transported to the terminal



Product is received at the dewatering plant, reducing the moisture level to the desired TML. Product is then stacked to stockpiles

Product is loaded into the OGV directly from the terminal

Legend: Transportable Moisture Level (TML)
Ocean Going Vessel (OGV)



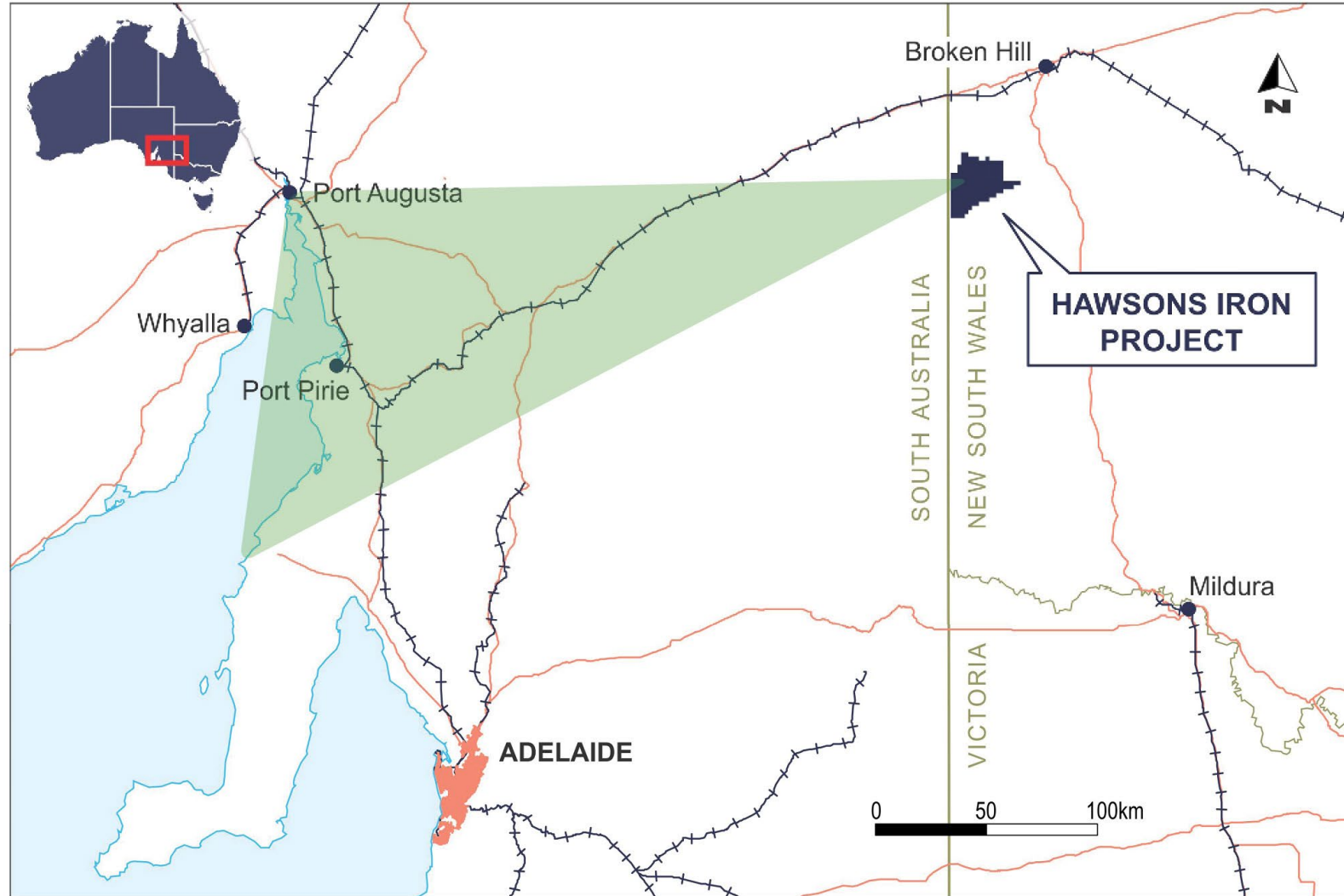
Transport study – 2017 PFS vs 2022 BFS at a glance

Study area	2017 Prefeasibility Study	2022 Bankable Feasibility Study
Mineral Resource	Study based on a Mineral Resource of 200 Mt	Study will be based on a Mineral Resource of 400 Mt
Project capacity	Based on a 10 Mtpa project	Based on a 20 Mtpa project
Transport options	Slurry pipeline from mine to rail at Broken Hill to port (trans-ship)	Underground slurry pipeline from mine direct to standalone, deep-water port
Transport considerations	Based on constrained rail carrying capacity	Preliminary studies show new transport options could produce significant savings while removing existing rail export route carrying constraints
ESG considerations	Looked at ESG considerations	New ESG imperatives to decarbonise the steel industry & net zero emission mining

Both options and ways to mitigate risk are being assessed



Transport study options



Transport corridor study area

Key drivers for assessment

- ✓ PFS trans-shipment case is limited by rail and capacity
- ✓ Scalability – project could reach 20 Mtpa production targets
- ✓ Holistic solution – new transport and new port combination provides ease of access, but must be viable
- ✓ New transport and new port combination reduces risk – project would not be competing for access
- ✓ New transport and new port combination produce best life-of-project ESG outcomes, and potentially opens up the Braemar minerals province to further development
- ✓ New transport and new port combination produces higher initial capital outlay but potentially significant transport operating cost savings over the long-term – increasing the overall value of the project



About Hawsons Iron Project





About Hawsons Iron

We are in Australia's mining heartland

- ✓ Hawsons Iron is building a world-class iron ore mine at Broken Hill, NSW. The Hawsons Iron Project is a significant iron ore asset in the Braemar Iron province near the South Australian border.

We have the best ore in the world

- ✓ As we outlined in the Chairman's Address to the Company at the AGM on 16 November 2021, independent global research firm Wood Mackenzie has rated the Hawsons Iron Project one of the world's best high-grade iron ore development projects — excluding replacement or expansion projects owned by established miners.

Our Hawsons Supergrade® product is in demand

- ✓ We are an emerging producer of low-cost, premium-quality iron ore – answering the world's call for high-grade products that are essential to decarbonising the steel industry.
- ✓ Hawsons Supergrade® product is a soft, coarse-grained 70 per cent iron ore product that, once it is in production, will be the highest-grade iron ore product on the seaborne market.
- ✓ Our Hawsons Supergrade® product is in high demand for 'green steel' production as steelmakers strive to meet the climate challenge to reduce carbon emissions.



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Hawsons Iron features



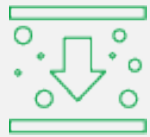
A green steel leader with lower CO2 emissions through the value chain and production options for net zero emissions.



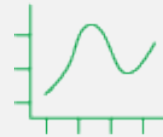
Valuable to all iron makers, including direct reduced iron (DRI), Electric Arc Furnaces (EAF), pellet plants and blast furnaces.



Inherent energy in magnetite ore decreases energy consumption for end users.



Low impurities – high ESG appeal.



First quartile of global cost curve.



Outstanding location. Access to renewable energy sources and multiple transport options.

70%

Iron percentage of Hawsons Supergrade® product.

12.0

Offtake demand for Hawsons Supergrade® product (Mtpa).

400

Total Mineral Resources available to the Hawsons Iron Project 400 Mt (million tonnes) per DTR Concentrate: Mineral Resource upgrade ASX Release 19 October 2021.



Hawsons Iron Project – key project metrics

Project element	
Stage	Bankable Feasibility Study (BFS) underway – due to be completed in December 2022.
BFS scope	Both the 10 Mtpa and 20 Mtpa options to be examined as part of the extended scope of the BFS.
Product	70% Hawsons Supergrade® iron ore concentrate.
Mining	Conventional open cut truck and shovel.
Tails	Conventional tailings storage facility.
Transport options	Rail to existing port at upper Spencer Gulf, trans-ship to Cape Vessel. BFS to study new transport options, including direct-to-port slurry pipeline and dedicated deep-water port.
Construction personnel	NSW 1,200 – 1,500. Preliminary studies show SA (slurry and port option) could add a further 750 – 1,000.
Operation personnel	NSW 400 – 500. Preliminary studies show SA (slurry and port option) could add a further.



Cautionary statement

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