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## Why gas is the wrong choice for Whyalla steel

### Iran crisis highlights need for scheduled transition to green hydrogen

- *As South Australia lacks a competitive advantage in gas, locking in long-term gas use at Whyalla is a risk that is magnified by the Iran conflict.*
- *A gas-based Whyalla steelworks looks unlikely to remain viable in a sector undergoing a global transition away from fossil fuels.*
- *With day one green hydrogen use the global benchmark for low-carbon iron and steel, the Iran conflict further highlights the energy security benefit of domestically produced green hydrogen.*
- *For Whyalla, government support should target reduced cost of green hydrogen and offtake of truly green steel at a premium price, with a schedule for a progressive increase in green hydrogen use through the 2030s.*

A February 2026 [announcement](#) on terms for gas supply between the South Australian government and Santos was quickly followed by the publication of a [policy paper](#) that reiterated the role gas will play in the Whyalla steelworks' transition away from coal.

A week later, the war on Iran sent global oil and gas prices soaring, highlighting the risks of reliance on fossil fuels. Eastern Australia's gas is much more expensive than in nations where the direct reduced iron (DRI) technology proposed for Whyalla is well established, such as the [Middle East and North Africa](#) (MENA).

The fossil fuel energy shock resulting from the war on Iran will likely accelerate the erosion of long-term gas demand as the energy security benefits of renewable energy become even more apparent. This may even extend to green hydrogen. In March 2026, China – Australia's largest iron ore customer by far – [announced](#) a program to reduce the cost of green hydrogen as it aims to expand its use to more sectors, including steelmaking. China's National Energy Administration (NEA) has [reportedly](#) raised the status of green hydrogen to a "pillar of national energy security strategy".



As the world’s biggest steel industry prepares to make more of the energy security benefit of green hydrogen, South Australia continues to shift away from it in favour of gas. With early green hydrogen use in low-carbon iron and steel becoming the global benchmark, the state risks turning from a global green iron and steel leader to a laggard.

### SA government: ‘Gas is going to be king’ at Whyalla

In 2024, the South Australian (SA) government published its [Green iron and steel strategy](#). The state looked to be in a world-leading position to benefit from the global steel technology transition away from fossil fuels, utilising green hydrogen and the state’s high-grade iron ore for ironmaking. Since then, the SA government has been [retreating from green hydrogen](#) while gas industry talking points have been repeated by its ministers. The state’s global green iron and steel leadership position is being lost.

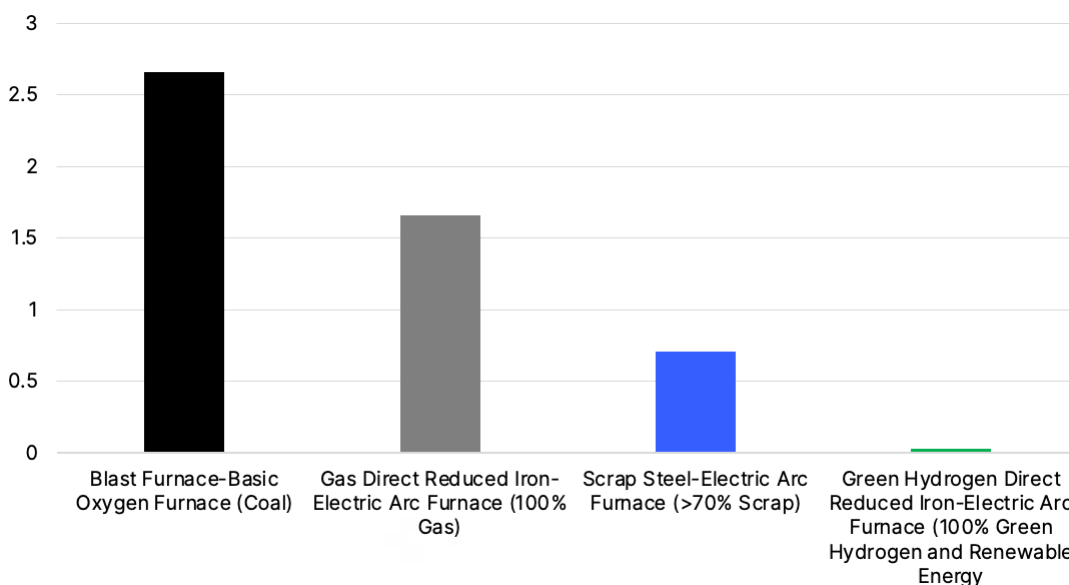
In February 2026, the SA Government [announced](#) terms with Santos to supply 200 petajoules (PJ) of gas over 10 years from 2030. While not an actual gas supply agreement, Santos noted it was “for the long-term supply of gas to support the transformation of the Whyalla Steelworks into a low-emissions green iron facility”. This forms the basis of the planned [South Australian Strategic Gas Reserve](#), intended to ensure security of supply to Whyalla and thereby provide certainty to potential buyers of the steel plant.

SA Treasurer Tom Koutsantonis [stated](#) that “gas is going to be king” at the Whyalla steelworks.

In the run-up to the March 2026 state election, the ruling SA Labor Party [stated](#) that the conversion of Whyalla from coal to gas would more than double industrial gas use in the state. It said that by, “transitioning from a blast furnace burning metallurgical coal to using gas for direct reduced iron (DRI) production, we will halve the annual emissions of the steelworks and produce a decarbonised iron product that the world demands”.

However, gas-based DRI cannot produce a “decarbonised iron product”. According to the [World Steel Association](#), gas-DRI based steel produces about 1.7 tonnes of carbon dioxide (tCO<sub>2</sub>) for each tonne of crude steel, producing more CO<sub>2</sub> than steel. A truly green process using green hydrogen and renewable energy can feasibly get below 0.1tCO<sub>2</sub> per tonne of steel (Figure 1).

**Figure 1: Steelmaking emissions by process (tCO<sub>2</sub> per tonne of crude steel)**



Source: World Steel Association, Agora Industry



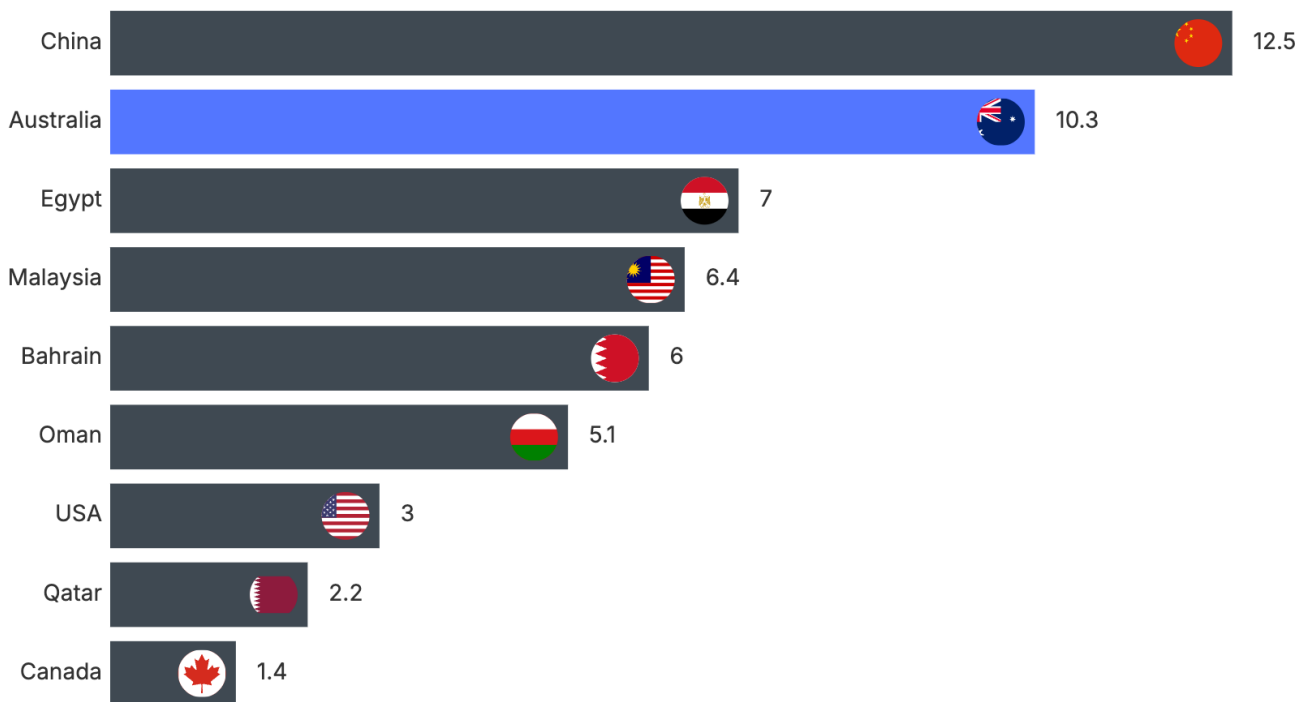
Given South Australia’s reserves of direct reduction-grade (DR-grade) iron ore suitable for use in DRI technology, the state has a major opportunity to process that ore domestically for steelmaking and for export as green iron. A DRI plant at Whyalla would be focused on steelmaking for domestic markets but a future fleet of DRI plants for iron exports running on gas would increase the state’s emissions, not lower them.

Gas-based DRI is not a new or innovative technology, it is a mature ironmaking pathway used at commercial scale across the MENA region and the US, among others. Iron produced in this way is mainstream metallic commodity not a differentiated “green” alternative – and will not attract a green premium.

If Australia stakes the future of its steel industry and a major iron export opportunity on gas-based DRI, there are obvious questions as to how it will compete with countries where gas is significantly cheaper than in eastern Australia (Figure 2).

Japan is already looking to the Middle East as a source of DRI imports, utilising its cheaper gas. JFE Steel is working with the United Arab Emirates’ Emsteel on a [gas-DRI plant](#) to export iron export to Japan for use in JFE’s [planned new electric arc furnace](#) (EAF) in Kurashiki.

**Figure 2: Wholesale gas prices in selected countries, 2024 (AU\$/GJ)**



Sources: BlueScope, Energy Institute Statistical Review of World Energy 2025, IGU Wholesale Gas Price Survey 2025, EY-PS.

The high cost of gas in eastern Australia is a problem for any steelmaker wanting to transition from coal-based steelmaking to gas. BlueScope Steel has [made clear](#) it needs gas in eastern Australia to be below AU\$10 per gigajoule (GJ). BlueScope is part of a consortium of steelmakers leading the bidding for the Whyalla steelworks.

Santos aims to provide gas with [indexed pricing](#) for 10 years, which risks locking the steel plant into gas in the long term and exposing it to more gas price volatility beyond the term of the agreement. A gas-based Whyalla steel plant is [unlikely to be competitive](#) in a global sector undergoing a transition away from fossil fuels.



Some analysts forecast that eastern Australia's gas prices will rise following the major disruption to the global LNG market caused by the war on Iran. Rystad [forecasts](#) an average of AU\$28/GJ over the May-August period under its base case, as LNG exporters take advantage of high market prices and extract more gas from the domestic market for export.

However, as the Australian government considers how to implement the findings of its [Gas Market Review](#), some exporters, such as [Gladstone LNG](#) – part-owned by Santos – are already moving to prevent a spike in domestic gas prices and avoid political fallout.

Regardless of how eastern Australia's gas prices move throughout 2026, they remain linked to volatile LNG prices. There is no guarantee any actions arising from the federal Gas Market Review will decouple domestic gas from volatile LNG prices. South Australia does not have a competitive advantage in gas.

In pinning the future of the Whyalla Steelworks to gas, the SA government has fully bought into the [Australian gas sector's iron and steel plans](#). Any demand for gas from planned new DRI plants will likely be [used as an excuse](#) by the Australian gas sector to open up new gas reserves. SA Premier Peter Malinauskus has already [voiced strong support](#) for the opening of Santos's [costly Narrabri gas project](#) in neighbouring New South Wales (NSW). Gas from Narrabri looks like it [cannot be supplied](#) below BlueScope's AU\$10/GJ target.

For the Australian gas sector, DRI plants represent a significant potential new source of demand as the outlook for [domestic gas consumption](#) dims and [growing doubts](#) over long-term global LNG demand. Those questions will grow louder due to the major LNG market disruption and price spike following the war on Iran. Another period of high prices, as well as doubts over supply, will destroy long-term demand for LNG even faster as renewable energy looks a bigger bargain given the energy security bonus it brings. Shell has [voiced concern](#) that the latest fossil fuel crisis could affect long-term demand.

Major LNG importers, such as [South Korea](#), have raised the idea that this fossil fuel crisis should be a major turning point in the energy transition, and drive an acceleration in renewable energy development. The developer of a planned LNG-fired power plant in Vietnam is [already seeking to switch technologies](#) and build solar, wind and battery storage, citing the Iran conflict and energy security concerns.

Under these circumstances, it can be expected that the Australian gas sector will continue to lobby state and federal governments hard to lock in long term gas use in future DRI plants at the expense of green hydrogen.

### ***Carbon capture and storage remains a risk***

Along with gas for Whyalla, the SA government has also been buying into the gas sector's notion that carbon capture and storage (CCS) can address the high emissions intensity of gas-based DRI. This is despite the technology's [track record of failure and underperformance](#) across all sectors globally, including [in Australia](#).

The SA government's [State Infrastructure Strategy 2025](#) features CCS prominently, and identifies iron and steel production as one sector where it could be applied.

In 2025, Infrastructure SA released a [report](#) that suggested carbon capture at the Whyalla Steelworks could underpin a wider CCS ecosystem in the state. This would involve the construction of a CO<sub>2</sub> pipeline to transport captured carbon some 600km from the steel plant to Santos's Moomba CCS facility, at significant extra cost.



This is despite CCS having an even less impressive record in the iron and steel sector. The only commercial-scale CCS facility for steelmaking in the world [captures only around 25%](#) of that plant's total Scope 1 and 2 emissions. The captured carbon is used for enhanced oil recovery (EOR), enabling the release of even more emissions. The cost of CCS means this facility would likely never have been built without the EOR element.

Midrex – one of two key suppliers of DRI equipment globally – does not see CCS playing a major role in iron and steel decarbonisation, [stating in 2025](#) that, “its practical use in steelmaking remains limited”. It added, “Despite being promoted as a decarbonization tool for heavy industry, CCS has delivered limited success in practice. [...] Most Direct Reduction plants lack access to users or local CO<sub>2</sub> storage sites on a scale that could make CCS commercially viable. Transporting the CO<sub>2</sub> long distances to such sites is too expensive.” The 600km from Whyalla to the Moomba CCS facility is certainly long distance.

Santos is undertaking a strategic review that may affect the future of its Cooper Basin assets, including the Moomba CCS project, which face significant rehabilitation liabilities. There is [speculation](#) that they could be demerged or sold along with other assets, including the Narrabri gas project in NSW, leaving Santos to focus on LNG exports rather than domestic gas. An expansion of the Moomba CCS project could be higher on the priority list of new, domestic-focused owners than it is for Santos. The review is expected to conclude around May 2026.

Up to half of the federal government's AU\$1 billion [Green Iron Investment Fund](#) (GIIF) has been earmarked for technology transition at the Whyalla steelworks. The GIIF Grant Opportunity Guidelines [define green iron](#) as “made from the reduction of Australian iron ore by using a lower emissions reducing agent, such as renewable hydrogen, renewable energy or natural gas, where there is a pathway to renewable alternatives”. CCS is not mentioned at all in the guidelines, and should be ruled out for the Whyalla steelworks.

### **Lesson from Europe: Large capital grants no guarantee of success for gas-based DRI**

The AU\$500 million in GIIF support is part of a total AU\$1.9bn state and federal government investment in upgrades and new infrastructure for Whyalla's transition to new technology. However, a gas-DRI-based steel plant will have high operating expenses driven by energy costs. As a result, a grant supporting the transition from blast furnace-based steelmaking to DRI [looks unlikely](#) to deliver a sustainable plant if it runs on expensive gas and is therefore unable to secure a premium for its products.

ArcelorMittal's transition plans for its German steel operations are a case in point. The [plans included](#) the transition of its Bremen site from blast furnace-basic oxygen furnace technology to DRI-EAF running on gas (with vague statements about converting to green hydrogen at some time in the future). In 2024, the European Commission [approved](#) EUR1.3bn (AU\$2.2bn) in a direct grant from the German government to help fund the construction of one DRI plant and three EAFs across two sites.

Despite this support, ArcelorMittal, the largest steelmaker outside China, [announced](#) in 2025 it would not be proceeding with the investment, highlighting “natural gas-based DRI production not being competitive as an interim solution”. The company also blamed high electricity prices, imports and transition policy for its decision. Geert van Poelvoorde, CEO of ArcelorMittal Europe, [stated](#), “We appreciate the financing offered ... but even with the financial support, the business case for moving ahead with this transformation is not strong enough”.



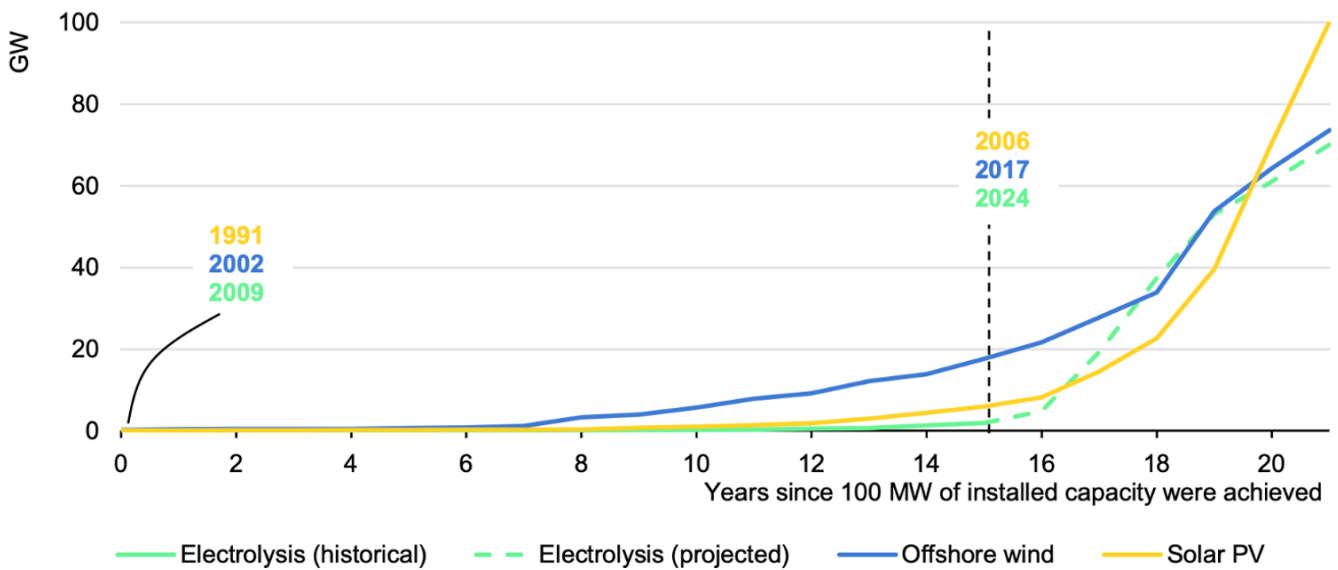
After years of uncertainty, Whyalla needs a plan for a viable steel plant that will remain competitive in a sector undergoing transition away from fossil fuels globally. Experience from Europe – a territory more advanced in the steel technology transition – suggests that capital grants for a switch from one fossil fuel to another (coal to gas) are unlikely to achieve this.

### SA risks being left behind by global steel transition developments

Although global green hydrogen developments have slowed in many sectors, its role in truly green iron and steel is firming. Day one green hydrogen use in DRI projects has become the global benchmark for low-carbon iron, and green hydrogen is making more progress than the SA government realises.

The International Energy Agency (IEA) [recently highlighted](#) that, despite the perception green hydrogen development has been struggling, the roll-out of green hydrogen manufacturing and deployment looks more like the early development of solar PV than a technology that is stalling (Figure 3). The IEA forecasts that installed global green hydrogen capacity reached 5GW at the end of 2025 and will reach 26GW by 2030, given all the global projects that have reached final investment decision (FID). That total balloons to 65GW if other projects with strong potential to be operational by 2030 are included.

**Figure 3: Early global capacity of solar, offshore wind and green hydrogen electrolyzers**



Source: [IEA Energy Technology Perspectives 2026](#). Note: Year 0 is when global installed capacity reached 100MW (1991 for solar PV; 2002 for offshore wind; 2009 for water electrolysis). The dotted line is the projected installed water electrolysis capacity based on projects likely to start operations by 2030.

[Wood Mackenzie data](#) shows that 59 new low-carbon hydrogen projects began construction in 2025. Nearly all of these are green hydrogen projects, with blue hydrogen (produced using gas with CCS) making far less progress. Almost half of these projects are in China.

China looks poised to extend its global green hydrogen leadership to its steel sector. China Baowu – the world’s largest steelmaker – already has a commercial-scale DRI plant in operation, and is [developing a green hydrogen plant](#) powered by offshore wind to supply it. Australia’s largest iron ore customer by far, China [clearly sees](#) green hydrogen as an [energy security opportunity](#) in addition to an emissions reduction pathway. The Iran war and resultant fossil fuel crisis now make domestic energy sources a [higher priority for China](#) as an alternative to volatile LNG prices.



While DRI plants based on expensive gas have struggled, DRI projects that use at least some green hydrogen from day one have made more progress in Europe.

The German government [increased](#) its financial support for Salzgitter’s new DRI plant to EUR1.3bn (AU\$2.2bn) in February 2026. Salzgitter plans to run the plant on a mix of gas and green hydrogen produced at its own electrolyser project. France’s GravitHy recently recommitted to green hydrogen for its own DRI plant, [stating](#): “Our strategy is to start with hydrogen from day one.”

Meanwhile, Stegra is [continuing construction](#) of its DRI-EAF plant in Sweden, which will run on 100% green hydrogen from the start. Targeting truly green steel has allowed Stegra to secure offtake of its future steel production at a 20%-30% premium from sectors including automakers. Such premiums are not available to iron and steel produced using gas.

As well as producing green iron, Europe is likely to import green iron from sources where renewable energy sources are higher and green hydrogen can be produced at lower cost, such as the Middle East. In Oman, Meranti Green Steel is expected to make FID on a new DRI plant by mid-2026. This plant will use a blend of 10%-15% green hydrogen and 85%-90% gas in its reduction mix, before progressively increasing the proportion of green hydrogen. This has not stopped Meranti [securing 100% offtake coverage](#) for its planned iron production of 2.5 million tonnes per annum (MTPA). Meranti [considered](#) locating a DRI plant in Australia before turning to Oman.

In addition to being a [good place to produce green hydrogen](#), Oman has [much cheaper gas](#) than eastern Australia (Figure 2). Oman is one of several territories around the world that have [clearly overtaken South Australia](#) in the green iron and steel race.

The SA government’s retreat from a truly green iron and steel pathway looks like a misreading of global steel technology transition progress.

## **Early green hydrogen use needs to be scheduled at Whyalla**

China’s shift to green hydrogen as a key tool for energy security will likely become a global trend post-Iran. As its price declines, early use of some green hydrogen in iron and steelmaking will become a hedge against volatile gas prices. Domestically produced green hydrogen may start to receive further support from governments now even more concerned about energy security, especially when applied to strategic industries such as steelmaking.

To keep pace with green steel leaders globally, Whyalla would ideally use 10%-15% green hydrogen in the DRI reduction mix from day one of operations. Bidders for the Whyalla steel plant have been reduced to a [shortlist of five](#), with the sale scheduled to be agreed by August 2026.

Each of the bidders will likely have differing plans for technologies, configurations and, perhaps, capacity. They may focus on maintaining Whyalla’s 1.2MTPA steelmaking capacity. However, DRI plants around the world are often larger capacity (2-2.5MTPA). It is possible the 20PJpa of gas agreed with Santos may not cover all the bidders’ plans. There could still be room for day one green hydrogen use in a Whyalla DRI plant, similar to the plans of Meranti in Oman and Salzgitter in Germany.

If not, bidders should be required to specify a schedule for progressive replacement of gas with green hydrogen starting at low levels (~10%) while green hydrogen is more expensive and ramping up the proportion as costs decline during the 2030s. Further Guidance for the



AU\$1bn GIIF – of which half is allocated to Whyalla – [states](#), “The guidelines do not specify a fixed deadline for transitioning from natural gas to a 100 per cent renewable reducing agent such as hydrogen. Where a project proposes to commence using natural gas, applicants must clearly define their proposed transition timeline.”

For Australia not to fall behind global green steel developments, and to ensure Whyalla is put on a viable, long-term pathway, a green hydrogen transition schedule be clearly defined for Whyalla, with a fixed deadline for the completion of the transition. An obvious option is 2040, the year the Santos gas supply agreement is proposed to end.

Given the current cost of green hydrogen, and the fact that capital grants alone have not necessarily led to successful steel plant transitions from coal to DRI in Europe, further or adjusted government support will likely be required for early green hydrogen use. A [joined-up approach](#) with coordination across governments and government agencies will be required. Such support should target both lowering the cost of green hydrogen and enabling offtake of steel produced. The latter could involve [government procurement](#), green iron production tax credits or incentives for private purchase of low-carbon steel. A government-backed [Clean Commodities Trading Initiative](#) has been proposed to support market formation for green steel production [at Whyalla](#).

Lowering the cost of green hydrogen involves lowering the cost of renewable energy, something the Australian government is [already planning](#) for the Tomago aluminium smelter. This type of plan – a government entity contracting for renewable energy, lowering the cost of capital for renewables developers and the resultant power cost – could be replicated for Whyalla.

Government support for Whyalla is justified for a strategic industry such as steelmaking. But it should not be wasted on a plan that locks in long-term 100% fossil fuel use that is unlikely to achieve its aim. Furthermore, a DRI plant at Whyalla will be the first of many in Australia. The wider opportunity is for South Australia to begin processing more of its high-grade iron ore domestically using green hydrogen for export as green iron. You can't make green iron with gas, and gas-based iron exports will not be competitive with the Middle East. Putting the Whyalla plant on a realistic decarbonisation pathway (towards full green hydrogen use, not CCS) can establish South Australia as a hub for this opportunity.

A plan to utilise South Australia's comparative advantage in renewable energy, and progressively scale up green hydrogen use at Whyalla, can put the state in a global green iron and steel leadership position again.



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