



**Submission to the Infrastructure SA 20-Year State  
Infrastructure Strategy Discussion Paper**

**August 2019**



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## 1. Executive Summary

GFG Alliance welcomes the opportunity to make this submission to Infrastructure SA's (ISA) 20-Year State Infrastructure Strategy Discussion Paper.

GFG has combined turnover in excess of US\$13bn and combined Net Assets in excess of US\$2.3bn. Its activities span steelmaking, mining, shipping, renewable energy generation and commodities trading through its key hubs in Europe, the Middle East, Asia and Australia.

GFG through its subsidiaries SIMEC Mining, Liberty Steel and SIMEC Energy is one of the leading resources operators in South Australia and, as a key corporate stakeholder, has a strong interest in ensuring its views are represented through this consultation process.

GFG recognises that the 20-Year Infrastructure Strategy aims to:

- reflect a whole of state perspective;
- encompass a broad range of economic and social infrastructure that is funded and delivered by all levels of government and the private and not-for-profit sectors, and
- encapsulate the State's challenges and opportunities, and identify the future infrastructure needs for industries, businesses and communities to thrive.

These objectives are strongly supported. The 20-Year State Infrastructure Strategy presents a significant opportunity for partnership between the private sector and the South Australian Government to advance projects that will be of economic and social value to a wide range of stakeholders and have a transformative effect on the South Australian economy.

GFG recognises that the 20-Year Infrastructure Strategy is being developed in parallel with a number of other strategic planning initiatives including the South Australian Growth Agenda and the PIRSA Regional Development Strategy.

The South Australian Growth Agenda has identified the resources sector as one of the sectors with the ability to contribute to a sustainable 3% annual rate of economic growth over the next 5-8 years. GFG's own plans for growth through transformation of its steel business, expansion of iron ore production and development of renewable energy projects align with the South Australian Government's growth objectives and present a welcome opportunity to continue working in partnership toward their realisation.

In making this submission, GFG has set out its strategic infrastructure priorities across the different components of its business to aid ISA in its strategic planning. While the aim of this modular approach is to assist understanding, it is important to note that these priorities overlap and should be considered holistically in the context of GFG's overall operations.



## 1.1 Current Economic Contribution

GFG makes a substantial contribution to regional South Australia and its operations underpin the economy of Whyalla and the Upper Spencer Gulf.

A report prepared by Deloitte Access Economics<sup>1</sup> in 2019 measuring GFG's economic contribution to South Australia calculated that the total economic contribution made by the **current activities** of GFG to Whyalla's gross regional product (GRP) is estimated to be \$489 million in 2017-18, measured in value added terms.

This contribution represents a substantial portion of the economic activity that occurs in Whyalla, amounting to an estimated 43 per cent of gross regional product in 2017-18.

The total contribution to South Australia's gross state product (GSP) is estimated to be \$636 million for the same period (inclusive of Whyalla), while the contribution to Australia's gross domestic product (GDP) is estimated to be \$1.05 billion (inclusive of South Australia).

These current activities create a range of employment opportunities, estimated to support the employment of 6,141 people in Australia, measured in full-time equivalents (FTEs).

This comprises 1,369 FTEs employed directly within the mining and steel making businesses, as well as a further 4,772 employed as a result of expenditures on intermediate inputs used in the supply chains supporting these activities, including contractors.

## 1.2 Economic Outcomes from Transformation

GFG continues to implement a major transformation process across its South Australian activities with regional, State and national implications. The objective of this transformation process is to deliver a step-change in operational and financial performance, ensuring the long-term sustainability of both the operations and the local community.

Under the **transformation case**, a range of investments would be made to improve the efficiency and increase the output from the steelworks, lifting steel production from approximately 1.1 million tonnes per annum to 1.9 million tonnes per annum.

Deloitte Access Economics estimates that as a result of this capital expenditure and increase in output, gross regional product in Whyalla would increase by \$294 million on average between 2019-20 and 2026-27, compared to what would be expected under the reference case.

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<sup>1</sup> Deloitte Access Economics 'Economic Contribution and Impact of Liberty Primary Steel and SIMEC Mining in Whyalla' 2019



This impact has a corresponding impact on employment in Whyalla, amounting to an annual average increase of 1,682 FTEs between 2019-20 and 2026-27. This growth in employment is expected to contribute to an increase in Whyalla's population relative to the reference case.

State-wide, it is estimated that the transformation will yield gross state product \$231 million higher on average, over the period between 2019-20 and 2026-27, with a corresponding annual average increase in employment of 966 FTEs over the same period.

Similarly, the impact on the Australian economy is estimated to amount to an increase in GDP of \$112 million on average over the period between 2019-20 and 2026-27, with a corresponding annual average increase in employment of 110 FTEs over the same period.

Much of this change is expected to relate to greater activity locally and increases in the balance of payments through either (or a combination of) increased exports or import substitution for finished steel products.

Given the local, regional and state significance of the transformation process, it is essential that the Infrastructure Strategy reflect the need for social and economic infrastructure which will be required to support the transformation.

### **1.3 Summary of Recommendations**

GFG submits the following recommendations for consideration by ISA as part of developing the 20-Year State Infrastructure Strategy. Detailed discussion of these matters is provided in the main body of this submission.

#### **Whyalla Industrial Hub**

- GFG invites the SA Government and ISA to consider how a partnership between GFG and the Government of South Australia might advance the state and regional economic development opportunities presented by GFG's development of the Whyalla Industrial Hub, recognising that it can provide:
  - Infrastructure linkages to growth areas in major resources provinces across the State;
  - A suitable location for a deep water port for the State located in Whyalla;
  - Access to low cost electricity;
  - Upstream processing and pelletising of iron ore concentrate;
  - A point for increased production of finished and semi-finished steel product;
  - A point of export for copper concentrate and other finished copper products;



- A suitable location for a potential copper smelter to provide upstream processing options for output from regional copper mines.

## **Infrastructure Relevant to Mining and Next Generation Steelworks**

### **Water**

- To support both GFG's and the broader regional need for water, ISA should consider development of desalination options including a desalinated water pipeline as means of enabling project development in the Braemar province and reducing reliance on River Murray water.

### **Power/Renewable Generation**

- GFG submits that affordable, reliable power is critical to its steel, mining and renewable generation operations. Ensuring sufficiency of power infrastructure for the Whyalla steelworks (both pre and post-transformation) and for mining operations should be prioritised as part of ISA's strategic planning.
- While the interconnector will deliver certainty of supply, GFG urges the South Australian Government to give further consideration to its route. The interconnector could supply much needed power to iron ore projects in the Braemar and deliver the objectives set out in the South Australian Magnetite Strategy. Consideration should be given to developing transmission options that link Braemar projects with the interconnector.
- To support development and stability of new renewable generation, GFG submits the concept of 'Energy Zones' which overlay areas of the State's electricity grid and map optimal locations across the grid as offtake points for power. By undertaking this mapping, the government could better incentivise and coordinate investment in renewable generation.

### **Rail**

- A rail link through the Braemar region to Whyalla and the Whyalla Port is necessary to enable magnetite export at scale. Existing rail lines are not designed for heavy haulage as necessitated by iron ore trains and require upgrades to accommodate these loads.

### **Port**

- GFG submits that the Whyalla Port provides the best, most efficient deep water port option among all existing land-side infrastructure options in South Australia. As such, recommends that ISA and the South Australian commit to Whyalla as the State's logical deep water port solution.



### **Civic Infrastructure**

- GFG identifies a need for improved sporting, community, hospitality and tourism; housing, and educational infrastructure in Whyalla. Ensuring that Whyalla is an attractive place to live and work in attracting and retaining the diverse workforce necessary for GFG's future vision.
- GFG submits that development of a pilot vocational skills program based in Whyalla would develop local skills and growing the capability of the local workforce, resulting in greater local/regional employment.
- GFG encourages ISA and the South Australian Government to work collaboratively with the Whyalla City Council, relevant educational institutions and vocational training providers, businesses and the local community to map the development of requisite civic infrastructure to support growth in Whyalla and the region.

### **Continued State and Commonwealth Government Collaboration**

- GFG encourages ISA and the South Australian Government to scope opportunities for partnership with the Commonwealth Government through initiatives like the National Resources Statement, greater alignment with Infrastructure Australia and other initiatives that will enable the development of critical economic infrastructure in South Australia.



## 2. Context - GFG's Future Vision

In setting out GFG's infrastructure priorities as part of the 20-year strategic planning exercise, it is useful to provide historical context and an overview of its growth intentions across its business.

GFG emphasises that it is not only focused on identifying the constraints to growth it faces in South Australia, but also wants to provide solutions to the South Australian Government that align with its bold economic growth objectives and which can be progressed through partnership and collaboration.

### 2.1 Transforming Whyalla

'Transforming Whyalla' was the name given to the comprehensive investment concept plan for the Whyalla Steelworks and Mining businesses, the purpose of which is to 'deliver a step-change in operational and financial performance, ensuring the long-term sustainability of both the operations and the local community'.<sup>2</sup> This process has an estimated cost in excess of \$1.5 billion.

GFG continues to progress its Transforming Whyalla process, with this activity having major economic implications for Whyalla and the Upper Spencer Gulf, South Australia and the nation.

Since purchase of the (former Arrium) Whyalla Steelworks and mining operations in 2017, GFG has steadily implemented its Transforming Whyalla agenda, with outcomes including:

- Reduction of ferrous feed costs for the Steelworks through investments and optimisation;
- Implementing a new mine plan, aimed at securing the long-term future of SIMEC's Mining business by creating stability and a platform for growth.
- Extension of the life of GFG's iron ore export business through investment and optimisation;
- Improvements in energy efficiency at the Steelworks through investments in co-generation and the capture of process off-gases;
- Targeted modernisation and capacity upgrade investments across the Steelworks and the rolling mill utilising latest technology;

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<sup>2</sup> 'GFG Alliance announces final concept plan for Whyalla operations Transformation', 22 December 2017 <https://www.gfgalliance.com/media/gfg-alliance-announces-final-concept-plan-whyalla-operations-transformation/>





- Purchase of the Tahmoor Coking Coal Operations to secure the supply of coal to the Whyalla steelworks and minimise coal price variations;
- Increased steelworks production by 50,000 tonnes through exporting parcels of steel slabs to Liberty Newport in Wales;
- Invested >\$50m to commence the increase of the steelworks' annual capacity back to its design capability of 1.2mt, including:
  - Increasing the sustaining capital spend to undertake a number of projects aimed at improving sustainability;
  - Upgrading ageing gas-cleaning equipment;
  - Building a new main store;
  - Installing a new weighbridge.
- Acquiring a majority stake in SIMEC Energy and rolling out an aggressive 1GW investment programme through numerous energy and storage projects;
- Undertaking requisite planning and scoping the investment required to increase production at the Steelworks by approximately 50% to 1.9 million tonnes per annum (mtpa); and widening the product offering of the Steelworks and opening up high margin domestic and export markets including the global operations of the GFG Alliance.

## 2.2 Whyalla Industrial Hub

GFG's infrastructure requirements as they relate to the long-range planning objectives of ISA should be viewed in the context of a 'Whyalla Industrial Hub', given Whyalla is the centre of GFG's operations; and the location of the Whyalla steelworks and Port.

Whyalla presents considerable opportunity for growth of GFG's activities and benefit for the Upper Spencer Gulf, Mid North and Far North given its range of advantages, including:

- Infrastructure linkages to growth areas in major resources provinces across the State;<sup>3</sup>
- A suitable location for a deep water port at Whyalla which can facilitate shipping of iron ore sourced from mines across the State, including access by third parties;
- Access to low cost electricity via SIMEC Energy investments;
- A point of export for copper concentrate and other finished copper products;

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<sup>3</sup> For example, BHP's projects at Olympic Dam/Olympic Baron; Oz Minerals' Carapateena project in the north; and the Braemar and Curnamona magnetite provinces in the east of the State.



- Upstream processing and pelletising of iron ore concentrate;
- Increased production of finished and semi-finished steel product;
- A suitable location for a copper smelter to provide upstream processing options for output from regional copper mines.

Building on this context and the outcomes from the Transforming Whyalla process to date, GFG has a future focus on continued transformation and growth across its business divisions, all of which link to the Whyalla Industrial Hub.

An overview of GFG's objectives across its business are as follows:

### **Steel**

- Increase steel production volume from 1.1 million tonnes per annum (mtpa) up to 2mtpa and beyond;
- Increase product capability by introducing new products, including higher-quality slabs, billets, structurals and rails;
- Finalise new process flow for our evolving operations;
- Establish an overseas customer base for export steel products.

### **Mining**

- Fully transition Mining operations and iron ore customers to new higher-grade complete products;
- Increase iron ore reserves;
- Further unlock our large-scale magnetite potential via existing Middleback Ranges assets and new magnetite projects;
- Implement '**Project Prime**' to shift the cost of magnetite pellet production costs from the 4th quartile to the 2nd quartile. Project Prime comprises the following equipment upgrades and outcomes:
  - Pellet Plant: upgrade of the pellet plant will expand pellet production from current output of 1.6mtpa to 2.2mtpa and underpin ferrous feed requirements for the Steel Transformation.



- Concentrator: upgrade of the concentrator will extend the life of magnetite production until 2045 by enabling processing of Duchess South Pit magnetite.
- Fusion Crusher: the fusion pellet upgrade underpins the total ferrous units required by the Steelworks and aims to lower the ferrous feed cost to the Steelworks.

Feasibility studies for these upgrades are expected to be completed by 2020.

### **Port**

- Explore opportunities to develop the Whyalla Port into a world-scale, multi-user facility.

### **Power**

- Establish ~1 Gigawatt of renewable energy generation in the Upper Spencer Gulf (through SIMEC Energy) for GFG's Whyalla operations and other industrial and commercial users across Australia. This includes the 280MW Cultana Solar Power Station, the 100MW Playford Utility Battery (both due for financial close in Q4 2019) and the Middleback Ranges pumped hydro project (currently in prefeasibility, due for 2023 completion).

### **Community**

- Develop civic infrastructure in Whyalla necessary to support GFG's transformation objectives. Partner with stakeholders to help further enhance the city's appeal by improving residential and commercial real estate, recreational and sporting facilities, tourism and hospitality offerings, and improved transport and access options.

Details of GFG's growth objectives and the strategic infrastructure required to support them are addressed in section 3 below.



## 3. Infrastructure Requirements by Business Component

### 3.1 Liberty Steel - Whyalla Steelworks

The Whyalla Steelworks is significant at the regional, State and national level. It is an integrated steelworks using mainly magnetite iron ore-based feed, sourced from (GFG subsidiary) SIMEC Mining's iron ore mines in the region; and is the only manufacturer of structural steel and rails in Australia.

It produces billet for rolling in other manufacturing sites, together with rail and structural steel products. It produces common and special grade billet as feedstock for the downstream rod and bar mills, as well as producing rail and structural steel products for sale. Sales of slab and billet are also made to external customers on an ad hoc basis.

The steelworks must undergo operational transformation to remain sustainable, meaning GFG was faced with the option of either transitioning the business, or closing the business.

GFG does not see closure as an option and is undertaking the difficult but necessary work of moving the steelworks to future viability.

Through the Steel Task Force, GFG and the South Australian Government continue to work in partnership to facilitate transformation of the steelworks, including: regular liaison with the Commonwealth Government; provision of regulatory certainty around environmental approvals; and royalty relief for iron ore feedstock to the steelworks.

The steelworks' continued operation will also materially assist the South Australian Government to achieve its 3% economic growth target in line with modelling undertaken by Deloitte. Given this potential benefit to the State, SIMEC urges continued collaboration by the South Australian and Commonwealth Governments to assist in realising this objective.

#### 3.1.1 'Next Generation' Steelworks

GFG's key objective is to transition the Whyalla Steelworks into a 'Next Generation' steelworks, increasing its production levels from the current ~1.1mtpa to a post-transformation level of ~10mtpa.

There are a number of inputs critical to progressing the Next Generation Steelworks and moving production to ~10mtpa. These comprise:

##### Iron Ore Supply

- Connection to magnetite feedstock/supply chain most likely sourced from the Braemar province.



## Water

- Water necessary to facilitate both steel production and mining activity. The current water requirement for mining and steelworks is ~7.5 gigalitres per annum (GL/pa) with another 1 GL/pa in spare capacity. The lack of available water beyond this spare capacity is a bottleneck requiring resolution.
- Other operations in the region will stretch capacity for water, particularly given expansion announcements by other major resources companies.
- To support both GFG's and the broader regional need for water, ISA should consider development of desalination options including a desalinated water pipeline as means of enabling project development in the Braemar/Curnamona provinces and reducing reliance on River Murray water.

## Power

- A stable and affordable supply of electricity is a key operational consideration. Increasing amounts of renewable generation can increase the instability of the South Australian grid if appropriate firming and Grid stabilising solutions cannot be adopted in the short to medium term.
- GFG sees the South Australia/New South Wales interconnector as critically important to its operations and to the Upper Spencer Gulf region and South Australia more broadly. GFG encourages the South Australian Government to pursue delivery of this project as a matter of priority.
- While the interconnector will deliver certainty of supply, GFG urges the South Australian Government to give further consideration to its route. The interconnector could supply much needed power to iron ore projects in the Braemar and deliver the objectives set out in the South Australian Magnetite Strategy. Consideration should be given to developing transmission options that link Braemar projects with the interconnector.

## 3.2 SIMEC Mining

SIMEC Mining owns and operates an 8mtpa iron ore mine in the Middleback Ranges in South Australia, approximately 60 kilometres from the town of Whyalla.

These operations incorporate the Iron Baron, Iron Knob and South Middleback Ranges mine sites. These mines produce both hematite and magnetite iron ore which is respectively railed and slurry line piped to Whyalla. The majority of the magnetite is pelletised (c.1.5mtpa) and used within the steel works. The hematite ore (c.8mtpa) and excess



magnetite is loaded onto ships for transport to a primarily Asian customer base. Total reserves and resources are just under half a billion tonnes.

SIMEC's Middleback Ranges operations are reaching the end of their productive life, necessitating new options for supply.

South Australia has vast quantities of high-quality magnetite which present a genuine opportunity to generate new economic activity and meet the South Australian Government's ambitious 3% economic growth target. In this respect, the next 50 years of resources development have already been mapped, and the challenge is to move these projects to the production phase. This is fundamentally a problem of infrastructure.

The iron ore provinces in the Braemar and Curnamona contain projects with relatively short-term conversion paths for bringing product to market, subject to resolving the infrastructure issues that operate as a barrier to investment.

GFG continues to progress due diligence on commercialisation of the Havilah Resources, Grants and Maldorky, iron ore projects in the Braemar region, both of which look promising.

### **3.2.2 Development of a South Australian Magnetite Export Industry**

Opening up the Braemar through development of these projects presents a significant opportunity for GFG to increase production of magnetite concentrate, however, doing so requires significant capital expenditure to develop the power, water, transport and port infrastructure necessary for a path to market.

Any first mover looking to develop a new project faces a prohibitive infrastructure cost, however, the question for GFG is how to leverage the first mover advantage against the cost of project development.

GFG estimates that development of these projects carries with it a ~\$1.5 billion capital expenditure, but that the long-term return on investment is enough to support this spend.

Once this investment is made it catalyses further infrastructure development, including development of a Whyalla deep water port as a staged proposition predicated on reaching movement of 20mtpa of product through the Port, then investing in the Port to bring it to cape-size capacity.

Several expansion studies for the Whyalla Port have been undertaken most notably in 2015 (jointly with the State Government) and independently in 2016 by Advisian/Argonaut. These studies mapped expansion concepts for bulk handling of exports in 5mtpa increments up to 20mtpa.

Current throughput is ~8mtpa and is projected to decline over the next 3-5 years, meaning development of a deep water port will require an additional 15mtpa to be sourced from



GFG's development of new magnetite projects and access by third parties (or a combination thereof).

In addition, production of iron ore from the Braemar provides feedstock to upstream processing activities located in the Whyalla Industrial Hub through conversion of magnetite concentrate to pellets; and conversion of pellets to steel.

### **3.2.3 Impediments to Development of Magnetite Projects**

The impediments to development of iron ore projects in South Australia are grounded in a lack of requisite infrastructure. They are well understood by the South Australian Government and the private sector and continue to operate as a barrier to project development.

They have been the focus of studies like the *Regional Mining Infrastructure Plan* prepared by the former Department of State Development in 2014, and have been mapped through the South Australia Magnetite Strategy which has as its objective to 'secure \$10 billion of combined investment by 2022 to unlock magnetite resources and increase South Australia's magnetite production to 50 million tonnes per annum by 2030'.

As part of this strategic planning exercise, the South Australian Government should consider the economic benefit to the State through supporting the first-mover in project/province development. Government can play an important consolidating role through investment, underwriting or coordinating infrastructure development.

While South Australian mineral deposits present significant economic opportunity, they are not rich enough to support bespoke infrastructure for individual projects. Further, the competitive tension between operators has created a 'first-mover' impediment due to commercial rivals not wanting to provide an advantage to a competitor at their own vast expense.

There is a question about the role of government in the context of long-range strategic planning and whether regulatory arrangements alone are enough to drive development. GFG submits that a process for construction and use of common infrastructure is needed to attract investment.

The South Australian Government's Minerals and Energy Advisory Council (MEAC) has previously discussed the idea of government setting the ground rules for common infrastructure. An example of this could be a statement of intent by government about a shared water pipeline with defined costs to operators. This would send a strong signal to the market about the return on investment and make a clear statement to investors about the South Australian Government's economic development focus.

The 20-Year State Infrastructure Strategy provides a much-needed vehicle for resolving these infrastructure bottlenecks, with the 3% growth target providing impetus.



GFG submits that ISA and the South Australian Government should consider how they can assist in finding commercial solutions to resolve the issues of water, power and transport to move 'stranded' resources projects to the production phase.

Comment on these key infrastructure bottlenecks is made below in order of importance:

### **Water**

- GFG views water as the most significant impediment to project development.
- The logical processing route for the Braemar province is semi-dry, though this still requires a large quantity of water.
- There is insufficient groundwater available in the region to provide an acceptable commercial and environmental solution.
- A water pipeline to the Braemar would facilitate project development. GFG recognises that this is a major capital investment.
- Given the political and environmental complexities attached to use of River Murray water for industrial activities, the most viable option for resources project development is likely to be desalinated water.

### **Power**

- Power is the next most significant infrastructure investment required to bring projects to the production phase.
- The route chosen for the South Australian/New South Wales interconnector is a missed economic development opportunity for the Braemar province. Despite the relatively advanced stage of planning, consideration should be given to how the interconnector can be used to facilitate economic development outcomes for the State.
- While specific scoping of developing a transmission line to the Braemar would need to be undertaken, past estimates made by ElectraNet for a 275kv/100MW line have been in the vicinity of ~\$150 - \$190 million with an approximate construction time of 3-4 years.

### **Transport**

- A rail link through the Braemar region to Whyalla and the Whyalla Port is necessary to enable magnetite export at scale. Existing rail lines are not designed for heavy haulage as necessitated by iron ore trains and require upgrades to accommodate





these loads. Transport costs for rail are ~\$10-\$12/tonne from the Braemar to Whyalla.

- A Slurry pipeline is an alternate option for transport requiring a capital investment of ~\$700 million but with an operating cost of ~\$1/tonne. SIMEC could use existing available water to facilitate a slurry option.

### **3.3 SIMEC Energy Australia**

SIMEC Energy is an externally facing business servicing SIMEC/Liberty/GFG and external customers.

SIMEC Energy's objective is to grow its energy retail business from its present sales of approximately 1.2TW/h per annum, through providing energy pricing at globally competitive levels, through firming renewable generation and utilising a solutions based approach with customers, engaging heavily on advanced use of demand side response.

This approach is enabled by development of 'in-house' renewable generation, with SIMEC Energy's infrastructure focus being to ensure upgrades to transmission which encourage development of renewable energy generation, improve reliability of supply and reduce unpredictability around marginal loss factors.

GFG submits that greater policy and regulatory predictability along with quicker decision making by regulators would lead to greater levels of investment in generation. At present the regulatory uncertainty around issues like firming requirements and provision of synchronous service to the grid creates investment uncertainty for operators to contend with and which drives up project costs which ultimately are paid by end users.

Unpredictability in the regulatory environment directly impacts upon the ability and willingness of companies to invest and SIMEC submits that resolving regulatory issues would yield economic growth dividends for the South Australian Government.

#### **3.3.1 'Energy Zones'**

The South Australian Government has a sound understanding of where demand centres for energy are located across the State, however, the government provides limited direction or guidance to the market on optimal locations for construction of energy projects. This is left to the market.

GFG submits the concept of 'Energy Zones' which overlay areas of the State's electricity grid and map the parts of the grid best able to receive energy from renewable generation. By undertaking this mapping, the government could better incentivise and coordinate investment in renewable generation.

In creating Energy Zones, ISA and the South Australian Government should consider:



- An overlay aimed at reducing marginal loss factors in transmission;
- An overlay where energy projects can be best developed to maximise benefit for industrial, commercial and domestic stakeholders, for example identifying 3-4 key zones as a focus for construction of synchronous condensers;
- Areas where industry and government could co-invest, for example a zone where government funds construction of additional condensers to assist new renewable generation to come online.
- Identifying and gazetting access corridors for faster construction of transmission infrastructure (i.e. poles and wires).

GFG emphasises the value of working collaboratively with the Commonwealth and State Government and submits that faster outcomes in terms of decisions will greatly reduce costs associated with leading edge technology developments which currently rely on specific grants to achieve the returns required by equity to enable investment.

Opportunity cost arising from decision making should also be given consideration in the strategic planning exercise. The SA/NSW interconnector, while a welcome infrastructure investment, also represents a lost opportunity for development of resources projects in the Braemar as this economic development opportunity was not considered at the planning phase.

### **3.4 Whyalla Port**

GFG submits that the Whyalla Port provides the best, most efficient deep water port option among all existing land-side infrastructure options in South Australia. As such, recommends that ISA and the South Australian Government commit to Whyalla as the State's logical deep water port solution.

GFG's Whyalla Port is a central component of the Whyalla Industrial Hub, providing the export point for its iron ore and steel products. It is a strategic asset with significant expansion opportunities and is well-positioned geographically for third party access by other major resources projects/operators.

It is South Australia's only capsized-capable bulk minerals export port and is integrated with GFG's broader rail and logistics network.

Development of GFG's Next Generation steel plant is being planned alongside development of a cape-sized port.



The Whyalla Port consists of an Inner and Outer harbour, both capable of exporting iron ore and other bulk commodities, as well as freight. It is underpinned by GFG’s mining and steelworks operations of ~8mtpa exports and ~1.5mtpa imports and presently has latent bulk export capacity.

At present the Port has four transshipment points for bulk export loading to large vessels, with the largest vessel loaded being ~205kt.

As noted above, several expansion studies for the Whyalla Port have been undertaken, most notably in 2015, jointly with the South Australian Government; and in 2016 by Advisian/Argonaut. These studies considered development based on staged expansion driven by third party business across a range of materials both exported and imported.

The joint work with the State Government produced a Concept Master Plan with potential layouts supporting staged development to handle a range of export and import materials. In terms of bulk mineral exports expansion concepts in increments of 5mtpa up to 20mtpa via transshipping were developed.

Modelling of the estimated capital investment to support incremental bulk export capacity increases is set out below:

<b>Increased Capacity</b>	<b>Investment Required</b>
<b>+1-3 mtpa</b>	<b>\$0</b> - no required investment
<b>+3-7 mtpa</b>	<b>\$10 million</b> – rail holding lines
<b>+7-10 mtpa</b>	<b>\$41 million</b> - shed extensions
<b>+10-15 mtpa</b>	<b>\$220 million</b> – duplicate rail/tip pocket/sheds/loader/berth

GFG is currently engaged in negotiations with potential third-party customers evaluating both export and import opportunities as well as evaluating staged expansion opportunities and required investment.

### **3.5 Civic Infrastructure**

Improved civic infrastructure is necessary to support the Whyalla Transformation process and is critical to ‘attract and retain’ that underpins GFG’s growth ambitions.

Much of Whyalla’s civic infrastructure requires further development, particularly in the context of supporting a burgeoning workforce as part of industrial development.

GFG identifies a need for improved sporting, community, hospitality and tourism; housing, and educational infrastructure in Whyalla. Ensuring that Whyalla is an attractive place to live and work in attracting and retaining the diverse workforce necessary for SIMEC’s future vision.



The South Australian Government's commitment of \$100 million for construction of a new Whyalla secondary school is welcomed by SIMEC, however, education and training beyond the secondary level must also be implemented to address vocational and tertiary skill gaps in Whyalla and the Upper Spencer Gulf.

GFG submits that development of a pilot vocational skills program based in Whyalla creates the opportunity to develop local skills and growing the capability of the local workforce.

GFG welcomes the opportunity to continue engagement with the South Australian Government on this aspect of the Transforming Whyalla initiative. Further, SIMEC encourages ISA and the South Australian Government to work collaboratively with the Whyalla City Council, relevant educational institutions and vocational training providers, businesses and the local community to map the development of requisite civic infrastructure to support growth in Whyalla and the region.

### **3.6 Gas Infrastructure**

While gas is not an issue of immediate importance for GFG, it is worthwhile raising it for discussion in the context of long-term strategic planning.

As a general statement, gas infrastructure to Whyalla is limited in its capacity and does not currently allow for expansion. Existing infrastructure feeds gas to Whyalla at a rate of 20TJ/pd, with 18TJ/pd of this capacity contracted to GFG. GFG understands that supply could be further increased to ~27-28TJ/pd through the addition of compressor stations.

GFG does not see a need for gas infrastructure to support the Whyalla steelworks given its plans to shift its feedstock from gas to pulverised coal injection (PLI).

Any plans to develop the Whyalla Industrial Hub will require additional gas, which may provide justification for upgrade of the Whyalla lateral pipeline (which is owned by Epic Energy). The need for additional gas arising from increased local population should also be given consideration as part of the strategic planning exercise.

The key consideration regarding development of gas infrastructure is how to link it with future activity. Development of a GFG operated copper smelter at Whyalla as a possible outcome from discussions with Oz Minerals would require additional gas as feedstock and creates an end user to justify the cost of pipeline development.

Gas prices remain an issue for operators, with the need to balance system capacity with affordability of gas. Improvement of infrastructure will not fix the problem alone as cost of supply is also a key consideration.



## 4. Conclusion

GFG welcomes the opportunity to contribute to the shaping of South Australia's future infrastructure landscape through the 20-Year State Infrastructure Strategy.

Transformation of GFG's South Australian operations brings with it significant economic growth potential for the State but will require both major commercial investment in business transformation and the appropriate infrastructure to underpin this growth.

GFG is committed to working with the Government of South Australia and ISA to identify opportunities for partnership and shared action which will support both GFG's commercial objectives and bring public value to the people of Whyalla and South Australia.

GFG recognises the South Australian Government's ambitious economic growth objectives as set out in its *South Australian Growth Agenda* policy. This growth agenda looks to advance the legacy of state economic growth implemented by great 'state builders' like Sir Thomas Playford, in laying the foundation for state economic development over the next two decades.

There is considerable alignment between the ambition of the South Australian Government and GFG in advancing the prosperity and industry of the State and we look forward to continued partnership with the South Australian Government in realising this objective.