

RESIC recommendations to the South Australian Government

Consultation Paper

February 2012



Consultation Paper for recommendations developed by the Resources & Energy Sector Infrastructure Council (RESIC) from information from the Parsons Brinckerhoff 2011 Resources and Energy Infrastructure Demand Study.

www.dmitre.sa.gov.au/resicconsultation



Government
of South Australia

Department for Manufacturing,
Innovation, Trade,
Resources and Energy

Your input is important

- **Where we are now**
- **What we need in the future**
- **How we propose to respond**

This paper is designed to stimulate conversation on the actions that will prepare South Australia to respond to global demand for our resource commodities and overcome infrastructure challenges.

The Resources and Energy Infrastructure Council (RESIC) has developed recommendations for consideration by the South Australian Government, based on an independently prepared report, about the state's future infrastructure demands resulting from the expansion of our minerals and energy sector.

The South Australian Government recognises the importance of the minerals and energy sector to the state's business and industry growth, and is inviting feedback on the RESIC recommendations.

Key business and industry stakeholders will be invited to consultation forums aimed at refining our approach to responding to infrastructure demands. This will prepare us for the continued expansion of the minerals and energy resources sector, in a way that maximises the economic benefits for the state. General feedback on this paper can be provided at:

www.dmitre.sa.gov.au/resicconsultation

Using a shared approach, we want your help in determining our greatest priorities for future infrastructure and how we will respond.

February 2012

early February Minister Koutsantonis announces the start of the consultation process.

March 2012

Regional workshops proposed for Port Pirie, Whyalla and Port Lincoln.

Metropolitan workshops proposed for the Adelaide Central Business District.

Monday, 26 Consultation concludes

Q2 2012

Once all feedback has been gathered and analysed, the Department for Manufacturing, Innovation, Trade, Resources and Energy will identify the critical infrastructure priorities that will determine our successful preparation for the continued expansion of the minerals and energy resources sector, and how these will be implemented.

Online www.dmitre.sa.gov.au/resicconsultation

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RESIC RECOMMENDATIONS TO THE SOUTH AUSTRALIAN GOVERNMENT
CONSULTATION PAPER
FEBRUARY 2012

Contents

Minister's foreword	P 2
Introduction	P 3
Recommendations	P 4
Infrastructure corridors/utility hubs	P 4
Development of deep-sea ports/rail and road logistics	P 5
Electricity infrastructure	P 6
Water resources	P 7
Government facilitation of investment in resources - infrastructure	P 8
Discussion points	P 10
Contact	Back cover

Minister's foreword



It was my pleasure to release the Parsons Brinckerhoff 2011 Resources and Energy Infrastructure Demand Study on 7 December 2011.

The study is the first of its kind in Australia and provides important information to help the many stakeholders involved in the growth of South Australia's minerals and energy sector. This information can help developers, investors, governments and industry form strategies and partnerships to support the development of mines, infrastructure and services.

I encourage you to make use of the study to determine where and if opportunity exists for your company – and if so, how it might be leveraged by collaborating with like-minded organisations.

It is important South Australia captures the window of opportunity to expand the sector while global demand for our resources is strong. The Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) is leading the government's efforts to build this sector – from attracting developers and investment capital to supporting local companies so they are well-placed to supply the mega-projects within our borders.

The Resources & Energy Sector Infrastructure Council (RESIC) provides significant support and advice to DMITRE and other South Australian Government agencies, and acts as a conduit between government and the private sector on complex resources and energy infrastructure matters.

RESIC's recommendations for infrastructure policy, outlined in this paper, are a crucial step in ensuring our state is able to meet the demands of the global resources sector. Feedback from the consultation process that will follow the paper's release will enable us to be in the best position to work with industry in forming a sustainable resources sector, and to make the most appropriate decisions for the long-term benefit of the South Australian community.

Your feedback will provide essential insight on how we implement strategies that best suit the expansion of this sector.

A handwritten signature in black ink, appearing to read "Tom Koutsantonis".

Hon Tom Koutsantonis MP

Minister for Manufacturing, Innovation and Trade
Minister for Mineral Resources and Energy

It is important South Australia captures the window of opportunity to expand the sector while global demand for our resources is strong.

Hon Tom Koutsantonis MP, Minister for Manufacturing, Innovation and Trade, Minister for Mineral Resources and Energy

Introduction

In 2007, the Labor Government established the Resources and Energy Sector Infrastructure Council (RESIC) to provide advice to the South Australian Government and coordinate between government and private sector on complex resources and energy infrastructure matters.

The South Australian minerals and energy sector has a window of opportunity during which it must capitalise on increased global demand for resource commodities. The South Australian Government and the private sector must work collaboratively to develop strategies to maximise the benefits emanating from this demand and potential investment in the state's vast minerals and energy reserves, and to overcome infrastructure challenges to create ongoing value for the state.

RESIC engaged Parsons Brinckerhoff to undertake the 2011 Resources and Energy Infrastructure Demand Study (IDS). The IDS highlighted the future demands on the state's infrastructure presented by mineral and energy projects now and in the next 10 or more years.

IDS participants identified that 42 projects, with a total budget – including capital expenditure and related infrastructure – estimated at \$59 billion, are required to satisfy the needs of existing and future projects. This figure is regarded as a "best case scenario" and does not include the planned expansion of Olympic Dam.

A weighting methodology developed by Parsons Brinckerhoff reflected project confidence levels, including the likelihood of project delays. As a result, the number of identified projects was reduced to 24 with a revised capital value of \$35 billion.

The IDS survey data indicates it is critical for investment in core enabling infrastructure to be aligned to project requirements and timelines. This will avoid delays that could minimise the benefits to South Australia of high commodity prices and global demand.

Volumes 1, 2 & 3 of the IDS are available on the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) website at: www.dmitre.sa.gov.au/resicconsultation.

Recommendations

The South Australian Government plans to implement recommendations that will best position the state to benefit economically, socially and environmentally from the global demand for mineral and energy commodities. This will assist in securing greater capital investment and further economic, regional and employment growth in South Australia.

The following recommendations aim to create a collaborative approach to infrastructure planning and development. They are targeted at developing mining alliances that introduce infrastructure solutions to prevent unnecessary duplication or unsatisfactory outcomes for the resources industry and the state.

Infrastructure corridors/utility hubs

Recommendation #1

That the South Australian Government facilitate the development of infrastructure corridors and utility hubs through a master planning process, to identify and clarify the associated infrastructure planning policy, regulatory and commercial issues associated with the corridors and utility hubs identified through the Infrastructure Demand Study (IDS).

Key issues

A master-planning process is required to determine existing infrastructure capacity and constraints. It will also identify solutions, including all necessary approval processes, to alleviate future infrastructure bottlenecks.

The IDS proposed that dedicated infrastructure corridors would expedite the development of infrastructure to service the needs of the minerals and energy sector.

It recommended the establishment of infrastructure corridors in the following three regions:

- Eyre Peninsula
- Yorke Peninsula/Braemar Province
- Upper North.

Each region will be anchored by a utility hub. Some of the proposed corridors may be able to build on existing infrastructure – for example, the Broken Hill to Port Pirie rail line in the Yorke Peninsula/Braemar Province region. It is envisaged that the infrastructure corridors will

accommodate transmission infrastructure such as electricity, water, gas, slurry and rail/road infrastructure, both to mine sites and from mine sites to ports.

The multi-purpose utility hubs will house infrastructure associated with bulk commodity exports such as port terminals, storage facilities, mineral processing facilities and associated infrastructure, wharf infrastructure and ship-loading systems. They could also include desalination facilities for slurry pipelines and ore processing facilities.

A conceptual map of the corridors is provided on page 9.

Development of deep-sea ports/rail and road logistics

Recommendation #2

That the South Australian Government facilitate the development of three new deep sea ports that are able to be served by appropriate rail and road infrastructure, sufficient to support the future development of minerals and energy projects in South Australia.

Key issues

RESIC considers that ports be developed in the following three regions to meet the export needs of planned resources investment in South Australia in the foreseeable future:

- Eyre Peninsula
- Upper North
- Yorke Peninsula.

While RESIC understands that there are other port development proposals under consideration, it is suggested that a larger number of ports introduced without careful planning could compromise the viability of other ports. RESIC recommends that other port proposals should not be encouraged until the recommended three ports are operating at full capacity.

It is also important that if an expansion or Major Development Status is assigned to a port development, then third-party access arrangement becomes a compulsory condition of government approval. It is suggested that the South Australian Government carefully consider any additional port proposals to those outlined below.

Port 1 – Eyre Peninsula (proposed project) Port Spencer

Analysis of the survey data supports the existing proposal for development of a deep-sea port at Port Spencer (until recently called Sheep Hill) to provide an overall capacity of 20 to 25 million tonnes per annum (mtpa) over the next seven to 10 years. Three of the mines owned by the Centrex/Eyre Iron JV would provide at least 15mtpa and an additional 10mtpa is likely to come from projects such as the Iron Road Warramboo operation.

Port 2 – Upper North (proposed project) Port Bonython

The IDS has identified that Port Bonython offers strategic benefits – due to water depth sufficient to accommodate cape-sized vessels and its proximity to existing rail infrastructure – for the export of iron ore. However, the survey indicates that only a few projects propose to use Port Bonython.

Port 3 – Yorke Peninsula

The development of a deep-sea port facility on the eastern side of South Australia has the potential to serve the Braemar Province iron formation that runs for about 200 km between Peterborough and Broken Hill. The estimated iron-ore volume over the longer term from this province is expected to be substantial, with an estimated 20 to 40 billion tonnes of mineable deposits that may be commercially exploited.

However, the timing of specific projects, including those by Carpentaria Exploration Ltd, Minotaur Ltd and Royal Resources Ltd, may not be simultaneous. The survey data does not provide any suggestions as to when a new port might be required – only that it may be needed between 2014 and 2016.

The IDS also suggests that projects within the Braemar iron formation that start earlier than others could possibly ship from a deep-sea port facility in the Upper Spencer Gulf (such as Port Bonython) until such time as there is a critical mass of projects to sustain a third port along the eastern side of Spencer Gulf.

Electricity infrastructure

Recommendation #3

Eyre Peninsula

That a nominated case manager be appointed to work with local mineral resource companies, with Australian Energy Regulator (AEG) and with ElectraNet, to assist in accelerating (ahead of the current 2018 AEG statutory approval) 275 kV augmentation on Eyre Peninsula by the end of 2016, or earlier if this timeframe is appropriate to meet mining industry needs.

Key issues

Eyre Peninsula

The 275 kV line augmentations will provide electricity to mines in the Eyre Peninsula region. Specifically, this work may support the development of the following projects:

- Carrow on southern Eyre Peninsula,
- Bungalow and Minbrie on northern Eyre Peninsula
- Other resource projects such as the Lincoln Minerals and Iron Road magnetite proposals.

The mines will require electricity for their large scale crushing plants, pumps for slurry pipeline operations and the desalination of water. The survey data estimates that around 450 MW of total peak load electricity will be required by 2017 in this region. The provision of electricity will assist the establishment of these mines and supporting mining infrastructure to enable the delivery of estimated iron-ore export tonnages of around 50 mtpa by 2017 and estimated capital investment of between \$4 billion and \$6 billion over the next 10 years.

Water resources

Recommendation #4

That the Department for Water (DFW) undertake detailed mapping to identify ground water resources and potential extractable volumes at key identified areas in South Australia. As a priority the key area of the Eyre Peninsula, is to be finalised by December 2012. This is crucial to allow identification of sustainable water supply solutions for future resources projects in the region.

Key issues

Water is a critical resource for the growth of the resources sector. This includes non-potable water sources for magnetite ore processing, slurry transport, dust and fire suppression systems, as well as potable water for human consumption and personal hygiene requirements. Dewatering of mine deposits and reinjection of water into surrounding aquifers also must be managed carefully.

The survey data highlighted that many organisations were uncertain about their water sourcing and quality needs.

It also demonstrates that Eyre Peninsula is the highest-priority area because most of the region's projects are iron-ore mines and are more advanced than those in the Yorke Peninsula/Braemar Province region and the Upper North. Iron-ore processing and the use of slurry pipelines require significant amounts of water.

The survey also suggests that water and water infrastructure accounts for the second-highest proportion of planned infrastructure capital investment by resources companies.

It is considered that detailed water information will enable developers to make decisions to achieve the best economic and environmental outcomes for themselves and for South Australia.

Government facilitation of investment in resources - infrastructure

Recommendation #5

That the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) work with geographically grouped resources and energy project proponents to:

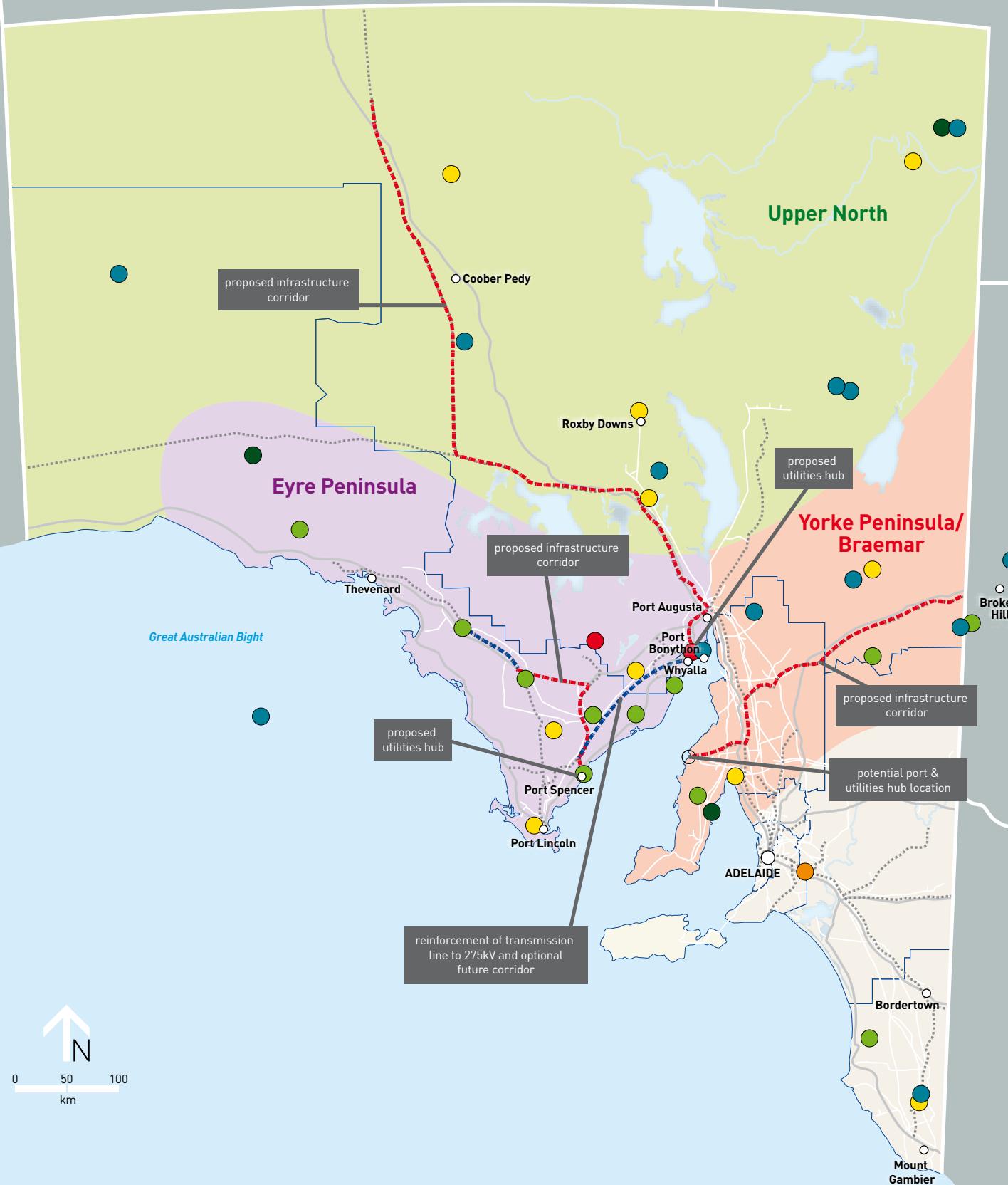
- assist with making companies' infrastructure projects investor-ready;
- assist in packaging investment ready information for prospective investors; and
- assist in connecting investment ready packages and resources and energy project proponents with likely infrastructure investors.

Key issues

New and expanded infrastructure is required to secure the continued growth of the sector. The Infrastructure Demand Study indicates that projects likely to reach commercialisation stages that are highly dependent on infrastructure will require over the next 10 years and beyond an additional:

- 600 MW of peaking power (after 2014)
- 170 GL of water after 2017 (significant proportion from desalination infrastructure)
- Ports, road and rail infrastructure to export 120 mtpa (after 2017)
- 200 ML diesel per annum (after 2014)
- 200 TJ of gas per day (after 2014)
- Significant increase in regional airport use.

The South Australian Government should aim to attract private – including foreign – investment into resources infrastructure.



Proposed infrastructure corridors - South Australia

Infrastructure Corridors

Proposed
Optional

Project Status (unweighted)

- Concept
- Exploration
- Pre-feasibility
- Feasibility
- Execution
- Bankable

Regions

- Eyre Peninsula
- Upper North
- Yorke Peninsula/Braemar

- RDA Regions
- Railways
- Highways
- Electricity Grid

Discussion points

The South Australian Government recognises the importance of the minerals and energy sector to the state's business and industry growth.

Thank you for taking the time to consider this paper and the recommendations provided to DMITRE by RESIC.

You are invited to provide your feedback on the recommendations, by responding to the following questions.

Feedback can be provided online at: www.dmitre.sa.gov.au/resicconsultation

Once all feedback has been considered, DMITRE will identify the critical infrastructure priorities and determine how to prepare for the continued expansion of the minerals and energy resources sector, and how priority action can be undertaken.

Questions

1. As a key stakeholder, service provider or infrastructure developer, what role would you play in supporting a recommendation and assisting in achieving the outcome? (Cite which recommendation has greatest relevance/impact for your business/industry or the community).
2. Do you consider that the proposed infrastructure corridors and utility hubs will assist in the progress of a proposed mine or infrastructure development in the various regions?
3. What key issues should be considered as part of the master planning process for infrastructure corridors and associated utility hubs?
4. What impacts, if any, do you envisage arising from the accelerated augmentation of the proposed 275Kv?
5. What additional detail in water mapping would provide the greatest benefit?
6. What type of programs or approaches do you think would help the South Australian Government attract new investment for infrastructure development for the resources and energy sector?
7. Would the identification and early approval of infrastructure corridors assist in reducing the risk for investors?

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For more information visit:

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