



**Breakaway
Research**

August 2015

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Company Information

ASX Code	TSV
Share Price (20 August 15)	A\$0.037
Ord Shares	806.8m
Options – in the money	28.0m
Options – out of the money	0.0m
Market Cap (Diluted for in money options)	A\$30.89m
Cash (30 June 2015)	A\$2.26m
Notional cash on option conversion	A\$0.90m
Liquid investments	A\$2.50m
Debt	A\$0.0m
Enterprise Value	A\$25.23m

Directors & Management

Executive Chairman	Craig Burton
Executive Director	Stephen Keenihan
Executive Director	Ian Cockerill
CFO, Company Secretary	Jo-Ann Long

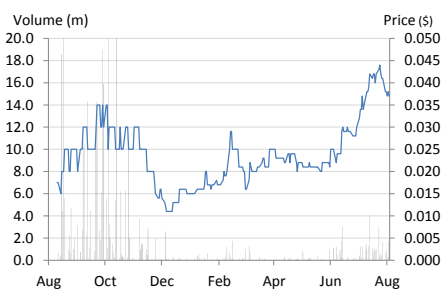
Company Details

Address	Level 7, 1008 Hay Street Perth WA 6000
Phone	+618 6555 6000
Web	www.transerv.com.au

Top Five Shareholders

Craig Burton	12.54%
Stephen Keenihan	9.04%
C W Morgan	8.94%
Directors and Management	22.05%
Top 20	63.40%

1 Year Price Chart



Source: IRESS

Transerv Energy (TSV)

Drilling a Giant

Recommendation: Speculative BUY

Key Points

- **Drilling of the first two appraisal wells has commenced on the giant Warro Gas Field in Western Australia**
- **Warro is the largest undeveloped onshore gas field in Australia, with estimated gas in place of 8-10 Tcf, and has been favourably compared to currently producing tight gas fields in the US**
- **Drilling is fully funded by farm-in partner Alcoa (who are earning 65%), with Transerv being operator**
- **Work programme is fully permitted, including having Native Title Agreements in place**
- **Field located near key infrastructure, being 31km from major gas pipelines and 200km from Perth**
- **Board and Management with extensive gas industry experience and significant shareholdings in the Company**
- **Indicative base case valuation of \$0.11/share, with considerable upside**

Transerv, which has been involved in the Warro Gas Field since the mid-2000's, is spudding the first of two appraisal wells in the current programme on this very exciting undeveloped field with partner Alcoa, who are earning 65% through the expenditure of \$100 million.

The wells are designed to test flows and potential commerciality of the target Yarragadee Formation, a tight sand formation that will require fracture stimulation. These holes follow up from two previous stimulated appraisal wells which flowed appreciable gas.

More recent work has also included completion and interpretation of a 3D seismic survey, which has been used to refine the targeting of the current wells, so as to avoid the deep-seated faulting that is interpreted as the source of water flows in the previous two wells.

Warro is ideally placed close to infrastructure and in a well-developed gas market in a resource friendly jurisdiction.

We rate Transerv as a SPECULATIVE BUY with a risked base case valuation of \$0.113/share, with the key price mover being success in the current drilling program. We have seen investor interest in Transerv rise following firming up of the timing of drilling in June.

Company Overview

Transerv is an ASX-listed junior gas exploration company concentrating activities on the highly prospective Warro Gas Field in the Perth Basin of Western Australia, in which it is operator.

The Company also has interests in tight liquids plays in British Columbia, Canada, which it is now in the process of demerging.



Investment Thesis

Two appraisal wells being drilled in the Warro GA Field in WA

Drilling is fully funded by farm-in partner Alcoa

Warro is the largest undeveloped gas field Australia, with GIIP of 8-10 Tcf

Advances in stimulation techniques are the key to successfully developing tight gas fields

3D seismic surveying has been used in targeting the wells

The drilling programme is fully permitted

Warro is close to all necessary infrastructure

Fully Funded Drilling Programme Over Warro Gas Field

Transerv Energy (ASX: TSV, “Transerv” or “the Company”) is operator over the Warro Gas Field in the Perth Basin of Western Australia, with funding provided by farm-in partner Alcoa, Western Australia’s largest domestic gas consumer. Alcoa has an agreement to earn 65% of the project through the expenditure of \$100 million – to date they have earned 43%, with the current round of drilling expected to complete the farm-in obligations.

The Company has just spudded the first of two 4,250m wells, Warro-5 and Warro-6, designed to further appraise the Warro field.

Largest Undeveloped Onshore Gas Field in Australia

Warro, with gross gas initially in place (“GIIP”) of 8-10 Tcf, including contingent resources of 3-4 Tcf is the largest undeveloped onshore gas field in Australia. Previous drilling has demonstrated the potential of the field, with a 500m gas column being intersected. This work includes appraisal wells Warro-3 and Warro-4, which were completed under the current farm-in in 2009 and 2011 respectively, and which both flowed potentially economic gas following hydraulic fracturing, which is required in tight reservoirs such as Warro.

Advances in Stimulation Techniques Key

Tight fields have benefitted by advances in stimulation techniques over the last 20-30 years, with a number of previously uncommercial fields now being significant producers. One potential analogy to Warro is the Jonah Gas Field in south-west Wyoming, USA which, like Warro, was discovered in the 1970’s. A number of unsuccessful attempts were made to crack the tight gas issues, however the field is now a significant producer, flowing some 680MMcf/day and with estimated recoverable resources of 14Tcf.

Targets Defined by 3D Seismic

Concurrent with the drilling of Warro-4, a 3D seismic survey was completed over the field, which has been used for an updated technical report completed by a team led by US expert Dr. Keith Shanley and to target the latest drill holes.

A significant interpretation of the survey is that wells Warro-3 and Warro-4 both intersected deep-seated major structures that were not defined by the previous 2D seismic survey. It is suggested that these structures were the source for the appreciable water flows, tapping deeper pressured reservoirs. The current wells are sited away from interpreted structure.

Fully Permitted

The current programme (and potentially any future appraisal programme) is fully permitted – this includes a Native Title Agreement (“NTA”) with the local Nungar People. The environmental permitting also includes flexibility in drilling – the streamlining of regulations will allow changes to equipment and the drilling of additional wells to be approved with minimal delays.

Close to Infrastructure

Warro is proximal to infrastructure, a key factor for unconventional gas resources. The field is located some 31km east of both the Dampier to Bunbury Natural Gas Pipeline (“DBNGP”) and the Dongara to Perth Parmelia Pipeline (“Parmelia Pipeline”). Alcoa has substantial reserved capacity on the DBNGP.



Western Australia has well established service providers for to gas industry, with Warro’s proximity to Perth, where a number of these are based also being an advantage.

Potential Domestic Gas Player

The field is ideally placed to supply the WA domestic gas market

Warro is ideally placed to become a supplier to the WA domestic gas market, currently dominated by supply from the major operators in the Carnarvon Basin who also set pricing. Current North-West Shelf Joint Ventures (“NWS JV’s”) domestic supply contracts are set to expire by 2020, leading to potential capacity cuts and some uncertainty in ongoing supply. Forecasts also indicate long term prices in the order of \$8-\$10/GJ.

The field could potentially be targeted by one of the major LNG producers as an offset in order to meet the 15% gas reservation commitment as required under the LNG export agreements with the State Government

Partner is WA’s Largest Domestic Gas Consumer

Alcoa, Transerv’s partner, is WA’s largest domestic gas user

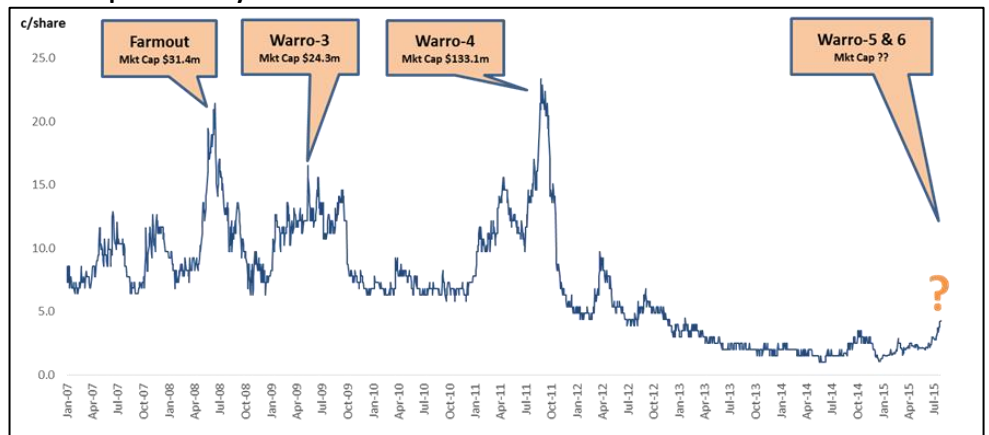
Alcoa, which consumes some 90Bcf of gas per year, or 25% of WA’s domestic supply has recently secured around 75% of its long term supply needs (including through contracts with the the new owners of the Apache Energy assets), however diversification of supply is a key strategy, with Warro being a natural fit.

Past Share Price Movement

Transerv’s share price generally has positive reactions to drilling events

As the following self-explanatory graph shows, Transerv has a history of positive price reaction to significant events. We have seen the price kick-up subsequent to the June 11, 2015 announcement of approval of the Environmental Plan and estimated timing of the start of the current programme.

Transerv price history



Source: Transerv Energy

Experienced Board and Management with Skin in the Game

Company personnel have extensive industry experience and skin in the game

The Board and Management have extensive experience in the oil and gas industry in addition to having large shareholdings in Transerv, which, in our view, is very positive and provides significant incentive for success.

Valuation

Risked base case valuation of \$0.113/share

Our after tax base case risked valuation for Transerv is \$0.113/share as presented in the table below. This increases to \$0.216/share on success at Warro, where we value Transerv’s 35% stake at \$173m, or \$0.207/share. The field has considerable upside in reserves and deliverability and our sensitivity analysis below shows the value for Transerv could rise to \$0.23/share (risked) or on success \$0.45/share.

This is based on a conceptual 15 year, 40Bcf/annum operation, for a total production of 600Bcf, with production of 5.0Bcf over the life of each well. The model also assumes well



drilling costs of \$8m/well, an initial flow rate per well of 4mmcf/day and an initial gas price of \$6/GJ, escalated at 2% pa over the life of the operation.

Transerv valuation – AUD, fully diluted share structure

Item	Un-risked	Un-risked/ share	Risk weighting	Riskd	Riskd/ share
Warro – 10% DCF	\$173m	\$0.207	50%	\$86.6m	\$0.104
Corporate – 10% DCF	-\$11.4m	-\$0.015	100%	-\$11.4m	-\$0.015
Canadian Assets – book value	\$14.5m	\$0.017	100%	\$14.5m	\$0.017
Cash	\$2.36m	\$0.003	100%	\$2.36m	\$0.003
Option Cash	\$0.90m	\$0.001	100%	\$0.90m	\$0.001
Liquid investment – Canadian E&P Co	\$2.5m	\$0.003	100%	\$2.5m	\$0.003
Total	\$181m	\$0.216	N/A	\$94.1m	\$0.113
Future Upside – Dandaragan Deep – not included in valuation	Based on TSV retaining 25% following a farm out for exploration appraisal, an NPV on success of \$0.79/GJ (our Warro valuation), the value of 400Bcf of the total 1.6Tcf of estimated recoverable gas is ~\$300m, or \$0.36/share				

Source: Breakaway analysis

There is significant upside to our valuation

We have carried out a sensitivity analysis on our valuation-. Our base case is based largely on the original Gaffney Cline and Associates technical report, with 1C resources of 610Bcf. The subsequent 2012 technical report, which included the results of Warro-3 and Warro-4 and the 3D seismic survey, shows the potential for significant upside to a number of our base case assumptions.

Sensitivity analysis – Warro per share valuation

Well flow sensitivity – 40 Bcf/annum operation			
Initial well flow	4.0 Mmcf/day	6.0 Mmcf/day	8.0 Mmcf/day
Warro riskd/share	\$0.104	\$0.139	\$0.144
Well cost sensitivity – 40Bcf/annum operation			
Production well cost	\$8 m	\$9 m	\$10 m
Warro riskd/share	\$0.104	\$0.091	\$0.078
Initial gas price sensitivity – 40Bcf/annum operation			
Initial gas price	\$6.00/GJ	\$7.00/GJ	\$8.00/GJ
Warro riskd/share	\$0.104	\$0.145	\$0.187
Production life sensitivity – 40Bcf/annum operation			
Production period	15 years	20 years	25 years
Warro riskd/share	\$0.104	\$0.126	\$0.142
Production rate sensitivity – 20 year operation			
Bcfpa / total reserve	50 /1,000Bcf	62.5 /1,250Bcf	75 /1,500Bcf
Warro riskd/share	\$0.139	\$0.188	\$0.223
Nominal discount rate sensitivity – 40Bcf/annum operation			
Discount rate	8%	10%	12%
Warro riskd/share	\$0.126	\$0.104	\$0.086

Source: Breakaway analysis

Risks

As in any resources stock there are a number of risks – ones pertinent to Transerv are discussed below.

The key risk now is technical risk associated with the current wells

- **Appraisal** – The key risk facing Transerv now are the results of the upcoming appraisal wells, and demonstrating possible commerciality. Work done to date has demonstrated the potential of the field, however there remains a risk given the tight nature of the reservoir and also the potential for appreciable water, which would require management, and incur additional costs should the field eventually be developed.



- **Funding** – Funding is not a current issue for Transerv – cash reserves, ongoing management fees and research and development refunds from the Federal Government are sufficient for working capital and corporate purposes for the foreseeable future. The current drilling programme is fully funded, however will complete Alcoa’s farm-in obligations. Funding therefore will be required to meet JV obligations for any future work programmes.
- **Sovereign Risk and Permitting** – With all approvals in place, and the Company operating in a jurisdiction which is actively supportive of the resources industry, we see no major issues here. A potential issue may come from anti-fracking and green groups protesting at the site, and then, should the field progress to development, attempting to block development. The proximity to a National Park could possibly be an issue down the track; however these risks are generally manageable.



Project and Activities Review

Introduction

Transerv is concentrating activities on the Warro Gas Field, located in the Perth Basin of Western Australia.

Warro is Australia's largest undeveloped onshore gas field

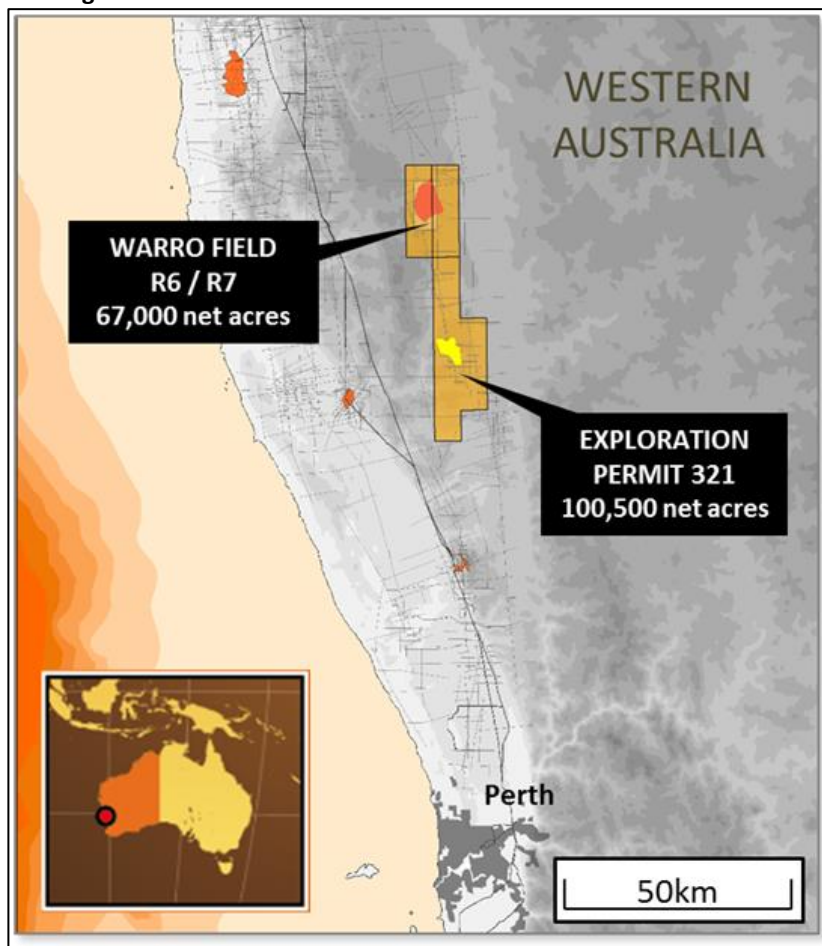
Transerv is an ASX listed junior gas and oil explorer, focussed on exploration and development in the Perth Basin of Western Australia. The target is the Warro Gas Field, an under-drilled, unconventional tight sand field located some 200km north of Perth. Transerv is operator, with Alcoa, Western Australia's largest domestic gas user, farming in to 65% through the expenditure of \$100 million.

Despite the paucity of drilling, Warro is Australia's largest undeveloped onshore gas field, with gross gas in place estimated at 8-10 Tcf and gross contingent resources of 3-4 Tcf.

The partners are now drilling two appraisal wells, Warro-5 and Warro-6.

Transerv obtained the Western Australian assets through its merger with Latent Petroleum Pty Ltd ("Latent") in early 2011. In 2007 Transerv provided \$3.6 million seed capital to Latent, then 100% owners of the field, in the form of a loan, which gave it the right to earn 10% of the project.

Warro gas field location



Source: Transerv Energy

Transerv has interests in British Columbia, which it is in the process of de-merging

The Company also has interests in the Montney Project in British Columbia, Canada – these assets are currently in the process of being demerged into a new Australian subsidiary, TSV Montney Limited. Following shareholder approval and ATO tax rulings, shares will be distributed by an in-specie distribution to Transerv shareholders, with TSV Montney then becoming an unlisted Australian public company.

Given Transerv's focus on Warro, the Canadian assets will only be discussed briefly.



Warro Gas Field

Introduction and Tenure

Warro comprises three licences – two RL's and one EP

The Warro project comprises three licences, Retention Leases R6 and R7 (each of three 5 minute x 5 minute blocks) and Exploration Permit 321, of nine blocks. All are held by Latent and Alcoa, with expiry dates of April 12, 2019.

Warro is located close to infrastructure – a key requirement for unconventional fields

Critically for an unconventional play the area is well served by infrastructure, being within the wheat-belt 200km north of Perth, and located within 31km of both the DBNGP and Parmelia gas pipelines. Alcoa has reserved capacity on the DBNGP, and also any future development could hook into an existing compression station on the Parmelia line cutting potential development costs

All permitting, including NTA's, are in place

All permits are in place, including a Native Title Agreement (“NTA”) with the Nungar People, the Traditional Owners (“TO’s”). This agreement is valid through to through production. The Warro field only covers two freehold farming properties; however the western half is covered by the Watheroo National Park, which will preclude ground access for drilling activities. This, however, given the deep nature of the reservoir, should not preclude wells spudded outside of the park draining gas from within the park boundaries.

In addition, the Well Management Plan (part of the Environmental Management Plan) is in such a form that it can be easily revised to allow change in equipment (e.g. bringing in a different rig) or to accommodate additional wells if required.

Alcoa Farm-in Agreement and Royalties

Alcoa is earning 65% through the expenditure of \$100 million, with Transerv remaining operator

The project is subject to a farm-in agreement with Alcoa, whereby Alcoa will earn 65% equity in the project through the expenditure of \$100 million on exploration and development, with Transerv being free carried. Following this Transerv has the option to contribute, else dilute their equity in the project. Transerv retains the right to freely market its share of any future production.

The current programme is expected to complete the farm-in requirements

To date Alcoa has spent approximately \$65 million since signing the agreement in June 2008, with expenditure on the current drilling programme expected to complete the farm-in requirements. This could be considered a strategic investment for Alcoa, given their significant annual gas requirements, and a wish to diversify sources of supply.

Any production will be subject to a State Government wellhead royalty which has been set at 5% for tight gas reservoirs, as well as private royalties, estimated at 8.26% due to previous holders. These private royalties are only payable if the field reserves exceed 0.6 Tcf

Geology, Resources and Potential

Warro is located over the Dandaragan Trough, a key depo-centre on the eastern margin of the Perth Basin

The Warro field is located over the Dandaragan Trough, a key depo-centre along the eastern side of the northern Perth Basin, which has up to 12km thickness of sediments. (refer to background on the Perth Basin later in this report). Within the field, gas has been intersected in sandstones of the Upper Jurassic Yarragadee Formation, largely deposited in a continental fluvial system. Structurally the field comprises a four way dip closure anticline, with faulting along the eastern half.

Work to date has identified a 500m gas column in the tight Yarragadee sands

A gas column of up to 500m has been identified; however the sands are very tight, with low permeability, and hence gas resources are considered unconventional, with stimulation required for extraction. Gas intersected so far is dry, with the main component being methane.



Gross GIIP of 8-10 Tcf and contingent resources of 3-4 Tcf have been estimated

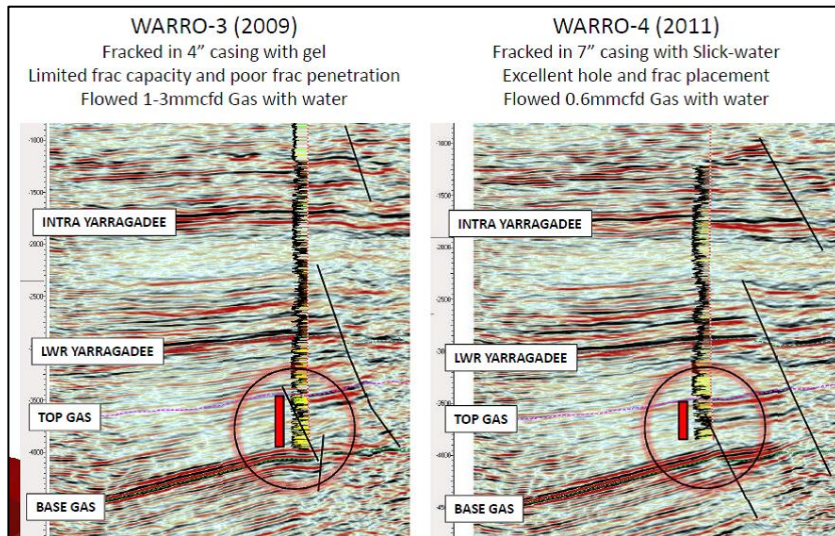
An independent review completed in 2012 by US-based tight gas experts has estimated gross GIIP of 8-10 Tcf, with contingent resources of 3-4 Tcf. This follows on from the drilling of Warro-3 and Warro-4, and a 3D seismic survey completed in 2012.

The same report has estimated the potential for wells to deliver 4-10 Bcf each (50 acre spacing), using water flows as intersected in Warro-3 and Warro-4, and deliveries of between 7-12 Bcf should water inflows in Warro-3 and Warro-4 be reduced or avoided.

Wells Warro-3 and Warro-4

These wells were drilled in 2009 and 2011 respectively, with Warro-3 drilled to 4280 mRT and Warro-4 to 4134 mRT. Both were stimulated, with Warro-3 flowing between 1-3mmcf/d and Warro-4 0.6mmcf/d gas.

Warro-3 and Warro-4 details



Source: Transerv Energy

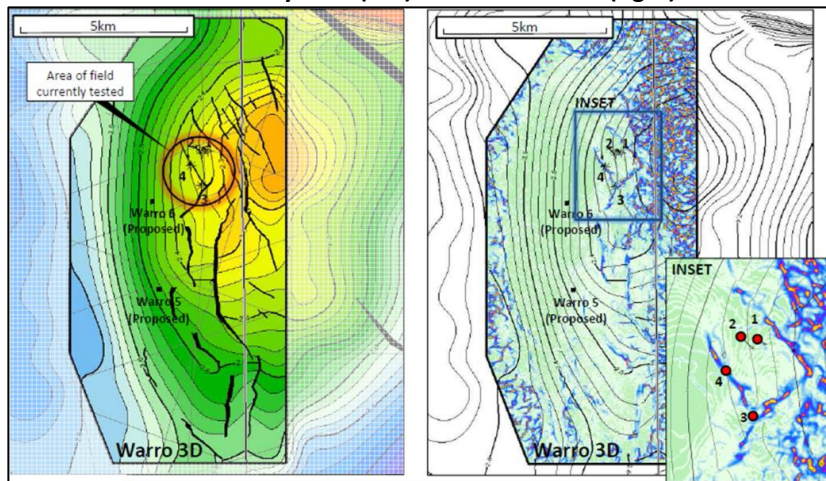
Appraisal wells Warro-3 and Warro-4 both flowed appreciable gas

Both wells also flowed appreciable water, with this interpreted as being due to major faults being intersected

Both wells also encountered abnormal water flows. An analysis of the subsequent 3D seismic data and reservoir modelling indicated that these flows are most probably due to the holes intersecting large faults connected to a deep, pressurised reservoir. These faults were not discernable on the 2D seismic data available when the holes were drilled, however they show up clearly on the 3D data, as shown in the incoherence map below.

This map also shows large areas of the anticline not affected by faulting, which will be targeted by Warro-5 and Warro-6.

Base of reservoir two-way time (left) and incoherence (right)

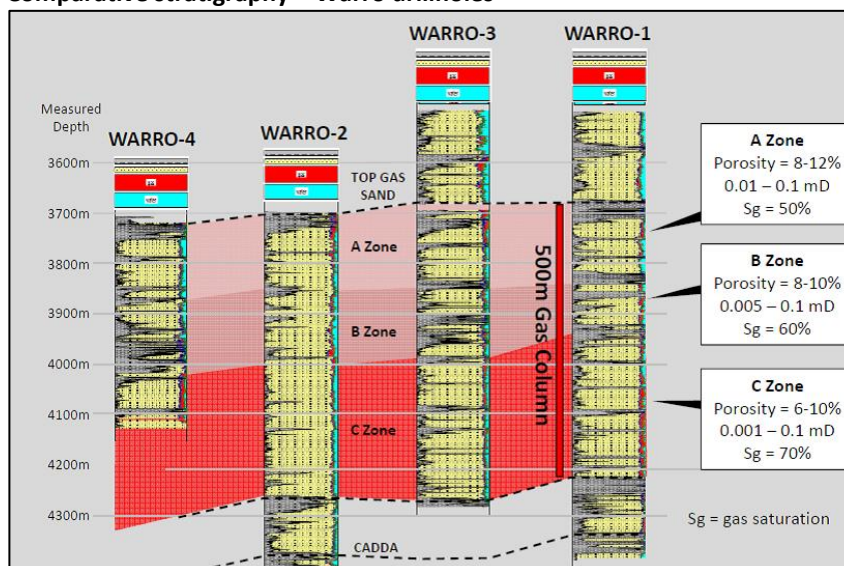


Source: Transerv Energy

3D seismic interpretations indicated large areas of the field not being affected by appreciable faulting



Comparative stratigraphy – Warro drillholes



Source: Transerv Energy

Exploration History

Initial drilling was carried out by WAPET in 1977

Initial drilling on the Warro field was carried out by WA Petroleum Pty. Ltd. (“WAPET”) in 1977/78 when holes Warro-1 and Warro-2 were drilled to test a 16,000ha four way closed anticline identified by 2D seismic surveying.

Warro-1, the discovery well, intersected a thick (393m) column of gas saturated sands in the Late Jurassic lower Yarragadee Formation, at various intervals from 3,780m to the end of hole at 4,854m. The results indicated that this was a tight gas play, with stimulation required to obtain gas flows.

Work at the time indicated that potential flow rates were not economic

This was followed up by appraisal well Warro-2, with two intervals chosen for stimulation. These included 4,091 to 4,120m, which flowed up to 104Mcf/day, and 3,991 to 4,073m, which flowed up to 80Mcf/day. At the time it was interpreted that the flow rates were not economic, and thus no further work was completed.

Subsequent advances in drilling and stimulation techniques have led to the current phase of activity

Petrographic work completed in 1999 showed that the stimulations were not effective given the pressure and temperature encountered, and in fact that the fluids used actually inhibited the fracture performance. In addition there have been significant advances in drilling and stimulation techniques since the original drilling, which have led to the current phase of activity.

This started in 2002, with AusAm attempting to re-enter Warro-2, however with no success due to poor casing integrity.

Latent acquired EP321 and EP407, each of 16 blocks (1,183km²) from AusAm in 2007 (EP 321 has been subsequently reduced to nine blocks and EP407 converted to the two retention leases). Transerv entered into a loan agreement to earn 10% with Latent in November 2007, with subsequent corporate events including the Alcoa farm-in (June 2008) and the Transerv-Latent merger (March 2011).

Work completed by the current holders and associated parties has included:

- Independent Technical Assessment Report by Gaffney, Cline and Associates (“GCA”, February 2008), which estimated contingent resources of 610-2,105Bcf
- Drilling and testing of Warro-3 (2009)
- Drilling and testing of Warro-4 (2011)
- 3D seismic programme (2011)
- Independent review by US tight gas expert Dr Keith Shanley (2012)



Current Programme

The current programme includes the drilling of two 4,250m wells, and fracture stimulation of representative 80m sections

As mentioned, the current programme will include drilling two appraisal wells, Warro-5 and Warro-6, both to around 4,250m for a total cost of between \$30 and \$40 million. The work will include hydraulic fracturing of 80m representative sections within the C zone of the Yarragadee Formation.

The drilling team is largely as has carried out recent work on AWE's projects to the north

It is estimated that each well take around 28 days to drill, with a week to move the rig between sites. Logging While Drilling ("LWD") technology will be used, and following completion Condor Energy has been engaged to carry out the fracture stimulation testing. This will include three to six stages.

Perth based Enerdrill has been contracted to carry out the drilling – prior to Warro they were operating on AWE's Perth Basin operations. In addition, to ensure a seamless transition Transerv are using the same company as used by AWE - Aztech Well Construction ("Aztech") - to manage the drilling.

The aims of the work are to determine gas flow rates and the flow decline profile, to assess the commerciality of the field, which will lead to a decision on future activities. The Company would like to see the potential for flow rates of 5-10Mmcf/day from the area being drilled, which they would consider sufficient to justify installation of a pipeline. As such the Company has spaced the two wells so there is at least three 50 acre well locations between them.

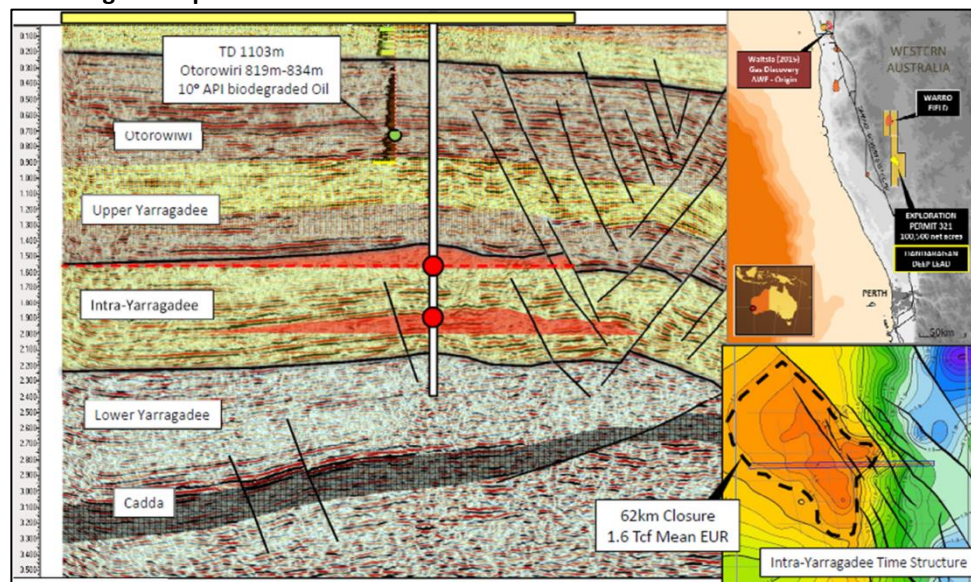
Upside – Dandaragan Deep

There is upside at Dandaragan Deep, located on EP321 to the south of Warro

There is also potential at the Dandaragan Deep play, located on EP321 to the south of Warro. Historic drilling intersected biodegraded light oil in a shallow (1,103m deep) well, and a technical review has indicated the potential for an Estimated Ultimate Recovery ("EUR") of 1.6Tcf of gas within a closure in the Yarragadee Formation.

This is considered a Warro lookalike

Dandaragan Deep section



Source: Transerv Energy

Canadian Assets

The British Columbian focus is on unconventional liquids

The Company's recent Canadian focus has been on British Columbia, with previous interests in Alberta largely being sold, with the remaining assets being marketed.

The focus is largely on liquids in highly prospective unconventional reservoirs over the Montney and Duvernay Projects, however given the Company's and shareholder's focus on Warro, the Canadian assets are being de-merged.



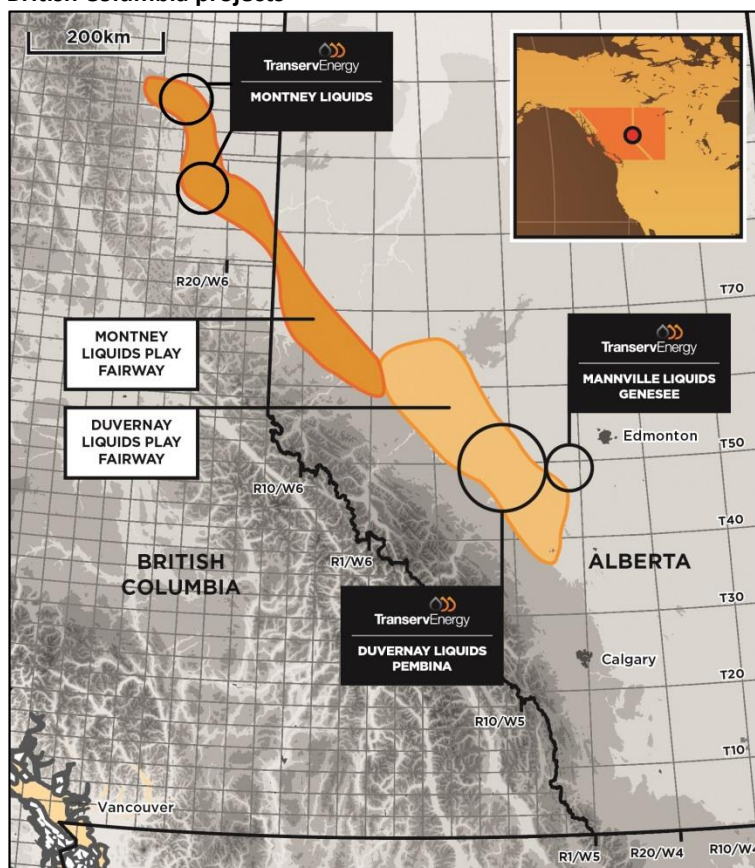
The Canadian assets are being de-merged

The de-merger process (subject to shareholder approval) includes:

- Incorporation of a new Australian subsidiary, TSV Montney Limited
- Transfer of 100% of Woma Energy Ltd (the subsidiary that currently owns the Canadian assets) into TSV Montney
- A 1 for 10 in-specie distribution of the 80,681,989 issued shares in TSV Montney to Transerv shareholders – these shares have an aggregate paid-up value of \$14,522,033, reflecting the book value of TSV Montney/Woma
- A reduction in capital of Transerv of 1.8c per share

This result in Transerv shareholders owning the Canadian assets through TSV Montney and Woma Energy, with the potential for a realisation of value in the future.

British Columbia projects



Source: Transerv Energy

Breakaway's View

Warro is a very exciting opportunity for Warro shareholders

Warro is a very exciting opportunity for Transerv shareholders. Previous work, including the appraisal wells Warro-3 and Warro-4 has shown the size and production potential of the Warro Gas Field, and we look forward to watching the progress of the current drilling.

Recent work has highlighted the unconventional gas potential of WA

Unconventional gas production is relatively new in Australia, with development lagging behind the US, where a number of tight fields, similar to Warro, have been successfully developed in recent years. Advances and interest in unconventional gas in Australia has been dominated by the eastern Australian coal seam gas boom over the past 10 years to feed the Gladstone LNG plants. Recent work in the Perth Basin, including AWE's discoveries has highlighted the west coast potential for gas in tight sands.

Warro is ideally situated for an unconventional gas play, which are, by virtue of the stimulation required, more expensive to develop and operate (including the drilling of wells to maintain capacity) than an equivalent conventional play.



Warro is ideally located for an unconventional play

Key advantages of Warro include:

- Close to gas infrastructure (31 km to pipelines)
- Proximity to an established gas market, and close to end users
- Forecast relatively high gas prices, insulated somewhat from global price shocks
- Close to key suppliers, with development and production equipment readily available
- Good relationships with stakeholders, including landowners and Traditional Owners
- Supportive State Government, with clear policies in place

The proximity to existing pipelines and a compression facility also gives a possible opportunity to sell gas produced during appraisal programmes, thus providing early cashflow.

Although not the main focus, the Canadian assets also provide option value for shareholders, with only low holding costs. Any future improvement in oil prices could provide an opportunity for realisation of the value of this acreage.

We rate Transerv as a SPECULATIVE BUY, with a base case price target of \$0.11/share

Given the above, and the extensive experience of the Board and Management, we rate Transerv as a SPECULATIVE BUY, with a base case price target of \$0.11/share. Price movers will be positive results from the upcoming drilling, and we see considerable upside in our valuation.



Background – Units

The table below provides a conversion between volume and energy units commonly used in the gas industry, and used in the report.

Energy and volume units

Gas Volume	Volume units	Energy Content	Energy Units	BOE*
1 Mcf	thousand cubic feet	1.06 GJ	Gigajoule, 10^9 J	0.172
1 Mmcf	million cubic feet	1.06 TJ	Terajoule, 10^{12} J	172
1 Bcf	billion cubic feet	1.06 PJ	Petajoule, 10^{15} J	172,000
1 Tcf	trillion cubic feet	1.06 EJ	Exajoule, 10^{18} J	172 million

Source: Various

*BOE – barrel of oil equivalent

Background – The Perth Basin

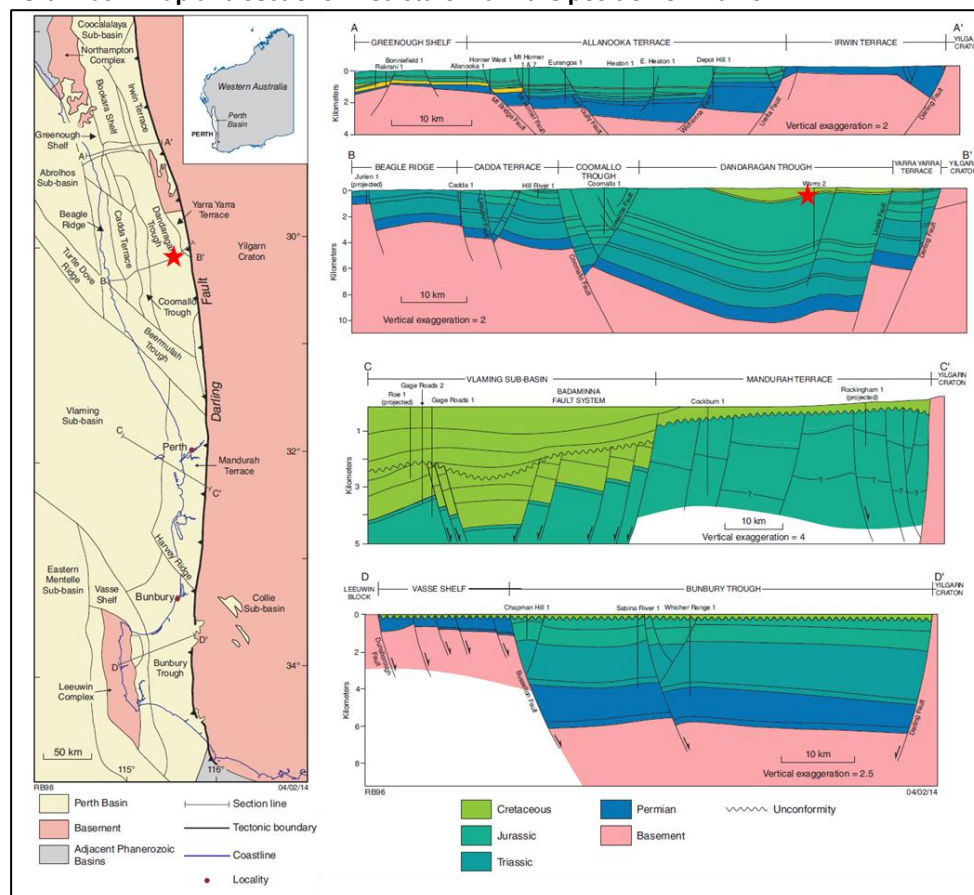
Geological History and Stratigraphy

The Perth Basin, which covers around 100,000 km², is a half-graben rift basin along the western coast of Australia. The north-south trending basin, which has a length of some 1,300km, contains mainly continental clastic sediments, ranging in age from the Early Permian, with sedimentation terminating with the break-up of Gondwana in the Early Cretaceous. Approximately 45% of the basin is onshore, with the rest being offshore.

The Perth Basin is a 1,300km half-graben rift-trough basin

Perth Basin map and sections – red stars mark the position of Warro

The eastern margin is marked by the Darling Fault, and the basin comprises a number of structural elements



Source: Summary of Petroleum Prospectivity: Perth Basin, WA DPM

The eastern margin is marked by the Darling Fault, which separates the basin units from the Archaean Yilgarn Craton (with the Archaean rocks also forming the basement to the basin), and which dominated basin formation.

The basin comprises a number of structural elements, the result of multiple phases of



oblique rifting as shown in the map and sections above. The northern part of the basin is considered the most prospective – given the depositional history there is poor development of seal lithologies in the southern Perth Basin.

Exploration History and Discoveries

Exploration has been carried out in a number of phases since 1951

Exploration has been carried out in the Perth Basin since 1951, with the Bureau of Mineral Resources (now Geoscience Australia) conducting gravity surveys over the northern onshore area. Since that time considerable work, including the drilling of over 366 wells (with only 53 being offshore) has been completed in three principal periods – the 1950's to 1970's, the 1980's to 1990's, and from 2000 to the present.

Work since 2000 has been the most productive, with the discovery of over 20 commercial gas and oil fields in the northern part of the basin

This work, which has been carried out by a large number of companies, has resulted in the discovery of over 20 commercial gas and oil fields in the northern Perth Basin and a number of other significant discoveries, dominantly gas, with the bulk of these made post 2000. The application of 3D seismic since 2001 has, according to the WA Department of Mines and Petroleum (“DMP”), significantly increased the “hit” rate of wells. Significantly these discoveries have been made within a broad section of the stratigraphy.

Most recently we have seen the Dongara/Wagina (Senecio-3 and Irwin-1 wells) tight gas and Kingia/High Cliff (Waitsia-1 and -2 wells), reportedly conventional gas discoveries of AWE Limited (ASX: AWE) in their acreage to the NW of Warro.

The bulk of the discoveries to date are conventional, however there are a number of tight fields, including Warro, Whicher Range and West Erregulla, which, with developments in drilling and production techniques considerably enhance the upside for production from the basin.

Background – The WA Gas Market

Introduction

This section provides a summary of the Western Australian gas market, and is largely taken from the Gas Statement of Opportunities (“GSOO”), published by the Independent Market Operator (“IMO”) in December 2014.

Pertinent facts relating to the Western Australian gas market follow:

WA is Australia's largest gas producer and consumer

- Has the largest gas resources of any Australian state, with economic and sub-economic onshore and offshore resources estimated by Geoscience Australia of 158,373PJ
- Produces approximately 60-65% of Australia's natural gas
- Has the largest domestic gas consumption of any state, comprising 40% of national domestic consumption, with over half of WA's energy needs met by natural gas
- Current domestic usage averages around 1,000TJ/day, or 365PJ/year
- 97% of domestic gas is produced by the Carnarvon Basin operators
- Alcoa, Transerv's farm-in partner, is the largest single consumer, using around 240TJ/day
- 90% of domestic gas is used industrially (including for electricity generation), with less than 10% used in the low pressure distribution network
- Current LNG exports require the equivalent of 3,000TJ/day – around 75% of total gas production

A critical factor is that the Western Australian gas market is isolated – all domestic requirements are produced within the state (98% out of the Carnarvon Basin), in addition



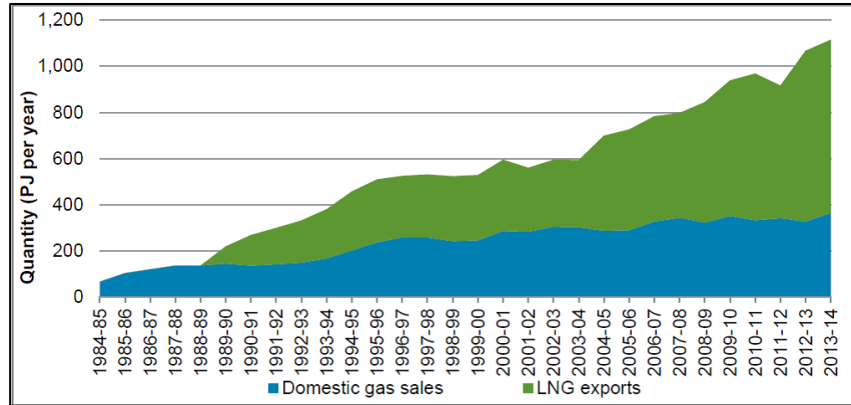
The WA gas market is isolated, and largely insulated from global factors

to the significant quantities produced for the burgeoning LNG export market. Domestic prices are largely set by the main LNG exporters, generally based on the netback price of the LNG exports.

As mentioned above, requirements for LNG exports dominate production, with these commencing in 1989 from the North West Shelf. Historic production figures are shown below. This clearly shows the rapid increase in production, largely driven by the LNG export market

Gas production has risen dramatically since the commencement of LNG exports in 1989

WA gas production – 1984-2014



Source: IMO GSOO, 2014

Demand and Supply

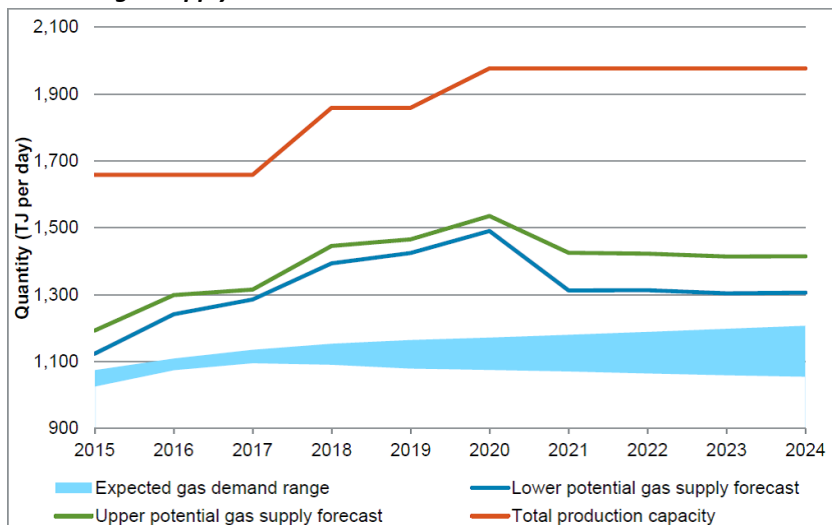
The graph below presents forecast domestic supply and demand balance for the period 2015 to 2024. As can be seen forecast production capacity and supply potential is significantly higher than expected demand, with demand only growing relatively slowly, or even decreasing in response to increasing prices and improvements in energy efficiencies.

The fact that there is a significant supply capacity surplus does not mean however that there is real potential for the market to be flooded and for significant falls in the domestic gas price – this capacity is owned by the major LNG producers, who as mentioned previously, will tend to set domestic prices based on the net-back of their LNG export prices.

Supply capacity, largely due to facilities associated with the LNG plants, is currently around 50% higher than demand

This however will not lead to a glut of domestic gas given the relationship between LNG export and domestic gas pricing

Domestic gas supply-demand balance – 2015 to 2024



Source: IMO GSOO, 2014

98% of domestic production is from the Carnarvon Basin,

Currently, around 97% of the domestic production capacity is located in facilities in the Carnarvon Basin, with a number of these associated with the LNG export facilities,



Supply capacity is expected to increase with the completion of the Gorgon and Wheatstone developments

including those owned by the North West Shelf Joint Ventures (“NWS JV’s”) headed by Woodside Petroleum. The other 3% is met from the Perth Basin.

The development of the Gorgon (2015) and Wheatstone (2018) LNG projects is expected to add up to an additional 500 TJ/day capacity when operating at full capacity by 2020, taking domestic gas production capacity to an estimated 1,977 TJ/day from current levels of 1,477TJ/day.

There has also been a recent shake out in the industry, with Apache Energy selling its assets, including the Varanus Island and Devil Creek production facilities to the Brookfield/Macquarie consortium for \$2.1 billion in early 2015. As a follow on from this Alcoa entered into a supply agreement with the new operators to supply 50% of its requirements (around 120TJ/day) – this will replace a current contract with the NWS JV’s which expires in 2020.

Domestic Gas Reservation Policy

WA has a domestic gas reservation policy, where LNG exporters must reserve gas equivalent to 15% of permitted production for domestic supply

A feature of WA is the domestic gas reservation policy, whereby LNG export projects are required to reserve gas equivalent to 15% of their permitted LNG production for the domestic market. The policy includes the requirement for the producers to develop the necessary infrastructure to ensure the gas supply, as well as acting in good faith in marketing the gas. Pricing is to be determined by the market, which is largely controlled by the LNG producers.

However, the policy also allows for the producers to offset their reservation requirements using alternative sources other than the LNG field. This is pertinent in the case of Warro – it could become an attractive offset asset to one of the LNG operators.

There has been some uncertainty with domestic gas supplies with existing domestic supply contracts with the NWS JV’s running out in 2020. However the partners have, in 2014, agreed to the reservation policy, reserving 15% of their approved LNG exports, or around 100TJ/day for the domestic market. This will partly come from new developments.

There the reservation agreements do not specify timing or the amount of gas actually supplied into the market

A question still remains as to the timing and scale of domestic production from the NWS JV. Under the terms of the agreement the operators are only required to set aside a quantity of gas and to market the gas diligently. It does not specify timing or the amount of gas that must be actually delivered when the new arrangements come in place after 2020.

This is reflected in the supply forecasts in the above graph – the lower case is premised on the NWS JV’s only meeting the minimum expected supply requirements of 100TJ/day following expiration of the current supply contracts in 2020, with the upper premised on the Karratha facility operating at 300TJ/day after that.

Pricing

WA gas prices have seen appreciable increases since 2007

WA gas prices have seen appreciable nominal increases since 2006/7, as shown in the table below. These rises are largely due to increases in the costs of exploration, development and production (and netback pricing from LNG operations), and the expiry of a number of legacy supply contracts, with new contracts reflecting increases in costs.

The IMO, in the 2014 GSOO, has included forecast general increases in domestic prices until 2020, followed by a flattening at around \$9-\$10/GJ. These forecasts were prepared by the National Institute of Economic and Industrial Research (“NIEIR”)

These increases are forecast to be largely driven by falls in the Australian dollar, with netback prices therefore increasing in Australian dollar terms.

Risks to the forecast domestic gas price include falls in the oil price and hence the Asia-

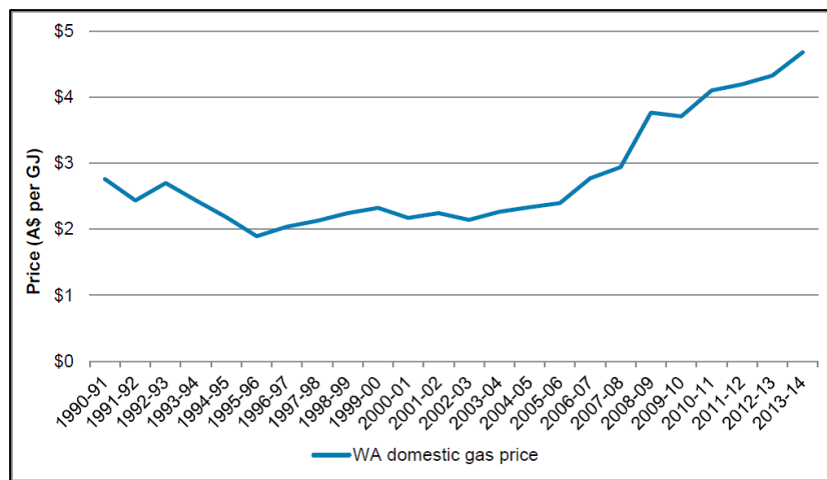


Pacific LNG prices, which are correlated.

Over the last 12 months we have seen falls of around 60% in spot LNG prices, which have fallen to their lowest levels in five years. This is in parallel to crude oil prices, which have also fallen around 55% in the last twelve months, including a fall of 30% since the start of July. These USD denominated falls are offset somewhat by the 20% depreciation in the Australian dollar over the same period, and the fact that a large proportion of Australian LNG exports are sold under long term contracts.

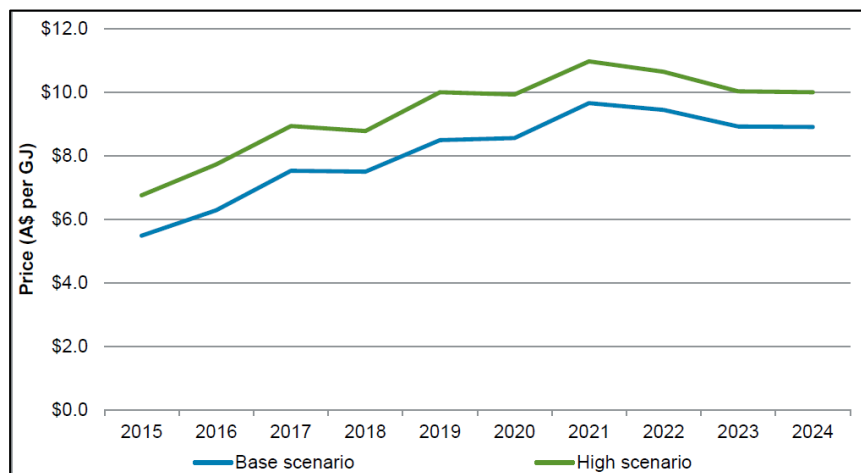
However the natural gas price should have a floor determined by the cost of production of the major suppliers – Deloitte Access Economics (Fortescue Metals Group – Western Australia gas sector analysis, May 2014) has estimated this at around A\$7.20/GJ for the Devils Creek gas plant, and A\$5.90/GJ for the Macedon gas plant at Onslow. Delivered prices are around A\$1/GJ higher to allow for transport.

Historic nominal domestic gas prices



Source: IMO GS00, 2014

Forecast real domestic gas prices



Source: IMO GS00, 2014



Directors and Management

Executive Chairman
Mr. Craig Burton

Mr Burton has over 25 years of experience in financing, developing, and managing resource projects and mining service businesses. This work has taken him to Canada and the United Kingdom for resource projects involving diamonds, nickel, copper and gold as well as oil and gas. Mr Burton is a co-founder of two ASX 200 companies, Mirabela Nickel Ltd and Panoramic Resources Ltd, and is an active investor in emerging ventures and businesses with a focus on the oil and gas, mining and resource service sectors. He is also a Non-Executive Director of Capital Drilling Ltd.

Executive Director
Mr. Stephen Keenihan

Mr Keenihan has more than 40 years of experience in the energy industry, both in Australia and internationally. In addition to his extensive experience in oil and gas, Mr Keenihan also has a broad range of experience in other energy and electricity projects, including coal, gas, wind, biofuels and geothermal. He has previously held management roles with Apache Energy, Griffin Energy, Novus Petroleum, Western Mining Petroleum and LASMO.

Executive Director
Mr. Ian Cockerill

Mr Cockerill is a geologist with 20 years of experience in the oil and gas industry. He has worked extensively in conventional and unconventional petroleum systems in North America, Australia, Africa, Europe and SE Asia. He has previously held roles in new venture development and management for Hunt Oil and Apache Energy.

*CFO, HSE Manager,
Company Secretary*
Ms. Jo-Ann Long

Ms Long has more than 25 years of experience as a finance professional with 16 years in the oil and gas industry. Ms Long holds a Bachelor of Commerce from the University of Western Australia and became a Chartered Accountant in 1990, to later be determined a fellow in 2010. She has held roles with Deloitte Touche Tomatsu and Woodside Energy working primarily in finance, internal audit and business risk, leading audits on joint ventures around the world. In 2008 Ms Long joined Latent Petroleum working on the Warro joint venture in both a financial and operational capacity.

Biographies extracted from Company Website – August 13, 2015



Analyst Verification

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Transerv Energy and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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