



Submission

on

Scope of a National Gas Statement of Opportunities

Industry Consultation Paper

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Executive Summary

The EUAA welcomes the proposal to produce a National Gas Statement of Opportunities and notes that all of the gas industry, including transmission pipelines, is now owned by the private sector.

The advent of the National Electricity Market has transformed the operation of the electricity market with transparency a major feature. Traditionally there has been a much lower level of transparency in the gas market but it has improved since the introduction of the national access regime for natural gas pipelines in 1997. Convergence of the natural gas and electricity markets is an increasing trend. Australia's economy has benefitted greatly from reforms in the last quarter of a century. Energy users were intended as primary beneficiaries of these reforms and have seen some concrete improvements. An important gap in the reform process has been the lack of transparency and price discovery in the gas market. Major energy users seek access to information that will enable them, like other market participants, to plan for the future in the context of a national gas market which continues to grow impressively.

Four supply and demand study reports produced by the Australian Gas Association (AGA) in the period between 1985 and 1997 provide some useful insight into what could be achieved by a GSOO.

The EUAA considers that the augmented objectives developed by the Gas Market Leaders Group (GMLG) are the most appropriate for the GSOO. The GSOO should cover the eastern seaboard, the Northern Territory and Western Australia. The scope should extend to demand, supply, transmission network capacity and interconnection constraints with covered and uncovered pipelines included. The preferred term is 25 to 30 years but treatment of the short term should be thorough. The EUAA favours aggregation of supply and demand based on the demand zones and hubs used for the Bulletin Board.

Demand should be classified into residential, commercial, industrial and power generation (distinguishing between peak, intermediate and base load). Identification of interruptible proportion of loads would be useful if practicable.

Analysis of gas reserves and production data should not duplicate work done by others. Reporting of reserves must be on a standardized basis. Stakeholders should be consulted about how the data can be best produced in a timely manner.

Analysis of transmission needs to incorporate transient modeling because increased use of gas for power generation will impose much greater demands on transmission systems. Gas storage will become a much more important feature of the gas market and needs to be adequately addressed in the GSOO.

Consistency with the Bulletin Board, the Victorian Annual Planning Review and the Electricity SOO should be an objective but not at the expense of including current information. Equivalent powers to those in the National Electricity Rules for the compilation of the Electricity SOO are likely to be required if the information is to be obtained without undue constraint.

1. Introduction

In its Industry Consultation Paper, *Scope of a National Gas Statement of Opportunities* (dated 12 August 2008), the Gas Market Leaders Group (GMLG) has sought submissions from interested parties. This submission represents the views of the EUAA.

The Energy Users Association of Australia (EUAA) is an incorporated non-profit organization formed in 1996 as a national body to represent the interests of its members (electricity and gas users) on a range of energy policy, regulatory, customer and industry issues. It also acts as a forum for discussion, education and information exchange among end users and other stakeholders. EUAA members are mainly business users with activities across all states and many sectors of the economy. The EUAA has over 100 members, including many of Australia's largest electricity and gas users. In 2008 the EUAA merged with the Queensland Major Gas Users Group.

The EUAA welcomes the proposal to produce a National Gas Statement of Opportunities. The association notes the remarkable development of the Australian Natural Gas Industry since the first transmission pipelines were built in the late 1960s to link production fields with markets in Brisbane, Adelaide and Melbourne. The EUAA notes that these pipelines were underpinned by bilateral contracts which provided the necessary security to the financial backers of those projects. Some of the pipelines upon which the industry has developed were built by government-owned authorities while others were built by the private sector. It is noteworthy that all of the gas industry, including transmission pipelines, is now owned by the private sector.

The advent of the National Electricity Market has transformed the operation of the electricity market with transparency a major feature. Traditionally there has been a much lower level of transparency in the gas market although it has been greater since the introduction of the national access regime for natural gas pipelines in November 1997. Convergence of the natural gas and electricity markets is an increasing trend. Australia's economy has benefitted greatly from a succession of reforms introduced in the last quarter of a century. Energy users were intended as primary beneficiaries of these reforms and, to an extent, have seen concrete improvements. One important gap in the reform process has been the lack of transparency and price discovery in the gas market. Major energy users seek access to information about gas markets that will enable them, like other market participants, to plan for the future in the context of a national gas market which continues to grow impressively.

1.1. Other Supply and Demand Studies

The Australian Gas Association (AGA) when it was a whole of industry peak body developed four supply and demand study reports – in 1985, 1988, 1992 and 1997. These studies were undertaken at the initiative of the Australian gas industry and funded by its participants. They sought to demonstrate that Australia's abundant gas reserves could be developed to supply the growing demand for gas by the residential, commercial, industrial, power generation and LNG sectors. As the Australian gas industry evolved in an environment of privatisation and competition policy reforms, the AGA ceased to be a whole of industry representative body around the beginning of the third millennium. Some new organizations such as the Energy Networks Association and the Energy Retailers Association arose,

representing different sectors in the gas chain but not representing solely gas interests. In these circumstances the gas industry was no longer in a position to bring its participants together to produce such studies. Organizations such as the Australian Bureau of Agricultural and Resource Economics (ABARE) and ACIL produced their own reports presenting views of the Australian Gas Market. However these studies were produced without a mechanism to involve industry and users on their view of the market and information needs.

2. Scope of a Gas Statement of Opportunities

The EUAA notes that the GMLG was established in 2005 to facilitate delivery of the Ministerial Council on Energy (MCE) MCE's objectives of "...a competitive, reliable and secure natural gas market delivering increased transparency, promoting further efficient investment in gas infrastructure and providing efficient management of supply and demand interruption."

In its National Gas Market Development Plan of July 2006 the GMLG recommended that a Gas Statement of Opportunities (GSOO) be produced. The recommendation was undoubtedly made in recognition of the useful role performed by the Electricity SOO in the NEM. It was supported in the final report of the Joint Working Group on Natural Gas Supply, dated December 2007. In December 2007 the MCE agreed that the development and publication of a GSOO would become one of the functions of the Australian Energy Market Operator (AEMO).

2.1.Objectives and Principles

The Industry Consultation Paper offers the augmented MCE principles developed by the GMLG as a set of possible principles for gas market development. As an alternative the paper suggests that the first of these principles could be adopted as a sole principle. viz. *Information on market and system operations and capabilities at all stages of the gas supply chain (subject to recognition of existing contractual confidentiality) should be publicly available and frequently updated.*

Another alternative is offered whereby the above principle could be expanded to clarify the purpose for which information is to be made available and to be updated. The EUAA believes that clarification of purpose would be preferable to stating this sole general principle, noting that provision of information not directly required could impose unnecessary costs on market participants. However, the Association considers that the augmented principles (Box 1) provide even better guidance.

Box 1: Augmented Principles for Gas Market Development

1. Information on market and system operations and capabilities at all stages of the gas supply chain (subject to recognition of existing contractual confidentiality) should be publicly available and frequently updated.
2. Gas market structure to facilitate a competitive market in all sectors.
3. Gas market participants should be able to freely trade between pipelines, regions and basins.
4. There should be regulatory certainty and consistency across all jurisdictions.
5. The market design and institutional requirements should be responsive to and reflective of the needs of the market and market participants.
 - a) Take account of the physical characteristics of the networks;
 - b) Recognise the fundamental importance of bilateral contractual arrangements which underpin gas market development;
 - c) Market rules may be imposed to vary existing contracts for operational issues;
 - d) Take account of the interface with the National Energy Market;
 - e) Minimise the need for Government intervention in the operation of the market;
 - f) Complement the work of the National Gas Emergency Response Advisory Committee (NGERAC); and
 - g) Maximise value and benefits.

3. Coverage

3.1. Geographic Differentiation

The consultation paper floats the idea of focusing mainly on the eastern seaboard with less or no description of the Western Australian and Northern Territory markets. The extent of information requirements pertaining to supply, demand (including exports) and transmission network capacity in those three markets is likely to vary from time to time. Clearly the inclusion of Western Australia and the Northern Territory will depend on their willingness to participate. However, the EUAA strongly supports a national focus for the GSOO and the participation of Western Australia and the Northern Territory should be actively encouraged. The natural gas supply shortfall that has existed for some years in the domestic market in Western Australia demonstrates why that state should be included and why it should seek to be so included as a matter of some urgency. In addition, the recent market

disruption arising from the explosion at Varanus Island highlights the importance to gas users, in particular, of providing information that will facilitate appropriate market development. The ensuing gas shortage led to substantial costs to users.

EUAA members who use gas in Western Australia – and this includes many of the State’s largest energy users – as well as other major gas users in the State, would see inclusion in the GSOO as a positive step by the State Government in dealing with the gas problems that are affecting them.

3.2. Legal Coverage

The consultation paper notes that the GSOO could focus on covered pipelines and exclude uncovered pipelines or treat them in less detail. Notwithstanding that information on some key pipelines is available on the Bulletin Board, it is relevant that the major load centres of New South Wales and South Australia are predominantly served by uncovered pipelines. Typically lesser obligations of information disclosure apply to uncovered pipelines. Different treatment of covered and uncovered pipelines with respect to the GSOO would imply different levels of transparency and this would be contrary to the objectives of the GSOO.

The EUAA is not aware of any reason why there should not be consistency of legal coverage for the GSOO with the National Gas Law and the Bulletin Board. Application of the GSOO to producers, users and service providers, unless exempt under the Rules, would represent a sensible approach.

3.3. Scope

The EUAA strongly supports coverage of demand, supply, transmission network capacity and interconnection restraints in the GSOO. In regard to the Electricity SOO, history has shown that restriction to a high level of coverage for transmission has been inadequate. Moreover, the gas and electricity sectors will inevitably become much more interdependent in an environment which demands quick and effective response, including to issues such as greater use of gas for power generation and to global warming. The emergence of an emissions trading scheme can only be expected to emphasise such interdependence. While the gas market does not exhibit the same requirement for instantaneous balancing as the electricity market, widespread use of gas for electricity generation will increasingly subject gas networks to much more challenging balancing requirements, even those with the advantage of substantial linepack. Gas storage will therefore assume much greater significance in the provision of gas supply.

3.4. Term

The EUAA strongly supports the provision in the GSOO of both short and longer term projections of demand and supply. While it is recognized that the level of certainty declines with longer projections, considerable value is added by also considering longer term trends. The introduction of an emissions trading scheme will further emphasise this point. Investors in new gas-consuming plant, including new generating plant, will require reassurance that there will be access to sufficient gas for sufficient time to underpin their investments.

The consultation paper notes that it may be desirable for the GSOO to include some long term scenarios, up to 20 years. The Supply and Demand Studies published by the AGA¹ typically involved time horizons of 25 to 30 years. In view of the expected asset lives associated with development of new gas fields, pipelines and generating plant, the EUAA considers 20 years to be a minimum appropriate long-term time horizon for a GSOO and would prefer a time horizon of 25 or 30 years.

The EUAA agrees that work needs to be done to determine more precisely how capacity and reserves adequacy should be measured. The measurement of reserves should be done in PJ. Capacity should generally be measured in TJ/day. In some situations further information should be provided about capacity constraints as measurement in TJ/day can be an oversimplification. The level of information provided should be tailored to fit particular scenarios in particular market areas. It will be essential to make use of transient modelling to inform certain scenarios as the transient behavior of gas networks can vary significantly with physical and other characteristics. For example, Victorian peak day demand is extremely temperature-sensitive.

4. Regional Framework

The consultation paper canvasses the possibility of analyzing supply and demand on a state-by-state basis. An alternative approach considered is to focus on demand mainly at major cities such as Adelaide, Canberra, Melbourne, Sydney and Brisbane. In view of the significant demand in regional areas, the EUAA does not favour that approach. Moreover, the EUAA does not advocate treating the whole eastern seaboard as integrated region as the level of aggregation would certainly diminish the value the information.

The option strongly preferred by EUAA is for aggregation of supply and demand based on the demand zones and hubs used for the Bulletin Board. These are listed in Appendix 1.

5. Gas Demand

The EUAA supports classification of demand into residential, commercial, industrial and power generation. It notes that some further disaggregation of the power generation class may be desirable. The distinction should be on the basis of base, intermediate or peak load and not on the type of plant. There are various types of plant already in existence in addition to gas turbines, e.g. steam turbine and co-generation. What matters for the gas market is the load factor of the gas-fired plant.

Attempting to account for fugitive losses in the gas sector is not likely to be helpful to the market. For transmission pipelines they are negligible and for distribution systems, following major upgrading programs, they are now very small. It may be useful to record actual “gas unaccounted for” in the most recent year for which information is available, provided that it

¹ See discussion on pp2-3

is also noted that measurement uncertainty is likely to comprise a significant proportion of this gas. As the use of gas for peaking generation grows (and this will increase significantly as gas assumes a greater back-up role for wind generation under the proposed 20 per cent Renewable Energy Target), the quantity of gas used for system operation (in particular, compressor fuel) will increase substantially. Prediction of compressor fuel usage is extremely difficult when the operating hours for peaking plant are highly variable. Attempting to forecast such usage will tend to be highly speculative and could be quite misleading.

Identification of interruptible proportion loads would provide useful information to market participants. This information could assist greatly in making more efficient use of gas infrastructure. More efficient use could be expected to lead to more revenue for pipeline owners and create downward pressure on rates for interruptible loads. Because very few customers currently use interruptible load, provision of such information may introduce confidentiality issues while this remains the situation and this would need to be checked. As the gas market becomes more sophisticated and more customers make use of interruptible load, such confidentiality issues are likely to diminish.

The EUAA agrees that scenario-based projections are appropriate for demand forecasting, particularly in view of the lumpy nature of demand for LNG, power generation and large industrial projects.

The EUAA believes that recording of annual demand in PJ and peak daily demand in TJ/day is appropriate for the GSOO. In the consideration of capacity, peak day demand is most useful but in consideration of adequacy of reserves, annual demand is more appropriate.

6. Gas Reserves and Production

The EUAA agrees that there is little merit in duplicating detailed analysis undertaken by others in relation to the compilation of reserves and production data. In addition, the association supports the provision in the GSOO of indicators of reserves to production ratios for appropriate market areas. Such information should provide useful market signals.

Geoscience Australia has for many years been responsible for compiling national reserves data. The EUAA understands that production data is generally provided to APPEA by companies within a reasonable timeframe. However, it also understands there is a considerable lag between the original provision of data to state governments by gas producing companies and the eventual publication by Geoscience Australia. Moreover, the reporting of reserves is understood not to be on a standardized basis. The EUAA supports the proposal that Geoscience Australia and other stakeholders be consulted on how best to produce the required data in the most timely manner.

If stakeholders agree that additional resources are desirable to facilitate the provision of this data, the EUAA proposes that such resources be derived from GSOO funding. Furthermore, the EUAA strongly supports standardization in the reporting of reserves. Lack of standardization not only creates uncertainty but also delays the process. The Society of Petroleum Engineers criteria may be the appropriate standard. The appropriate standard

should be agreed by the GMLG. If possible the cycle of reporting of this data should be aligned with the publication date for the GSOO.

The EUAA considers it imperative that all gas production facilities within petroleum production areas in the eastern seaboard, the Northern Territory and Western Australia be covered in the GSOO.

7. Gas Transmission

As discussed previously in this submission, the EUAA considers that information on all significant pipelines, whether covered and uncovered, needs to be included in the GSOO if the document is to meet its specified objectives. Pipeline capacity is a complex issue which can lead to confusion. Transmission pipeline owners are currently obliged to provide nameplate and operating pipeline capacity to the Bulletin Board and this provides useful information to market participants and potential entrants. While readily available data on diameter, pressure and distance can be used to yield an indication of potential capacity, various other factors, including injections and withdrawals and gas composition, can influence capacity. Capacity modelling requires numerous assumptions to be made and it would be impractical and unreasonable to include details of all such assumptions in descriptions of modelling. Accordingly, the EUAA considers it reasonable that a broad outline of assumptions and modelling approach would be reasonable.

To alleviate concerns by pipeline owners about providing commercially sensitive information, the EUAA agrees that a scenario-based approach is the most appropriate.

In its discussion on gas transmission the consultation paper states

The analysis will not need to consider the interaction between injection, linepack availability, storage and other measures for meeting peak demand as such day-to-day information is not required for long term projections.²

The EUAA agrees that day-to-day information is not required for long-term projections.

However, it will be essential that long-term modeling does take account of storage. Provision of suitable gas storage will become increasingly important as power generation assumes greater proportions of gas network loads. The need to meet variable loads networks will also require sufficient compression capacity to move linepack as a complement to available storage. The Australian gas industry has made only limited use of gas storage to date. One available means will be depleted gas reservoirs. Other options such as LNG or aquifers will need to be considered in some circumstances. Adequate storage infrastructure may be just as important as pipeline infrastructure in some market areas.

As discussed above, significant failures at gas production facilities such as Longford, Moomba and Varanus Island have highlighted the potentially severe impacts on gas users that may arise from such events. Generally pipeline emergencies can be handled without long delays but the remoteness of many transmission pipelines demands planning and

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preparedness to deal with logistical challenges. The EUAA strongly argues that examination of overall system redundancy and its implications for security of supply should be included in the scope of a GSOO.

Consultation with expected users of the GSOO about the information they would like to see in the document should be an essential starting point. The consultation undoubtedly needs to include consideration of the implications of these expectations for data gathering and analysis. The EUAA will participate constructively in any such discussions.

8. Interaction with the Bulletin Board and Other Planning Documents

The EUAA considers that consistency with the Bulletin Board will serve to enhance the value of both instruments and supports, in principle, the objective of consistency between the two. Moreover, consistency with the Victorian Annual Planning Review is also supported. However, it should be noted that the planning environment is dynamic and new information becomes available from time to time. It will also be important to provide information that is as up to date as possible. Hence, consistency should not be at the expense of currency.

In addition, the EUAA supports consistency as far as practicable with the Electricity SOO and the National Transmission Network Development Plan, again with the qualification that consistency should not be at the expense of currency. This may be quite relevant if there is a lag between publication times of the different documents.

9. Information Gathering Powers

The EUAA acknowledges the significant data requirements implied by a GSOO of the form outlined in the consultation paper. The Association agrees that reliable data will be required on the following:

- reserves and production schedules;
- existing and proposed future gas processing capacity;
- pipeline interconnect transfer capacities;
- expectations of annual and peak day demand;
- location of major new point loads and proposed exports;
- information on spare capacity of existing pipelines, including spare or mothballed compressor plant;
- proposed changes to pipeline operation and capacity expansion;
- proposed changes to storage capacity operation; and
- gas storage development.

The EUAA considers that the ability to obtain such information is likely to be constrained unless it is backed up by equivalent powers to those set out in the NER for compilation of the Electricity SOO. The commercial sensitivity of such information is acknowledged. The

EUAA suggests that where appropriate (e.g. new pipeline capacity calculations and cost estimates) such data be generated by consultants or other commentators.

With regard to reserves adequacy, the EUAA considers that it will be difficult to define precisely because the situation will vary across producing areas. At any given time, some areas will be relatively well explored and perhaps in production decline but with extensive data on prospective target reservoirs. On the other hand, other areas will be less intensively explored with less available data. Appropriate commentary may be the solution. In this case, “one size does not fit all”.

Glossary

ABARE	Australian Bureau of Agricultural and Resource Economics
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ANTS	Annual National Transmission Statement, published by NEMMCO
APR	Annual Planning Report
CCGT	Combined Cycle Gas Turbine
DNSP	Distribution Network Service Provider
Electricity SOO	Electricity Statement of Opportunities
GMLG	Gas Market Leaders Group
GPG	Gas Powered Generation
GSOO	Gas Statement of Opportunities
IRPC	Inter regional Planning Committee, established under the NER
JPB	Jurisdictional Planning Body as defined in the NER
MCE	Ministerial Council of Energy
NEMMCO	National Electricity Market Management Company
NER	National Electricity Rules
NTNDP	National Transmission Network Development Plan
OCGT	Open Cycle Gas Turbine
STTM	Short Term Trading Market
TNSP	Transmission Network Service Provider

APPENDIX 1

Demand Zones³

Demand Zone	Description
Victorian Principal Transmission System (VIC)	Demand supplied off the Victorian Transmission system (PTS), includes demand on Western Transmission System, the Carisbrook to Horsham pipeline, on laterals that may extend into NSW. Exclusion: Net export via VicHub, the Interconnect or Iona withdrawals.
Tasmanian Gas Pipeline (TGP)	Demand supplied off the TGP within Tasmania Eastern Gas Pipeline (EGP) Demand supplied through the EGP including to the ACT and Sydney zones. Exclusion: flows via VicHub to the Longford-Melbourne pipeline or to the TGP.
Moomba to Adelaide Pipeline System (MAP)	Demand supplied through MAP system including all laterals and including the Adelaide demand zone.
Moomba to Sydney Pipeline System (MSP)	Demand supplied through MSP including its laterals, through Wilton CG and Canberra CG (Watson) but excluding any export flows to Victoria via the Interconnect.
SEA Gas (SEA)	Demand supplied through SEA Gas and its laterals or connecting pipelines including the ADL zone. Exclusion: Net flows on the day to Iona UGS and excluding flows to Iona via the Minerva to Iona pipeline.
Adelaide (ADL)	Demand supplied through SEA Gas CG (Cavan) and the MAP CG (Gepps Cross), including demand from the Torrens Island and Pelican Point gas powered generators and any other direct connected loads in the Adelaide area. Exclusion: deliveries to that part of Adelaide supplied via off-takes on the MAP upstream of Grepps Cross CG i.e at Taparoo and Elizabeth that can only be supplied from the MAP and, hence is not in the Adelaide 'hub'.

³ Industry Consultation Paper pp 13-14

Australia Capital Territory (ACT)	Demand supplied through either the EGP CG at Hoskinstown or the MSP-Canberra CG at Watson.
Sydney (SYD)	Demand supplied through the MSP CG at Wilton and the EGP CG at Horsley Park CG and EGP CG at Wollongong CG. Exclusion: The Smithfield and Port Kembla loads that can only be supplied from the EGP and, hence, are not in the Sydney 'hub'.
Roma to Brisbane Pipeline (RBP)	Demand supplied via RBP downstream of Wallumbilla to Brisbane including the Brisbane load and demand on laterals to the RBP and any other connecting pipeline loads supplied via the RBP.
Queensland Gas Pipeline (QGP)	Demand supplied via QGP downstream of Wallumbilla and to Gladstone extending to Rockhampton and Maryborough loads, all laterals to the QGP or connecting pipelines. Exclusion: Any net flow to Wallumbilla.
South West Queensland Pipeline (SWQ)	Demand on the SWQP west of Wallumbilla and to Ballera including that from the Cheepie to Barcaldine pipeline, any other laterals or connecting systems including any net deliveries to the Ballera zone on the day.
Carpentaria Gas Pipeline (CGP)	Demand downstream of Ballera including Mt Isa and demand on Cannington line or other laterals or connecting pipelines to the CGP, north of Ballera. Exclusion: Any net flows to the SWQP.
Ballera (BAL)	Deliveries to the Ballera locale including (any by-passes to the QSN Link or the CGP from the SWQP). Ballera is a production zone but is also treated as demand zone in respect to flows received from SWQP.