



**The Australian Gas Association**

**Submission to the Productivity Commission**

# **Review of the Gas Access Regime**

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# 1. Executive summary

The Australian Gas Association (AGA) welcomes the release of the *Issues Paper* prepared by the Productivity Commission for the *Review of the Gas Access Regime*. The gas access regime has critical impacts on regulated gas businesses, particularly gas distribution network (gas network) businesses that deliver gas to 3.5 million Australian households and businesses through around 75 000 kilometres of low to medium pressure pipelines, and gas transmission businesses comprising 20 000 kilometres of long distance high pressure pipelines.

Ensuring appropriate incentives for ongoing reinvestment in gas networks is particularly important given the approximate \$6.0 billion of sunk capital investment in existing gas networks, and ongoing capital investments of approximately \$250 million each year. Gas networks represent the largest single type of assets regulated under the regime, in both sunk capital value terms and the total length of networks. Hence it is of fundamental importance that outcomes under the regime provide appropriate incentives for ongoing reinvestment in network expansion, reinforcement, maintenance and upgrading.

The first six years of the operation of the gas access regime (including the National Gas Code) have highlighted some significant deficiencies in the regime which have the potential to lead to regulatory failure of the kind identified by the Productivity Commission in the *Review of the National Access Regime*. Following this recent review and the interim Commonwealth Government response there is a need to ensure consistency between the generic access framework and industry-specific regimes such as the National Gas Code. This will ensure the benefits of suggested improvements to third party access regimes are realised, in this case, in a regime with critical investment impacts on over \$10 billion of existing gas infrastructure.

The AGA and its members have identified ten core areas where the gas access regime could be significantly improved to avoid the risk of regulatory failure. In these ten areas the AGA, through a process of consultation with its membership, has developed specific proposals for improving the regime. The ten core recommendations that AGA makes in respect of the gas access regime fall in three broad categories:

- improving access pricing, regulatory guidance and accountability
- creating incentives for investment in new and existing infrastructure
- ensuring the appropriate scope, governance and administration of the regime.

The recommendations are briefly outlined below.

## ***Improving access pricing, regulatory guidance and accountability***

- **Insert a clear and appropriate objects clause in the regime** - the current regime does not have a clear and appropriate objects clause which defines the objectives sought by access regulation of natural monopoly gas infrastructure. This has resulted in a lack of clarity about the policy objectives of regulation, which has led to a lack of appropriate emphasis on incentives for investment in existing and new

assets. This lack of clear guidance has the potential to contribute to regulatory error and failure.

- **Insert clearer access pricing principles into the regime** - currently the National Gas Code does not contain a single clear set of access pricing principles to guide regulatory authorities and ensure access pricing decisions provide appropriate incentives for investment in existing and new assets. This leads to uncertainty about future regulatory outcomes, a high risk of regulatory error, and discourages efficient commercial negotiations on terms and conditions of access.
- **Broaden the range of access pricing models** – to provide for an effective choice from an expanded range of less intrusive and less costly access pricing models. This would allow for different network characteristics and market conditions to be recognised, and build on an existing principle of the National Gas Code that a service provider has the capacity to propose an Access Arrangement drawn from a set of alternative pricing approaches. The current narrow set of access pricing approaches, as applied by regulatory authorities, do not provide adequately for investment in new and existing infrastructure, contain poor incentives for efficiency, and have led to intrusive forms of cost-based pricing.
- **Include access to full merits review** – merits appeal arrangements are subject to unwarranted divergences and unnecessary delays due to inconsistent jurisdictional approaches and inappropriate provisions of the *Gas Pipelines Access Law*. The current regime does not allow for consistent merit appeal bodies hearing appeals on regulatory decisions, especially for gas network businesses, and does not promote timely merits review.

#### *Creating incentives for investment in new and existing infrastructure*

- **Better defining treatment of efficiency gains** - the National Gas Code does not provide for the fair sharing of efficiency gains over time, weakening incentives for regulated businesses to achieve ongoing efficiency gains. Service providers currently do not benefit at all from forecast efficiency gains, and typically retain only around 30 per cent of the benefits of any efficiency gains beyond those forecast.
- **Provide specific measures to facilitate new investment** – the current gas access regime and existing regulatory approaches represent significant barriers to new gas distribution network and transmission pipeline developments.
- **Provide for binding pre-investment rulings on proposed expenditure** - the current National Gas Code provides insufficient upfront certainty for proposed capital and non-capital expenditure, leaving an unacceptable (and uncompensated) regulatory risk of cost or asset optimisation for service providers in future regulatory price reviews.

#### *Scope, governance and administration of the regime*

- **Better targeting of the ‘coverage test’** - the current coverage test under Section 1.9 of the National Gas Code has resulted in a level of coverage of assets under

access pricing regulation for gas distribution networks and transmission pipelines that is inappropriate.

- **Ensure appropriate ‘associate contract’ provisions** – associate contract arrangements under the gas access regime need to be clearer, and these provisions must not result in unnecessary regulatory barriers to gas market growth.
- **Improve regime governance and amendment processes** – the current governance and amendment processes need amended to ensure they are accountable to all stakeholders, and to ensure an adequate separation between the role of governments in policy making and the role of regulatory authorities in applying the regime.

The AGA recommendations for changes to the regime are designed to ensure the gas access regime better reflects the medium term interests of existing and potential gas consumers in having access to a reliable and expanding gas distribution and pipeline network. The recommendations are designed to address specific deficiencies in the provisions of the National Gas Code which have become apparent over the first six years of its operation. The recommendations are also designed to provide a pathway and scope for movement to less intrusive approaches to access regulation in the future.

For each core recommendation the AGA has sought to provide practical examples and detailed evidence of the deficiencies identified in the relevant area during the operation of the regime, and details of their impacts on regulated gas businesses and the effectiveness of the regime.

In addition, each proposal contains a detailed recommendation section which includes specific potential amendments to the existing regime. The AGA and its members consider that, due to their direct experience under the regime and the nature of the sunk capital investments impacted by the regime, regulated gas businesses have significant expertise and a key role in proposing specific reforms to overcome deficiencies identified in the regime. In this way, AGA and its members intend to contribute constructively to potential solutions to these deficiencies, rather than providing only a critique of current arrangements.

## 1.1. Background

This submission responds to the Productivity Commission *Review of the Gas Access Regime – Issues Paper (Issues Paper)* released on 25 July 2003. The AGA represents the downstream sector of Australia's natural gas industry, with membership including gas distribution network and transmission pipeline companies. This submission principally represents the views of core AGA members owning regulated gas distribution networks, including:

- Alinta Ltd
- Allgas Energy Ltd/ENERGEX
- Country Energy
- Envestra Ltd
- Multinet Gas/United Energy
- The Australian Gas Light Company
- TXU.

Gas distribution businesses deliver natural gas to an estimated 3.5 million Australian households through distribution pipeline networks over 75 000 kilometres in length, mainly under urban areas. These distribution networks are valued at approximately \$6.0 billion, and each year gas distribution businesses undertake capital investments of approximately \$250 million in network reinforcement, expansion and extensions.

Attached are recent maps of gas distribution network and transmission pipeline infrastructure (**Annex A** and **Annex B** - noting that for gas distribution networks urban centres within the indicated areas are the principal locations of the infrastructure). Also attached (**Annex C**) is a schematic outline of the gas supply chain indicating the positions along the gas supply chain of gas network and gas transmission infrastructure.

## 2. Gas networks and the gas access regime

### 2.1 Impact of the regime on gas networks

The gas access regime has critical implications for adequate ongoing reinvestment in existing gas distribution networks.

Historically, one of the major focuses of debate regarding third party access regulation in the gas industry has been the need for the access regime to not have the effect of deterring new investment in transmission pipeline or distribution developments. This is a fundamentally important and legitimate concern.

Equally, however, an assessment of the effectiveness of the gas access regime must also consider the impact of the regime on critical ongoing reinvestment in existing gas infrastructure – including gas distribution networks and mature gas transmission pipelines.

Part of the initial impetus for the current review has been a growing consensus on the part of governments, regulated businesses, investors, and some regulatory authorities that the current gas access regime was not producing the correct incentives for new investments, and could be deterring some new investments. This emerging consensus is evident in the final recommendations of the *Review of the National Access Regime*, the interim Commonwealth Government response to that report, and the final recommendations of the Council of Australian Governments Energy Market Review.<sup>1</sup>

If the broad conclusion is correct that the current regime is not providing the appropriate incentives for new investment and may be deterring some investments, this also has major implications for reinvestment in existing distribution networks. That is, the potential for deterring appropriate investment in gas infrastructure assets is not a ‘greenfield’ issue alone.

Existing distribution networks and transmission pipelines are the product of investments made with *ex ante* expectations of at least commercial returns. If the current access regime is failing to provide adequately for new investments, then it follows that it is also potentially discouraging efficient and socially desirable reinvestment in existing networks and pipelines.

### Comparative sectoral coverage of the gas access regime

The gas access regime covers all significant gas distribution networks and most gas transmission pipelines in Australia.

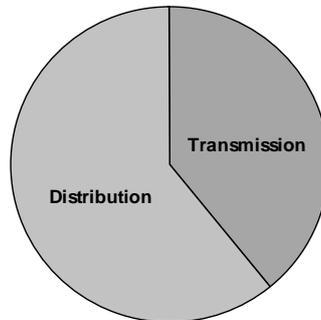
Due to the high value of existing sunk capital investments in gas distribution networks under the gas access regime, the regime has a proportionally greater impact on the gas

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<sup>1</sup> *Government Response to Productivity Commission Review of the National Access Regime* (2002), p.2 and *Towards a Truly National and Efficient Energy Market - Final Report of the Council of Australian Governments Energy Market Review*, December 2002, p.220

distribution network sector. Australia’s gas distribution networks are valued by regulatory authorities using a depreciated optimised replacement cost (DORC) value at around \$5.5 billion, compared to around \$3.5 billion of existing gas transmission pipelines subject to the core access pricing provisions of the regime (See [Figure 1](#)).

**Figure 1 - Value of Regulated Gas Infrastructure Assets - Gas Access Regime**



**Data:**

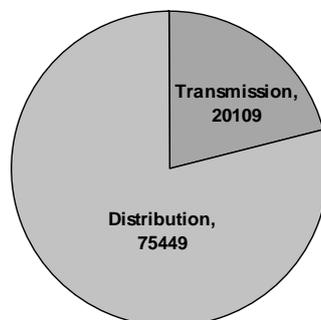
Asset class	Value of regulatory asset base (\$m)*
Distribution networks	5457
Transmission pipelines	3519
<b>Total</b>	<b>8976</b>

**Note:** Chart and table excludes distribution and transmission infrastructure not subject to access pricing regulation under the National Gas Code.

\* - values based on depreciated optimised replacement costs as assessed by various regulatory authorities in price reviews rather than historical or current market costs.

The critical importance of an appropriate gas access regime which promotes appropriate ongoing investment in existing gas distribution networks is reinforced when the comparative scale (on a per kilometre basis) of the gas distribution and transmission sectors is examined (see [Figure 2](#))

**Figure 2 - Total Length of Gas Infrastructure (km)**



## Evolution of the gas industry and the gas network sector

The downstream gas industry has changed significantly since the original competition policy reforms undertaken in the 1990s and this has critical implications for the evolution of the gas access regime.

Prior to the gas access regime gas network businesses were vertically integrated gas transportation and retailing businesses. Third party access has been in place since the introduction of the gas access regime in 1997 and gas transmission, distribution, retailing and trading businesses are now ring fenced and operate as independent commercial entities.

During the same period interstate barriers to trade in natural gas were removed and the South East Australian gas market has been interconnected through an emerging network of gas transmission pipelines. In some jurisdictions there has also been significant privatisation of formerly government owned gas and electricity assets. This has led to the emergence of energy companies with investments in gas and electricity, regulated and non-regulated activities, and with operations across state boundaries. Increasingly, such companies have a variety of national (and international) options as to where to invest.

As the Productivity Commission has detailed in its *Trends in Australian Infrastructure Prices 1990-91 to 2000-01* there have been substantial increases in competition in the downstream gas industry leading to lower prices, staff reductions and greater use of out-sourcing. The downstream gas industry as a whole has increased its overall efficiency significantly, with the major beneficiaries being major incumbent end users.

The potential for further large ‘one-off’ increases in efficiency following a decade of private ownership and competition policy reforms in the sector is limited. Increasingly investors are questioning whether investment in regulated energy businesses is worthwhile given current regulatory approaches which appear premised on lowering short term access prices on assumptions that large potential efficiency gains still remain possible.<sup>2</sup> The challenge for the current regulatory regime is to evolve from one focused on short term price reductions to one compatible with attracting long term capital investment to avert the risks and costs to the community of underinvestment in gas infrastructure.

## Role of reinvestment in existing networks

Reinvestment, or investment in existing distribution networks and transmission pipelines, can take a number of forms. These include:

- ***network reinforcement or capacity expansion*** – the expansion of the capacity of sections of the existing distribution network or pipeline to allow the provision of gas to new customers or geographic areas, or to meet increased demand from existing customers (for example, the replacement of distribution pipelines with

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<sup>2</sup> See for example, ‘Fund to focus all its energies on transport’, *The Australian* 30 July 2003.

larger diameter piping or piping capable of operating at higher pressures, or the addition of compression to transmission pipelines)

- **network maintenance** – ongoing maintenance to existing distribution network assets to ensure the safe, reliable and efficient operation of the network (for example, through the monitoring and addressing of gas leakage levels and planned replacement of degraded assets)
- **network upgrading** – capital investment to enhance the performance of the network, improve safety, lower future costs or provide enhanced services (for example, the replacement of large diameter cast iron mains with modern polyethylene piping).

Adequate reinvestment in gas distribution networks is critical to ensuring:

- new customers or areas (particularly areas in the outer urban fringe) can be provided with network services
- the responsiveness of the network to changes in geographic or other patterns of customer demand for network services
- network services can be provided most efficiently over the life of the assets
- network services can continue to be provided consistent with public safety
- the overall distribution network continues to operate reliably.

Ensuring adequate reinvestment in existing gas networks is therefore crucial to the ongoing delivery of safe, reliable, and efficient gas network services to the Australian community.

## **Impact of the gas access regime on past investment in existing networks**

The considerations discussed above suggest that ensuring that adequate incentives exist in respect of the treatment of reinvestment in existing gas infrastructure assets is likely to be of greater significance to the overall effectiveness of the gas access regime than its treatment of discrete greenfield investment projects.

As [Table 1](#) shows, gas distribution networks under the gas access regime face a higher number of regulatory price reviews (or ‘resets’) compared to other infrastructure classes subject to similar forms of access regulation or regulatory oversight. Over the operational life of its constituent parts, an average gas network may be subject to between 13-15 regulatory price reviews. Each of these reviews has the potential to have fundamental *ex post* impacts on the commercial decisions and expectations underpinning the original investment.

The treatment of existing assets by the gas access regime also involves some distinct theoretical issues from those involved in new investments. Judgements regarding new investments under the gas access regime are made against the backdrop of the existing access regime and expectations about how this regime is likely to evolve into the

future.<sup>3</sup> In the case of new investments currently undertaken, such judgements and expectations may be informed by experience under the almost six years of operation of the regime (including recent judicial determinations on some core provisions of the regime).

In contrast, every significant gas distribution network currently serving major Australian cities results from investments made prior to the implementation of the gas access regime. The weighted average effective (physical) life of assets contained in an average Australian gas distribution network is approximately 58 years.<sup>4</sup> The typical age of gas distribution assets is between 20-40 years, with a significant proportion of assets dating to the 1970s (when natural gas replaced town gas in a number of Australian cities). Prior to the introduction of natural gas a number of Australian cities were served by relatively limited networks distributing town gas (derived mainly from coal).

**Table 1 – Regulatory price review periods – selected infrastructure sectors**

Asset class	Average effective life of assets* (years)	Typical regulatory review period (years)	Potential number of regulatory reviews over asset life
Gas distribution networks	65-75	5	13-15
Gas transmission pipelines	65	5	13
Major airports	40-50	5 <sup>#</sup>	8-10
Electricity distribution networks	35-40	5	7-8
Fixed line telecommunications (e.g. PTSN)	25-40	3-4 <sup>##</sup>	6-13 <sup>##</sup>

\* - life of principal asset type used to deliver the relevant service (assessed on a physical/technical basis only).

# - refers to the current period of detailed price monitoring following which an assessment of the need to revert to cost-based access pricing regulation is to be made.

## - figures are approximate due to several significant changes in the regulatory framework from 1988 to 2003.

Assessing the *ex ante* expectations on which investment decisions were made several decades ago is a complex task. The application of a gas access regime to assets largely constructed over the past 20-40 years is thus problematic, as it involved impacts on historic ‘sunk’ capital for which *ex ante* expectations are difficult to establish. Nevertheless, some evidence of the relevant *ex ante* expectations may be drawn from the following observations:

- gas distribution networks in several Australian cities were originally constructed by private sector participants with clear expectations of receiving at least a commercial return on the investment over the life of the assets (e.g. Sydney, Newcastle, Perth, Canberra)
- where gas distribution networks were initially constructed by government owned bodies, many were subsequently corporatised and sold by State governments as

<sup>3</sup> The Western Australian Supreme Court considered some of the theoretical issues this presents in the context of the gas access regime in *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASC 231 [130] [149-154]

<sup>4</sup> Gutteridge Haskins and Davey *Report on Effective Lives of Gas Industry Infrastructure*, May 2001, p.20

economically viable network businesses capable of operating without ongoing government subsidies

- where government ownership of gas networks did exist, decisions as to investments in the network, levels of reinvestment, and network extensions were typically carried out using internal processes which had reference to some commercial indicators.

From these points it is clear that a public policy presumption must be made that the *ex ante* expectation of investors in long-lived gas network infrastructure over the past several decades was that investors would receive at least a commercial return on the assets over their lives. This presumption, and an understanding of the underlying property rights implications which flow from it, must underpin and inform judgements made by the Productivity Commission and governments regarding the future treatment of assets subject to the gas access regime.

## **Interaction of the gas access regime and reinvestment in networks**

Both the gas access regime and other legislative instruments have significant interactions with the considerable level of ongoing reinvestment required for the safe, reliable and efficient operation of gas distribution networks.

The most significant interaction is the implications of unbalanced access pricing outcomes (leading to medium term underinvestment) for adequate reinvestment in gas distribution networks. These issues are addressed in detail in **Parts 3.2-3** relating to access pricing principles and improved approaches to access pricing models.

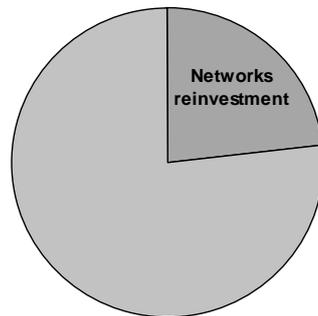
Each year an average of \$250 million of capital expenditure (capex) is undertaken by gas distribution network owners, the most significant proportion of which is spent on reinvestment in existing networks.<sup>5</sup> This means that significant capital investments are required on an ongoing basis. In a typical regulatory period (five years) up to 20 per cent of the value of the total regulatory asset base of existing distribution assets under the regime (valued using the DORC approach regulatory authorities typically use to approve access prices under cost-based methodologies) is upgraded, replaced or expanded through ongoing reinvestment (See [Figure 3](#)). Similarly, each year around \$300 million of operating and maintenance expenditure (opex) is spent on maintaining existing gas distribution networks.

Both of these reinvestments are made continuously in the context of a constantly changing market environment and developing regulatory trends. Therefore adverse impacts on reinvestment in existing assets are likely to begin accumulating relatively quickly following inappropriate regulatory approaches or outcomes. This is in contrast to the circumstance of a planned greenfield investment, where a greenfield investment may either proceed or be deferred in response to information on the likely regulatory treatment of the investment.

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<sup>5</sup> See [Table 5.8](#) in *AGA Gas Statistics Australia 2002*, February 2003, p.53

**Figure 3 - Reinvestment in Gas Distribution Network - per regulatory period**



**Source:** AGA Gas Statistics Australia 2002

**Note:** Area of the pie graph represents the total value of gas distribution networks (values based on depreciated optimised replacement costs as assessed by various regulatory authorities in price reviews rather than historical or current market costs).

However, while the adverse operation of unbalanced regulatory decisions or approaches may flow through relatively quickly to daily reinvestment decisions, due to the generally robust and long-lived nature of the existing assets, evidence of this impact may not manifest itself for many years or even within a decade.

Where long term degradation of the existing network does occur due to medium term under-investment, significant one-off capital investments are likely to be needed to be brought forward. As an example, AGL was required to invest around \$350 million in rehabilitating its medium and low pressure distribution system in the late 1980s and early 1990s due to the low level of capital replacement expenditure over a long period of operation under a previous heavily regulated control regime. The period prior to this expenditure was also characterised by a significant decline in service standards.

An access regime that facilitates adequate ongoing reinvestment in maintenance and network renewal will result in the most efficient and reliable delivery of services over the life of the network assets. These considerations highlight that a conservative, precautionary approach must be taken to ensuring that unbalanced regulatory approaches and short term price falls are not leading to costly underinvestment in existing assets over the medium term.

Capital investment in existing gas network assets falls into two broad categories:

- discretionary capital investment to meet demand growth
- mandatory investment to meet safety, technical and obligation to service requirements.

#### ***Discretionary capital investment***

A significant proportion (up to 80 per cent for some gas distribution networks) of capital investment in gas distribution networks is discretionary expenditure. This investment is driven by economic decisions made by network owners on an ongoing basis against the background of the current regulatory environment. Such decisions

may include whether to extend the networks at its margins, or whether to undertake a project to reticulate a previously unreticulated area within the existing network area (i.e. urban infill).

In addition, it is generally necessary to optimise the medium term efficiency of a gas network by investing at levels above the minimum requirement; and it is essential that asset owners not be discouraged from such optimisation.

### ***Impact of safety, technical, and obligation to service requirements***

Separate to the impact of the gas access regime on ongoing investment in existing assets, reinvestment in distribution networks is also significantly driven by a number of legislative and regulatory requirements. These include:

- safety requirements
- technical requirements
- mandatory obligations to provide services (e.g. obligation to offer connection).

These requirements all have the effect of imposing minimum levels of ongoing reinvestment in existing network assets and operations, that is, they impose non-discretionary capital and operating expenditure.

Mandatory obligations to provide services are a particular feature of some utilities (e.g. public roads, water, telecommunications and electricity). Gas distribution businesses are commonly subject to detailed and binding obligations to provide services by State and Territory requirements contained in distribution licenses and other regulatory instruments. A common requirement is to offer distribution network services to households or businesses within a certain minimum distance of the existing network.<sup>6</sup>

These obligations to serve (e.g. offer connections) in respect of gas distribution networks services are unusual, in that the obligation to serve is placed on the provider of a discretionary product, a fuel of choice, not an essential service necessary for the health or safety of a household.

The presence of a range of safety, technical and service obligations which effectively mandate certain levels of ongoing investment in new and existing assets reinforces the fundamental need to ensure access pricing outcomes adequately compensate service providers for the risks and costs of such investments. Access prices that do not fully compensate the asset owner for the risks and costs assumed in ongoing reinvestment in the existing network required to meet mandatory service obligations represent a breach of private property rights and potentially constrict growth in the market for gas.

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<sup>6</sup> The *Victorian Gas Distribution System Code* and gas distribution licenses monitored by the Victorian Essential Services Commission provide an example of such requirements. See <[www.esc.vic.gov.au](http://www.esc.vic.gov.au)>

## 2.2 Costs and benefits of the gas access regime

The gas access regime has had both significant costs and benefits to the Australian community during its operation.

The AGA considers that most governments, stakeholders and interested parties would broadly hold the view that open access under the gas access regime has played a positive role in contributing toward competition in upstream and downstream markets, which has led to significant benefits for the community. The AGA concurs with this view and for this reason does not advocate the removal of the gas access regime. For regulated gas businesses under the regime the most urgent priority is ensuring the identified deficiencies in the existing regime are addressed in an appropriate manner to enable the regime to operate more effectively (these areas of deficiencies and proposals to address them are detailed in **Parts 3-5**).

The costs and benefits of any regulatory regime, however, should be appropriately considered through time to ensure that regulation is not being applied where the costs outweigh the benefits, or that the specific form of regulation applied is not impeding efficient market based developments and outcomes.

### Assessing the costs and benefits

Any assessment of the costs and benefits of the gas access regime must recognise several key issues. In particular, it is important that an assessment recognises that:

- there is no ‘counterfactual’ to the imposition of the regime
- while assessing the direct costs of regulation is possible, the substantial indirect costs of access regulation are likely to be both more significant and more difficult to quantify
- the gas access regime was one part of an integrated package of gas market reforms and reforms to, in some cases, formerly government owned businesses
- the majority of benefits may have resulted from the commitment to ‘open access’ rather than the implementation of detailed access pricing regulation
- price falls to existing gas consumers are not necessarily equivalent to benefits to the community as a whole over the medium term
- economic transfers between market participants are not the same as benefits to the community.

These issues are briefly considered below.

#### *No counterfactual to the imposition of the regime*

There is no reliable means of assessing the benefits and costs of the current gas access regime against counterfactual (or ‘base case’) circumstances. In an area of complex market and regulatory interactions it is not possible to assess with any degree of precision whether a choice to not impose the regime would have led to greater benefits or costs than the development of the current regime.

## *Direct and indirect costs*

The AGA is able to provide details of the direct costs of the gas access regime on market participants in many cases. These costs may be quantified in a variety of ways using a range of methodologies (See [Information Box 1](#)).

### **Information Box 1 – Cost of regulation under the gas access regime**

Since the implementation of the National Gas Code the AGA has sought to highlight significant unnecessary costs in the operation of the Code, and its application by regulatory authorities. This has provided the AGA with a range of examples of the direct costs of the gas access regime on regulated gas businesses, energy users, governments, and the community.

**Cost of gas industry regulation study (July 2003)** – The AGA carried out a research project in July 2003 to measure the direct costs to governments of regulatory authorities administering the gas access regime. Using publicly available material the study applied a variety of approaches to estimate a range for the total cost of gas industry regulation. The study findings were that:

- the total cost of gas industry regulation (including market, access and licensing regulation on the transmission, distribution and retail sectors) on regulatory authorities is likely fall within a range of \$16.7-\$18.8 million per annum, with a minimum annual cost of around \$5.4 million for gas Access Arrangements alone
- if a 'rule of thumb' is adopted that the costs of regulatory authorities are likely to be at least equaled by those of service providers, this gives an indicative estimate of the total cost of gas industry regulation of between \$33.4-\$37.6 million per annum
- applying the same rule specifically in relation to gas access regulation results in a minimum total cost to all stakeholders of around \$59.4 million for the preparation, approval, monitoring and compliance costs of gas Access Arrangements since the commencement of the gas access regime
- the total cost of gas access regulation to all stakeholders is equivalent to approximately \$563 per industrial or commercial customer over 1997-2003, or \$17.70 per residential customer.

**Typical Access Arrangement costs** – The cost of preparing Access Arrangements has been a consistent area of concern for regulated gas businesses. The direct costs of preparing an Access Arrangement vary according to the size and complexity of the network or pipeline assets and the regulatory approval approach adopted by regulatory authority. Estimates provided to AGA by members indicate the following average direct costs to service providers for the preparation and approval of an Access Arrangement (noting any legal appeals can add significant additional costs):

- Small distribution network - \$150 000 to \$300 000
- Medium sized distribution network - \$500 000 to \$1.0 million
- Large distribution network - \$1.0 million to \$2.0 million

In its Annual Report of 2000-01 the WA Office of Gas Access Regulation reports as part of its performance assessment that the direct and indirect cost of regulatory assessment and approval of a (notional) 'reference' pipeline with a regulatory asset base of \$500 million was \$710 000. This indicative estimate would appear to be broadly consistent with the estimates reported above, on the basis that the regulated business and the regulatory authority are likely to expend comparable (though not necessarily equal) resources in the process.

The costs of Access Arrangements are mostly incurred during the period of approval and price review processes undertaken by regulatory authorities. In many cases, further estimates of the costs of such price review processes can be obtained by reference to distribution license costs (which in some jurisdictions act indirectly as a cost recovery mechanism). For example, in the financial year 2001-02, the Victorian Essential Commission levied \$4.6 million in gas industry license fees (up from \$1.2 million in 2000-01). A significant proportion of these increased costs were associated with the price review process which was then underway in respect of three Victorian gas distribution businesses.

**Survey of transmission pipeline compliance costs (1997-2002)** – The AGA collated reported expenditure by transmission pipeline businesses (including costs for external advice). For the last year that the survey was collected the accumulated expenditure by pipeline companies on the preparation and approval processes for Access Arrangements was \$13.0 million. This figure does not include expenditure by Epic Energy in relation to the preparation of its Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline and associated legal appeal. The survey also did not encompass the gas distribution network sector.

As the Productivity Commission emphasised in its *Review of the National Access Regime*, however, the indirect costs of access regulation are likely to be both substantial, and to outweigh any measurable direct costs. Indeed, it was the Commission's view about the risks of the indirect costs of regulation (including the risk of regulatory failure and medium term underinvestment in key infrastructure assets) that led to its overarching conclusion that access regulation should only be applied where there is likely to be clear and substantial benefits to the community.<sup>7</sup>

### ***Impact of wider market reforms and ownership changes***

The gas access regime has contributed towards increased upstream and downstream competition. Its impact, however, is often overstated by regulatory authorities. When assessing the costs and benefits of the regime regard must be had to the fact that the development of a third party access regime for gas pipelines and networks occurred as part of a wider Council of Australian Governments package of gas market reforms which also included as fundamental elements:

- removal of legislative barriers to interstate trade in gas
- a commitment to competitive reforms of the upstream gas sector
- full retail competition in gas.

The implementation of the gas access regime also occurred in the context of the sale of a number of significant government owned gas pipeline, distribution and retailing businesses. In assessing the benefits of the gas access regime, only one part of the wider reforms occurring in the gas industry through the 1990s, it is misleading to represent all of the benefits of these wider developments as being due the operation of the regime, as some regulatory and competition authorities have in the past.

There is a presumption amongst regulatory authorities that they are responsible for driving efficiencies in regulated businesses or improving service standards. However, regardless of the regime, private regulated businesses must still satisfy their shareholders and investors. This means making prudent business decisions, increasing efficiencies wherever possible and, notably in the case of gas, improving customer service to maximise customer retention and energy market share.

Each of the three reform elements listed above, together with the commercial imperatives flowing from predominantly private ownership of the gas industry since the 1990s, have led to efficient improvements and, in some cases, reductions in prices. While the development of an access regime played a role in promoting competition and efficiency benefits, it is not appropriate to attribute any identified increases in the efficiency of the gas industry as a whole to only one element of the reforms described.

### ***Open access and third party access pricing regulation***

An additional consideration is the difficulty of separating out the impacts of different elements of the gas access regime. The gas access regime in fact embodied at least three significant strands of reforms:

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<sup>7</sup> Productivity Commission (September 2001) *Review of the National Access Regime: Inquiry Report*, September 2001, p.94

- mandatory non-discriminatory ‘open access’ to gas networks and pipelines
- ring fencing obligations to enforce separation between monopoly and competitive activities
- detailed access pricing provisions to set default tariffs for access seekers.

It is important that in any assessment of the costs and benefits of the gas access regime, any identified benefits of the entire gas access regime are not inaccurately ascribed to only one strand of the regime, in particular, access pricing regulation.

These three strands of the current regime sought to address different issues and aspects of potential anti-competitive conduct. Vertical disaggregation and ring fencing, for example, sought to address issues of the possible use of monopoly behaviour to distort competition in upstream or downstream markets. Detailed access price setting (as it has developed under the current regime) has sought to address the perceived potential for monopoly pricing to occur. The concept of monopoly pricing in the case of gas is theoretically problematic, given the status as gas as a discretionary fuel which is subject to competition from electricity (particularly for residential and commercial applications).

As bodies whose principal responsibilities relate to the third strand, access price setting, most regulatory authorities typically emphasise the benefits of access pricing determinations in promoting competition, efficiency and benefits to the community. As interested and potentially direct beneficiaries of reductions in access prices, existing energy users also tend to emphasise the importance of access pricing regulation over the pro-competitive impacts of ‘open access’ and ring fencing.

It is unclear, however, whether both of these perspectives reflect an accurate assessment of the real drivers of competition and efficiency under the gas access regime. As an example, it is arguable that it is the commitment to non-discriminatory ‘open access’ to networks and pipelines that has actually underpinned retail competition in gas and the (limited) increases in upstream competition, by enabling access seekers and energy retailers to obtain guaranteed access to gas transportation infrastructure on transparent terms and conditions.<sup>8</sup>

### ***Reductions in access prices under the regime***

An important consideration in assessing the costs and benefits of the gas access regime is that examples of reductions in access prices under the regime are not conclusive evidence either that the regime is operating effectively, or that it is benefiting the Australian community over the medium term.

Sustainable price falls to end users that preserve the incentive to expand infrastructure services where it is viable to do so are clearly in the interests of the community, and supported by all regulated gas businesses.

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<sup>8</sup> See Commissioner Ed Willet ‘Security of gas supply in Australia – an ACCC perspective’, Presentation to International Energy Agency Workshop, 27 June 2003, p.3

It cannot be assumed, however, that all short term price reductions which have resulted from regulatory determinations under the gas access regime fall into this category. As the Productivity Commission has noted, the generic access regime may have led to an inappropriate emphasis on short term price falls to existing infrastructure users over the need for investment in new and existing assets over the medium term.<sup>9</sup> In this context, substantial reductions in access prices may well evidence systemic underinvestment which is likely to be extremely costly to the community, or illustrate the significant institutional imperatives operating on regulatory authorities to deliver short term price falls to existing users.<sup>10</sup>

The AGA contends that under the gas access regime there has been an undue emphasis on achieving short term price falls for existing users of gas infrastructure assets. This issue is considered further in the discussion in **Part 3.2** on the need for clear access pricing principles in the regime.

### *Economic transfers and gains to the community*

A final issue in relation to the assessment of the costs and benefits of the regime is the need to be clear regarding the beneficiaries of reductions in access prices, and to distinguish between net economic transfers, and benefits to the community.

Gas production businesses and incumbent gas users have been substantial beneficiaries of reductions in access pricing. Both of these sectors were strong advocates of the need to impose an access regime on gas networks and pipelines (but not associated bottleneck infrastructure such as gas processing facilities and production field gathering pipelines).

The (private) 'benefits' of regulation (i.e. falls in access charges) to these direct beneficiaries of the regime have been tangible, but are most accurately characterised as net transfers of income, rather than gains to the community as a whole.

The wider efficiency and competition benefits of an operating third party access regime can be significant. The magnitude of these benefits, however, is not necessarily equivalent to the net transfers arising in upstream and downstream markets to incumbent energy users and gas production businesses. The wider competition and efficiency benefits are likely to be diffuse and difficult to measure. Importantly, it is these wider competition and efficiency benefits - public benefits - that are relevant for the purposes of assessing the costs and benefits of the regime.

This point is illustrated by the potential for monopoly gas production businesses (operating with exemptions from the anti-competitive conduct provisions of the *Trade Practices Act*) to practice something akin to 'net back' pricing in relation to reductions in gas transportation tariffs on gas pipelines in Australia. This effectively results in a simple transfer of the value of reductions in gas transportation tariffs to the income of the gas production business or joint venture. The AGA understands that well-head price increases of this kind have effectively meant the capture of the value of tariff reductions in several significant cases across Australia.

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<sup>9</sup> Productivity Commission *Annual Report 2000-01*, February 2002, p.16

<sup>10</sup> Productivity Commission (February 2002), p.14

## **3. Improving access pricing, regulatory guidance and accountability**

### **3.1 Clear and appropriate objects clause for the gas access regime**

The current gas access regime does not have a clear objects clause which defines the objectives sought by access regulation of gas infrastructure. This has resulted in a lack of clarity about the policy objectives of regulation, which has led to a lack of appropriate emphasis on incentives for medium term investment in existing and new assets.

A clear and appropriate objects clause for the gas access regime would:

- replace inconsistent and contradictory guidance in the existing regime
- ensure regulatory authorities adequately considered the medium term interests of existing and potential gas users in ongoing investment in new and existing networks when making access pricing decisions
- facilitate efficient commercial negotiation on terms and conditions of access by giving greater guidance and certainty to asset owners, access seekers and other interested parties
- reduce the risk of regulatory error or inappropriate intervention, and increase regulatory accountability
- recognise ‘workable competition’ as the key competitive standard for the regime.

#### **Existing guidance in the gas access regime – object of regulation**

The Productivity Commission found in its inquiry into the national access regime an almost complete absence of possible guidance for regulatory authorities and regime participants on the objectives of regulation. This deficiency is not present in the gas access regime. Instead, in the gas access regime there is a profusion of possible sources for the objectives sought by the regime, and possible objectives of the regime. This creates a lack of clarity in the overriding objective of regulation, with consequent uncertainty and costs for regulated businesses, access seekers, regulatory authorities and the community at large.

Possible sources for statements about the objectives of the gas access regime include:

- Section 2.1 of the *1997 Natural Gas Pipelines Access Agreement* (and the identically worded non-binding preamble of the *Gas Pipelines Access Law*)
- judicial precedents under the gas access regime
- the non-binding overview section of the National Gas Code

- objectives defined in legislation of specific Commonwealth, State and Territory economic regulators which make decisions under the regime.

Importantly, the National Gas Code itself contains no formal or binding objects clause, despite the conflicting range of objectives suggested by the four sources listed above. The current lack of clear guidance about the fundamental objectives of the National Gas Code creates uncertainty and a lack of clarity for regulated businesses, and existing and potential users.

## **Ensuring promotion of medium term community interests**

Effective regulation must be focused on specific and carefully deliberated objectives. Regulation should target a specific potential problem in such a way as to lead to the least possible adverse consequences or unintended side effects.<sup>11</sup> A clear objects clause would assist in ‘rebalancing’ access regulation under the National Gas Code to providing more appropriate emphasis on the medium term interests of the community and potential users in having access to a growing and reliable gas network.

The Productivity Commission has identified the significant potential for a lack of clear guidance on the objectives of regulation to lead to outcomes contrary to the broad public interest. In particular, the Commission emphasised that an objects clause should not merely seek to outline an indefinite range of considerations underpinning an access regime, but seek to give guidance to regulatory authorities, access seekers and asset owners, and embody what the Hilmer Committee termed ‘policy judgements’. The Commission stated:

...the Commission considers it appropriate to give particular weight to ensuring that investment in essential facilities is not jeopardised. While it is unarguable that access can promote investment in markets using the services of essential facilities, such investment is contingent on preserving incentives to build or expand those facilities in the first place.<sup>12</sup>

Enshrining such judgements as objectives in the gas access regime would significantly increase the transparency, certainty and effectiveness of the regime. The lack of such clear guidance, and the conflicting inadequate sources of guidance current regulatory authorities rely on to inform decisions with critical infrastructure investment consequences, has led to decisions unduly focused on unsustainable short term price falls rather than decisions focused on ensuring adequate medium term investment.

## **Facilitating commercial negotiations and outcomes**

A clearer objects clause for the gas access regime would provide greater certainty for asset owners, access seekers and regulatory authorities about the outcomes sought by the regime and facilitate efficient commercial bargaining.

<sup>11</sup> Productivity Commission (September 2001), p.124

<sup>12</sup> Productivity Commission (September 2001), p.128

The increased certainty and clearer guidance an objects clause would provide has the potential to facilitate increased commercial negotiations and settlements on the terms and conditions of access. This was a critical goal of the gas access regime, which has not been realised during the operation of the Code. The original regime envisaged effective commercial negotiations based on:

- a right of access to a basic ‘default’ service on a fair and reasonable set of terms and conditions – as a backstop to commercial negotiations likely to involve more sophisticated and individually tailored agreements on price and service
- both the asset owner and the prospective user offering adequate information to facilitate fair commercial dealing – with an obligation on the service provider to prepare and make public an Access Arrangement Information to assist in this goal.

The application of the gas access regime has undermined these original elements of the regime, and gradually transformed the regime into one based on:

- access seekers not seeking commercial negotiations with regulated businesses, rather opting to rely exclusively upon a narrow range of regulator imposed Reference Services (service offerings) which are defined and developed by regulatory action as a proxy for outcomes of genuine commercial negotiations
- high levels of prescriptive information gathering from regulatory authorities, extending to information irrelevant to the establishment of default tariffs.

More adequate initial guidance about the objectives of the gas access regime may have prevented the significant transformation of the regime into one which has gradually substituted regulator-determined price setting and inflexible and prescriptive information requirements for light-handed regulation with the efficient commercial dynamic of active negotiations between access seekers and network owners.

## **Reducing the risks of regulatory error and failure**

A clear objects clause for the gas access regime is necessary to provide explicit guidance to regulators on the objective sought by the community through access regulation. Without clear guidance about the purpose of the access regime misapplication of the regime, and regulatory failure of the kind identified in the Productivity Commission’s review of the generic third party access regime, is virtually inevitable.

Regulatory error, overreach and failure are evident in many aspects of the operation of the current gas access regime, including:

- the adoption by regulatory authorities of unrealistic levels of theoretical precision in the application of cost-based access pricing methodologies such as the Capital Asset Pricing Model
- the imposition of access pricing regulation to market circumstances where actual or potential competition makes restrictive price regulation unnecessary

- the deferral, delay or cancellation of a number of greenfield gas distribution projects tendered under the provisions of National Gas Code, with the potential to serve approximately 370 000 potential gas consumers.

Clearer initial guidance from an objects clause that regulation was not designed to mimic perfect competition, nor extend beyond that necessary to facilitate ongoing investment in new and existing assets, may have contributed to the avoidance of such outcomes.

Clearer guidance from a binding object clause would also increase regulatory accountability. The community, which permits regulatory authorities to (in a defined range of circumstances) materially affect the fundamental property rights of asset owners, should be in a position to make ongoing judgements about whether regulatory bodies are achieving clear objectives defined by legislation, or whether their activities and decisions are falling short of the determined objectives. In addition, those service providers whose fundamental property rights are affected by the regime should have a similar capacity to seek to ensure (in conjunction with merits and judicial appeal arrangements) that the actions of regulatory authorities are lawfully taken in pursuit of a clearly determined legislative objective.

## **Recognising ‘workable competition’**

The lack of clarity regarding the overarching objective of the regime has been highlighted in critical judicial developments regarding the level of competition which the regime should seek to promote.

Since the introduction of the regime, regulatory authorities generally adopted an approach to applying the National Gas Code which effectively sought to replicate outcomes of theoretically perfect competitive markets - incorrectly interpreting into the National Gas Code an implication that allowable revenue from access prices should be ‘just sufficient to ensure continued service provision’.

This approach is inconsistent with the decision of the Western Australian Supreme Court in the Epic Energy case, illustrating the poor level of guidance on core issues regarding the objectives of regulation through the initial phase of the regime.

### ***Applying the regime to replicate ‘perfectly’ competitive markets?***

Regulatory authorities have generally interpreted Section 8 of the Code as supporting an approach to access pricing regulation which seeks to replicate the outcomes of a perfectly competitive market. While Section 8.1 refers to an objective of replicating a competitive market, the issue of the standard of competition it was practical and realistic to promote was left unresolved for the initial operation of the regime.

Evidence of the assumption by regulatory authorities that they should seek to achieve outcomes consistent with a standard of ‘perfect’ competition is contained in regulatory decisions and statements made prior to the Epic Energy case. For example,

the Victorian Essential Services Commission stated in relation to its gas distribution pricing review in 2002 that in relation to applying the principles in Section 8.1:

In reconciling these objectives, the Commission considers it appropriate for reference tariffs to be set *at a level that is just sufficient to ensure continued service provision*.<sup>13</sup> (emphasis added)

The approach which the Commission considered ‘appropriate’ effectively represented a form of short-run marginal cost pricing, since for a network service provider with significant sunk capital, uninterrupted service provision might be possible for significant periods even where substantial underinvestment is occurring.

An even more ambitiously precise approach is adopted by the Australian Competition and Consumer Commission (ACCC). In its *Draft Greenfields Guideline for Natural Gas Transmission Pipelines* the ACCC has signaled that it considers regulated reference tariffs represent the outcomes of a perfectly competitive market by stating:

...in principle a negotiated tariff would only be expected to be greater than a reference tariff to the extent that the service provider can exert market power.<sup>14</sup>

Both of these approaches have been invalidated by judicial statements and precedents in the *Duke Eastern Gas Pipeline* appeal and the Epic Energy case. In the Epic Energy case the Court determined in relation to Section 8.1 that:

...it would distort the words used to engraft a sense of “*no more than the efficient costs*” into s 8.1(a).<sup>15</sup>

Reconciling this judicial statement with the Victorian Essential Services Commission approach to access pricing which is focused on revenue being ‘just sufficient’ to ensure continued service provision is extremely problematic. The Australian Competition Tribunal (the Tribunal) in the *Duke Eastern Gas Pipeline* appeal delivered an equally powerful rebuttal to the ACCC’s contention that any difference in regulatory pricing outcomes and commercially negotiated tariffs represent the presence of market power when it stated in relation to this concept:

*This argument does not take sufficient account of the fact that regulation is a second best option to competition. The complex nature of the tariff-setting process, the number of assumptions it relies on, and the fact that the reference tariff is a publicly available price which may be varied by negotiation between the pipeline owner and user depending on the user’s requirements and conditions in the marketplace, all point to the fact that the reference price is not necessarily the price which would result from competition.*(emphasis added)<sup>16</sup>

The assumption by regulatory authorities that they were obliged, and had the necessary information and analytical skills, to seek to replicate outcomes from theoretically ‘perfect’ competitive markets was questioned by the Productivity Commission’s *Review of the National Access Regime*, and subsequently, the Supreme

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<sup>13</sup> Essential Services Commission *Review of Victorian Gas Access Arrangement – Draft Decision*, July 2002, p.45

<sup>14</sup> ACCC *Draft Greenfields Guideline for Natural Gas Transmission Pipelines*, June 2002, p.24

<sup>15</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [142]

<sup>16</sup> Australian Competition Tribunal: *Duke Eastern Gas Pipeline Pty Ltd* [2001] AcompT 2 [110]

Court decision in the Epic Energy case. As the Productivity Commission stated in its review of the generic access regime:

...regulators should not be too ambitious in their approach, and that governments should not place too great a level of expectations upon them. A sensible goal is to improve significantly on unregulated outcomes, while recognising that precision is not possible.<sup>17</sup>

In the Epic Energy case the issue of the standard of competition appropriate for regulatory authorities to have regard to in applying the gas access regime was a central issue. In this judicial precedent, a standard of ‘workable competition’ was adopted by the Court in analysing the legal errors made by the Western Australian Office of Gas Access Regulation in applying key sections of the National Gas Code. As an example, the Court noted that access pricing based on narrow assessments of ‘efficient costs’ was insufficient to discharge a regulatory authorities’ broader obligations to the legitimate business interests of the service provider by saying:

...in a workably competitive market past investments and risks taken may provide some justification for prices above the efficient level.<sup>18</sup>

A lack of clarity over the standard of competition which is sought to be encouraged by the gas access regime, and the inconsistency of the approach of regulatory authorities with judicial outcomes under the regime emphasises the need to ensure governments, regulatory authorities and market participants have a clear understanding of the objectives of the gas access regime.

## Recommendation

The AGA proposes that a future gas access regime incorporates a refined version of the objects clause for Part IIIA proposed by the Commonwealth Government in the interim response to the Productivity Commission *Review of the National Access Regime*. This binding objects clause would be the overarching guidance for regulatory authorities and others on the objectives of the regime. This proposal would see a objects clause such as set out below included in the National Gas Code:

‘The objective of the National Gas Code is to:

- (a) promote the economically efficient operation and use of, and investment in, essential infrastructure services, consistent with that which would occur in a workably competitive market, thereby promoting effective competition in upstream and downstream markets;
- (b) provide a framework and guiding principles for commercial arrangements and regulatory determinations; and
- (c) not to seek to replicate outcomes which would occur in a perfectly competitive market.

This object clause explicitly adopts the standard of ‘workable competition’ to provide improved guidance on the application of the access regime to regulatory authorities, service providers, access seekers and the general community.

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<sup>17</sup> Productivity Commission (September 2001), p.340

<sup>18</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [144]

## 3.2 Clearer access pricing principles

One of the principal weaknesses of the gas access regime revealed over its operation has been a lack of clear policy guidance to regulatory authorities on access pricing approaches.

Clearer access pricing principles in the gas access regime would:

- provide better guidance on how the objectives of the regime should be applied in determinations on access pricing by replacing inconsistent and contradictory guidance in the existing regime
- ensure a rebalancing of access pricing determinations and that these determinations adequately considered the medium term interests of existing and potential gas users in ongoing investment in new and existing networks
- facilitate efficient commercial negotiations on terms and conditions of access by giving greater certainty for asset owners, access seekers and other interested parties
- reduce the risk of regulatory error or inappropriate intervention, and increase regulatory accountability.

### **Existing guidance in the gas access regime – pricing principles**

There is a lack of clear guidance in the gas access regime about the principles which should underpin access pricing determinations. This lack of clarity is exacerbated by a variety of sections of the National Gas Code which set out a range of conflicting possible pricing principles. Sections 2.24 and Section 8.1-2, for example, set out no less than 18 different factors and considerations which must inform access pricing determinations. State based legislation establishing independent regulatory authorities frequently refer to additional principles that must be taken into account in pricing determinations.

#### *Existing provisions of the gas access regime*

Some of the objectives and considerations which regulatory authorities are required to take into account in approving proposed tariff policies are contained in Section 8.1. These objectives and considerations include:

- providing the service provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the reference service over the expected life of the assets used in delivering that service
- replicating the outcome of a competitive market
- ensuring the safe and reliable operation of the pipeline
- not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries
- efficiency in the level and structure of the reference tariff
- providing an incentive to the service provider to reduce costs and to develop the market for reference and other services.

In addition, under Section 8.2 of the National Gas Code, regulatory authorities must be satisfied that:

- the revenue to be generated from the sales (or forecast sales) of all services over the Access Arrangement period (the total revenue) should be established consistently with the principles and according to one of the methodologies contained in this Section 8
- to the extent that the covered pipeline is used to provide a number of services, that portion of total revenue that a reference tariff is designed to recover (which may be based upon forecasts) is calculated consistently with the principles contained in this Section 8
- a reference tariff (which may be based upon forecasts) is designed so that the portion of total revenue to be recovered from a reference service (referred to in paragraph (b)) is recovered from the users of that reference service consistently with the principles contained in this Section 8
- incentive mechanisms are incorporated into the reference tariff policy wherever the relevant regulator considers appropriate and such incentive mechanisms are consistent with the principles contained in this Section 8
- any forecasts required in setting the reference tariff represent best estimates arrived at on a reasonable basis.

Further, if the application and operation of the principles in Section 8.1 conflict in regards to proposed tariff policies, regulatory authorities are required to take into account Section 2.24 (which also must be taken into account in assessing any Access Arrangement).<sup>19</sup> Section 2.24 requires regulatory authorities to take the following matters into account:

- the service provider's legitimate business interests and investment in the covered pipeline
- firm and binding contractual obligations of the service provider or other persons (or both) already using the covered pipeline
- the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline
- the economically efficient operation of the covered pipeline
- the public interest, including the public interest in having competition in markets (whether or not in Australia)
- the interests of users and prospective users
- any other matters that the relevant regulator considers are relevant.

### ***Impact of existing contradictory guidance on pricing issues***

The wide range of provisions setting out no less than 18 considerations and principles for regulatory authorities to take into account in approving access prices has led to a lack of clear guidance on significant issues arising in access pricing, including:

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<sup>19</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [85]

- the appropriate priority or weighting that should be given to each of the 18 considerations and principles
- the appropriate definition of ‘efficient costs’ (if any meaningful definition is possible)
- whether proposed access prices should reflect outcomes which would occur in a perfectly competitive market or a workably competitive market
- what constitutes an incentive to reduce costs or develop markets for transportation services
- the ability of a regulatory authority to amend or reject proposed tariffs which are based on cost of capital assumptions that fall within a legitimate range established by international practice, market observation and econometric analysis
- the nature of the relationship between Section 8.1 and Section 2.24 in approving an Access Arrangement and proposed tariffs
- the ability of a regulatory authority to amend or reject proposed tariffs which are based on forecast costs or market conditions that fall within a legitimate range established by competitive processes, observation, historic costs, or market analysis
- the appropriate definition of ‘legitimate business interests’
- the appropriate definition of ‘economically efficient operation’.

A small number of these issues have been resolved or addressed by a number of judicial precedents including the *Duke Eastern Gas Pipeline* appeal and the Epic Energy case. The majority of the issues, and in particular issues of what weighting or priority should be accorded to each of the 18 considerations and objectives, remain unresolved. The lack of clear guidance places regulated gas businesses and regulatory authorities in an invidious position, where there is significant uncertainty over whether proposed tariffs or determinations on tariffs meet the policy objectives sought by third party access regulation.

As the Productivity Commission has noted, where a regulatory authority is required to interpret vague and conflicting pricing criteria, it is open to accusations that its own untested perceptions will drive decisions and undermine the achievement of balanced pricing outcomes.<sup>20</sup> The dual role of many Australian regulatory authorities as advocates on consumer protection issues and access pricing regulators is particularly significant in this context. As the Chair of the Productivity Commission has noted, institutional pressures can lead to regulatory authorities favouring delivering short term price falls to existing consumers over providing incentives for new investment or services for potential consumers.<sup>21</sup>

The Productivity Commission has stated that a solution to the perception of a bias in favour of short term price falls for existing infrastructure users is clearer access pricing principles for both the national access regime under Part IIIA of the *Trade Practices Act 1974* and industry-specific regimes such as the National Gas Code.<sup>22</sup>

<sup>20</sup> Productivity Commission (September 2001), p.139

<sup>21</sup> Banks, G. ‘Competition regulation of infrastructure: getting the balance right’, Presentation to IIR conference, 14 March 2002, p.10

<sup>22</sup> Productivity Commission (September 2001), p.338

## **Ensuring rebalancing of access pricing outcomes**

Clearer access pricing principles would assist in the rebalancing of access pricing outcomes under the gas access regime. Access pricing principles should provide guidance to regulatory authorities on the critical importance of ensuring ongoing investment in new and existing network and pipeline infrastructure.

### ***Experience with access pricing under the National Gas Code***

A key finding of the Productivity Commission *Review of the National Access Regime* was that the major risk incurred by the current framework and application of third party access regulation was that setting access pricing too low could deter new and ongoing investment.<sup>23</sup> The Commission identified a need to ‘re-balance’ access pricing outcomes towards facilitating new and ongoing investment rather than achieving short term price falls to existing consumers.<sup>24</sup>

The Supreme Court in the Epic Energy case, which addressed the application by regulatory authorities of the existing pricing provisions of the National Gas Code, reached a broadly similar conclusion to the Productivity Commission on the need to ensure access prices are rebalanced towards facilitating medium term investment. It noted:

...the expert evidence, including the supportive expert writings, suggested a growing awareness of the long-term disadvantages of striking the balance with too great an emphasis on the interest of consumers in securing lower prices, and without due regard to the interest of the service provider in recovering both higher prices and its investment.<sup>25</sup>

This is a particularly significant comment from the Supreme Court as its judgement represents the first judicial testing of the relevant provisions of the gas access regime.

An additional way of illustrating the potential scope of the need to rebalance access regulation is to analyse outcomes in a range of access pricing decisions made under the auspices of a number of industry-specific access regimes (See [Table 2](#)).

The Commission considered that re-balancing of access pricing regulation and outcomes was essential to ensure that the wider Australian community could access modern and growing infrastructure networks.<sup>26</sup> The Commission made clear that significant modifications to existing third party access regimes were required to address the issues it raised, and warned that the spectre of ‘regulatory failure’ and adverse consequences on investment from regulatory action were looming larger.<sup>27</sup>

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<sup>23</sup> Banks (2002), p.8

<sup>24</sup> Productivity Commission (February 2002), p.16

<sup>25</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [145]; see also Productivity Commission (February 2002), p.16

<sup>26</sup> Banks (2002) p.13

<sup>27</sup> Productivity Commission *Better Regulation of Infrastructure Needed*, Media Release - 14 February 2002 and Banks (2002) p.8

**Table 2 – Average revenue reduction in regulatory determinations in infrastructure sector**

Regulatory authority	Infrastructure business	Business proposed gross revenue (NPV\$bn)	Regulatory decision gross revenue (NPV\$bn)	Difference (NPV\$bn)	Difference (%)
IPART (1999)	AGL Gas Networks	4.1	3.5	0.6	14%
Office of the Regulator-General (2000)	Victorian electricity distribution businesses	12.7	11.0	1.8	14%
ACCC (2000)	Telstra PTSN	6.1	4.6	1.5	25%
ACCC (2000)	Eastern Australian Pipeline Ltd (Moomba-Sydney Pipeline)	1.0	0.7	0.3	33%
ACCC (2001)	Sydney Airport Corporation Ltd	2.8	2.3	0.5	18%

**Note:** Calculations based on regulatory decisions. This analysis assumes that gross revenue proposed or allowed in the final year of the regulatory period in question continues in perpetuity. Revenues are discounted using the WACC proposed by the businesses for that regulatory decision.

**Source:** NCEG *International comparison of rates of return: Comment on NERA report*, July 2001, p.20

The Productivity Commission relied strongly on evidence from the operation of the gas access regime in reaching these conclusions. Under the gas access regime, regulatory authorities have consistently pursued short term price falls to existing gas consumers (with first year ‘P<sub>0</sub>’ price adjustments in the last round of Access Arrangements of up to 9.9 per cent). These short term price falls have been achieved through significant reductions in recoverable operating and capital expenditure, and large initial reductions in the regulatory asset bases of service providers.

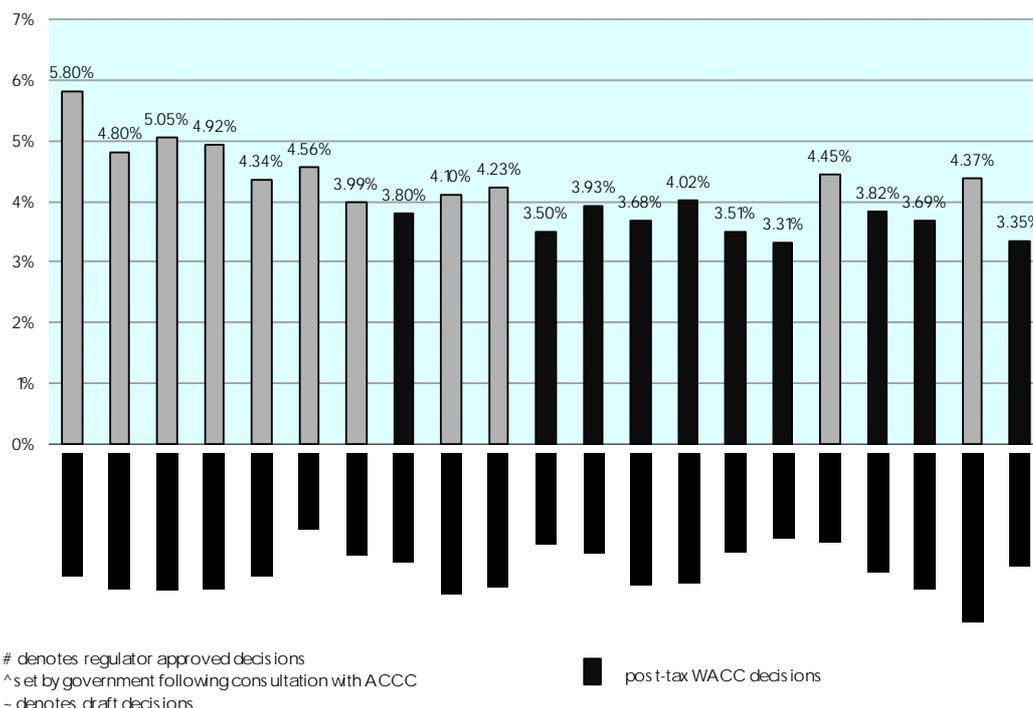
The dominant trend for regulatory determinations over the first six years of the regime has been initial large reductions in regulatory asset bases, followed by substantial reductions in recoverable operating and capital expenditure. This trend is evident from [Table 3](#) which summarises outcomes from the current round of distribution network Access Arrangements under the regime aggregated to a national level.

**Table 3 – Outcomes of distribution price reviews under the gas access regime**

Regulatory parameter	Proposed (\$m)	Regulator approved (\$m)	Average reduction (%)
Regulatory asset base	6142.7	5457.0	11.2
Capital expenditure	1431.2	1285.1	10.2
Operating expenditure	1772.3	1605.8	9.4

This trend is further exacerbated by a wider trend in infrastructure access pricing, which has seen a consistent decline in the cost of capital assumptions made by regulatory authorities (See [Figure 4](#) - a significant net decline even where, as in this diagram, full adjustment is made for generally reduced ‘risk free’ rates during the period).

**Figure 4 - Rates of returns allowed for revenue setting expressed as a premium over the real risk free rate prevailing at the time of the determination<sup>28</sup>**



## Facilitating commercial negotiation and increasing certainty

Clearer access pricing principles for the gas access regime would also provide greater certainty for asset owners, access seekers and regulatory authorities on the pricing outcomes sought by the regime and facilitate efficient commercial bargaining.

### *Promoting efficient commercial negotiations*

The increased certainty flowing from clearer access pricing guidance would serve to facilitate increased commercial negotiations and settlements on the terms and conditions of access. As previously noted this was a critical goal of the gas access regime, which has not been realised over the period of its operation. The original regime envisaged effective commercial negotiations based on:

- a right of access to a basic ‘default’ service on a fair and reasonable set of terms and conditions – as a backstop to commercial negotiations likely to involve more sophisticated and individually tailored agreements on price and service
- both the asset owner and the prospective user offering adequate information to facilitate fair commercial dealing – with an obligation on the service provider to prepare and make public an Access Arrangement Information to assist in this goal.

<sup>28</sup> See KPMG *Submission to the Essential Services Commission – Response to Draft Decision – Victorian Gas Access Arrangements* (prepared on behalf of AGA et al), August 2002, p.5

Under the current gas access regime commercial negotiation has been uncommon for the bulk of access seekers. Instead, access seekers have increasingly relied upon regulated default tariffs determined by regulatory authorities, and not entered into commercial negotiations with service providers. The role of the regulatory authority has expanded from the intended role of the regulator as a final arbiter of basic terms and conditions for a default transportation service. In the absence of clear access pricing principles and predictable access pricing outcomes regulatory authorities have instead become a ‘proxy’ tariff negotiator for large and small volume access seekers. This trend has also been encouraged by the role given to regulatory authorities under state legislation as consumer advocates.

There is a legitimate role for consumer protection bodies and regulatory authorities in ensuring the interests of infrastructure users without the detailed knowledge, commercial experience or economic interest to engage in commercial negotiations on access terms and conditions are adequately protected. In the case of significant access seekers (for example, energy retailing or large volume customers) commercial negotiations between access seekers and service providers should be facilitated. In these cases commercially negotiated outcomes are likely to:

- be cost effective for all participants
- increase economic efficiency by incorporating a more accurate and rigorous market valuation of significant network or pipeline services than possible through cost of service reviews
- encourage the development of a workably competitive market for individual service packages or tariffs for significant access seekers
- reflect the fundamental property rights of owners of existing gas infrastructure by allowing the more effective exercise of the right to commercially price valued services
- reduce the overall risk and impact of regulatory error and failure
- reduce the scope for regulatory gaming or opportunism on the part of some access seekers in relation to regulatory price reviews.

The advantages offered by commercial negotiation would ideally mean that greater numbers of larger volume access seekers and users would enter into commercially negotiated agreements on access terms and conditions.

### ***Increasing certainty for service providers by limiting regulatory discretion***

Clearer access pricing principles would also provide greater certainty for service providers about the possible range of outcomes under access pricing determinations.

The current provisions of the gas access regime confer wide discretion on regulatory authorities regarding the range of possible outcomes under the regime (see [Information Box 2](#)).

## Information Box 2 - Regulatory discretion under the National Gas Code

Under the terms of the National Gas Code a regulatory authority has the discretion to:

- value initial capital bases of existing assets outside of the range of depreciated optimised replacement costs and depreciated actual cost (Section 8.11)
- allow a service provider to retain either the entire benefit from anticipated efficiency gains, or no benefit under an efficiency incentive mechanism, or reject the establishment of any such incentive mechanism (Section 8.44)
- accept, reject or alter forecast capital expenditure underpinning tariff levels (Section 8.20)
- accept, reject or alter forecast operating expenditure underpinning tariff levels (Section 8.36)
- disallow the recovery of past capital expenditure (Section 8.16), allow recovery (either in part or full), or make a binding commitment on proposed capital expenditure<sup>29</sup>
- determine what rate of return is consistent with the prevailing conditions in the market for funds (Section 8.30)
- approve, reject or alter arrangements regarding the recovery of prudent discounts proposed by a service provider (Section 8.43).

Information Box 2 sets out some of the key discretions available to a regulatory authority under the detailed pricing provisions contained in Section 8 of the National Gas Code. Under the ‘General Principles’ contained in Section 8.1, some generic pricing guidance is provided. These ‘General Principles’, however, are extremely broad and offer no guidance to service providers regarding the range of possible pricing outcomes under the National Gas Code. For example, Section 8.1 (a) provides that a tariff policy approved by a regulatory authority should be designed with the objective of:

providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service.

This objective, however, is one of the eleven objectives outlined in Section 8.1-2 of the Code, and only one of 18 objectives and considerations contained in Section 8.1-2 and Section 2.24 (a section which must be considered wherever the principles outlined in Section 8.1 conflict).<sup>30</sup>

Section 8.1(a) is the only provision that provides any kind of guidance on the absolute level of access pricing. The guidance it provides, however, is minimal, as the concept of ‘efficient costs’ is one which is subject to high levels of contestability in third party access pricing. In the Epic Energy case the contestability of concepts that underlie access pricing in the Code was discussed at length. The Court stated that at the time most initial access pricing reviews were undertaken, there was no precise or agreed meaning to such key terms as ‘abuse of monopoly power’, ‘efficient costs’, ‘economically efficient operation’ or ‘economically efficient utilisation’, and that these terms were still subject to wide varying interpretations.<sup>31</sup>

As the Commission noted in relation to the national access regime:

<sup>29</sup> Subject to the limitations outlined in Part 4.3 of this submission.

<sup>30</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [85]

<sup>31</sup> *Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [106]

Thus, a key role of pricing principles is not so much to prescribe what should happen in a particular situation, but to rule out approaches and methodologies which would be inappropriate. More generally, even pricing principles which signal that a particular outcome could fall within a wide band provide, at least tacitly, some discipline on regulators to justify the outcome of a particular determination. For example, transparent pricing principles might allay concerns that a regulator will simply bring its own values to bear when setting the terms and conditions of access.<sup>32</sup>

The existing provisions of the regime, and their reliance on the notion of ‘efficient costs’, does not currently even present an indicative band of likely access pricing outcomes, imposing significant levels of regulatory risk and uncertainty on service providers.

## **Reducing risk of regulatory failures and error**

Clearer pricing principles would also lessen the potential for regulatory error, overreach and failure, clear risks identified in the Productivity Commission’s review of the generic third party access regime.

Clearer pricing principles in the gas access regime are necessary to provide better guidance to regulators on appropriate access pricing approaches to achieve broader objectives sought by the community through the implementation of access regulation. Without clear guidance as to the appropriate principles to apply in approving access prices misapplication of the regime and regulatory failure is virtually inevitable.

The risks of regulatory failure and misapplication to ongoing investment in gas network infrastructure are high. Access pricing determinations and approaches which are not guided by principles which clearly and appropriately emphasise these risks are likely to result in regulatory error and failure. The costs of regulatory errors under current cost-based pricing approaches (based on the Capital Asset Pricing Model), which rely on a range of parameters which are difficult or impossible to observe and subject to significant levels of uncertainty, are likely to be extremely high.

Table 4 sets out the potential risks of underinvestment which flow from access pricing decisions made by regulatory authorities using cost-based pricing. The network sector wide impacts of even limited errors in the highly uncertain and contestable parameters of the cost of capital and the appropriate value of the regulatory asset base are estimated in five alternate scenarios. The scenarios set out the potential for under-recovery of either actual or efficient costs (including a return on capital which will impact on investment decisions going forward) flowing from even relatively ‘small’ regulatory errors made in respect of only two of a number of assumptions regulatory authorities are required to make under cost-based pricing approaches. The estimates in Table 4 are derived using inputs from a collation of the current round of network access pricing decisions.

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<sup>32</sup> Productivity Commission (September 2001), p.142

**Table 4 – Underinvestment risks of errors in gas distribution network price reviews**

Scenario assumptions	Regulator approved value	True value (\$m)	Network sector under recovery / potential under investment per 5 years (\$m)
1. Base case – no errors in assessing cost of capital or regulatory asset base	Regulatory asset base: \$5457.0 million Cost of capital: 7.63% (vanilla)	Regulatory asset base: \$5457.0 million Cost of capital: 7.63% (vanilla)	0.0 million
2. 15% under valuation of regulatory asset base <sup>33</sup>	Regulatory asset base: \$5457.0 million	Regulatory asset base: \$6275.6 million	\$312.3 million (\$62.5 million per year)
3. True value of regulatory asset base midway between that proposed by businesses and granted by regulator	Regulatory asset base: \$5457.0 million	Regulatory asset base: \$5799.5 million	\$130.9 million (\$26.2 million per year)
4. Cost of capital is 10% higher than estimated by regulator	Cost of capital: 7.63% (vanilla)	Cost of capital: 8.39% (vanilla)	\$217.1 million (\$43.4 million per year)
5. 15% under valuation of regulatory asset base and cost of capital is 10% higher than estimated by regulator	Regulatory asset base: \$5457.0 million Cost of capital: 7.63% (vanilla)	Regulatory asset base: \$6275.6 million Cost of capital: 8.39% (vanilla)	\$560.5 million (\$112.1 million per year)

**Source:** AGA internal modeling. Values are calculated on a gas network sector wide basis using a simplified version of the capital asset pricing model and hence provide approximate estimates only.

Table 4 illustrates in an indicative sense the magnitude of the impacts of potential regulatory errors on the gas network sector as a whole. It is likely, however, that the risks and impacts of underinvestment created by potential regulatory error and failure will exceed the range of values indicated, as those values indicate the *ex post* impact of such errors and failures, not their impact on *ex ante* expectations and future investment decisions.

The Productivity Commission has highlighted the risks of regulatory error and failure extensively in the review of the generic access regime and relied upon substantial evidence drawn from the operation of the gas access regime. The Commission has stated, for example, that:

Information constraints and imperfect regulatory instruments mean that some degree of regulatory failure is likely in this area almost irrespective of how well regulators perform their task.<sup>34</sup>

A strong concern of regulated gas businesses which has been supported by the Commission is that regulators have attempted to impose an unrealistic level of precision in deriving access prices under the regime. The Commission has noted:

In relation to the level of prices, attempts to be too precise in removing the potential for service providers to earn monopoly rents carries significant risk for investment.<sup>35</sup>

and:

<sup>33</sup> The West Australian Office of Gas Access Regulation has noted that ‘reasonable estimates’ of asset valuations using the dominant DORC approach may vary in the order of  $\pm 20$  per cent around a central value. See OffGAR *Final Decision – Proposed Access Arrangement - Dampier to Bunbury Natural Gas Pipeline*, 23 May 2003 [130]

<sup>34</sup> Productivity Commission (September 2001), p.91

<sup>35</sup> Productivity Commission (September 2001), p.339

...when intervention occurs, it is important that regulators are not overly ambitious in their attempts to remove monopoly rent...access regulation must recognise the potential costs of a 'surgical' approach to rent removal and encourage regulators to focus on the more modest objective of reducing demonstrably large rents resulting from inefficient pricing or denial of access.<sup>36</sup>

As the Commission notes, these risks and costs have implications for the types of approaches regulatory authorities should employ in access pricing decisions:

These considerations suggest that regulators should not be too ambitious in their approach, and that governments should not place too great a level of expectations upon them. A sensible goal is to improve significantly on unregulated outcomes, while recognising that precision is not possible.<sup>37</sup>

The AGA contends that embodying the Productivity Commission's concepts discussed above into clearer access pricing principles which would provide service providers with some degree of certainty over the likely level of access prices would be a critical improvement in the overall gas access regime. Finally, the AGA notes that in the review of the generic access regime the governments of New South Wales, South Australian and Western Australian Governments and the Queensland Treasury broadly supported the concept of access pricing principles to limit undue regulatory discretion, and the principles developed by the Commission in the *Review of the National Access Regime*.<sup>38</sup>

## Recommendation

The AGA considers the following access pricing principles should be inserted into a newly created set of access pricing principles (to be contained either following any new object clause, or in any revised section relating to access pricing).

### Principles for Assessing Proposed Tariffs - Access Arrangements

The Relevant Regulator, where it considers it necessary to seek to reduce access prices that are inefficiently high, must have regard to the following principles:

- (a) that regulated access prices should:
  - (i) generate expected revenue across a facility's regulated services that is at least sufficient to meet the efficient long-run costs of providing access to these services;
  - (ii) include at least a return on investment commensurate with the regulatory and commercial risks involved.
  - (iii) generate revenue from each service that at least covers the directly attributable or incremental cost of providing the service.
- (b) that the access price structures should:
  - (i) allow multi-part pricing and price discrimination when it aids efficiency: and
  - (ii) not allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent that the cost of providing access to other operators is higher.

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<sup>36</sup> Productivity Commission (September 2001), p.94

<sup>37</sup> Productivity Commission (September 2001), p.340

<sup>38</sup> Cited in Productivity Commission (September 2001), p.329

### 3.3 Broadening access pricing approaches

The current models of access pricing as applied by regulatory authorities do not provide adequate rewards for investment in new and existing infrastructure, contain poor incentives for efficiency, and restrict the regime to intrusive forms of cost-based pricing.

A need has been widely recognised for some time for alternative, less intrusive access pricing approaches to be developed.

Providing an expanded range of access pricing options in the gas access regime would:

- give effect to the original intention of the regime to allow service providers to propose Access Arrangements incorporating a range of pricing models
- encourage the evolution of access pricing under the regime to less intrusive forms of regulation
- better recognise the diverse market circumstances of gas networks and pipelines under the regime (e.g. state of competition, scale of assets, potential emergence of competition)
- recognise the existing property rights of owners of sunk capital investments
- support the more effective operation of the ‘propose-respond’ model of access regulation contained in the regime.

#### Consistency with existing approach

The approach of the current gas access regime was to encourage service providers to propose an Access Arrangement based on a number of alternative models of access pricing. This useful theoretical principle allowed the possibility of regulated businesses proposing a set of access prices based on a three main approaches:

- cost of service
- internal rate of return
- net present value.

In the existing Gas Code, however, each of these approaches is defined in similar terms. Each derives a total revenue allowance for a service provider based on a forecast of costs and sales.<sup>39</sup> While the mathematical models underpinning these approaches vary slightly, they do not represent significantly different models, and each may be fairly easily transformed into the other. Importantly, all are underpinned by forecast costs and sales. That is, each of these alternatives is heavily cost-based.

Section 8.4-5 of the National Gas Code provides the notional right for service providers to select other methodologies to derive a ‘Total Revenue’ benchmark. For

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<sup>39</sup> National Gas Code, Section 8 *Overview*, p.48-50

two reasons, this provision actually acts as a restriction on the proposal by service providers of a range of more modern, alternative access pricing approaches, and a negation of the intended principle of the National Gas Code to allow service providers to propose alternative models of access pricing:

- First, Section 8.5 states that other methodologies may be used to derive a ‘Total Revenue’. This effectively constrains the ability of service providers to propose innovative alternative forms of access pricing by requiring any proposed form of regulation to result in a derivable total revenue. In many forms of access pricing that are not cost-based (and workably competitive markets) the artificial concept of a total allowable revenue to be recovered over the next regulatory period is not used. This is particularly the case in a range of less intrusive models such as productivity based indexing, and price monitoring. The derivation of a total allowable revenue is actually a feature of a quite specific and narrow type of cost-based regulation dating to developments in the United Kingdom in the early 1980s (or earlier, in the case of US style ‘rate of return’ regulation)
- Second, Section 8.5 requires that any resulting total allowable revenue which might be derived using an alternative access pricing model, must be able to be ‘expressed in terms of’ one of the three (cost-based) methodologies detailed in the Code. This requirement significantly compounds the restriction detailed above, by requiring access pricing outcomes derived from alternative models to be transformable to the existing cost-based model. This is likely to be difficult for any approaches not based heavily on firm-specific costs (an approach to access pricing regulation which both the Commission and governments have stated should be moved away from).

In practice these restrictions have prevented service providers from proposing Access Arrangements based on access pricing models that were not cost-based, and prevented regulatory authorities that might support less intrusive forms of access pricing regulation from approving alternative access pricing arrangements.<sup>40</sup>

Restrictions in the National Gas Code have effectively constrained movement by service providers to propose alternative access pricing approaches, and represent a key barrier to the evolution of the gas access regime to lighter handed less intrusive approaches to regulation supported by governments, the Council of Australian Governments Energy Market Review, and the Productivity Commission.

## **Encouraging the evolution of improved access pricing approaches**

Expanding the range of access pricing options would encourage the evolution of lighter handed, less intrusive, approaches to regulation.

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<sup>40</sup> An example of the restrictive impact of broadly equivalent provisions in the National Electricity Code was the stated inability of the (then) Victorian Office of the Regulator-General to approve a series of ‘price-service’ packages offered by an electricity distribution business in the 2000 *Electricity Distribution Pricing Review*, packages and outcomes that were developed, endorsed and approved by range of customer interests working in cooperation with the service provider concerned (See United Energy *Submission to the Office of the Regulator-General – 2001 Electricity Distribution Pricing Review*, December 1999 <[www.esc.vic.gov.au](http://www.esc.vic.gov.au)>)

The benefits of movement toward less intrusive forms of regulation, and access pricing models which do not solely rely on firm-specific costs, have been identified by a number of parties, including:

- competition law experts
- regulatory authorities
- State, Territory and Commonwealth governments
- regulated gas businesses
- the Productivity Commission – in previous inquiries.

Professor Stephen King has stated that the movement towards a reliance on actual or potential competition for access pricing regulation would potentially offer significant advantages over the current intrusive approaches adopted by regulatory authorities such as the Victorian Essential Services Commission.<sup>41</sup> Professor King has also stated that the currently applied restrictive approaches to access pricing regulation have the potential to undermine the benefits of microeconomic reform in the infrastructure sector.<sup>42</sup>

Regulatory authorities have also supported the need for an evolution in regulatory approaches to non cost-based forms of access pricing. In the recent inquiry into the national access regime the NSW Independent Pricing and Regulatory Tribunal noted that the theory and experience of cost-based regulation indicated that regulatory failure was a substantial risk:

The history of cost plus regulation is replete with examples of heavily regulated utilities that exhibit low levels of efficiency, poor investment practices and below average service performance. Both theory and experience indicate that repeated frequent confiscation of the benefits of efficiency improvements combined with uncertainty over future regulatory actions will lead to poor performance and welfare loss.<sup>43</sup>

This conclusion should be carefully weighed as originating from a regulatory authority with a history of responsibility for regulating significant gas networks under the gas access regime.

Australian governments have also signaled support for improved models of access pricing and an evolution away from a reliance solely on cost-based forms of access pricing regulation. The NSW Premier has stressed that in respect of infrastructure assets there was a need to:

...focus more on an investment mindset than one of “heavy-handed” regulation. There is a case for moving from a regulatory mindset to an investment mindset.

Although network and gas infrastructure regulation was not the dominant areas of its considerations, the Council of Australian Governments Energy Market Review also commented on the need to move from purely cost-based approaches to improved

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<sup>41</sup> Dr Stephen King, Presentation to ACCC Conference *Incentive Regulation*, 18 November 2000, p.9

<sup>42</sup> Cited in Productivity Commission *Review of the National Access Regime – Position Paper*, March 2001, p.212

<sup>43</sup> Independent Pricing and Regulatory Tribunal, *Position Paper*, 1999, p.13

methods. Commenting on the high level of debate on network and access pricing regulation, the draft report of the Energy Market Review noted that:

This debate would be most effective if it focused on moving regulation to a less intrusive form. This may best be brought about by giving further consideration to regulators relying more on industry wide rather than detailed company specific information.<sup>44</sup>

Since the first regulatory decisions under the gas access regime made clear the heavy handed and narrow manner in which the regime was capable of being applied by regulatory authorities, regulated gas businesses have consistently called for the implementation of genuine light-handed regulation. No Australian gas distribution network or pipeline company supports the current cost-based approach, as narrowly applied by State, Territory and Federal regulatory authorities.

The Productivity Commission, in its *Review of the National Access Regime*, made a series of points on the need to implement improved access pricing methodologies. The review of the gas access regime offers the first practical opportunity to take these recommendations forward in an industry-specific regime, and capture the benefits of an evolution in access pricing approaches. The Commission noted:

Thus, from a future policy perspective, a more fertile ground for discussion is the scope for price monitoring and incentive regulation — such as non cost-based price caps — to supplant or augment cost-based price setting.<sup>45</sup>

The Commission also suggested in respect of externally based price caps:

...that regulators should give priority to developing the external productivity benchmarks necessary to implement such approaches, noting that, in evaluating the success of such approaches, the benchmark should not be whether they lead to fully efficient outcomes, but whether they could deliver an acceptable level of improvement on the (likely) unregulated outcome.<sup>46</sup>

As the Commission noted, some limited investigation and trialing of some approaches which do not require full ‘building blocks’ cost of service resets has been undertaken by some regulatory authorities. Given the strong reliance these limited innovations still place on firm-specific cost benchmarks, regulated gas businesses lack confidence in the potential for, and the appropriateness of, regulators driving innovation in access pricing approaches. In its final report the Commission also indicated that it considered that more than an incremental, regulator-driven approach was required:

‘Thus, the Commission considers that a concerted effort is required to enable a reduction in the explicit role of costs in setting access prices. A number of the Commission’s recommendations in early chapters call for collaborative action by the Commonwealth, States and Territories. The Commission considers that this is another matter that would need to be jointly progressed. Accordingly, while not directly relating to the Part IIIA legislation, the Commission makes the following recommendation:

#### RECOMMENDATION 12.2

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<sup>44</sup> *Towards a Truly National and Efficient Energy Market - Draft Report of the Council of Australian Governments Energy Market Review*, November 2002 p.10

<sup>45</sup> Productivity Commission (September 2001), p.340

<sup>46</sup> Productivity Commission (September 2001), p.346

*The Commonwealth, States and Territories, through the Council of Australian Governments, should initiate a process to develop further the productivity measurement and benchmarking techniques necessary for regulators to make greater use of productivity-based approaches to setting access prices.*<sup>47</sup>

The AGA considers that given the wide consensus on developing improved access pricing approaches expressed by regulated businesses, governments, independent reviews and competition law commentators over the past several years there is a need for practical action to seek to progress the concept. The review of the gas access regime provides just such an opportunity.

## **Better recognising diverse market circumstances**

Providing scope under the gas access regime for a range of alternative access pricing approaches would also enable the regime to better recognise diverse market circumstances and calibrate the type of possible regulatory oversight to individual market conditions.

Gas distribution networks and transmission pipelines operate in a variety of market contexts across Australia, which makes the adoption of a single cost-based approach unnecessarily costly and unwarranted. These market contexts differ according to:

- level of competition from existing fuel types (including electricity and fuels such as LPG or wood) or competing pipelines
- physical scale of network or pipeline assets – which may impact on the cost effectiveness of various forms of access pricing regulation
- level of utilisation of network or pipeline assets – which reflects the level of and the potential for inter-fuel competition
- level of vertical integration of the relevant gas infrastructure owner.

Table 5 provides an indicative summary of the market circumstances of a number of gas distribution networks in Australia. Even as an indicative summary, it highlights the large differences in the market circumstances of Australian gas networks. Regulated gas businesses consider that an appropriate regulatory framework must recognise these differences and apply models of access pricing that are appropriate to individual market circumstances. The current gas access regime, as applied by regulatory authorities to date, does not provide adequate recognition for these varying market contexts.

Providing a wider range of less intrusive and costly approaches for use under the gas access regime would better provide for lighter handed regulatory oversight of smaller gas networks, or gas infrastructure assets which face high levels of competition from existing fuels (for example, through price monitoring). Where gas networks feature higher levels of usage, and operate in an arguably more ‘mature’ market context, other more detailed forms of price caps or cost-based approaches may be seen as more appropriate by the service provider proposing an Access Arrangement, and other market participants and stakeholders.

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<sup>47</sup> Productivity Commission (September 2001), p.351

**Table 5 – Indicative summary of market circumstances - selected Australian gas distribution networks**

Gas distribution network	Level of competition from existing fuel types	Scale of network assets (km)	Network customers	Level of utilisation of network assets
Victorian network	Medium	25 000	1 562 000	High
New South Wales network	High	22 500	860 000	Medium
Perth network	High	11 000	420 000	Low
South Australian network	High	6 800	332 000	Medium
Queensland network	Very high	4 300	138 000	Low
Australian Capital Territory network	Medium	3 500	81 000	Medium
Tasmanian network	Very high	<100	<100	Low (when constructed)

The Commonwealth Government has strongly supported the need for access regimes and access pricing approaches to recognise diverse market circumstances. In the Commonwealth Government interim response the *Review of the National Access Regime* the Commonwealth proposed alterations to the Productivity Commission’s recommended access pricing principles for Part IIIA of the *Trade Practices Act*:

The two principles proposed by the PC would also risk unduly restricting the regulatory approach, by limiting a decision-maker’s scope to introduce or retain alternatives such as price caps or benchmarking. *These alternatives may be more appropriate than cost-based approaches for accommodating a particular market’s individual characteristics.*<sup>48</sup> (Emphasis added)

Providing scope for a range of alternative access pricing approaches which recognised the different levels of competition and market development across the assets covered by the gas access regime would lead to significant improvements in the responsiveness, efficiency and cost effectiveness of the regime.

### **Recognising existing property rights of owners of sunk capital investments**

Allowing a broader range of alternative access pricing approaches to be adopted by service providers also recognises the existing property rights of owners of sunk capital investments.

A fundamental property right of asset owners is to seek to price services based on the use of their assets. The existing National Gas Code partially recognises some existing property rights of asset owners by allowing a service provider to propose an Access Arrangement setting out default terms and conditions of access, but as noted

<sup>48</sup> *Government Response to Productivity Commission Review of the National Access Regime* (2002), p.5

previously, detailed provisions of Section 8 limit the actual scope for the exercise of this ability.

Providing a greater range of alternative access pricing approaches would better recognise the underlying property rights of private sector investors in ‘sunk’ capital intensive assets, while not detracting from the need for regulatory oversight in cases where there was substantial risk of exercise of market or monopoly power.

## **Maintaining the ‘propose-respond’ model**

Providing an expanded range of access pricing options in the gas access regime would also maintain the valuable ‘propose-respond’ model embodied in the current regime.

The propose-respond model is established by Sections 2.1-2.52 of the National Gas Code (similar general provisions are contained in the sections of the *Trade Practices Act 1975* in relation to access undertakings). It provides that a service provider can propose terms and conditions, including default transportation tariffs, to be applied for third party access. Under the propose-respond model, a regulatory authority must assess whether the proposed Access Arrangement meets the requirements of the gas access regime. Under such a regime, the regulatory authority should ideally respond to the proposed Access Arrangement developed by the service provider who has detailed knowledge of the assets subject to access regulation, and the historical commercial and operational matters vital to the business.

### ***‘Propose-respond’ model under the gas access regime***

The proposed-respond model functions most effectively where Access Arrangements proposed by service providers are assessed by regulatory authorities with a clear recognition of the individual commercial and operational context of the network or pipeline, rather than with any pre-determined views of outcomes and approaches which should be pursued. In the gas access regime, unfortunately, regulatory authorities have commonly assessed proposed Access Arrangements for gas distribution network assets in a similarly narrow procedural manner to that applied in pricing reviews for electricity distribution assets (which they also commonly regulate) under the extremely prescriptive National Electricity Code which does not feature the propose-respond model.

Under the gas access regime as currently applied by regulatory authorities the significant benefits of the propose-respond model have not been effectively realised, due to an approach to access pricing in which service providers must effectively adapt proposed Access Arrangements to fit a narrow, constrictive view of what is an appropriate arrangement. Final and Draft Decisions issued by regulatory authorities in what are designed to be consultative processes on the consistency of a proposed Access Arrangement with the National Gas Code often prescribe the adoption of precise access pricing parameters, approaches and allowable future revenues, rather than respond to the proposed Access Arrangement and its consistency with the Code. This has led to increasingly lengthy, prescriptive, costly and time consuming

decisions. Table 6 illustrates in a basic form the impact of this approach on the length and detail of regulatory pricing determinations.

**Table 6 - Regulatory determinations – gas distribution networks (1997-2003)**

Regulatory authority	Network	Date of determination	Number of pages
Victorian Office of the Regulator-General	Victorian gas distribution networks (Envestra, TXU Networks, United Energy)	October 1998	237
NSW Independent Pricing and Regulatory Tribunal	Albury gas distribution system	December 1999	106
Office of Gas Access Regulation	AlintaGas distribution systems	June 2000	208
NSW Independent Pricing and Regulatory Tribunal	AGL Gas Networks	July 2000	284
ACT Independent Pricing and Regulatory Commission	ACT, Queanbeyan and Yarrowlumla gas distribution systems	November 2000	199
Queensland Competition Authority	Queensland gas distribution networks (Allgas Energy, Envestra)	October 2001	385
South Australian Independent Pricing and Access Regulator	South Australian gas distribution system	December 2001	288
Victorian Essential Services Commission	Victorian gas distribution networks (Envestra, TXU Networks, United Energy)	October 2002	445
<b>Total</b>			<b>2152</b>

**Note:** Table includes only final regulatory determinations and excludes all consultation and issues papers typically released through the review process. In addition the table excludes draft determinations which are usually of comparable length to the final determination.

Regulatory authorities have also sought, in a series of recent decisions, to prescribe that an increasing range of new and ancillary services should be available in addition to the basic default service which was originally intended to be available to any third party access seekers. This development suppresses commercial incentives to develop innovative services, potentially leads to errors in the valuation of services that may result in misallocation of resources, and moves regulatory authorities beyond their area of competence into seeking to develop and value service offerings and anticipate market developments.

### *Improving the ‘propose-respond’ model*

The narrow, forensic approach described above limits the overall effectiveness of the propose-respond model, and highlights the need to strengthen its application.

A key advantage of maintaining the propose-respond model is that it does not rely on regulatory authorities developing both the level and structure of access prices, but utilises the service provider’s own commercial, operational and technical experience. As the Commission noted in respect of access pricing under the generic access regime, there is a need for regulatory authorities in assessing access pricing issues not to engage in regulatory overreach:

These considerations suggest that regulators should not be too ambitious in their approach, and that governments should not place too great a level of expectations

upon them. A sensible goal is to improve significantly on unregulated outcomes, while recognising that precision is not possible.<sup>49</sup>

The Commission also supported a key feature of an effective propose-respond model, the ability of a service provider to develop their own price structures which reflect commercial judgements:

Because the structure of prices is important, instruments that allow service providers to develop their own price structures are likely to be preferable to those where the regulator is required to impose a structure.<sup>50</sup>

Whilst the National Gas Code sets out a framework for an effective propose-respond model, its operation can be made more effective by changes to Section 2.1-2.52 which better reflect the benefits of a service provider developing default access terms and conditions and regulatory authorities focusing their activities on ensuring the consistency of proposed Access Arrangements with the objectives of the regime.

## Recommendation

Revisions necessary to provide a broader range of access pricing models and strengthen the operation of the propose-respond model would require substantial and detailed changes to both Section 8 and Section 2. Suggested revisions are not contained in this document, but the AGA has undertaken detailed development work on the types of kind of amendments that would be necessary to implement the recommended changes.

In any revised Section 2 and 8 of the National Gas Code there would be the following elements:

- refinements to ensure the effective operation of the ‘propose-respond’ model
- enshrining of the right of a service provider to select from a range of access pricing models
- a number of acceptable access pricing models (additional to the cost based methodology already in the National Gas Code)
- descriptions of key features of access pricing models
- details of any specific rules or modalities applying to particular access pricing models
- retention of the option for a service provider to use the existing cost-based model.

### *Broader range of access pricing approaches*

A rewritten Section 8 of the National Gas Code should allow the regulated gas business to select from a broader range of additional access pricing approaches, including:

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<sup>49</sup> Productivity Commission (September 2001), p.340

<sup>50</sup> Productivity Commission (September 2001), p.340

*(a) Non-cost based approaches*

- price monitoring
- price-service offerings
- productivity-based index approaches (e.g. TFP index).

*(b) Cost-based approaches*

- ‘sharing of gains’ model.

Many of these approaches are already used in the regulation of natural monopoly and bottleneck infrastructure other jurisdictions. [Table 7](#) illustrates the diverse range of access pricing methodologies currently in operation.

**Table 7 – International access pricing approaches**

Jurisdiction	Infrastructure sector	Type of regulation
Australia	Major airports	Price monitoring and information disclosure
Spain	Electricity distribution	Revenue cap based on economic engineering analysis and benchmarking
Netherlands	Electricity distribution	Price cap based on frontier ‘benchmarking’ (data envelopment analysis)
New Zealand	Energy distribution and transmission	Price monitoring and information disclosure
United States	Railways Telecommunications Gas and electricity networks	Price cap based on productivity-based index

Further details of the operation of these approaches are outlined in [Appendix A](#)

## 3.4 Access to effective appeal mechanisms

Access to effective appeal arrangements is a fundamental element of any effective access regime.<sup>51</sup> The current gas access regime does not provide for consistent and effective merits appeal arrangements, particularly for gas distribution businesses. The existing appeal mechanisms in the gas access regime:

- are subject to inconsistent appeal bodies between State and Commonwealth jurisdictions
- may in the case of merits review only be effectively triggered following the redrafting and application by the regulatory authority of an Access Arrangement on behalf of a service provider.

### Role of effective appeal arrangements

Appeal mechanisms play a critical role in administrative and legislative frameworks across society. Robust and effective appeal mechanisms (including both judicial and merits-based review) are critical components of effective third party access frameworks for a number of reasons. Appeal mechanisms:

- improve accountability in regulatory decision-making and frameworks
- assist in the transparency of regulatory decisions and decision-making processes
- clarify and inform the operation of legal frameworks through the development of precedents which provide greater predictability in future decision-making
- reduce the risks to the community and service providers of regulatory error and failure
- recognise the continuing property rights of owners of sunk capital investment
- underpin private sector decisions to invest in new and existing long-lived capital assets.

The Productivity Commission has previously resolved that as a core principle, third party access regimes must feature effective appeal mechanisms.<sup>52</sup> Regulated gas businesses strongly concur with this position.

### Appeal mechanisms under the gas access regime

Current appeal bodies under the gas access regime are inconsistent between some jurisdictions, and the right to merits-based review is potentially limited until well past substantive elements of the regulatory decision-making process have been completed. [Table 8](#) provides a summary of a number of major past and pending appeals under the gas access regime.

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<sup>51</sup> See Productivity Commission (September 2001), p. 245 and p.273

<sup>52</sup> Productivity Commission (September 2001), p. 245 and p.273

**Table 8 – Major regulatory appeals under the gas access regime**

Date	Title	Type of decision	Appeal body	Issues raised
May 2001	Duke Eastern Gas Pipeline appeal	Coverage decision	Australian Competition Tribunal	- Application of coverage criteria - Pipeline competition
August 2002	Epic Energy appeal	Pricing review	Supreme Court	- Setting capital base - Factors to consider in regulatory decisions - 'Workable competition'
In progress – August 2003	GasNet appeal	Pricing review	Australian Competition Tribunal	- Cost of capital parameters
Pending	Moomba-Adelaide Pipeline appeal	Pricing review	Australian Competition Tribunal	- Application of existing pricing and public policy provisions

***Unwarranted divergence in the nature of appeal arrangements***

Appeal mechanisms in the gas access regime are principally governed by the Council of Australian Governments *Natural Gas Pipelines Access Agreement*, the *Gas Pipelines Access Law*, and the terms of the National Gas Code.

Since the introduction of the gas access regime some elements of these original arrangements have been impacted by a range of State specific legislation related, in particular, to the establishment of independent regulatory authorities.<sup>53</sup> State specific legislation establishing these bodies has in some cases impacted on arrangements relating to the appeals bodies available to regulated gas distribution businesses, and presents an ongoing risk of inconsistency in what was intended to be a national regime.

As provided for under the original regime, all gas transmission businesses (except those operating in Western Australia) have access to the Federal Court for judicial review and the Australian Competition Tribunal for merits-based (administrative) review.<sup>54</sup>

For some gas distribution businesses the position is different. Some of the original appeal arrangements agreed to in the *Natural Gas Pipelines Access Agreement* have been effectively modified by State legislation which define some merit appeal arrangements for decisions made by State-based regulatory authorities (such as the Victorian Essential Service Commission).<sup>55</sup>

In addition, the merit appeal bodies that deal with appeals raised by gas distribution businesses in respect of decisions on Access Arrangements vary according to

<sup>53</sup> Recent examples include the Victorian Essential Services Commission, the Essential Services Commission of South Australia and the proposed Economic Regulation Authority of Western Australia.

<sup>54</sup> See Annex G *Natural Gas Pipelines Access Agreement*

<sup>55</sup> See Section 55-56 of the *Victorian Essential Services Commission Act 2001* and *Gas Pipelines Access (Victoria) Act 1998* Section 21 (2)-(3).

jurisdiction (despite the original objective of fostering a nationally consistent gas access regime). The merits appeal bodies available in relation to regulatory determinations for gas distribution networks are set out in Table 9.

**Table 9 – Merit appeal bodies – gas distribution network decisions**

Jurisdiction	Merits appeal body
Australian Capital Territory	Industry Panel <sup>56</sup>
New South Wales	Australian Competition Tribunal
Queensland	Queensland Gas Appeals Tribunal
South Australia	District Court
Victoria	Essential Services Commission Appeals Panel <sup>57</sup>
Western Australia	Western Australian Gas Review Board <sup>58</sup>

State legislative implementation of the gas access regime and the inconsistent patchwork of appeal bodies and provisions have resulted in divergence between arrangements relating to merits appeals:

- between regulated gas transmission and gas distribution businesses
- for service providers who own gas distribution networks or pipelines in multiple jurisdictions.

These divergences are not due to any particular public policy rationale, but have emerged as unwarranted divergences that undermine the goal of a nationally consistent gas access regime which should offer consistent merit appeal arrangements and avenues across all assets regulated under the regime.

### ***Appeal trigger mechanisms require reform***

To be effective, appeal mechanisms must allow affected parties to trigger merits or judicial review when key decisions are made. Typically, regulatory decisions under the gas access regime involve:

- initial informal discussions between service providers and the regulatory authority
- a formal consultation phase (not specifically provided for under the regime)
- submission of a proposed Access Arrangement by the service provider
- a Draft Decision by the regulatory authority on the proposed Access Arrangement
- submission of a revised Access Arrangement by the service provider
- a Final Decision by the regulatory authority on the proposed Access Arrangement
- submission of a further revised Access Arrangement by the service provider

<sup>56</sup> See *Independent Competition and Regulatory Commission Act 1997*, Part 4C, Schedule 2A

<sup>57</sup> See Section 56 *Essential Services Commission Act 2001*

<sup>58</sup> See <<http://www.offgar.wa.gov.au/review.cfm>>

- Final Approval of either the revised Access Arrangement, or an Access Arrangement drafted on behalf of the service provider by the regulatory authority incorporating all required revisions.

Typically, these processes run for between 12-18 months from commencement to Final Approval. Although judicial review may be instituted (at least) at any time following a Draft Decision (as established by the WA Supreme Court in the Epic Energy case) full merits review of a regulatory determination may only be commenced at the very last stage of the process outlined above, and only in circumstances where the service provider has not made required amendments to their proposed Access Arrangements, leading to the regulatory authority imposing an Access Arrangement (or required revisions) it has itself drafted.<sup>59</sup>

These arrangements raise three issues:

- potential substantial inconsistencies between the points at which rights of judicial and merits review arise
- merits review potentially only being available well after substantive elements of the decision have been made (i.e. in the Final Decision)
- potential contribution of these arrangements to undue delay in the finalisation of Access Arrangements.

First, in principle, there are few persuasive policy rationales for potentially substantial differences between the points at which a right to seek judicial or merits review arises. Indeed, given merits or administrative review is most often related directly to the factual circumstances of the case or information upon which the decision is based, there is a strong argument for not restricting the application for merits based review until the very last stage of the process (imposition of an Access Arrangement or revisions by the regulator). On this basis, merits review should be available from the time of the Final Decision onwards.

A second consideration is the potentially significant time elapsed from when substantive elements of the decision-making process were carried out or resolved (including, for example, the consultation phase and the Final Decision) to the final imposition of a regulator-drafted Access Arrangement (or revised Access Arrangement).

Finally, permitting full merits review on regulator ‘imposed’ Access Arrangements (or revisions) may unintentionally promote unnecessary delay in the finalisation of Access Arrangements and the resolution of disputes. Access to merits review mechanisms closer to the point at which substantive decisions as to methodology and approach are finalised (e.g. the Final Decision) is likely to facilitate more timely resolution of issues arising through a price review process.

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<sup>59</sup> See *Gas Pipelines Access Law* Section 39 (1) (a)-(b)

### *Substitutability of decision-making*

A final element of effective merits appeal arrangements is the capacity for an appeals body to effectively implement its findings, through the ability to clearly direct a remedying of deficiencies in the primary decision, or the substitution of its decision for those parts of the primary decision affected by errors.

To allow this, effective merits appeal arrangements should allow the primary decision to be either:

- affirmed in full
- set aside to be remade by the primary decision-maker
- varied according to findings of the merits review body.

For this to be possible, the merits review body should be in a position to exercise all the powers and functions of the primary decision-maker, and substitute its decision for that of the primary decision-maker.<sup>60</sup> The AGA understands that it is not clear whether merits appeal under the current *Gas Pipelines Access Law* allows unconstrained re-arbitration of the initial decision. Provisions that clearly facilitate both the substitutability of the decision of a merits appeal body for that of the primary decision-maker and full consideration of the merits of a regulatory decision should feature in appeal mechanisms under a revised gas access regime.

## **Recommendation**

This proposal would strengthen existing limited appeal rights for service providers under Part 6 of the *Gas Pipelines Access Law*. This would involve appeal provisions for a revised gas access regime based on the following five key principles:

- **Principle 1** - consistency of access to merits and judicial review between owners of distribution and transmission assets
- **Principle 2** - consistency or harmonisation of bodies responsible for conducting merits review between Commonwealth, State and Territory regimes
- **Principle 3** - capacity to seek merits review at the substantive decision-making point – the issuance of a Final Decision – rather than only following the final formal stage of the drafting and imposition of an Access Arrangement (or revisions) by a regulatory authority
- **Principle 4** – clear and effective grounds for merits review in Commonwealth, State and Territory regimes
- **Principle 5** - an ability on the part of merits review bodies to set aside, vary, or substitute their own decision for that of the original decision, and to exercise all the powers and functions of the original decision-maker.

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<sup>60</sup> See for example *Trade Practices Act 1974* Section 44ZP which sets out the operative provisions for merits review which apply in respect of reviews by Australian Competition Tribunal of ACCC determinations.

For example, the appeals provisions could take the following form:

**PART 6 - - APPEALS**

**Application for merits review**

38. (1) A person whose interests are affected by a decision to which this section applies may apply to the relevant appeals body for a review of the decision.
- (2) The application must be made, in accordance with this Part and any applicable law governing the practice and procedure of the relevant appeals body, within 14 days after the decision is made.
- (3) The relevant appeals body must make its determination on the review within 90 days after receiving the application for review.
- (4) The relevant appeals body may extend, or further extend, the period referred to in subsection (3) by a period of 30 days if it considers that the matter cannot be dealt with properly without the extension either because of its complexity or because of other special circumstances.
- (5) If the relevant appeals body extends the period, it must, before the end of the period, notify the applicant of the extension and the reasons for it.
- (6) On the application of a party to the proceedings under this section, the relevant appeals body may conduct the proceedings in the absence of the public.
- (7) The relevant appeals body may require the relevant Regulator to give information and other assistance, and to make reports, as specified by the appeals body.
- (8) In proceedings under this section, the relevant appeals body may make a decision affirming, or setting aside or varying immediately or as from a specified future date, the decision under review and, for the purposes of the review, may perform all the functions and exercise all the powers with respect to the subject matter of the decision as may be exercised with respect to that subject matter by the person who made the decision.
- (9) The relevant appeals body may make such orders (if any) as to costs in respect of a proceeding as it thinks fit.
- (10) A determination by the relevant appeals body on the review of a decision shall be taken to be a decision of the person who made the original decision.

## **4. Incentives for investment in new and existing infrastructure**

### **4.1 Defining treatment of efficiency gains**

Under the current gas access regime there has been a lack of strong incentives for the achievement of ongoing efficiencies by regulated gas businesses.

The existing gas access regime has four significant deficiencies in relation to the treatment of efficiency gains. These deficiencies are that the existing regime:

- fails to appropriately recognise the scope and nature of possible efficiency gains
- permits the lowering of access prices on the basis of forecast rather than actual efficiencies
- does not lead to the fair sharing of efficiency gains over time with consumers
- provides scope for significant inconsistency between Federal, State and Territory regulatory authorities.

#### **Failing to recognise scope and nature of possible efficiency gains**

The current gas access regime and its application by regulatory authorities have not appropriately recognised the scope and nature of efficiency gains likely to be available to regulated gas businesses.

Traditionally, concepts of economic efficiency have been sub-divided into three elements – productive (or technical) efficiency, allocative efficiency, and dynamic efficiency. Current approaches under the gas access regime effectively emphasise productive efficiency (production at lowest average cost) and allocative efficiency (production of an optimal profile of services) but generally fail to recognise or provide incentives for dynamic efficiency.

#### ***Role of dynamic efficiency***

A key driver for dynamic efficiency is management induced innovation, technological change and service offering improvements, resulting from relatively high risk investments in corporate innovation and research and development activities. The dominant cost based approach does not support investments in dynamic efficiency. The assumption of the Capital Asset Pricing Model is of a theoretically perfect market equilibrium featuring no management induced innovation or technological change, and regulators are constrained in addressing this theoretical limitation by an absence of information about, and expertise in, what constitutes an ‘efficient’ level of investment in innovation and research and development (a highly uncertain and theoretical concept itself) activities.

Recognition in access pricing reviews of investments in management induced innovation and research and development activities has not been common. This is despite the fact that it is increased dynamic efficiency, and particularly technological change, which has proved the most common source of ‘step changes’ in overall efficiency in both the infrastructure sector (e.g. falls in telecommunications costs) and the broader market (e.g. computer processing power). Technological change has also proved to be a medium term driver of the erosion of natural monopoly power in the infrastructure sector through the development of competing technologies or ‘facilities-based’ competition (for example, the development of mobile telephone networks to compete with fixed-line networks).

Regulated gas businesses achieved substantial increased productive and allocative efficiencies through the first six years of the gas access regime through such activities as restructuring tariffs classes to more closely reflect costs, and increased outsourcing and tendering of capital, maintenance and non-core corporate services functions. These substantial (but largely ‘one off’) efficiency gains have been shared with existing consumers through the operation of the gas access regime to date. Efficiency analyses carried out as part of the most recent access pricing review for three Victorian gas distribution businesses showed these businesses were operating at worlds best practice on the basis of a number of partial and multi-factor analyses, and continuing to deliver very high levels of customer service and reliability.<sup>61</sup>

Significant efficiency gains into the future are likely to depend on improvements in dynamic efficiency from innovation and technological change. This innovation could include both technical innovation and/or innovation in the way services are provided to the regulated businesses. A characteristic of innovation is the considerable risk involved and often significant up-front cost. In the regulated gas sector technology change in the foreseeable future is likely to be relatively low, especially if regulatory approaches continue to fail to support investments in research and development activities. The limited scope for further significant ‘one off’ gains in productive and allocative efficiency, and the relatively investment-intensive nature of potential future gains in dynamic efficiency means that the regulatory framework must evolve to emphasise dynamic efficiency gains. In particular, it must seek to offer high powered incentives for regulated gas businesses to pursue gains in dynamic efficiencies. This is best achieved not only through the improved treatment of achieved efficiency gains, but also the movement to less intrusive approaches to access pricing regulation (as detailed in **Part 3.3** and Appendix A).

### **Passing through potential, not actual, efficiencies**

The current regulatory approach to access pricing is based on a model of access regulation developed in the United Kingdom over two decades ago, with the principal aim of reducing identified inefficiencies in formerly state-owned monopolies in the period immediately following privatisation. This model, with some minor modifications, is characterised as modern ‘incentive-based’ regulation by Australian regulatory authorities and is the dominant regulatory approach applied.

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<sup>61</sup> See Essential Services Commission *Gas Industry Comparative Performance Report 2002*, June 2003, p.5

Under the prevailing model of access pricing regulation - a ‘building blocks’ cost of service approach - regulatory authorities are forced to effectively estimate a range of factors including ‘efficient’ levels of capital and operating expenditure and likely future demand for new and existing services.

Key factors estimated by regulatory authorities under the current model are ‘potential’ efficiency gains achievable by the service provider. Under the current approach adopted by Australian regulatory authorities these potential efficiency gains are effectively passed through (in the form of lower regulated tariffs) to end consumers as they are *estimated* to occur. Under this approach service providers do not share in the benefits of efficiency gains achieved, only those efficiency gains made *in excess* of gains estimated to be possible by regulatory authorities. The current approach to incentives for efficiency gains, drawn from the last round of regulatory determinations, is summarised in [Table 10](#).

**Table 10 – Treatment of efficiency gains by regulated gas businesses**

Jurisdictional regulator	Treatment of forecast efficiency gains	Net present value sharing of forecast gains (business/user)	Treatment of unforecast efficiency gains	Net present value sharing of unforecast gains (business/user)	Inter-period efficiency carryover mechanism
Commonwealth	Not retained	0/100	Retain minimum 5 years	30/70	Yes
Victoria	Not retained	0/100	Retain minimum 5 years	30/70	Yes
New South Wales	Not retained	0/100	Retain until reset	30/70*	No
South Australia	Not retained	0/100	Retain 10 years	50/50	Yes
Western Australia	Not retained	0/100	Retain until reset	30/70*	No
Queensland	Not retained	0/100	Retain until reset	Not defined	No

\* - First year efficiency gains only

## Problems with passing through potential, not actual, efficiency gains

There are a number of significant risks and potential costs to an approach where forecast efficiency gains are automatically transferred from regulated businesses to current third party access users.

First, there is the significant risk of regulatory error in forecasting potential future efficiencies achievable by complex commercial entities. The scope for regulatory error in this area is increased by the:

- imprecision in establishing concepts of ‘efficient costs’
- inherent asymmetry of information between regulated businesses and regulatory authorities on the scope for possible efficiencies – a statutory authority, typically with a wide scope of activities and responsibilities will not have the same scope as a commercial entity operating a business to understand and estimate the possible drivers of efficiency gains (or losses) underlying a regulated business

- length of the regulatory period – regulatory periods are typically five years, and virtually no business (or regulatory authority) can make meaningful assessments of possible efficiency gains five years in advance.

Regulatory authorities are poorly placed to estimate the nature or scope of potential efficiency gains in regulated gas businesses. Estimates of this kind are necessarily subjective, simplistic and prone to high levels of uncertainty and error. As the Productivity Commission has noted, regulatory failure and error in such abstract tasks as estimating future ‘efficient’ costs is likely irrespective of how well regulators perform their tasks.<sup>62</sup> This judgement is one also shared by regulatory authorities responsible for applying the gas access regime. For example, the NSW Independent Pricing and Regulatory Tribunal has stated:

The competitive process is dynamic and its specific outcomes are unforecastable. No regulator can accurately assess the levels of efficiency or service an industry is capable of over time. Hence, the regulatory framework should aim to create conditions where the industry itself, in response to the incentives it faces, moves towards its continually shifting performance frontier.<sup>63</sup>

The risk of regulatory error in the estimation of possible future efficiencies can have extremely significant consequences for regulated businesses, and their capacity and incentives to invest in existing gas infrastructure. In particular, errors may result in regulated businesses failing to recover minimum efficient costs (or failing to have the opportunity to recover these costs). The prospect of this may deter investment in new and existing assets, and also increase regulatory risk. Increased regulatory risk will in turn result in a higher overall cost of capital for the regulated business, and consequent higher prices over the medium term for consumers.

This impact highlights that the real choice made in adopting efficiency sharing and incentive arrangements is not simply ensuring efficiency gains are passed to consumers. Rather, the priority should be to achieve a balanced approach that creates strong efficiency incentives, but does not negate these benefits through exposing regulated businesses (and ultimately end users) to unduly high costs arising from regulatory risk.

Basing access pricing outcomes on regulatory authorities’ forecasts of possible efficiency gains is also inappropriate due to a lack of evidence that regulated gas businesses are inefficient. Since the commencement of the National Gas Code in 1997, most regulated gas network businesses have undergone two cost-based pricing resets. These pricing reviews have, over a period of six years, allowed regulatory authorities to comprehensively examine the level and structure of costs in the regulated gas sector, and have resulted in significant reductions in overall access charges. As the Commonwealth Treasury has noted, following a number of cost-based pricing resets there are unlikely to be significant divergences between costs and prices.<sup>64</sup> Given this, and the risks and impacts of regulatory error, forecasting possible efficiency gains and adjusting forward access prices to automatically confiscate these benefits appears a questionable policy approach.

<sup>62</sup> Productivity Commission (September 2001), p.91

<sup>63</sup> IPART *Regulation of electricity network service providers — Incentives and principles for regulation*, Discussion Paper 32, January 1999, p.3

<sup>64</sup> Productivity Commission (March 2001), p.214

## **Fair sharing of efficiency gains**

In addition to the high risk of regulatory error inherent in regulatory authorities seeking to forecast potential efficiencies (as opposed to measuring past efficiencies) there is an associated issue of the fair sharing of efficiency gains.

Under the current approach regulatory authorities effectively pass through all forecast efficiencies as they are assumed to occur. Service providers benefit from any efficiency gains they are able to make *in excess* of the forecast of potential efficiency gains.

This does not represent a fair sharing of the benefits of efficiency gains, an essential pre-requisite for strong and effective incentives to promote future efficiencies. It is difficult to reconcile the current approach to a meaningful definition of ‘incentive’, which implies a prospect of gain for improved performance, rather than gains being assumed, with a penalty potentially applying if estimates of future efficiencies are inaccurate.

It is important to recognise that this issue is related to the forward looking ‘incentive-based’ cost of service approach in that it is difficult to reconcile the concept of a fair sharing of gains with the automatic pass through of all potential efficiency gains, but it is not exclusively applicable to this access pricing approach. Under an improved approach which featured only the sharing of achieved (verifiable) efficiency gains, the question of how and over what time to share these efficiency gains would still arise.

Regulated businesses should have an opportunity to share at least equally in the benefits of efficiency gains made through regulatory periods. This is consistent with the understanding of regulated businesses of the concept of a fair sharing of efficiency gains through time. At least an equal sharing in net present value terms of efficiency gains would promote stronger incentives to achieve efficiencies, leading to increased consumer benefit over the medium to long term.

## **Inconsistency of current approaches**

Finally, the treatment of unforecast efficiency gains, including the sharing of gains and whether unforecast efficiency gains may be shared across regulatory periods has been subject to widely varying approaches between different regulatory authorities. [Table 10](#) illustrates the current inconsistent approaches based on the last round of Access Arrangement reviews. There is no policy justification for a service provider being subject to different levels of efficiency incentives depending on the jurisdiction in which they operate.

## **Recommendation**

The AGA proposes the adoption of three key principles in a review of provisions of the Code relating to incentive mechanisms to address the weak incentives created by the existing regime and its application by regulatory authorities:

- **Principle 1**- actual efficiency gains, not forecast gains should be eligible to be shared
- **Principle 2** - efficiency gains should be shared fairly through time between service providers and end users
- **Principle 3** - sharing of efficiency gains should be on a more uniform basis across jurisdictions.

These principles could be achieved through the addition of a new section in the National Gas Code. This section would have the effect of providing clearer guidance to regulatory authorities in assessing proposed sharing of efficiency gains put forward by service providers. An example of such a section would be:

Section 8.xx Access prices must ensure that benefits of realised efficiency gains are shared at least equally between service providers and consumers.

Importantly, this guidance would apply only where a service provider had selected a cost-based model of access pricing.

## 4.2 Separate greenfield project mechanisms

The current provisions of the gas access regime do not adequately facilitate efficient investment in greenfield projects. There is a need for a separate greenfield mechanism to ensure that the future gas access regime does not have the effect of deterring efficient investment.

Greenfield projects have a range of specific features which make the application of the existing access regime inappropriate. The existing provisions and application of the regime have contributed to a significant number of deferred, delayed and cancelled new investments, particularly greenfield distribution developments. The core differences between greenfield distribution or transmission projects and mature networks or pipelines mean that more specific measures are needed to ensure appropriate treatment of these investments. Given experience from the first phase of the gas access regime it can no longer be assumed that applying the current gas access regime, designed for mature and existing assets, to all new assets will have no adverse investment impacts.

Past investment in gas infrastructure over the period of the operation of the access regime was encouraged by the collective gas market reform package (which included removal of legislative barriers to interstate trade in gas, limited upstream gas market reform and full retail competition). Past investment cannot credibly be attributed to only one element of the gas reform agenda – the operation of the third party access regime. Consideration of the circumstances of significant projects during the operation of the regime indicates that most new investments during that period are not subject to the restrictive access pricing provisions of the regime. This undermines assertions by regulatory authorities that the access pricing outcomes have not acted as a potential deterrent to new investment.

### Features of greenfield projects

Greenfield projects possess a number of key features which mean that separate regulatory treatment from existing regulated assets is warranted.

These include:

- asymmetric regulatory risk
- contestability in the construction and design phase
- countervailing market power on the part of potential users
- strong commercial incentives to maximise throughput.

These key features of greenfield distribution and pipeline investments are discussed fully in **Part 5.1** in relation to coverage of access pricing under the regime. Many of these features mean that coverage of some assets under an access pricing regime is inappropriate. Nevertheless, there is a strong case that in situations where coverage under the gas access regime is judged appropriate (or sought by a service provider), the regime should also contain specific measures to facilitate new investment.

## **Treatment of new investment under the existing gas access regime**

The gas access regime has not adequately addressed the particular risks, features and circumstances of greenfield investments in gas distribution networks and transmission pipelines. While a proportion of potential greenfield projects may always be uneconomic on a stand alone basis, the weight of experience under the gas access regime indicates that significant modifications are needed to ensure the current framework does not have the effect of deterring efficient new investment.

The weaknesses of the current regime in dealing with greenfield projects include:

- the exposure of greenfield projects to ‘asymmetric’ regulatory risk – where the potential upside of a project is effectively capped by access regulation, but the downside risks of project failure remain borne entirely by the investor<sup>65</sup>
- extremely limited exclusive franchise periods which do not allow effective partnerships between gas distributors and energy retailers to cooperatively develop new regional markets for gas
- inadequate rates of return which do not compensate investors in gas infrastructure assets for the higher levels of risk assumed in greenfield developments – for example significant regulatory access pricing parameters such as the ‘beta’ measurement of risk may change several times through the life of the project<sup>66</sup>
- the high cost of competitive tender arrangements under the current National Gas Code and the preparation of Access Arrangements for small regional networks
- uncertainty over regulatory treatment of ‘sunk’ capital investments where predicted demand does not eventuate
- the risk of significant forecasting errors being made about the costs of the project, gas demand or achievable efficiency gains
- access pricing regulation is imposed where unnecessary or where the costs outweigh the benefits.<sup>67</sup>

Two other core weaknesses of the existing competitive tender arrangements are a restrictive focus on the lowest cost service provision and the high costs of tenders which due to the requirement of some local government authorities for recovery of tender costs against the successful tenderer, may significantly impact on the economic viability of the project.

All of these weaknesses have contributed to a significant number of greenfield project cancellations, deferrals or delays over the first six years of the gas access regime. [Table 11](#) details a number of greenfield gas distribution projects which have been adversely affected by such weaknesses (See [Appendix B](#) for further details of these projects).

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<sup>65</sup> Productivity Commission (September 2001), p.299

<sup>66</sup> Productivity Commission (September 2001), p.299

<sup>67</sup> See Productivity Commission (September 2001), p.94

**Table 11 – Greenfield distribution projects under the gas access regime (1997-2003)**

Project	Potential consumers	Competitive tender held	Estimated project value	Outcome
Tasmania (2002)	260 000	Yes	\$200.0 million	Negotiations with preferred service provider continuing with significant government funding committed
Loddon-Murray Region (2001)	15 000	Yes	\$50.0 million	Project shelved
North Bellarine Peninsula (2000)	4 000	No	\$11.0 million	Proceeding following government funding – completion due 2004
Barwon Heads (2000)	1 300	No	-	Project deferred
Cardinia Shire (1999)	2 300	No	\$2.5 million	Completed
Yarra Ranges (1999)	14 000	Yes	\$16.0 million	Project shelved
East Gippsland (1999)	22 000	Yes	\$14.0 million	Project delayed
Central Ranges (1999)	50 000	Tender approved	\$96.0 million	Project delayed

The record of the regime in respect of greenfield distribution developments is poor:

- no competitive tender process for a greenfield distribution project under the National Gas Code has so far resulted in project completion
- seven proposed greenfield gas distribution projects tendered under the provisions of National Gas Code, with the potential to serve approximately 370 000 potential gas consumers have been deferred or shelved since 1999
- in respect of the two distribution projects that have proceeded, one has been provided with significant government assistance to fund the ‘user’ surcharge component required under the regime to make the project economically feasible, and the second was exempted from being required to hold a competitive tender under the Code.

In 2002 the failure of the National Gas Code competitive tender held in respect of the proposed Tasmanian gas distribution network illustrated the deficiencies in the existing regime’s greenfield provisions. These competitive tender provisions are restrictive, complex and highly prescriptive in relation to the process for awarding possible tenders. Significantly, they do not recognise the fundamental contestability of greenfield distribution projects, the absence of a need for access pricing regulation given competition from existing fuels and incentives to grow throughput. The Tasmanian government, after seeking to apply the competitive tender process in the National Gas Code, concluded the provisions were deficient:

Mr Lennon said the gas reticulation project was the first attempt in Australia to run a large-scale tender under the National Gas Code.

“Other jurisdictions are having problems with the Code and it is clearly not workable, particularly for large-scale greenfields developments.”<sup>68</sup>

Since the introduction of the National Gas Code there has been a significant number of deferred and cancelled gas network extension projects across Victoria in particular. Five of the seven projects listed in [Table 11](#) are located in Victoria. This has led to the Victorian Government offering substantial direct government funding under a tender process outside of the provisions of the National Gas Code (as the competitive tender provisions in the National Gas Code have failed to result in any successful project completions) and pressing for reform of the National Gas Code’s greenfield provisions as a longer term solution. The Victorian Energy Industries and Resources Minister recently emphasised the need for amendments to the gas access regime to provide relief for new gas infrastructure in the start-up phase and encourage investment in greenfield gas networks and pipelines.<sup>69</sup> Other Energy Ministers from State governments that have actively sought to encourage new gas network expansion have similarly supported the urgent need for a review of the gas access regime.<sup>70</sup>

Most of the proposed greenfield gas distribution developments which have been deferred or shelved under the National Gas Code are located in regional Australia, where greater fuel choice arguably has the most potential to drive economic development and business growth. The failure or deferral of seven gas distribution network projects across New South Wales, Tasmania and regional Victoria highlights the significant flaws in the current regulatory approach in relation to greenfield distribution network and transmission projects.

## **Past investment not attributable to the gas access regime**

The gas reform process and the gas access regime have played a significant role in breaking down barriers to and facilitating greater interstate trade in natural gas. Incumbent energy users and regulatory authorities with significant roles in applying the gas access regime, however, have gone further, attributing a range of new investment in gas infrastructure assets during the operation of the gas access regime to the regime itself.

This is an unsustainable attribution, not supported by the evidence, which should not be the basis of any policy recommendations from the Productivity Commission. There have been a range of significant pipeline and network developments in the period of operation of the gas access regime. These are summarised in [Table 12](#).

Details of past investments under the gas access regime, and even prospective total values of future uncommitted projects have been advanced by incumbent energy users and some regulatory authorities to support a range of contentious arguments against any reforms to the regime, including:

- the gas access regime has promoted investment in gas infrastructure assets

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<sup>68</sup> Media Release, Paul Lennon, MHA, Deputy Premier, 25 September 2002

<sup>69</sup> Media Release, Theo Theophanus, Minister for Energy Industries and Resources, 4 June 2003

<sup>70</sup> See for example, ‘Barnett calls on Western Australia to break Gas Code’ *The West Australian*, 27 May 2003

- regulated access prices under the gas access regime are sufficient to encourage continued investment in the sector
- the gas access regime is functioning effectively and there is no need for any significant modifications.<sup>71</sup>

Each of these propositions cannot be supported by reference to the history of new investment under the gas access regime, as will be discussed below.

**Table 12 – New investments during the operation of the National Gas Code (1997-2003)**

Project	Commenced	Basis of initial investment	Outcome	Subject to Code pricing provisions
Mildura distribution network	1997	Tender under State government arrangements preceding Code	Coverage of network revoked in January 2003	No
NSW-Victoria Interconnect	1998	Commercial investment to promote scope for interstate trading (however, Victorian government direction of State gas retail contracts underpinned major component)	Underpinned security of supply for Victoria following Longford gas supply interruption	Yes
Central West Pipeline	1998	Planning and investment decisions undertaken prior to introduction of Code and commenced in its initial phase on basis of forecast growth in regional gas demand	Covered by the Code. Project has underperformed against projected gas demand and failed to recover forecast minimum regulated revenue.	Yes
Ballera-Mount Isa Pipeline	1998	Built subject to State agreements on pipeline tariffs and specific derogations from pricing provisions of Code	Pipeline constructed and in operation	No
South West Pipeline (Iona-Geelong)	1999	Built with State government assistance to provide increased security of supply following Longford gas supply interruption	Pipeline constructed and in operation	Yes
Windimurra Pipeline	1999	Underpinned by contracts with WA State Government-owned Western Power, planned as a non-regulated pipeline	Remains not covered by the Code	No
Berri-Mildura Pipeline	1999	Pipeline undertaken on basis forecast growth in regional gas demand	Coverage of pipeline revoked in 2001	No
Eastern Gas Pipeline	1999	Commissioned by gas producer under negotiated contracts with associated end customer. Currently operating with different ownership under voluntary 'open access' principles with published terms of access	Coverage of pipeline initially recommended by National Competition Council. Following appeal to Australian Competition Tribunal the pipeline remains not covered by the Code.	No
Gladstone-Bundaberg Pipeline	2000	Built subject to State agreements on pipeline tariffs and specific derogations from pricing provisions of Code	Pipeline constructed and in operation	No
Tasmanian Gas Pipeline	2001	Operates under voluntary 'open access' principles and published terms of access	Remains not covered by the Code	No
SEAGas Pipeline (Victoria-South Australia)	2002	Planned to operate as 'open access' pipeline with published terms of access	Not yet completed	(Not planned)
Tasmanian Gas Distribution Project	2003 (planned)	Planned to operate under voluntary 'open access' principles with published terms of access (with State government legislative exclusion from pricing provisions of Code)	Original project delayed following no complying bids under a greenfield tender process under the Code. Current project underwritten by financial contribution by State government.	(Not planned)

From Table 12 can be derived some important conclusions regarding new investment under the gas access regime:

<sup>71</sup> See ACCC (2003), p.3

- the majority (seven) of significant projects completed under the regime are currently not subject to the core access pricing provisions of the gas access regime
- specific provisions in State legislation seeking to protect new investment (through derogations from the regime limiting the impact of access pricing provisions) have played a key role in encouraging the initial investment in at least three major greenfield projects
- five of the ten completed projects were either never covered under the regime or have had coverage under the gas access regime revoked
- the initial investment in three of the twelve projects have been or are likely to be underpinned by significant State government assistance through direct contribution to network extensions or pipelines to assist security of supply or state development.

These points make clear that in relation to new investment under the existing regime:

- significant levels of new investment have been conditional on potential investors obtaining specific government exclusions from the application of the access pricing provisions of the regime
- a significant number of projects have proceeded due to direct or indirect financial support from governments
- access pricing regulation under the regime has been found to be unnecessary in a high number of cases
- there is a growing trend towards pipelines and networks seeking to operate under commercially based open access and non-discrimination principles, with transparent terms and conditions of access.

Given the wide variety of circumstances underpinning a range of new investments since 1997 it is an unsustainable and misleading observation that the operation of the gas access regime has promoted or encouraged new investment in network or pipeline infrastructure.

## Recommendation

The AGA supports amendments to the National Gas Code to provide scope for the separate regulatory treatment of any greenfield distribution network extensions and expansions, or transmission pipelines, found to meet either the existing or any amended coverage test. The AGA supports these optional mechanisms being made available on a voluntary basis to all potential investors in greenfield projects, including assets that have not been assessed as meeting the coverage criteria.<sup>72</sup>

This recommendation could be implemented by the development of a separate section of the National Gas Code (which could include revised sections improving the

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<sup>72</sup> Note: Availability of these mechanisms could potentially be broadened to include, on a voluntary basis, existing assets in competitive market environment (e.g. competing pipelines)

existing Code provisions on competitive tenders) for new greenfield projects. This section could set out a variety of potential mechanisms as options for service providers who wish to undertake significant greenfield projects. This could include the following mechanisms:

- **‘Economic regulation free periods’ or ‘access holidays’** – where a service provider is guaranteed an access holiday for at least 20 years (commensurate with normal gas infrastructure project financing timelines)
- **Voluntary non-discrimination open access agreements** – such as in place for the Eastern Gas Pipeline (EGP)
- **‘Ex ante regulatory compacts’** - where key regulatory parameters (such as third party access tariffs, beta values of the weighted average cost of capital or the regulatory asset base) are predetermined and guaranteed over a number of years or regulatory periods
- **Price monitoring** - a non-interventionist price-monitoring approach to significant greenfield network or pipeline developments.

It is envisaged these mechanisms would be optional for the service provider. This would mean, for example, that distribution network service providers would retain the current option of seeking to have the proposed capital expenditure for specific network extension or augmentation projects ‘rolled-in’ to the capital base at the next regulatory reset, or to have significant projects treated on a stand-alone basis.

In addition to these options the AGA also supports revised competitive tender provisions which would involve the substantial redrafting of the existing competitive tender provisions contained in the current National Gas Code.

Further details of the mechanisms that could be included in the regime are given below.

### *Economic regulation free periods or access holidays*

The first mechanism is providing for economic regulation free periods or access holidays to proponents of greenfield projects. Providing an economic regulation free period to new gas transmission pipeline developments was a recommendation of the Council of Australian Governments Energy Market Review report. The AGA argued in its submission to the Energy Market Review that any economic regulation free period should also be extended to gas distribution network extensions or expansions. Access holidays, essentially the same concept, were recommended by the Productivity Commission for a range of greenfield infrastructure network developments that did not exclude gas distribution projects and specifically included network augmentation projects due to the limited benefits having any such measure cover only transmission infrastructure.<sup>73</sup>

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<sup>73</sup> Productivity Commission (September 2001), p.284

### ***Voluntary non-discrimination open access agreements***

Voluntary non-discrimination open access agreements could provide an effective way of allowing greenfield projects to be included in the gas access regime, without making them subject to the particular asymmetrical risks that access pricing regulation imposes on new investments.

This mechanism would allow a service provider to lodge an access agreement which committed it to offering non-discriminatory open access to any third parties seeking to transport gas through the network or pipeline. Voluntary open access undertakings are in operation on a number of Duke Energy-owned transmission pipelines (and were originally developed for the Eastern Gas Pipeline). A similar commitment to an open access system has been made by Powerco, the New Zealand based gas distribution business which has entered into preliminary agreements with the Tasmanian government regarding the construction of a greenfield distribution network in Tasmania.

Whilst service providers would have an obligation to provide access on standard and public terms and conditions (including tariffs), the regulatory authority would not have any role in determining third party access pricing under this mechanism.

### ***Ex ante regulatory compacts***

The third mechanism is providing scope for *ex ante* regulatory compacts. This would involve the regulator and the regulated gas business agreeing at a pre-investment stage, in a binding form, to the treatment of key regulatory parameters. These parameters could include, for example, the cost of capital to be applied, the beta weightings to be used in calculating the weighted average cost of capital, whether or not assets would be vulnerable to asset stranding, and how any optimisation would be implemented.<sup>74</sup> The regulator would then be bound by the terms of the compact subject to a material change in circumstances.

This model was proposed by the Network Economic Consulting Group in submissions to the Productivity Commission's previous *Review of the National Access Regime*.<sup>75</sup> Subsequently the Productivity Commission recommended the development of such pre-investment binding compacts, and the interim Commonwealth Government response to the Commission inquiry indicated they would be considered under the review of the gas access regime. The Energy Market Review also recommended such agreements be provided for in the Gas Code.<sup>76</sup>

### ***Price monitoring for distribution network extensions or pipelines***

Another option is essentially a form of price monitoring that recognises the particular commercial imperatives present in greenfield network extensions and pipelines.

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<sup>74</sup> NECG (2001), p.38

<sup>75</sup> See NECG (2001), p.38

<sup>76</sup> *Towards a Truly National and Efficient Energy Market - Final Report of the Council of Australian Governments Energy Market Review*, December 2002 p.214

Network extensions to unreticulated areas face strong competition from incumbent energy sources. For market development to occur to achieve a return on the capital investment, gas distribution businesses need to ensure that the delivered price of gas is sufficiently low to encourage fuel switching over the medium term. This, as recognised in the *Duke Eastern Gas Pipeline* appeal, means that market power concerns which justify access regulation for existing natural monopoly assets are not present.<sup>77</sup> Given this, a simple price-monitoring regime could be applied in respect of areas served by new network extensions or pipelines.

### ***Revising competitive tender provisions***

The AGA also considers that the existing competitive tender provisions contained in the current National Gas Code should be substantially redrafted.

Key changes which may assist the more effective functioning of the tender provisions include:

- revising the Code's unbalanced focus on the lowest sustainable tariff as a core criteria for bid assessment (Section 3.28 (f)(i))
- streamlining of the Code tender approval process to avoid unnecessary delays
- allowing scope for integration of Code tender and public subsidy processes to avoid duplication and/or tender failures.

A final change which might assist in facilitating new investment in some cases is an amendment of the existing arrangements set out in *Natural Gas Pipelines Access Agreement* relating to exclusive franchises following competitive tenders for pipeline and network services. Currently, under Annex E of the Agreement there is a requirement for a public tender and the period of exclusive franchise is limited to 5 years. Amendments to this Annex could include allowing for longer periods of exclusive franchises following competitive tenders to allow gas distribution businesses the incentives for efficient long term incremental system development (i.e. 20 years). Ideally, as part of any revised exclusive franchise arrangements, there would be a substantial period of an exclusive franchise for an energy retail business to encourage greater penetration of natural gas in newly reticulated areas, as well as offering gas distribution businesses greater certainty about the ongoing participation of the retailer in any joint market development activities.

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<sup>77</sup> See Australian Competition Tribunal: *Duke Eastern Gas Pipeline Pty Ltd* [2001] AcompT 2, 129

## 4.3 Pre-investment rulings on proposed costs

The current gas access regime provides insufficient upfront certainty for a range of capital and non-capital investments made by investors and owners of regulated gas network and pipeline assets. This leaves asset owners and potential investors subject to significant, unnecessary, and uncompensated regulatory risk, in particular, the risk of cost optimisation of prudent investments in future regulatory reviews.

### Risk of asset stranding or cost optimisation

Regulated businesses engage in a significant range of capital projects where the risk of asset stranding through optimisation may be present, including:

- greenfield network augmentations and extensions
- network or pipeline reinforcement or compression
- greenfield transmission pipeline developments.

A key risk facing regulated gas businesses making investment decisions in relation to these large sunk capital investments is that a regulatory authority may apply asset or cost ‘optimisation’ on the basis of knowledge not available to the regulated gas business or the regulatory authority at the time of investment. This has the potential to result in regulated businesses not recovering the initial costs of investments which were financially and technically prudent at the time of the decision to invest.

Asset stranding can have significant consequences for investment in new infrastructure assets and the ability of regulated businesses to commit capital to reinvestment in existing assets.<sup>78</sup> While asset stranding is commonly justified by reference to competitive markets the potential for stranding under any regulatory regime will be reflected in higher costs of capital for the regulated business which will ultimately be reflected in increased access charges. That is, the ‘benefits’ of asset optimisation (in end users in some circumstances not meeting the full costs of capital investments required to provide reliable and effective services) need to be weighed against the costs ultimately incurred by end users by service providers facing higher costs to access capital due to significant regulatory risk. This raises a critical issue of the net costs and benefits of asset optimisation.

### Practical flaws in the concept of asset or cost optimisation

The theoretical justification for asset optimisation is usually given as the need to discourage inefficient over-investment in assets, and to replicate market outcomes. Given the imperatives for private businesses to allocate capital efficiently, and the substantial number of additional differences between natural monopoly infrastructure and contestable markets which are not addressed by regulation, the justification for asset optimisation is open to debate.

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<sup>78</sup> NECG (2001), p.34

There are substantial pre-existing disciplines on commercial entities to allocate capital efficiently, including:

- the upfront and ongoing costs of accessing investment capital
- corporate governance and accountability processes (including commercial assessment and project feasibility processes)
- internal competition for capital investment funds from other parts of the owners commercial operations (nationally and internationally).

Given these constraints on the expenditure of capital by commercial entities the practical value of maintaining regulatory discretion to engage in cost or asset optimisation is highly doubtful. Regulated gas businesses consider that any prospective perceived short term price or efficiency benefits derived by maintaining this discretion are likely to be substantially outweighed by the higher costs of accessing capital promoted by this form of unnecessary regulatory risk.

This view is one shared by some Australian regulatory authorities and commentators. In the review of Victorian gas access arrangements undertaken by the Victorian Essential Service Commission (as the then Victorian Office of the Regulator-General) the Commission undertook that it would exercise its discretion and not seek to engage in *ex post* optimisation of capital expenditure undertaken by distribution network owners during the period of the next Access Arrangement (from 2003-2007).<sup>79</sup>

While such commitments are useful in increasing certainty and reducing short term regulatory risk the AGA considers that if there are sound policy reasons for not exercising the power of optimisation the National Gas Code provides to regulatory authorities (such as reducing unnecessary regulatory risk), then the power should be removed. If removal of scope to engage in cost optimisation from the National Gas Code is not recommended, facilitating a capacity to obtain upfront binding rulings on proposed capital investment would be a positive way to ensure that over the medium to long term unnecessary regulatory risk is removed. Lowering unnecessary regulatory risk is a key priority of regulated businesses, and economic commentators such as NERA have identified that lowering the impact of regulatory risk on the cost of regulated businesses accessing capital is one of the most significant opportunities for reform in the area of improving third party access regulation.<sup>80</sup>

## **Current provisions of the gas access regime**

Under the National Gas Code, regulatory authorities have the ability to strand assets through the application of Section 8.16, and through the adoption of optimised replaced cost values in relation to regulatory asset base valuations (Section 8.10).<sup>81</sup>

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<sup>79</sup> Essential Services Commission (July 2002), p.89

<sup>80</sup> Houston, G. *Incentive Regulation and Implementation: To index or not?* Presentation to Utility Regulators Forum Workshop, 9 May 2003

<sup>81</sup> This only applies to existing assets. By virtue of Section 8.12 new assets have a regulatory asset base equal to their actual cost of construction.

Section 8.21 of the National Gas Code currently allows for a process for a service provider to seek the pre-approval of capital and non-capital costs outside of a formal Access Arrangement review. This provision recognises the importance of a service provider being in a position to obtain binding regulatory guidance on the prudence of a planned investment. Its operation, however, has been limited in practice due to a flawed application by regulatory authorities and requirements which potentially impose significant costs and uncertainty on regulated businesses seeking to utilise the provision.

Thus far Section 8.21 has only been used once (in the context of prospective costs relating to the implementation of full retail contestability in Western Australia), possibly due to the interpretation by regulatory authorities that the section requires a full public process of inquiry bearing some similarities to a full Access Arrangement review.<sup>82</sup> This interpretation raises for service providers the considerable transaction costs and uncertainty of participating in a potentially lengthy regulatory process additional to those already required under regular price reviews.

This is clearly not the optimal model for achieving timely certainty for regulated businesses. Scope exists to devise a similar but more effective provision of a revised National Gas Code which results in a streamlined and less costly process to obtain regulatory certainty on a particular one-off capital or non-capital cost.

### **Advantages of *ex ante* prudency reviews**

A one-off *ex ante* prudency review for significant capital expenditures or specific projects could play a role in giving end users and the community assurance that inefficient investments were not commenced, and avoiding the investment disincentive that the threat of cost or asset optimisation on the basis of regulatory hindsight imposes. A prudence review would assess whether an investment was commercially and technically prudent at the point of investment, rather than in the light of subsequent experience.

The potential for providing scope for more effective one-off prudence reviews of proposed expenditure represents a useful compromise between the elimination of the perceived 'efficiency' benefits of allowing some potential optimisation and the risks of deterring efficient investment in new and existing gas network and pipeline assets.

*Ex ante* prudence reviews are only of relevance to cost-based forms of regulation which rely upon firm-specific costs. The deficiencies of this form of regulation (as it has been applied by Australian regulatory authorities under the existing gas access regime) have been noted elsewhere. Under alternative access pricing approaches such as price monitoring, price service offerings, or productivity index based regulation issues of cost or asset optimisation by regulatory authorities do not arise.

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<sup>82</sup> See OffGAR *Information Paper – Assessment of AlintaGas Networks Application for Approval of Full Retail Contestability Costs under Section 8.21*, 4 July 2003 <[www.offgar.wa.gov.au](http://www.offgar.wa.gov.au)>

## Recommendation

Scope to provide greater upfront certainty on proposed capital investments could be implemented at least two alternative ways, including:

- inclusion of dedicated new provisions of the National Gas Code
- amendment of existing provisions to overcome identified limitations to binding upfront prudency tests.

For illustrative purposes an amendment of existing provisions of the National Gas Code is included below:

8.21 The Relevant Regulator may at any time at its discretion agree (with or without conditions or limitations) that actual New Facilities Investment by a Service Provider meets, or forecast New Facilities Investment proposed by a Service Provider will meet, the requirements of Section 8.16(a), the effect of which is to bind the Relevant Regulator's decision when the Relevant Regulator considers revisions to an Access Arrangement submitted by the Service Provider. ~~Before giving any agreement under this section 8.21, the Relevant Regulator must conduct public consultation in accordance with the requirements for a proposed revision to the Access Arrangement submitted under section 2.28.~~ For the avoidance of doubt, if the Relevant Regulator does not agree under this section that the New Facilities Investment meets, or (in the case of forecast New Facilities Investment) will meet, the requirements of section 8.16(a), the Relevant Regulator may consider whether those requirements are met when it considers revisions to an Access Arrangement submitted by the Service Provider.

**8.21A If the Relevant Regulator does not agree under these sections that the New Facilities Investment meets, or (in the case of forecast New Facilities Investment) will meet, the requirements of section 8.16(a) the Relevant Regulator shall provide reasons for this decision.**

Significant points in relation to this possible amendment are:

- the removal of the requirement to conduct a public consultation of the kind required for a revision to an Access Arrangement – note that while this proposal would release a regulatory authority from being mandated to use the process set out in Section 2.28 of the Code, it would not preclude the regulator from undertaking some other form of consultation if that was appropriate
- the addition of a requirement for a regulatory authority to give reasons for any refusal to give an upfront binding commitment on proposed capital investment.

# 5. Scope, governance and administration of the regime

## 5.1 Coverage of access pricing under the regime

The current gas access regime promotes an inappropriate scope of access pricing regulation. In particular, the current coverage test under Section 1.9 of the National Gas Code has resulted in a level of coverage of assets under access pricing regulation for gas distribution networks and transmission pipelines that is inappropriate.

All types of regulation have significant direct and indirect costs. Given this, it is important for access regimes to have coverage provisions which require policy makers to ask whether access regulation is necessary in the circumstances, or whether the objectives sought by regulation could be achieved by alternative means.

These are particularly relevant enquiries given the high direct and indirect costs of third party access regulation. Costs may include:

- reduced incentives to invest in new and existing infrastructure assets
- constraints on the scope for infrastructure service providers to deliver and price their services commercially and efficiently
- administrative costs for government and compliance costs for businesses
- inefficient investment in related markets; and
- potential for strategic behaviour by access seekers, service providers and regulatory authorities.<sup>83</sup>

These costs are inherent in access regulation, but also significantly increased in magnitude by the inevitability of regulatory error, and the potential for regulatory failure.<sup>84</sup> In the regulated gas sector, which is subject to intrusive cost-based regulation, there is a need to consider these costs carefully and also to recognise that there are some areas where access pricing regulation of the type contained in the existing Code is unnecessary.

Access pricing regulation should only be applied to gas distribution networks and transmission pipelines where:

- substantial market power exists with a significant risk of an abuse of market power occurring
- inadequate competition from other transmission pipelines or energy sources exists
- coverage will substantially increase competition
- the benefits of coverage will outweigh the direct and indirect costs of regulation.

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<sup>83</sup> Productivity Commission (September 2001), p.59

<sup>84</sup> Productivity Commission (September 2001), p.90-91

There are several circumstances in which applying the conditions highlighted above results in access pricing regulation being unnecessary, including:

- where two or more pipelines serve the same end-market
- greenfield distribution networks or pipelines serving regional areas
- where inter-fuel, network or ‘facilities based’ competition exists.

### **Existing coverage provisions of the gas access regime**

Currently Section 1.9 (a) of the coverage test is derived from the declaration criteria in Section 44(G) (2) (a) of the *Trade Practices Act 1974*. A central concept in the declaration criteria is the so-called ‘promotion of competition’ test.

In the *Review of the National Access Regime* the Productivity Commission found that the ‘promotion of competition’ test was too broad. The Commission found that it had led to third party access being granted in instances where access served only to marginally increase competition, with potentially ambiguous efficiency effects (i.e. minimal or negative net efficiency impacts).<sup>85</sup>

For this reason, the Productivity Commission proposed amending the Part IIIA declaration criteria to remove the ‘promotion of competition’ test and to instead ensure that third party access was available only in situations where it would lead to a ‘substantial increase in competition’ in other markets.<sup>86</sup>

### **Experience under the current regime**

The current National Gas Code and the coverage criteria have resulted in many pipelines and distribution networks which do not meet the conditions described previously being covered. In many cases, applications for revocation of coverage under the Code have been pursued. Transmission pipelines subject to direct competition have had to resort to lengthy and complex appeals processes to try and reach appropriate outcomes on coverage, and pipelines currently under the Code have faced uncertainty over gaining revocation. In addition, many pipeline and distribution assets where the cost of regulation is not outweighed by benefits have either been covered or have remained in the regime.

#### ***Inappropriate initial coverage of regime***

Under the Council of Australian Governments 1997 *Natural Gas Pipelines Access Agreement* a decision was taken by Australian governments to initially have all gas pipeline and distribution networks included in the gas access regime.

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<sup>85</sup> Productivity Commission (March 2001), p.131

<sup>86</sup> Productivity Commission (March 2001), p.141

The policy objectives sought by this decision are not entirely clear. Arguably, they were based around the goal of national consistency, and a view that while few individual gas pipeline and network assets arguably met the ‘national significance’ criteria which justified the development of a third party access regime (and which is enshrined in the Part IIIA of the *Trade Practices Act*), taken collectively, these assets were of national significance. In addition, given the original objective of governments was to implement a ‘light-handed’ approach to regulation, governments may have considered that any burdens and costs likely to follow coverage under the regime were not likely to be unduly high. Governments did, however, ensure that the access regime contained a process for revocation of coverage, signaling that in the future different judgements on these issues and market developments might lead to different conclusions.

It is a widely held view in the gas industry that initial coverage of all network and pipeline assets was costly and unnecessary. The perception of an inappropriately wide initial coverage of assets under access pricing regulation through the Code has been reinforced by the decision of many network and pipeline owners to seek revocation of coverage under the National Gas Code (See [Information Box 3](#)).

**Information Box 3 - Revocations under the gas access regime (1997-2003)**

Temora and South West Slopes networks (NSW)	June 2003 (application)
Citygate to Berrimah pipeline (NT)	May 2003
Mildura distribution system (Vic)	December 2002
Roma distribution system (Qld)	May 2002
Parmelia pipeline (WA)	March 2002
Riverland pipeline (SA)	September 2001
Mildura pipeline (Vic)	September 2001
Eastern Gas pipeline (NSW-Vic)	May 2001
Dawson Valley pipeline (Qld)	November 2000
Kincora to Wallumbilla pipeline (Qld)	November 2000
Peabody – Mitsui Gas pipeline (Qld)	November 2000
Dalby distribution system (Qld)	November 2000
Alice Springs distribution system (NT)	July 2000
Palm Valley to Alice Springs pipeline (NT)	July 2000
South East Pipeline system (SA)	April 2000
Karratha to Cape Lambert pipeline (WA)	September 1999
Beharra Springs pipeline (WA)	August 1999
GGTP to Kalgoorlie Power Station pipeline (WA)	July 1999
GGTP to Leinster Power Station pipeline (WA)	July 1999
GGTP to Mt Keith Power Station pipeline (WA)	July 1999

**Source:** National Competition Council

***Inappropriate coverage of competing pipelines***

The existing coverage criteria of the gas access regime, as interpreted by the National Competition Council (NCC), have led to an inappropriate coverage of competing pipelines by access pricing regulation.

***Duke Eastern Gas Pipeline decision***

The inappropriate level of coverage of access pricing regulation was a major issue in the 2001 ruling of the Australian Competition Tribunal in the *Duke Eastern Gas Pipeline* appeal.

In this ruling the Tribunal overturned a Ministerial decision on coverage of the Eastern Gas Pipeline which was based on a final recommendation from the NCC. The Tribunal found that, contrary to the advice and recommendation of the NCC, it was not possible, under Section 1.9 (a) of the Code, to be satisfied that coverage would ‘promote competition in at least one market...other than the market for the Services provided by means of the Pipeline’.

The Tribunal principally reached this conclusion because it considered that the owners of the Eastern Gas Pipeline had sufficient incentives to maximise throughput, and sufficient competition from both the Moomba-Sydney Pipeline and the NSW-Victorian Interconnect to prevent the EGP from exercising any undue market power.

According to the Tribunal, key issues relating to whether a pipeline meets the criteria set out in Section 1.9 are:

- the commercial imperatives on the pipeline owner to maximise throughput and win market share
- countervailing market power of other market participants
- the existence of spare pipeline capacity in the relevant pipelines
- significant competitive pressures from other pipelines.<sup>87</sup>

The Tribunal made a number of statements of significance relating to the coverage of gas infrastructure assets under the regime. In rejecting arguments made to the Tribunal that regulated tariffs represented the efficient costs of pipeline services the Tribunal commented:

This argument does not take sufficient account of the fact that regulation is a second-best option to competition.<sup>88</sup>

In addition, the Tribunal reiterated its position in *Re: Review of Freight Handling Services at Sydney International Airport* (2000) that:

...regulatory controls designed to mimic the operation of the free market are a “second-best” to the outcomes produced by actual competition.<sup>89</sup>

The *Duke Eastern Gas Pipeline* decision was a key precedent, as it was the first significant revocation under the regime for a large diameter pipeline serving a major end market.

### Moomba-Sydney Pipeline revocation

While the Tribunal decision in *Duke Eastern Gas Pipeline* provided positive guidance of the intended application of the coverage criteria, and despite it effectively overturning a final recommendation of the NCC, it has not led to a practical, effective change in the application of the existing provisions by the NCC.

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<sup>87</sup> Australian Competition Tribunal *Duke Eastern Gas Pipeline Pty Ltd*[2001] AcompT 2, 124

<sup>88</sup> Australian Competition Tribunal *Duke Eastern Gas Pipeline Pty Ltd*[2001] AcompT 2, 110

<sup>89</sup> Australian Competition Tribunal: *Duke Eastern Gas Pipeline Pty Ltd* [2001] AcompT 2, 44

This is illustrated by the assessment process the Council has adopted in relation to the application for revocation of coverage made by EAPL in respect of the Moomba-Sydney Pipeline.

The National Competition Council's application of the existing coverage provisions has highlighted the need to clarify and amend Section 1.9 to ensure access pricing regulation is not unnecessarily imposed on competing pipelines. During the course of the assessment process the Council has:

- recommended an approach of 'regulated competition' where pipelines serving the same competitive end market for pipeline services will be subject to different regulatory approaches
- based its recommendations in favour of access pricing regulation on analytical frameworks inconsistent with the Tribunal's decision in *Duke Eastern Gas Pipeline*
- failed to apply the principles developed in *Duke Eastern Gas Pipeline* in assessing whether coverage of the Moomba-Sydney Pipeline will promote competition
- relied in direct contradiction to *Duke Eastern Gas Pipeline* on draft tariffs developed by the Australian Competition and Consumer Commission from incomplete regulatory price reviews as evidence for efficient pricing levels.

The finding of the Tribunal in *Duke Eastern Gas Pipeline* and the draft and final recommendations of the Council can only be reconciled by inferring a quixotic approach to competition regulation on the part of the NCC. The effect of its decisions is to (apparently reluctantly) accept that the Eastern Gas Pipeline is in competition with the Moomba-Sydney Pipeline, but posit that this does not lead the conclusion that the Moomba-Sydney Pipeline faces competitive pressures from the Eastern Gas Pipeline.

### Regulated competition?

As evidenced by the outcome of the *Duke Eastern Gas Pipeline* appeal and the Moomba-Sydney Pipeline revocation process, there appears to be a marked unwillingness by many regulatory and competition authorities to recognise and encourage actual emerging pipeline on pipeline competition, and a preference for an unsustainable model of 'regulated competition'.

Coverage under the gas access regime should only apply where the potential benefits clearly outweigh the costs. As the Productivity Commission outlined in its review of the declaration criteria under the national access regime:

...given the potentially large costs of inappropriate or poorly-applied intervention to facilitate access, the use of access regulation should be confined to situations where *significant* monopoly power is likely to be present. If regulation is applied in more 'marginal' cases, there is a high probability that the costs of intervention will outweigh the benefits.<sup>90</sup>

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<sup>90</sup> Productivity Commission (September 2001), p.94

Pipelines facing direct competition for a single end-market should not be subject to access pricing regulation as regulation in these cases is likely to result in only a marginal impact on competition. Pipelines facing actual dynamic pipeline competition have strong commercial incentives to compete for market share and maximise throughput.

‘Regulated competition’ of the kind envisaged by the NCC between pipelines is likely to be unsustainable in the medium term, and result in regulatory failure. As the one of the principal advisers to the NCC on the issue of the Moomba-Sydney Pipeline revocation, Janusz Ordover, has stated in other work not commissioned by the NCC:

“Regulated competition” beyond the normal anti-trust oversight is a state of affairs that should be avoided in favour of unimpeded rivalry.<sup>91</sup>

Ordover states this conclusion due to his view that:

...markets, rather than regulations, are the most effective means of delivering to consumers the products and services they want and provide proper signals for investment decisions by market participants. Consequently, proponents of regulations should bear a heavy burden to demonstrate that the relevant markets do not function efficiently and therefore must be supplemented by regulations.<sup>92</sup>

As well as imposing a heavy burden on competition authorities to justify intervention in markets subject to competitive pressures, Ordover considers that a precautionary approach is needed to ensure regulation is not imposed unnecessarily:

For competition to thrive, regulators need to let the market processes work...to facilitate the transition to competition managed by market forces instead of regulations, maximal forbearance should be the guiding regulatory principle. The scope of regulatory remedies ought to be reduced, not expanded, as competition develops. Regulators should face a strong burden of proof to show that there is a significant risk of abuse of a substantial degree of market power before imposing regulatory restraints and burdens on the incumbent firm.<sup>93</sup>

Regulatory authorities such as the NCC and the Australian Competition and Consumer Commission have not accepted such analysis, and have consistently adopted interpretations of coverage provisions of the gas access regime and the national access regime which envisage the widest possible scope for regulatory intervention. During the review of the national access regime the ACCC argued that, notwithstanding the emphasis placed on natural monopoly facilities in the Hilmer Committee report, relevant Council of Australian Government communiqués and the Second Reading Speech of the *Trade Practices Act 1974*, the generic access regime should extend even beyond natural monopoly facilities. It stated that the ‘natural monopoly test’ contained in Section 44 (G)(2)(b) (which is identical to Section 1.9(b) of the existing coverage test of the Code):

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<sup>91</sup> Ordover, J. *Effective Telecommunications Service Competition in Australia and the Need for Regulatory Reform*, November 2000, p.31

<sup>92</sup> Ordover (2000), p.1

<sup>93</sup> Ordover (2000), p.5

Extends beyond the natural monopoly case to natural duopolies or oligopolies, that is, where there are already two (or more) facilities but it would be uneconomic to develop another one.<sup>94</sup>

Whilst such wide and unsupportable interpretations of the current and potential scope of coverage under the gas access regime remain prevalent amongst regulatory and competition bodies, the need for legislative refinements to the coverage criteria to ensure regulation is not imposed where significant potential for competition exists is clear.

The potential for regulatory failure to arise from the pursuit of a ‘regulated competition’ approach to competing pipelines is significant, and is growing. Whilst historically large gas markets were supplied by single pipelines from remote gas basins, gas pipeline developments have increasingly created a national pipeline grid where significant centres of gas demand are or will soon be served by multiple pipelines. Table 13 illustrates actual and potential pipeline competition for major Australian urban centres.

**Table 13 – Pipeline competition in selected Australian urban centres**

Major gas markets	Existing interstate pipelines links	New pipelines proposed or committed	Potential pipeline competition
Sydney	Moomba-Sydney Pipeline <i>Eastern Gas Pipeline</i> NSW-Vic Interconnect	-	Yes
Melbourne	<i>Eastern Gas Pipeline</i> NSW-Vic Interconnect <i>Tasmanian Gas Pipeline</i>	<i>SEAGas Pipeline (under construction)</i>	Yes
Brisbane	South West Queensland Pipeline	Papua New Guinea Pipeline	No (possible from 2006-07)
Perth	Dampier to Bunbury Natural Gas Pipeline <i>Parmelia Pipeline</i>	-	Yes
Adelaide	Moomba-Adelaide Pipeline	<i>SEAGas Pipeline (under construction)</i>	Yes (completion due January 2004)
Canberra	Moomba-Sydney Pipeline <i>Eastern Gas Pipeline</i>	-	Yes

**Note:** Italics denote pipelines currently not covered by the gas access regime, or pipelines not yet completed which are not proposed to be covered by the regime.

The issue of how the regulatory framework should evolve to appropriately respond to the emergence of inter-pipeline competition for nearly all of Australia’s largest urban centres will be critical to the sustainability and effectiveness of the regime over the next decade. In AGA’s view, this challenge is best met by ensuring that access pricing regulation as implemented under the current gas access regime is not applied to competing pipelines, and that access pricing regulation is restricted to where it would promote substantial increases in competition.

<sup>94</sup> ACCC Submission to the Productivity Commission Review of the National Access Regime, December 2000, p.71 (footnote 87) See <[www.pc.gov.au](http://www.pc.gov.au)>

### *Inappropriate coverage of greenfield network and pipeline developments*

Mandatory coverage under the gas access regime of greenfield network and pipeline developments, including new distribution network extensions, network augmentations or transmission pipelines is unnecessary and inappropriate.

Access pricing regulation was developed to address the potential for the abuse of market or monopoly power by infrastructure service providers. Greenfield network or pipeline developments have a number of features which make access pricing regulation inappropriate and unnecessary. These developments:

- are contestable in the design and construction phase and economically marginal (otherwise they would have already been developed)
- face competition from multiple incumbent fuel sources
- are underpinned by commercial contracts with a small number of large potential gas users with significant countervailing market power.

These features of greenfield gas markets mean that there is limited market power and no ability or incentive to seek to exploit any market power that greenfield projects might possess.

In addition, access pricing regulation of small greenfield distribution developments typically involves high upfront regulatory costs which not only are not balanced by any potential benefit, but which actually undermine the economic viability of marginal projects. The application of access pricing regulation to gas distribution network extension or pipeline projects where the proponent faces strong commercial imperatives to increase market share, and where competing incumbent fuel sources are present, has proved costly, unnecessary and counterproductive.

#### Contestability in construction phase and economic marginality

Greenfield gas distribution and pipeline projects are contestable in the construction phase. Any project proponent is free to propose and construct greenfield gas developments, provided they meet the necessary technical and safety requirements. In addition, existing gas distribution and transmission businesses all have the ability to propose and compete for viable projects.

A feature reinforcing the marginality of greenfield developments is that typically even small regional gas extension projects involve high upfront costs to the gas distribution business. Gas distribution businesses often face significant periods of early losses on these projects.

Due to the high upfront costs and contestability of projects in the construction and design phase developments are likely to be economically marginal. As the Productivity Commission has stated:

...given the potentially large costs of inappropriate or poorly-applied intervention to facilitate access, the use of access regulation should be confined to situations where *significant* monopoly power is likely to be present. If regulation is applied in more

'marginal' cases, there is a high probability that the costs of intervention will outweigh the benefits.<sup>95</sup>

The Commission also stated in its review of the generic national access regime:

...the Commission considers that investments which are only expected to be marginally profitable should not be subject to access regulation.<sup>96</sup>

The AGA considers that this principle, accepted by the Commonwealth Government interim response to the *Review of the National Access Regime* should be incorporated into the coverage criteria of the gas access regime to ensure access pricing regulation is not imposed on contestable, marginal projects.

#### Competition from existing incumbent fuels

Greenfield gas distribution and pipeline projects face actual competition for potential industrial, commercial and residential customers from incumbent energy sources such as electricity, LPG, heating oil and wood.

The Australian Competition Tribunal emphasised this point in rejecting the need to cover small regional networks in the *Duke Eastern Gas Pipeline* decision:

...as gas has not previously been available...the prices of existing forms of energy will be a countervailing force on the price of gas and pipeline services...In the regional markets, other forms of energy warrant consideration because gas is being offered as an alternative to existing forms of energy.<sup>97</sup>

This competition requires proponents of greenfield distribution and pipeline projects to minimise gas transportation tariffs to ensure that the final delivered price of gas is low enough to encourage industrial, commercial and residential users to undertake the significant conversion costs to switch to natural gas.

#### Countervailing market power from potential users

The economic viability of greenfield development projects are also typically underpinned by a small number of well-informed large industrial and commercial customers with significant countervailing market power to the project proponent. This acts as a further constraint on the exercise of any potential market power.

As the Australian Competition Tribunal noted in the *Duke Eastern Gas Pipeline* decision:

...the ability to monopoly price would be restricted because potential users have bargaining power, the costs of conversion to enable to use of gas are significant....In other words, the prices of existing forms of energy will be a countervailing force on the price of gas and pipeline services.<sup>98</sup>

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<sup>95</sup> Productivity Commission (September 2001), p.94

<sup>96</sup> Productivity Commission (March 2001), p.191

<sup>97</sup> Australian Competition Tribunal: *Duke Eastern Gas Pipeline Pty Ltd* [2001] AcompT 2, 129

<sup>98</sup> Australian Competition Tribunal: *Duke Eastern Gas Pipeline Pty Ltd* [2001] AcompT 2, 129

## Application of the gas access regime to greenfield and regional projects

The application of access regulation to greenfield projects during the operation of the National Gas Code has featured high regulatory costs which undermine scope for gas market development. This has resulted in significant number of revocation applications for greenfield gas network and pipeline projects.

Regulatory costs for greenfield projects, particularly distribution network extensions and augmentations, are significant under the current gas access regime. An obligation to prepare, submit, and maintain an Access Arrangement and Access Arrangement Information for a small regional network, for example, typically imposes costs of between \$150 000 to \$300 000. This can effectively impose an extremely high ‘per customer’ cost on final users of the network. For small greenfield distribution networks and lateral pipelines, the benefits of removing the costs of unnecessary access regulation can be critical to building new gas demand in competitive energy markets. Table 14 illustrates the total and per customer costs of coverage under the gas access regime of a number of regional gas networks that have sought, or are seeking, revocation of coverage under the existing gas access regime.

**Table 14 – Gas distribution network revocations under the National Gas Code**

Network	Date of application	Length (km)	Network customers	Annual volume (TJ)	Possible regulatory costs (per five years)	Minimum savings per customer (per five years)
Alice Springs	April 2000	30	870	110	\$250 000	\$287
Dalby	August 2000	87	2300	160	\$150 000	\$65
Roma	February 2002	21	305	20	\$150 000	\$492
Mildura	September 2002	99	890	250	\$150 000	\$169
Temora and NSW South West Slopes	June 2003 (Pending final recommendation)	100	2052	167	\$200 000	\$97

A significant point to consider in assessing the costs of coverage of greenfield networks and pipelines is that where an asset is covered an Access Arrangement must be prepared and maintained under current National Gas Code whether or not any party has requested third party access to the asset concerned, and regardless of whether there has been any commercial dispute about the terms and conditions of access. For most small greenfield distribution networks or lateral pipelines, no party has ever sought, or been denied, third party access.<sup>99</sup>

Since the introduction of the National Gas Code in 1997, there has been growing evidence and recognition that access pricing regulation of greenfield gas distribution networks and transmission pipelines is inappropriate and unnecessary. During this period, the owners of three gas distribution networks and 14 gas transmission pipelines have successfully applied to have the regulated status of these assets under the National Gas Code revoked (See Information Box 3). Revocation of transmission

<sup>99</sup> See for example National Competition Council *South West Slopes and Temora distribution networks – application to revoke coverage under the New South Wales Gas Access Regime – Issues Paper*, July 2003, p.26

pipelines and distribution networks from the Code allows them to operate more effectively, without costly and complex access pricing arrangements.

The majority of revocation decisions by State and Federal energy ministers have related to smaller transmission pipelines and distribution networks located in regional areas. These decisions have been made on the basis that competition and efficiency would not be promoted by regulation, and that the high costs of regulation outweigh any potential benefits.

The key message from the numerous revocations of regional gas infrastructure from Code coverage is that the application of access regulation itself is inappropriate to the particular circumstances of that infrastructure and that the focus should be on ensuring that the coverage criteria of the regime avoids the imposition of access pricing regulation where it is costly and unnecessary.

### ***Recognising potential for network and fuel competition***

The future coverage arrangements for the gas access regime must more adequately recognise the emergence of inter-network (or ‘facilities-based’) and inter-fuel competition. The third party access regime and access pricing regulation have as their basis an assumption that some types of (typically) network infrastructure represent natural monopolies which, if unregulated, have the potential to exert monopoly power to the detriment of economic efficiency and investment in upstream and downstream markets.

While this is an uncontested principle, there is significant scope for uncertainty over the extent to which network businesses may be subject to effective competition (or competition at the margins) from other infrastructure services which serves to limit market or monopoly power, or constrain its effective exercise.

Examples of infrastructure with network characteristics subject to significant competitive pressures include:

- telecommunications (local fixed loop services and mobiles)
- road transport (private toll roads and publicly funded roads, and other transport modes)
- television (free to air and cable based services).

A key characteristic of these examples is not that a perfectly substitutable service is offered, but that significant competition exists between the different services.

It is critical that infrastructure access regimes and those authorities that administer them are sufficiently flexible to recognise the emergence of actual or potential competition even in non-traditional infrastructure sectors such as energy networks. Over the medium term, reliance on emerging competition, or competition at the margins, is more likely to lead to superior outcomes for the community than the application of access regulation.

The existence of competition (at least at the margins) between gas and electricity is well established. This competition is likely to increase given convergence in the energy industry and technological developments (including the wider penetration of technologies such as gas-fired distributed generation providing electricity directly to energy users from within the network).<sup>100</sup>

At least one significant Australian academic commentator on third party access regulation has stated in relation to the relatively mature gas distribution network in Victoria that:

Inter-fuel competition would not be a perfect regulator of the gas industry in Victoria, but it might offer significant benefits relative to intrusive hands-on regulation by the [then] Office of the Regulator-General...<sup>101</sup>

Given such views the future gas access regime should accommodate the strong potential for the emergence of greater competition between, for example, electricity and gas network services. In the first instance this should serve to reinforce the need for the coverage of the gas access regime to only apply where coverage would result in a substantial increase in competition, and where the benefits clearly outweigh the costs.

## Recommendation

The National Gas Code should be amended to allow for coverage of a distribution network or a transmission pipeline only where a ‘substantial’ increase in competition would result. This amendment to the coverage criteria would be consistent with the final recommendations of the Productivity Commission *Review of the National Access Regime*.<sup>102</sup>

Section 1.9 of the existing Code could be amended in the following form:

- 1.9 Subject to sections 1.4(a) and 1.10, the NCC must recommend that the Pipeline be Covered (either to the extent described, or to a greater or lesser extent than that described, in the application) if the NCC is satisfied of all of the following matters, and cannot recommend that the Pipeline be Covered, to any extent, if the NCC is not satisfied of one or more of the following matters:
- (a) that access (or increased access) to Services provided by means of the Pipeline would ~~promote competition~~ **lead to a substantial increase in competition** in at least one market (whether or not in Australia), other than the market for the Services provided by means of the Pipeline;
  - (b) that it would be uneconomic for anyone to develop another Pipeline to provide the Services provided by means of the Pipeline;
  - (c) that access (or increased access) to the Services provided by means of the Pipeline can be provided without undue risk to human health or safety; and
  - (d) that access (or increased access) to the Services provided by means of the Pipeline would not be contrary to the public interest.

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<sup>100</sup> See AGA-ABARE *Price Elasticities of Australian Energy Demand*, AGA Research Paper, September 1996

<sup>101</sup> Dr Stephen King, Presentation to ACCC Conference *Incentive Regulation*, 18 November 2000, p.9

<sup>102</sup> See Productivity Commission (September 2001), p.xxxiii

## **5.2 Ensuring appropriate Associate provisions**

The operation of the current associate contract provisions of the National Gas Code and their application by regulatory authorities has highlighted the need to ensure:

- greater clarity regarding what constitutes an associate contract under the regime
- the operation and application of associate contract provisions does not impact on competitive neutrality or result in unnecessary regulatory barriers to gas market growth.

### **Appropriate scope of Associate contract requirements**

Recent regulatory decisions have highlighted the need to ensure the National Gas Code's associate contract provisions are focused in their scope and application on the intended policy objective.

Associate contract provisions in the National Gas Code were designed to limit scope for service providers to engage in potentially anti-competitive conduct which would have an adverse impact on competition in downstream retail gas markets

The policy objective sought was to ensure that service providers did not substantially lessen competition in these markets through entering into potentially anti-competitive arrangements which adversely impacted on other downstream participants and competition generally

A hypothetical example would be where service provider (A) offered gas transportation tariffs to its associated retail business (B) at a substantial discount to the tariffs it offered for the same service to a non-associated retail business (C). This potentially has the effect of distorting competition between businesses B and C. This situation can in some circumstances represent the use of market power in another market (the gas transportation market) to a distortionary and anti-competitive effect in a downstream market.

Regulated gas businesses accept the need for appropriate regulatory oversight in regards to associate contracts and agreed as part of the broader gas reform process to these provisions applying to their operations. In association with the ring fencing provisions of the National Gas Code (contained in Part 4 of the Code) this oversight recognises that network owners must deal at 'arms length' with downstream market participants.

The need for these arrangements is particularly clear where, as was the case at the outset of gas market reform, vertically integrated gas businesses both owned gas infrastructure and retailed gas transported through the infrastructure.

Recently the Queensland Competition Authority has sought access to a proposed service agreement being finalised between ENERGEX Ltd (a Queensland government owned energy network company) and Allgas Energy Ltd, an associated company which owns approximately half of the Queensland gas distribution system (principally servicing Brisbane and urban areas in South East Queensland). The service agreement

would require ENERGEX to manage the gas network assets on behalf of Allgas Energy.

This attempt to interpret expansively the scope of the associate contract provisions of the National Gas Code represents a flawed public policy approach. This approach:

- does not adequately consider the development and contestability of national and international asset management markets
- fails to reflect that efficiency benefits derived from the use of service contracts will still be subject to distribution to end users under the gas access regime
- unnecessarily seeks to impose intrusive regulatory oversight and control over commercial matters most efficiently under the scope of the service provider.

The approach also represents an unsupported and questionable application of the provisions of the gas access regime. The application of associate contract provisions to service agreements not related to downstream retail markets:

- is unsupported by the relevant provisions of the National Gas Code
- is contrary to the practice and application of the provisions by other regulatory authorities (see [Table 15](#)).

**Table 15 – Regulatory treatment of asset management agreements**

Jurisdictional regulator	Service providers with agreements	Significant contracting party	Type of service contract	Has regulator been provided with or approved the agreement?	Has the regulator sought access?
Essential Services Commission (Victoria)	United Energy	National Power Services	Asset management	No	No
	Envestra	Origin Energy Asset Management	Asset management	No (not an Associate)	No
	TXU Networks	Tenix, Abigroup	Technical asset management	No (neither an Associate)	No
Independent Pricing and Regulatory Tribunal (New South Wales)	AGL Gas Networks	Agility	Asset management	No	No
South Australian Independent Pricing and Access Regulator (South Australia)	Envestra	Origin Energy Asset Management	Asset management	No (not an Associate)	No
Queensland Competition Authority (Queensland)	Allgas Energy	ENERGEX	Asset management	No	Yes
	Envestra	Origin Energy Asset Management	Asset management	No (not an Associate)	No
Office of Gas Access Regulation (Western Australia)	Alinta	National Power Services	Asset management	No	No

## **Barriers to meeting demand growth and competitive neutrality**

The current National Gas Code provisions relating to the approval of associate contracts also require review. In particular, a requirement for distribution businesses to submit commercially sensitive agreements for approval to the regulatory authority before they are entered into constrains the ability of a service provider with associated but ring fenced retail businesses to respond in a timely manner to potential load growth available as potential throughput to the distribution business.

For example, if a contract for the sale of gas relating to a new potential large contestable customer must be presented by the distribution business and the associated ring fenced retail business to the regulatory authority, then substantial delays are possible. These delays could result in the failure of the regulated service provider to grow the gas network throughput in a timely manner.

An issue of competitive neutrality of regulation also arises, as new entrant retail businesses without an associated network business may be more able to quickly respond with potential contractual offerings as they would not need to seek their approval by any regulatory body. This has the potential to result in economically inefficient market outcomes.

One underlying cause of this potential barrier to efficient market growth and competitive neutrality is that regulatory authorities have too much discretion over the issue of whether a commercial arrangement is deemed to be an associate contract (and therefore whether an agreement must comply with the procedures – see discussion in the previous section).

The requirement to present commercial arrangements to a regulatory authority for approval may also place both the service provider and an incumbent retailer at a disadvantage by leading to the disclosure of commercially sensitive information.

The existing associate contract provisions deal with the matter of protecting commercially sensitive material within the agreement.<sup>103</sup> The National Gas Code provides for regulators to conduct public consultations on proposed associate contracts as they consider appropriate.<sup>104</sup> Regulators have generally interpreted this as necessitating a public process including a period for submissions and representations from interested parties. There may be situations, however, where disclosure of the fact that a distribution business is seeking to have a commercial agreement covering, for example, discounted gas transportation tariffs, may lead to a loss of some part of the net present value of benefits sought by the commercial arrangement.

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<sup>103</sup> See Section 7.3 of the National Gas Code

<sup>104</sup> Section 7.3 National Gas Code

## Recommendation

Potential approaches to improve the process of approval of associate contracts could take the form of amendments to Sections 7.1-7.6 of the National Gas Code to include:

- a requirement on service providers to notify of the entry into an Associate Contract, rather than the current requirement to seek authorisation (by amendment to Section 7.1)
- provision for a process not involving public consultation for commercially sensitive agreements (by amendments to Section 7.2-7.3)
- a presumption in favour of approval and a streamlined process if the service provider is merely offering a standard unbundled transportation service at the standard reference tariff (by amendment to Section 7.2).

Addressing the issue of achieving greater clarity in the framework regarding what constitutes an associate contract could be achieved by a clarification of Section 7 or the formal 'Associate Contract' definition under the National Gas Code.

The AGA considers that although the current Code does not support the contention that service agreements or asset management contracts may constitute Associate Contracts, the current National Gas Code could be usefully amended to reduce the potential for inappropriate regulatory overreach in this area in the future.

An option to achieve clarification of the operation of the Associate Contract provisions is through the insertion of a new section directly into the text of the any revised National Gas Code:

**Section 7.1A**     **Contracts for the provision of non-haulage services between an Associate and a Service Provider shall be exempt from Section 7.1-7.6**

## 5.3 Regime governance and amendment

The governance and institutional arrangements which underpin the operation of the gas access regime require significant changes to ensure the regime operates effectively, is accountable to all stakeholders, and continues to reflect the policy objectives determined by governments.

### Current code amendment processes and institutions

The principal body responsible for governance of the regime is the National Gas Pipeline Advisory Committee (NGPAC) which is established by the 1997 *Natural Gas Pipelines Access Agreement*.<sup>105</sup> Section 9 of this Agreement details the operation of the Code administering body.

### Flaws in the current code amendment processes and institutions

The current Code amendment process and institutions are affected by a number of serious deficiencies. These include:

- inadequate opportunities for formal participation by owners of sunk capital investments impacted by the gas access regime in National Gas Code amendment procedures and processes
- an inappropriate role for regulatory authorities in the initiation of, and decision-making in relation to, proposed amendments to the Code.

These matters are considered in detail below.

### Recognising the role of regulated businesses in governance arrangements

The *Natural Gas Pipelines Access Agreement* originally envisaged a light-handed regulatory framework which included scope for the participation of regulated gas businesses in National Gas Code institutions and administration. This partially was a reflection of the original development of the National Gas Code which was undertaken by the joint industry-government Gas Reform Implementation Group.

Representatives of regulated gas businesses, including the AGA, have participated in meetings and discussions of NGPAC since the introduction of the regime in 1997. In 2001 the AGA developed and introduced the first ever industry sponsored amendments to the National Gas Code to be agreed since the introduction of the Code in 1997. The AGA has taken the opportunity of its representation on NGPAC to provide input on a wide range of Code amendments and proposals.

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<sup>105</sup> The AGA understands the Commission may soon receive a 'NGPAC Secretariat' submission. This submission has not been subject to substantive consultation or received the endorsement of NGPAC members.

The AGA and other industry bodies representing gas infrastructure owners are best characterised as partial or ‘observer’ members of NGPAC. Under Clause 9.3 of the *Natural Gas Pipelines Access Agreement* industry participants are not entitled to vote at NGPAC meetings.

The status of industry representatives as NGPAC members without voting rights is inappropriate due to the:

- significant potential impact of National Gas Code amendments on the property rights of service providers arising from substantial sunk capital investments
- objective of ensuring the access regime is informed by and responsive to industry and market developments
- role played by regulatory authorities charged with applying the National Gas Code in initiating and advocating significant Code amendment proposals.

Ensuring adequate representation from regulated businesses whose fundamental property rights are impacted by the gas access regime in the Code amendment process is critical. Current representation of these parties as merely one of a number of interested parties in the development of Code amendment proposals is inconsistent with the unique property rights service providers possess and the direct impacts which changes in the access regime may have on these rights.

Currently, the *Natural Gas Pipelines Access Agreement* provides for equal representation between:

- service providers with a total of at least \$10 billion in sunk capital directly impacted by the regime
- large end users whose dominant interests as represented through NGPAC largely consist of supporting the application of forms of marginal cost pricing and more intrusive and heavy handed regulatory approaches
- gas producers that, due to limited inter-basin competition and a lack of effective competition arrangements in the upstream sector, in many circumstances may be able to directly capture some or all of the benefits of reductions in transportation tariffs under approaches akin to forms of ‘net back’ pricing.

While representatives of end users and gas production businesses have individual perspectives which should be given appropriate weight in decisions on the development of the gas access regime through the Code amendment process, their particular commercial interests are not impacted as directly as those of service providers under the regime. Critically, their fundamental property rights (including a right to seek to appropriately price their products) are not impacted by the gas access regime in the same manner as those businesses directly regulated under the regime.

Due to the direct impact of the gas access regime (and proposals to alter the regime) on the property rights of service providers, representatives of service providers should in any future arrangements possess formal voting rights which are provided to other members of the current Code administering body.

## **Ensuring separation of policy making and regulatory functions**

A second deficiency in the operation of the current governance and administration arrangements of the National Gas Code is an inadequate separation between the functions of policy making (including rule setting) and the administration and application of policy frameworks (enforcement of rules).

This inadequate separation arises from the role and representation of regulatory authorities with obligations to apply the provisions of the gas access regime on the current Code administration and amendment body. The two most critical aspects of this inadequate separation are:

- representation of multiple regulatory authorities on the body which considers Code amendment proposals
- inappropriate initiation by regulatory authorities of Code amendment proposals.

### ***Representation on Code change body***

It is inappropriate for regulatory authorities to engage in policy determinations regarding the provisions of the gas access regime in addition to their legitimate role in applying and administering the regime.

No regulatory authority (in fact no party) should be in the position of playing a significant role in both making decisions on the rules of the gas access regime and also applying those rules. This does not facilitate independent, transparent and accountable decision-making on the policy issues raised in almost every significant proposal to alter the gas access regime.

The direct participation of regulatory authorities both in regulatory rule making bodies and in the application of those rules represents a potentially harmful concentration of executive power. In addition, it can undermine the confidence of regime participants that the application of access regulation will be transparent, independent of bias potentially created by policy preferences on part of the regulatory authorities stemming from any consumer advocacy obligations, and informed by clear policy directions from governments.

### ***Initiation of Code change processes***

Another significant component of an inadequate separation between policy decisions on the rules of the gas access regime and the more limited role of administration and application of the provisions of the regime is the significant role played by regulatory authorities in initiating Code changes.

Regulatory authorities have played an active role through the existing Code change and administration body in promoting a series of Code amendments. [Table 16](#) below

summarises significant amendments made to the gas access regime since its introduction in 1997.

More than one-third of a total of seventeen proposed amendments to the National Gas Code since 1997 have been initiated by regulatory authorities represented on NGPAC.

**Table 16 – Actual and proposed amendments to the gas access regime (1997-2003)**

Code Amendment	Purpose	Proposed	Outcome
Real vs historical cost (December 1999)	To clarify that Reference Tariffs may be set in real as well as nominal terms	Victoria	Adopted
Associate contracts (December 1999)	To clarify the eligibility of parties to be considered Associates	Victoria	Adopted
End user information release (December 1999)	To provide scope for service provider to provide some user information without requirement of approval from end user	Regulatory body	Adopted
Factors to consider in making ring fencing decisions (November 2000)	Technical clarification that Relevant Regulators can have regard to the tax costs of compliance with ring fencing obligations	Western Australia	Adopted
Types of legal entities under the Code (November 2000)	Allows foreign incorporated entities to be Service Providers under the Code	Victoria	Adopted
Approval of revised Access Arrangements (November 2000)	Technical amendments to allow the approval of revised Access Arrangements which substantially incorporate required revisions	Victoria	Adopted
End user information obligation (November 2000)	To oblige service providers to release certain end user information on request of end user	Regulatory body	Adopted
Elimination of dual coverage risk – Code and IIIA (August 2001)	Sought to remove potential risk of overlapping coverage and access obligations under Code and Part IIIA	Epic Energy - Australian Pipeline Industry Association	Withdrawn
Efficiency gains under Cost of Service (November 2001)	Technical clarification that IRR/NPV revenue calculations may include sharing of efficiency gains	-	Adopted
Regulation 8 - Cross period Incentive Mechanism (November 2001)	Technical clarification that incentive mechanisms may operate between regulatory periods	Regulatory bodies	Adopted
Requirement for spare capacity register (June 2002)	Removed regulatory requirements not relevant to gas distribution networks	AGA	Adopted
Regulation 1 & 2 (June 2002)	To clarify that Reference Tariffs may be varied in accordance with approved tariffs methodologies and provide arrangements to support this.	Regulatory bodies	Adopted
Requirement for queuing policy (June 2002)	Removed regulatory requirements not relevant to gas distribution networks	AGA	Adopted
Market development costs (June 2002)	Highlighted that non-capital costs could include costs incurred in market development activities	AGA	Adopted
Information collections requirements (April 2003)	Expand scope of information collection powers under Section 4.1-2	Regulatory bodies	Rejected
Merging of Access Arrangements (April 2003)	Provides for a single Access Arrangement to cover two or more pipelines	Envestra-AGA	Adopted
New Facilities Investment (April 2003)	Clarify that New Facilities Investment may include capital assets not directly associated with the capacity of a pipeline	Western Australian regulator	Adopted

**Source:** National Gas Pipelines Advisory Committee - Annual Reports 1998-2001

The majority of these amendments have had as their original purpose technical clarifications of the intended operation of the National Gas Code. The full

consideration of almost every proposed amendment, however, has raised significant policy issues.

Regulatory authorities have a legitimate role in providing advice and guidance to government policy agencies on proposed policy changes, due to their significant experience in applying the gas access regime. This role does not necessitate formal representation of multiple Federal, State and Territory regulatory bodies on the Code change body. As independent regulatory bodies, advice may be sought from regulators by central government policy agencies at any time through the consideration of a Code amendment. Further, independently of any request, regulatory agencies could volunteer the perspectives gained from their technical experience in applying the regime to policy agencies on possible changes to the regime.

Direct representation of both multiple regulatory authorities and central policy agencies on the formal Code change body creates the potential for policy decisions to be subject to a range of unresolved conflicting imperatives, and to be unduly weighted towards technical matters rather than broader issues such as whether the access regime is achieving its intended policy objectives. On matters relating to the highly technical aspects of the application of access regulation or potential unintended impacts of amendments to the regime, government policy agencies may derive considerable value from briefings from regulatory authorities. Regulatory authorities, however, cannot be and are not charged with, the same responsibilities, or informed by the same wide range of considerations as to what constitutes the public interest, as central policy agencies.

As a principle, AGA considers that scope to introduce potential amendments to the regime should be limited to:

- service providers with property rights which are directly impacted by the regime
- policy agencies of Commonwealth, State and Territory governments (with the opportunity to take forward proposals on behalf of regulatory authorities or the Code Registrar/administrator if considered appropriate)
- representatives of gas market participants (such as end users or gas production businesses).

Revised arrangements reflecting these principles would ensure:

- improvements in transparency and accountability from clearer separation between the policy making role of governments in determining the structure of regime and the more limited role of regulators in administering and applying the rules of the regime
- amendment proposals with significant policy implications were appropriately considered by government policy agencies prior to their introduction in the formal Code change process
- greater focus on ongoing monitoring of the effectiveness of the regime in achieving clear policy objectives

- more adequate recognition of the existing property rights of service providers by ensuring fully effective representation through the Code administering and change process
- maintenance of an appropriate role for market participants in shaping the regime.

## Recommendation

The Council of Australian Governments *Natural Gas Pipelines Access Agreement* should be amended to alter the operation and membership of the current National Gas Pipeline Advisory Committee in accordance with the principles discussed above. For example, the following amendments could be made to the existing provisions, or their equivalent provisions could be included in any new instrument governing the administration of the National Gas Code (see bold and strikethrough text):

### 9. ADMINISTRATION OF THE CODE

- 9.1 Administration of the Code will be the responsibility of a National Gas Pipelines Advisory Committee (**NGPAC**), to be established by the Parties under this agreement.
- 9.2 The NGPAC will be composed as follows:
- (a) an independent Chair to be appointed collectively by the Parties;
  - (b) the Code Registrar;
  - (c) one person nominated by each Party;
  - (d) one person nominated by each of the following industry groups:
    - Australian Gas Association (AGA),
    - Australian Petroleum Production and Exploration Association (APPEA),
    - Australian Pipeline Industry Association (APIA), and
    - Business Council of Australia Energy Working Group (BCA);
  - (e) ~~two~~ **one** representatives of State and Territory Relevant Regulators appointed by the Parties on a rotation basis, ~~with Victoria and New South Wales to provide the first two such representatives;~~ and
  - (f) one representative nominated by the Australian Competition and Consumer Commission.
- ~~The National Competition Council will be invited to participate as an observer and adviser.~~
- 9.3 Only persons nominated by a Party under clause 9.2(c) **and persons nominated by service providers under clause 9.2(d)** will be entitled to vote at NGPAC meetings.
- 9.3a **Only persons nominated by a Party under clause 9.2(c) and persons nominated by service providers under clause 9.2(d) will be entitled to propose amendments to the Gas Pipeline Access Law (including the Code).**
- 9.4 The functions of the NGPAC will be to:
- (a) ~~monitor, review~~ and report on the operation of the Gas Pipelines Access Law (including the Code);
  - (b) provide advice to the Ministers on interpretation and administration of the Gas Pipelines Access Law (including the Code);
  - (c) prepare information on the Gas Pipelines Access Law (including the Code) for general publication; and
  - (d) make recommendations on amendments to the Gas Pipelines Access Law (including the Code) to Ministers.

## 6. Responses to other key issues

### Ring fencing arrangements

The overriding policy requirement for ring fencing obligations are that the requirements are clear, workable, and do not result in intrusive and heavy handed approaches to either information provision or access pricing regulation.

The existing provisions of the National Gas Code relating to ring fencing have been broadly effective and have been used as a model for ring fencing arrangements in other sectors (including the electricity sector).

The AGA does not consider that ring fencing arrangements have had a detrimental impact on investment, and, to date, compliance costs for ring fencing arrangements in most jurisdictions have not been outweighed by the benefits to the community arising from such arrangements.

A significant exception in this regard is the recent introduction of the *General Accounting Guidelines for Gas Distribution Network Service Providers* by the Queensland Competition Authority in May 2003. These guidelines, published under the ring fencing section of the National Gas Code, have the potential to impose significant compliance and information gathering burdens on the two distribution businesses servicing the smallest capital city gas network in Australia (with average residential usage of 12 gigajoules per annum, compared with 60 gigajoules in Victoria). The guidelines also represent a significant expansion of regulatory powers to support an intrusive approach to the application of access pricing regulation which is inconsistent with the existing provisions and deliberate limitations of the regime on the powers of regulatory authorities. This issue highlights the ability of regulatory authorities to interpret the National Gas Code in a manner that disregards the underlying principles of the regime. Service providers currently have a limited ability to challenge such misinterpretations (See **Part 3.4**).

More positively, the AGA notes that in a number of cases regulatory authorities have agreed to waive some limited ring fencing obligations (e.g. in relation to marketing staff) in recognition of the need in some smaller markets to work cooperatively to build gas markets. Regulatory authorities also appear to broadly consider that there is no evidence of any deficiencies in relation to the existing ring fencing provisions of the regime.<sup>106</sup>

The AGA also notes that competitive pipelines operating outside of the gas access regime have adopted similar ring fencing arrangements to provide market participants with confidence of the appropriate separation of regulated and non-regulated activities.

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<sup>106</sup> See for example Dr Tom Parry 'Gas Dealing: Dealing with the Issues Arising from Common Ownership' Presentation to ACCC Conference *Regulation, Industry Structure and Market Power*, 31 July 2003.

## Information gathering

The information gathering provisions of the gas access regime are expansive and their application by regulatory authorities have in many circumstances resulted in unnecessary costs to regulated gas businesses. Information gathering costs are particularly high under the heavy-handed forms of cost-based access pricing applied by existing regulators. Reliance on less intrusive approaches to access pricing detailed in **Part 3.3** and Appendix A would considerably reduce the cost of current information gathering requirements.

Competition and regulatory authorities have recognised that the information requirements of the gas access regime are relatively prescriptive in nature.<sup>107</sup> Under the gas access regime regulatory authorities have a range of information provisions to support the assessment of Access Arrangements and monitor compliance with the Code, including:

- Sections 2.6-2.7 of the Code
- Attachment A of the Code
- Section 41 of the *Gas Pipelines Access Law*.

Under these combined provisions regulatory authorities have, or can obtain, all of the relevant information required to assess proposed Access Arrangements or monitor compliance with the Code.

An ongoing issue of concern for regulated gas businesses is an increasingly reliance by regulatory authorities on effectively unbounded information collection obligations contained under State-based operating license regimes. The exercise of information collection powers contained in general license obligations for the purpose of informing regulatory determinations under a national gas access regime which provides dedicated information collection provisions is contrary to regulatory best practice and the principle that powers should be exercised for the purpose for which they were granted.

## Treatment of extensions and expansions

Regulated gas businesses consider the existing extensions and expansions provisions of the National Gas Code are broadly appropriate. One significant issue in the operation of these provisions has been the potential for State and Territory based licenses, legislation and guidelines to alter the operation of these provisions. For the AGA, these jurisdictional specific arrangements are inconsistent with the objective of a consistent national gas access regime, and should be removed.<sup>108</sup>

The AGA's proposals for other reforms to the treatment of network extensions and expansions are contained in **Part 4.2**.

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<sup>107</sup> National Competition Council *Submission in response to the Productivity Commission's position paper*, July 2001, p.42

<sup>108</sup> See Section 3 *Victorian Gas Distribution System Code* dealing with connections and augmentations. Schedule 2 of this Code has material impacts on the application of Section 8.16 of the National Gas Code in Victoria.

## **Institutional and governance arrangements**

The wider issue of regulatory roles and responsibilities is unlikely to be determined through the current review. The AGA supports independent economic regulators administering regimes which are determined by the government on behalf of the community. Separate regulatory bodies should determine coverage and access pricing matters, to prevent any regulatory authority from effectively determining the scope of its own jurisdiction.

The AGA's proposals for other reforms in relation to institutional and governance issues are contained in **Part 5**.

The Australian Gas Association  
29 August 2003

## Appendix A – Alternative access pricing approaches

There are a variety of possible alternative access pricing approaches which could be allowed for under a revised National Gas Code, including cost-based and non-cost based approaches.

A high level overview of the operation of some of the different access pricing approaches may be gained by comparing two significant features - if or how initial access prices are determined, and how changes in access prices occur through the regulatory period (See [Table 17](#)).

**Table 17 – Key features of alternative access pricing approaches**

Access pricing approach	How are initial access prices set?	How do changes in access prices occur?
Price monitoring	Initial prices have been set at broadly efficient levels by previous cost-based reviews or by competition from existing fuel sources or pipelines	Prices change through normal commercial processes reflecting changes in underlying costs
Price-service offerings	Price-service offerings negotiated with major customers and consultations with end consumers	Service provider offers updated price service offerings through time on an 'opt in' basis
Productivity-based approaches	Initial prices have been set at broadly efficient levels by previous cost-based reviews (but an initial cost-based review would be possible)	CPI-x price cap with movement of 'x' based on changes in an index measuring sector productivity
'Sharing of benefits' model	Initial prices set at a cost-based review	CPI-x price cap with 'x' being the change in prices to glide the earnings of the service provider to an appropriate (cost of capital based) benchmark by end of period
Existing 'building blocks' cost of service approach	Initial prices set at a cost-based review	CPI-x price cap with 'x' reflecting both forecast potential efficiency gains and regulatory assessments of levels of 'efficient costs'

The alternative access pricing approaches are discussed in detail below.

### Non-cost based approaches

#### *Price monitoring*

Price monitoring would apply a type of 'open access' to distribution networks and transmission pipelines. Under price monitoring regulatory authorities would have a narrowly defined role.

Price monitoring has been recognised as an effective means of regulation of bottleneck facilities in situations where regulated businesses still retain commercial imperatives to maximise use of the facility. For example, in May 2002 the Commonwealth Government announced, following the Productivity Commission public inquiry into price regulation of airport services, that a regime of price monitoring would be developed and applied in respect of major airport facilities.<sup>109</sup>

<sup>109</sup> See < [www.treasurer.gov.au/tsr/content/pressreleases/2002/024.asp](http://www.treasurer.gov.au/tsr/content/pressreleases/2002/024.asp)> and Productivity Commission *Price Regulation of Airport Services – Inquiry Report*, January 2002 <[www.pc.gov.au](http://www.pc.gov.au)>

Advantages of price monitoring include the scope it provides for genuine commercial relationships to develop, and the lower levels of compliance costs for governments and market participants. The lower level of regulatory intervention in access price determinations also reduces opportunities for regulatory errors leading to distortions in investment or production.

Features of the price monitoring approach the Productivity Commission recommended for major airports, but which may also be applicable for gas networks and pipelines include:

- public disclosure of standard access prices, performance measures, and financial performance indicators
- monitoring of prices, service and quality standards by a regulatory authority
- the use of existing *Trade Practices Act* provisions and consumer legislation as a supplementary deterrent to potential anti-competitive behaviour
- burden of proof in establishing any claimed abuse of market power resting with any complainant
- threat of more intrusive forms of price regulation if any market power is abused
- defined conditions and limitations for regulatory intervention following any successfully proven complaint.<sup>110</sup>

There would need to be careful consideration of mechanisms and guidelines under this model to ensure that ‘regulatory creep’ did not leave scope for regulatory authorities to carry out price monitoring using ‘building blocks’ cost of service approaches, that is, determining justifiable access prices through intrusive cost-plus determinations. Ideally, the model would resemble price monitoring approaches in place more generally in wholesale and retail markets.

Price monitoring as a regulatory approach can be argued to be particularly appropriate given that following the introduction of the National Gas Code service providers have been required to undertake at least two ‘cost of service’ price resets and vertical separation, including effective ring fencing of related businesses operating in upstream or downstream markets.

Indeed, both the Commonwealth Treasury and the Productivity Commission have commented that more light-handed regulatory approaches are appropriate and will work best when the initial cost base is ‘in the ballpark’.<sup>111</sup>

### ***Price-service offerings***

Price service offerings would involve the regulated gas business interacting directly with customer groups and households to develop a range of possible ‘price-service packages’.

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<sup>110</sup> Key features of a possible model for price monitoring are discussed in some detail in the Productivity Commission’s draft report *Price Regulation of Airport Services* (2001), p.270-4, <[www.pc.gov.au](http://www.pc.gov.au)>

<sup>111</sup> Productivity Commission (March 2001), p.214

Through consultative mechanisms, including surveys on the value and priority of different components of infrastructure services to end users (i.e. users willingness to pay), a range of price-service packages would be developed. These packages would be agreed between the regulated gas business and end users. In some cases, it may be possible for different users to be provided with individual services packages on a partially disaggregated basis. Tariffs would not be re-determined periodically (although revised packages would periodically be offered to end users, containing for example lower prices, higher service quality, or a combination of both).

Price-service offerings could have specified service level guarantees combined with rewards for out-performance and penalties for under-performance. The role of regulatory authorities under this model would be limited to one of monitoring and oversight. An appeals function (with pre-agreed penalties) would apply if key elements of the price-service offering were not being achieved.

One option under this model would be to allow a regulatory authority to impose broad supplementary requirements to ensure service providers are not abusing their monopoly power (e.g. that tariffs should tend to fall over time, or that the service providers demonstrate they are adopting international best practice in the provision of energy transportation services).

This approach is based on the proposals put before the Victorian Office of the Regulator-General in the 2000 Electricity *Distribution Pricing Review* by United Energy and the approach proposed by ENERGEX in respect of Queensland electricity distribution networks.<sup>112</sup>

### ***Productivity-based approaches***

Productivity-based approaches set access prices according to changes in the levels of external benchmark such as an index of industry total factor productivity.<sup>113</sup> Productivity-based approaches represent a less intrusive form of regulation, as they do not rely on regulatory authorities making assessments of efficient costs, or individual business costs, or levels of future demand for gas.

This model most frequently involves the construction and updating of an index of total factor productivity that then determines changes in access prices. That is, access prices are set using a CPI-x price cap approach where the 'x' factor is set reflecting measured increases (or decreases) in the productivity of the industry sector. This improves incentives for efficiencies, as the performance of the regulated business is no longer compared to only itself (i.e. its own firm specific costs) over time. The ongoing role of the regulatory authority under productivity-based approaches is limited to overseeing the updating of the index that is used as the basis for adjusting access prices.

In addition, efficiency gains can be retained for as long as a business outperforms the industry average (as occurs in workably competitive markets). Incentives for

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<sup>112</sup> See <[www.qca.org.au](http://www.qca.org.au)>

<sup>113</sup> See for example P Fearon *Incentive Regulation and External Performance Measures: Operationalising TFP – Practical Implementation Issues*, June 2001

efficiency gains can also be increased through adopting a 'rolling index' that reflects an average movement in total factor productivity over a five or ten year period. This provides for the retaining of some benefits through time for businesses whose productivity performance outstrips the index.

## **Cost-based approaches**

### ***'Sharing of benefits' model***

As a complete understanding about the efficiency of a regulated business is not possible and comparisons with other businesses are always problematic, traditional price fixing by regulation is inherently difficult. Genuine incentive based regulation is one way to address this issue. Current regulatory practice, which implicitly relies on regulatory authorities having a level of precision, understanding and information which is unrealistic for any non-operator of the assets, is inconsistent with the recognition that complete knowledge of 'efficient' levels of costs can never be available. The sharing of 'realised' benefits approach provides a practical solution.

The sharing of benefits approach uses a CPI-x price cap.<sup>114</sup> Under this approach the 'x' factor is set at the beginning of a regulatory period at a number that would 'glide' the current rate of return to an appropriate level (for example, a weighted average cost of capital) at the end of the regulatory period, assuming there was no increase, or decrease, in operating efficiency.

By this process efficiencies realised in one regulatory period are transferred to end users over the course of the next regulatory period. As service providers retain efficiencies for a period of time, they possess strong incentives to continue to pursue efficiencies. In this way service providers strive to continuously improve performance, and their costs will continuously converge towards an efficient level.

This approach removes much of the uncertainty that undermines the incentive to invest in the current regime. It removes the risk that access prices may be set unrealistically low on the basis of optimistic and erroneous estimates of 'efficient' costs, and it ensures that only realised efficiencies are shared between service providers and end users.

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<sup>114</sup> Key features of the 'sharing of benefits' model can be found in the Network Economic Consulting Group *Joint Industry Submission*, June 2001, p.40 (see <[www.pc.gov.au/inquiry/access/index.html](http://www.pc.gov.au/inquiry/access/index.html)>)

## Appendix B - Gas distribution network projects under the National Gas Code

Project	Tasmania 2002	Loddon-Murray Region (Vic) 2001	North Bellarine Peninsula (Vic) 2001	Barwon Heads (Vic) 2000	Cardinia Shire (Vic) 1999	Yarra Ranges (Vic) 1999	East Gippsland (Vic) 1999	Central Ranges (NSW) 1999
<b>Urban areas</b>	Hobart, Launceston, Devonport, Ulverstone, Burnie	Swan Hill, Loddon, Gannawarra, Kerang	Portarlington, Indented Heads, St Leonards	Barwon Heads	Garfield, Tynong, Bunyip, Nar Nar Goon	Yarra Glen, Wandin North, Warburton	Bairnsdale, Lakes Entrance, Paynesville, Orbost	Tamworth, Gunnedah, Mudgee, Coolah, Gilgandra
<b>Potential consumers</b>	260 000	15 000 <sup>115</sup>	4 000	1 300	2 300	14 000 <sup>116</sup>	22 000	50 000
<b>Estimated project value</b>	\$200.0m <sup>117</sup>	\$50.0m	\$11.0m <sup>118</sup>	N/A	\$2.5m	\$16.0m	\$14.0m	\$96.0m
<b>Additional regulatory issues</b>	Length of available exclusive franchise period	Cost of tender process	Practicality of recovery of tariff surcharge	Certainty on net financing cost issues	Cost of tender process	Cost of tender process	Length of available exclusive franchise period	Practicality of recovery of tariff surcharge
<b>Competitive Tender held</b>	Yes	Yes	No	No	No	Yes	Yes <sup>119</sup>	Proposed
<b>Outcome under National Gas Code processes</b>	No conforming bids – \$8.0m State Government contribution agreed for first phase of project	No conforming bids	\$1.75m surcharge provided by State Government <i>Regional Infrastructure Development Fund</i>	Distributor proposed revision to Access Arrangement - regulator did not accept the revision in its original form	Exempted from tender provisions - distribution tariff surcharge approved, capital expenditure rolled in asset base	No conforming bids	Conforming tender bid accepted – original tenderer has not proceeded	-
<b>Project status</b>	First phase proceeding with State assistance	Project shelved	Proceeding – completion due 2004	Project deferred	Completed	Project shelved	Project delayed	Project deferred

### Notes

- More adequate exclusive franchise periods or 'economic regulation free' periods, would have significantly assisted a number of these deferred projects.
- Fuel cost savings from conversion from bottled LPG to natural gas for heating, cooking and water heating applications approximately \$1200 per household<sup>120</sup>
- Average carbon dioxide emissions factors (Kt CO<sub>2</sub>/PJ) - natural gas 50.9, LPG 59.4, heating oil 69.7, black coal 90.7, brown coal 93.3, wood 94.0

<sup>115</sup> Loddon Murray Gas Supply Group Tender Approval Request – Supply of Natural Gas to the Loddon Murray Region, 14 September 2001

<sup>116</sup> Australian Bureau of Statistics 1996 Census of Population and Housing. Note figure is for total Yarra Ranges area. Populations for the individual townships: Yarra Glen (1100), Wandin North (3450), Warburton (est. 1000).

<sup>117</sup> Joint Aurora-Agility Media Release, 8 March 2001

<sup>118</sup> TXU Networks Media Release, 18 May 2001

<sup>119</sup> Tender carried out under *Interim Guidelines for Natural Gas Extension Projects* issued by the Victorian Department of Treasury and Finance in May 1997. The subsequent provisions of the National Gas Code closely follow these guidelines.

<sup>120</sup> TXU Networks Media Release, 18 May 2001





## Annex C – Schematic outline of gas supply chain

