ACCC Review of the Regulatory Test for network augmentations

DRAFT Decision

Submission from the Australian Greenhouse Office

Recommendations

The proposed Regulatory Test within the Draft Decision on the "Review of the Regulatory Test for Network Augmentation" requires further clarification of the treatment of mandated greenhouse emission abatement schemes (to be referred to here-on as greenhouse schemes)

The ACCC stated that the Regulatory Test should provide "a clear indication that the costs and benefits of complying with all government environmental requirements are to be included". However, recent applications of the Regulatory Test do not appear to have considered the costs and benefits of the three existing legislated greenhouse schemes - the NSW Greenhouse Gas Abatement Scheme, the Mandatory Renewable Energy Target and the new Queensland 13% Gas scheme.

The existing and proposed Regulatory Test is limited by referring to these costs and benefits specifically in terms of a "tax" or "subsidy". This constraint does not effectively describe many forms of market-based greenhouse schemes that currently exist, such as certificate trading, and could lead to significant variations in the application of the Regulatory Test. The new proposed Test is also inconsistent in its treatment of the benefits versus the costs of existing legislation to market participants.

Correcting this potential ambiguity would be consistent with the broader objectives of the COAG initiated energy market reforms currently being progressed by the Ministerial Council on Energy.

Sensitivities analyses must also be considered. During the original development of the Regulatory Test it was considered that sensitivity analyses should be performed for "external" costs or benefits (such as environmental or social concerns with no current direct costs/benefit to market participants) that were widely believed to be "internalized" in the future (through the application of a direct costs/benefits by the government). The recent introduction of the three existing greenhouse schemes and current consideration of similar greenhouse schemes in other jurisdictions indicates that energy market participants will be exposed to ongoing development of further greenhouse schemes within the lifetime of most network assets. It would be prudent and timely to explicitly incorporate greenhouse emissions sensitivity analyses in the proposed Test to ensure informed energy infrastructure decision making in the future.

The AGO suggests the following revisions and proposes wording for the relevant clauses:

1. More explicit inclusion of market-based greenhouse emissions abatement instruments as a potential cost for new energy infrastructure investment:

> **9(f)** the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health, safety, land management and environmental pollution and the abatement of pollution (including greenhouse gas abatement). This should include a consideration of the costs to market participants arising as a result of market-based regulatory schemes.

2. More explicit inclusion of market-based greenhouse emissions abatement instruments as a potential *benefit* for new energy infrastructure investment:

> **5(g)** benefits received from existing and anticipated laws, regulations and administrative determinations such as those dealing with health, safety, land management and environmental pollution and the abatement of pollution (including greenhouse gas abatement). This should include a consideration of the benefits to market participants arising as a result of market-based regulatory schemes.

3. Inclusion of a required sensitivity analyses on potential greenhouse emissions for new energy infrastructure investment:

> **14 (g)** market-based regulatory instruments that may in the future be used to address key greenhouse and environmental externalities.

Background

Electricity generation is the single largest contributor of greenhouse emissions in Australia, contributing around 33% of total net emissions (2002). Since the advent of the National Electricity Market total greenhouse emissions from electricity generation have increased by at least 19% (1997-2002). Australia's electricity supply remains among the most greenhouse emissions intensive in the world.

The COAG Agreed National Energy Policy Framework explicitly addresses the need to consider greenhouse emissions and related efficiencies in as part of national energy policy development. Included in the agreed objectives and principles are:

Objective:

- Mitigating local and global environmental impacts, notably greenhouse impacts, of energy production, transformation, supply and use.

Principles:

- Stimulate sustained energy efficiency improvements to technologies, systems and management proficiency across production, conversion, transmission, distribution and use.
- Encourage the efficient economic development and increased application of less carbon-intensive (including renewable) energy sources and technologies, including exploring opportunities for appropriate inter-fuel substitution;

Network assets have a significant impact on both the efficiency and future growth of the electricity market, making them an important contributor to Australia's future emissions from the energy sector. Electricity networks compete with other energy supply alternatives to meet Australia's energy needs. Decisions to invest in new electricity network assets impact upon the cost of and levels of greenhouse emissions in the electricity markets by:

- Reducing/increasing the cost for electricity retailers of meeting their liability under greenhouse schemes;
- Inhibiting/enhancing the capacity of electricity generators to generate income through the creation of tradable certificates under greenhouse schemes;
- Increasing/reducing net energy losses during transmission;
- Changing the mix of new generation investment opportunities; and
- Changing in the fuel-mix of existing generation through increased access for competition.

The Regulatory Test is the key driver of electricity transmission network investment and energy infrastructure decisions. If the Regulatory Test does not include appropriate consideration of existing and anticipated legislated greenhouse schemes, the net costs and competitive risks to electricity market participants – and the broader energy sector - could be significantly increased.

Currently there are at least three separate greenhouse schemes that impose legislated costs and benefits on energy market participants:

- **Mandatory Renewable Energy Target (MRET):** A Commonwealth scheme requiring electricity retailers to source a percentage of their electricity from renewable energy. The scheme is facilitated through accrediting Renewable Energy Certificates (RECs) for each MWh of eligible renewable energy generated. Retailers purchase RECs, creating additional market-driven revenue to support competitive renewable energy investment. Retailers who are unable to trade for sufficient RECs to meet their liability under the scheme are required to pay a penalty of $40/MWh. The scheme was initiated in April 2001 and the Australian Government reviewed and confirmed its commitment to this scheme recently in January 2001.

- **NSW Greenhouse Gas Abatement Scheme:** Imposes a mandatory greenhouse benchmark on NSW electricity retailers. The scheme is facilitated through the creation of NSW Greenhouse

Abatement Certificates (NGACs) for eligible abatement activities on a per tonne of CO_{2e} basis. Eligible abatement activities include: low emission generation, renewable generation, forestry sequestration, capture of fugitive methane and demand management. Retailers purchase NGACs to close the gap between their actual emissions and their benchmark. If they are unable to secure sufficient NGACs to meet their benchmark are required to pay a penalty of \$10.50/tCO_{2e}. The scheme was initiated in January 2004.

- **Queensland 13% Gas Scheme:** Imposes a target on Queensland retailers to purchase 13% of their electricity from gas generation. The scheme is facilitated through trading of Gas Electricity Certificates (GECs) created for each MW of eligible gas generation. Retailers who are unable to secure sufficient GECs to meet the 13% requirement must pay a penalty of \$11/MWh (indexed to CPI). The scheme will come into force Jan 2005.

There is no evidence on the public record of active consideration of the benefits and costs arising as a result of these greenhouse schemes in the application of the Regulatory Test. The AGO has made inquiries to several transmission companies and consultants who apply the Regulatory Test and found the level of familiarity with existing greenhouse schemes was low.

The costs and benefits of these greenhouse schemes have the potential to be significant within the application of the Regulatory Test, and could have material impacts on future network investment decisions. An example relating to the NSW scheme is provided to illustrate this point in Appendix A.

Consideration of existing Greenhouse Schemes within the Regulatory Test

One of the key reforms proposed in the ACCC's Draft Decision (Option 2) involves more clearly defining terms used in the Regulatory Test. This includes:

- providing a non-exhaustive list of market benefits and costs that should be considered when applying the Regulatory Test
- more clearly identifying the required sensitivity analysis

The purpose of these reforms is to provide non-prescriptive guidance on the application of the Test.

However, the currently proposed draft does not provide sufficient guidance on how to treat the actual and anticipated benefits and costs arising from existing and future legislative requirements related to greenhouse schemes in applying the Regulatory Test.

Clause 3 in the existing Regulatory Test considers the costs and benefits of legislative requirements such as existing greenhouse schemes.

> 3. The costs identified in determining a market benefit should include the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health, safety, land management and environmental pollution and the abatement of pollution. An environmental tax should be treated as part of the projects cost. An environmental subsidy should be treated as part of a project's benefits or as a negative cost. Any other costs should be disregarded.

The intent of the ACCC in this clause was to clearly identify that where governments have put a commercial value on the environment this should be relevant, as discussed in the original Regulatory Test publication (1999):

> The Commission believes that the current wording of this section of the Regulatory Test provides a clear indication that the costs and benefits of complying with all government environmental requirements are to be included in an assessment of new network augmentations and regulated interconnectors. The Commission believes that this requirement should be broad enough to capture all avenues governments might use to achieve environmental policy objectives; that is, whether it be through legislation, licensing requirements, taxes/subsidies and/or environmental agency requirements.

All three existing greenhouse schemes identified above are market-based certificate trading schemes, which may not be uniformly understood by market participants to be included under the term "environmental tax" but certainly impose legislated costs/benefits. While the ACCC's intent to include these schemes seems clear, the legal consideration of these "market-based" or "cap and trade" regulatory systems as a "tax" is uncertain.

In keeping with the intent of the ACCC's Draft Decision (Option 2) to more clearly define terms to reduce uncertainty, clause 3 (clause 9(f) of the proposed test) should be amended to read:

> **9(f)** ~~The costs identified in determining a market benefit should include~~ the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health, safety, land management and environmental pollution and the abatement of pollution (including greenhouse gas abatement). ~~An environmental tax should be treated as part of the projects cost. An environmental subsidy should be treated as part of a project's benefits or as a negative cost.~~ This should include a consideration of the costs to market participants arising as a result of market-based regulatory schemes.

Including this clause within a non-exhaustive list of costs to be considered is appropriate, allowing costs of legislative schemes to be considered equally with other direct costs. However in many cases, such as the NSW example discussed in Appendix A, the relevant impacts of greenhouse schemes are the *benefits* received by select generators. For clarity, the new ACCC proposed non-exhaustive list of potential benefits (Clause 5) must also reflect the original Clause 3.

> **5(g)** benefits received from existing and anticipated laws, regulations and administrative determinations such as those dealing with health, safety, land management and environmental pollution and the abatement of pollution (including greenhouse gas abatement). This should include a consideration of the benefits to market participants arising as a result of market-based regulatory schemes.

Additional clarification and acknowledgement of greenhouse gas abatement schemes has been supported by several responses to the Issues and Discussion Papers that preceded the Draft Determination:

> **Electranet:** (issues paper submission)
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> "Another issue that has been raised by others, particularly in South Australia, is whether the Regulatory Test should give some recognition to the environmental benefits derived from connecting renewable energy sources to the grid. For example, the significant number of wind farm developments that are expected to eventuate in response to the Commonwealth Government's greenhouse policy.[MRET][1]

> **Hydro Tasmania**: (issues paper submission)
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> "We note that the Commission is adding the list of 'market benefits' to the Regulatory Test, as an example to guide parties in their application of the test. Item 1 in this list is 'benefits of savings in fuel consumption'. We consider that this benefit should be made more general to incorporate the benefits that result from increased efficiency in the operation of hydro plant and other renewable generators."[2]

> **Origin**, in their issues paper submission, stated:

[1] Electranet, submission to ACCC in response to the ACCC Issues Paper – Review of the Regulatory Test, May 2002.

[2] HydroTasmania, submission to ACCC in response to the ACCC Discussion Paper – Review of the Regulatory Test, Feb 2003.

> "Origin is also concerned that the Regulatory Test takes insufficient account of key environmental benefits associated with local generation options. Such options provide important advantages in addressing environment externalities compared to network augmentation. For instance, the latter has significant negative environmental impacts (land clearing etc), while also favouring remote coal fired generation over less emissions intensive local generation and demand side management options. However, such costs do not appear to have been explicitly recognised in the Regulatory Test to date. As a result, greater benefits are attributed to augmentations than a rigorous and valid cost-benefit analysis would allow, therefore advantaging regulated expansion of the network."

"External" and future "Internal" greenhouse gas-related Costs and Benefits

The ACCC is currently of the view that the calculation of benefits and costs for the purpose of the Regulatory Test should include only "internal" costs and benefits such that they:

- accrue to market participants; and
- can be measured in terms of financial transactions in the market.

The ACCC proposed to monitor whether this approach remains appropriate and may revisit the issue in the future.

A number of stakeholders responded to the Issues and Discussion Papers indicating concern about the exclusion of "external" environmental costs and benefits (discussed in the previous section). A complete cost/benefit analysis would include consideration of impacts on external factors.

Transmission companies frequently recognise in their planning publications the need to consider greenhouse emissions more broadly. However, the extent to which they do so varies and currently results in little public information:

> **TransGrid:** Explicitly refers to reductions in greenhouse emissions as one of the factors to differentiate between options with similar NPVs[3]. However TransGrid's Annual Planning Report currently shows no examples where greenhouse gas emission impacts of a proposed network extension have been calculated or any discussion how this has been done.
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> **Electranet:** Lists greenhouse gas emissions as one of their transmission planning criteria[4] in their 2003 Annual Planning Review but do not provide information or examples on how this planning criteria are applied.
>
> **VENCorp**: Lists greenhouse gas emissions under environmental and social impacts to be considered within their network planning criteria[5], yet to date there is a lack of details on emissions or related environmental impacts in their Annual Planning Reviews. However VENCorp, in its response to the Issues Paper, suggested that the Regulatory Test should be expanded to require network service providers to publish information on the externalities associated with transmission investment decisions "…so that Government, market participants and other stakeholders may be informed of such issues, where they may have a bearing on the investment decision".

[3] TransGrid, 2003 Annual Planning Report, Appendix 1, p104
[4] Electranet, 2003 Annual Planning Review, figure 2, p2
[5] VENCorp, Electricity Transmission Network Planning Criteria, July 2003, p10

> **Powerlink:** Refers only broadly that they have "legal obligations to evaluate and consider environmental impacts" without providing details on how these obligations are met when considering new network investments.[6]

The likelihood of future development of further greenhouse abatement schemes that directly impact on electricity market participants, and the energy sector in general, is highlighted by the recent introduction of new greenhouse schemes in Australia (MRET in 2000, the NSW Greenhouse Abatement Scheme in 2004 and Queensland 13% Gas scheme in 2005) and ongoing international development of greenhouse schemes. Currently several jurisdictions are actively discussing possible new greenhouse schemes. Given current concerns and practices by many market participants in response to these potential impacts, it would be prudent and timely to require that a greenhouse emissions sensitivity be included on the list of expected sensitivity analyses within the Regulatory Test.

Ernst & Young supported this position in a review of the Test commissioned by the ACCC during the development of the current Regulatory Test:

> "If there was some likelihood that factors which are currently regarded as externalities might become internalised in the future, then they should also be incorporated in the sensitivity analysis. For example if it were widely believed that carbon taxes or greenhouse emissions trading mechanisms might be introduced within 10 years, then scenarios which reflected these features might be developed as a part of a sensitivity analysis and could well influence the final outcome."[7]

Inter Regional Planning Committee (IRPC) also set a precedent in their consideration of the South-Australia New South Wales Interconnector (SNI)in 2001 by performing sensitivity analyses on a carbon tax of $\$10/tCO_2$-e . This analysis showed that a cost on greenhouse emissions can have a significant impact on the net benefit of a proposed augmentation. In the case of SNI and the Snowy-Victoria Interconnector (SNOVIC), this impact ranged between $2m and $13.3m or up to 13% of the total market benefit. The only sensitivity to have more impact was a 20% reduction in gas turbine capital costs, with less impact on average than all other scenarios including a $3 gas price and a high demand case.

This work carried out by the IRPC in relation to the SNI demonstrates that inclusion of key greenhouse-related externalities under a sensitivity analysis are justified. Information on greenhouse gas emissions required to carry out such sensitivity analyses is already collected by NEMMCO. The market modeling required must already be undertaken to the estimate of fuel savings, which are explicitly a benefit under the Regulatory Test and frequently the major savings component.

A requirement for sensitivity analyses on the potential impacts of additional greenhouse schemes is achievable, relevant and prudent. The following clause is suggested for inclusion in the list of expected sensitivity analyses:

> **14 (g)** market-based regulatory instruments that may in the future be used to address key greenhouse and environmental externalities.

[6] Powerlink, Annual Planning Report 2003, p4

[7] Ernst & Young, "Review of Assessment Criterion for New Interconnectors and Network Augmentation", March 1999, p29.

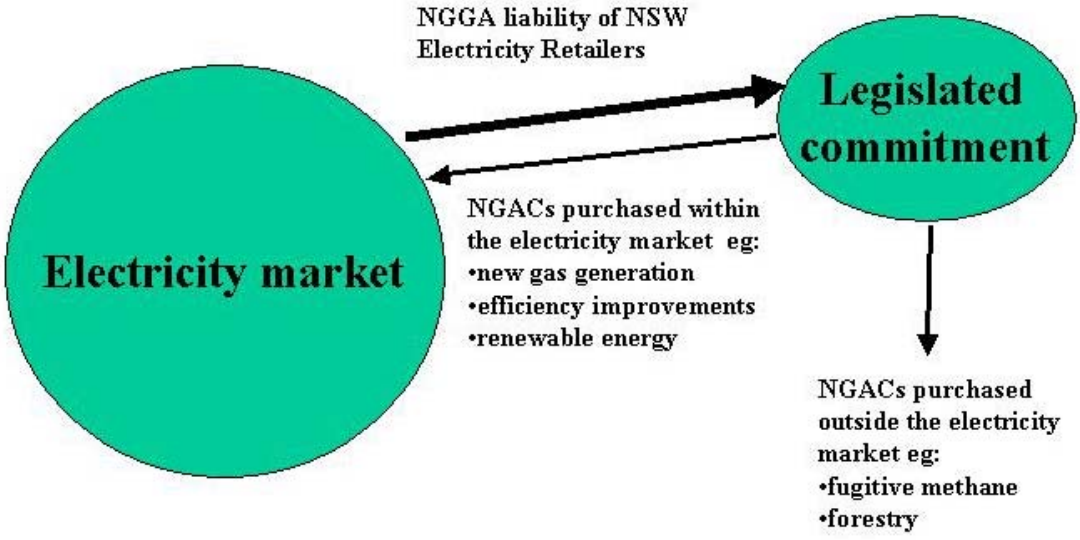
Appendix A: Example impacts of NSW Greenhouse Gas Abatement Scheme

The following example discusses the relevance of inclusion of NSW Greenhouse Abatement Certificates (NGAC's) as a benefit to eligible generators under the Regulatory test, and then provides an initial example of the potential impact of these NGACs.

Does the NSW scheme have a net impact on the electricity market or merely create an internal wealth transfer?

In order to impact the outcome of the Regulatory Test, a cost or benefit must be seen as having a net impact on the electricity industry, rather than merely creating a wealth transfer between participants. For example, price impacts have not been included to date, as they merely transfer wealth between parties.

Under the current NSW scheme, a cost is imposed on a market participant - NSW retailers. To meet this cost retailers must purchase NSW Greenhouse Abatement Certificates (NGACs). NGACs can be a created within the electricity market by low emission generators (such as gas, methane or renewables), efficiency improvements in existing generators. NGACs create a revenue stream for these generators. However, NGACs can also be created outside of electricity market participants via methods such as forestry, reduction in fugitive emissions from landfill gas and some methods of demand management.



During the first year of the scheme around 3.5million NGACs have been created. Almost half came from the capture of fugitive methane (as land-fill gas) and significant number from demand management. In the future it is expected that other non-electricity market abatement options such as forestry may also become significant. As electricity market NGACs compete with non-electricity market NGACs, there is a net impact on the electricity market.

Could NGACs play a significant role in a Regulatory Test?

By 2007 the NGAC liability will be in the order of 18 million NGACs annually. Currently the penalty for non-compliance is $10.50 per NGAC and to date NGACs have traded between $4.50 and $10.20. This implies a 2007 revenue stream from electricity retailers of up to $200million, much of which could be "spent" outside of the electricity industry.

New gas generators are eligible to generate NGACs, and depending on their efficiency usually create around 0.4-0.6 NGACs per MWh. This could imply revenue of up to $6/MWh. As the current cost of new gas generation is of the order $37-47/MWh, NGACs could significantly improve the competitiveness of new gas generation.

The Regulatory Test specifically requires that generation alternatives to network augmentation be compared as options. In most cases the generation alternative considered is local gas generation. A large increase in the competitiveness of new gas generation, driven by access to NGACs, could change the relative benefits of different alternatives under the Regulatory Test significantly. This may impact upon decisions to progress new network investments and their energy market outcomes.