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Ms Angela Woo
Independent Pricing and Regulatory Tribunal
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Dear Ms Woo

The Australasian Energy Performance Contracting Association (AEPCA) welcomes the opportunity to provide a submission to the Independent Pricing and Regulatory Tribunal (IPART) Review of NSW Climate Change Mitigation Measures.

As the peak body for companies that deliver cutting-edge energy efficiency services, AEPCA has extensive on-ground expertise in the commercial reality of technology and policy relating to greenhouse emissions and energy generation, distribution and use.

AEPCA notes the following high-level points:

- On its own the Carbon Pollution Reduction Scheme (CPRS) will fail to drive the lowest-cost abatement. The CPRS needs to be accompanied by programs to tackle other market failures.
- IPART's approach to assessing complementarity is broadly supported, but needs to consider a broad suite of market failures, including bounded rationality and organisational failures, and also complex interactions between market failures.
- Comprehensive National and State strategies are required to address the market failures that impede cost-effective energy efficiency, with programs targeting households, businesses and government's own operations.
- In general, the broad intent of the NSW Energy Efficiency Strategy is supported. There are opportunities to improve its effectiveness through better design and delivery.
- Energy service companies can overcome many market failures, and will be critical in achieving the potential for energy efficiency in Australia. However, barriers that impede the uptake of energy services need to be tackled, including government procurement processes, principal-agent problems in the commercial building sector, and information market-failures.
- Programs need to be well-designed to maximise their cost-effectiveness. The Government of NSW should work with AEPCA and other energy efficiency experts in program design, and invest funds in research and program evaluation.

Please do not hesitate to contact me on 03 8807 4650 should you require further information on any of the issues raised in this submission.

Yours sincerely

Rob Murray-Leach

Chief Executive Officer

Overview

AEPCA supports the broad direction of IPART's approach to assessing the complementarity of various policies.

AEPCA would recommend that IPART considers a broad suite of market failures, as recommended in Garnaut (2008), including bounded rationality (Camerer et al. 2004), organisational failures (Paton 2001) and complex interactions between market failures that impede market transformation.

There are a range of market failures that impede cost-effective energy efficiency. AEPCA commends the Government of NSW for recognizing these barriers and attempting to develop a comprehensive strategy to support energy efficiency. A suite of energy efficiency programs is required to deliver the lowest cost abatement in Australia, including:

- Programs to support the uptake of energy services in governments' own operations, due to a range of organizational failures. Key requirements include government-wide energy service procurement programs and dedicated funds for energy efficiency.
- Programs that address information market-failures, split incentives and organizational failures in the private sector.
- Programs that address barriers across the supply-chain, such as comprehensive building tune-up programs, can result in market transformation.
- Internalising the spillover benefits from energy efficiency, particularly where it offsets the need to invest in electricity transmission infrastructure. This arises largely from governance failures in the manner in which electricity generation, distribution and retail are regulated.
- Performance standards for buildings and equipment
- Support for research and development; and
- Targeted and tailored education for specialists.

There are market-failures that justify the types of programs that are established in the NSW Energy Efficiency Strategy and Climate Change Fund. The cost-benefit ratio of the current programs will depend on detailed design issues. AEPCA has not carried out a detailed assessment of how well the current and proposed energy efficiency programs are designed and their cost-benefit ratio.

However, there are problems in the design and delivery of some of these programs. In particular, the NSW Government has to date released little of the funding that it committed for energy efficiency projects. Detailed design issues and the benefits of national consistency in some contexts mean that:

- Some programs should be retained, with their design and delivery enhanced
- Some programs should be harmonized or replaced with national schemes, subject to the Commonwealth Government committing to an equivalent national program
- Some programs should be redesigned or eliminated

As noted by IPART in paragraph 6, page 32, the Terms of Review limit the scope of this review. The IPART review, which only examines which existing or proposed measures should be streamlined, should be complemented in the future by a review that identifies if there are any additional measures that need to be introduced to complement the CPRS. A list of priority complementary measures is set out in Attachment 1.

Specific matters

Comments on some of the specific matters that IPART sought comment on are set out below.

1.1 IPART's preliminary views

AEPCA agrees that the threshold for complementary measures should be that they criteria broadly similar to those set out by IPART.

However, the statement *"The threshold for justifying additional mitigation measures should be high"* (p19) is meaningless. This statement lacks the precision to be of any practical use, making it dangerous in policy debates.

1.2 IPART's preliminary views

The CPRS is theoretically capable of reducing emissions in the long-term, but domestic and international politics means that there is complex relationship between complementary policies and the level of abatement the CPRS will achieve. In the absence of key complementary policies, higher mitigation costs will decrease the political ability to set more challenging emission reduction targets (the CPRS cap). Conversely, if complementary policies are in place, lower mitigation costs will mean that more challenging emission reduction targets (caps) can be set.

2 IPART's proposed criteria

IPART's proposed criteria for assessing whether a measure may be warranted in the presence of the CPRS appear broadly appropriate. However, these criteria also need to be applied appropriately, considering the range of market failures and gaps in information.

4 Market Failures

There are a range of other market failures that impede the uptake of energy efficiency. These market failures have been established through extensive studies and are well accepted by experts. Further detail on these market failures can be found in the Garnaut Review and the sources listed in the references on page 7. The following list is not exhaustive:

Externalities	In addition to the carbon externality, energy efficiency has spillover benefits such as reduced network infrastructure costs
Early mover spillovers	Support for research and development is required to extend the potential of energy efficiency
Principal agent problems	The incentives facing landlords, tenants and building managers are frequently not aligned, resulting in sub-optimal outcomes
Public good information, spillovers and information asymmetry	Many companies and specialists lack information on energy efficiency due to a range of market failures. With information asymmetry this can impede coordination between parties. Information gaps are not minor problems; they can entirely impede otherwise cost-effective energy efficiency
Bounded rationality and organisational failures	Even with access to information, individuals and organisations can fail to recall, process or use information effectively

These market failures interact to create emergent problems. For example, bounded rationality and gaps in knowledge within companies and financial institutions can impede access to capital for energy efficiency projects. In particular, governments' budgetary policies can be a significant impediment to cost-effective energy efficiency projects. Therefore, directly addressing access to capital can overcome multiple market-failures.

Similarly, principal-agent problems, serious gaps in knowledge and bounded rationality create barriers throughout a supply chain, impeding the entry and diffusion of novel technologies. For this reason, market transformation approaches that consider the whole supply chain can be more effective than addressing each part of the chain separately. As a result policy options that are not tightly focused on one market failure can be more cost effective than policies that only address one market failure.

The Garnaut Climate Change Review highlights that the energy services sector plays a critical role in tackling many of the barriers to energy efficiency in the building sector (Garnaut 2008:411). Energy service companies are one of the most cost-effective routes to deliver emissions savings, as they use economies of scale in in goods, services and know how to deliver reductions in energy use to a wide range of clients.

For example, an Energy Performance Contract (EPC) can overcome a lack of expertise, perceived risk and access to capital by building owners. Under an EPC an energy service company is engaged to improve the energy efficiency of a building, and guarantees that a certain level of energy savings will be achieved over the term of the contract.

EPCs have a proven track record since they were first introduced in Australia in 1996, delivering strong positive returns in both energy and dollar savings, and several major businesses and government departments use EPCs as their major tool for reducing energy use. However, there is potential for much greater use of EPCs, as demonstrated by the larger markets for EPCs in the US and Europe. Barriers to the wider use of EPCs include government procurement processes, principal-agent problems in the building sector and a lack of robust information about the potential for energy efficiency and EPCs amongst building owners, managers and tenants.

5. What particular areas of the emissions market are likely to be subject to market failure? What is the significance of these areas?

Energy efficiency is subject to well-documented market failures, but has significant potential for emission reductions. The International Energy Agency's (IEA) *'Energy Technology Perspectives 2008'* brought together global experts in technology to produce scenarios for modest and deep reductions in global greenhouse gas emissions by 2050. This report states that action to develop and deploy a broad range of technologies will be essential to deliver emission reductions cost effectively. However, the IEA states:

> *In both…scenarios, energy efficiency improvements in buildings, appliances, transport, industry and power generation represent the largest and least costly savings (p4).*

Many other detailed technical reports have highlighted that energy efficiency represents a vast and low-cost opportunity to reduce emissions. McKinsey & Company (2008) estimate that in 2020 Australia's emissions could be reduced by around 11 per cent below business as usual levels through zero and negative net cost mitigation opportunities, mostly in energy efficiency. Most of these studies are *intentionally* conservative, and real building retrofit projects have demonstrated that far deeper reductions in energy use may be possible.

AEPCA's members have already delivered extensive energy efficiency improvements in Australia. However, a range of market and government failures have prevented Australia from realising the full potential from energy efficiency. A suite of policy changes are required to deliver the full benefits of energy efficiency.

7. Are the measures stakeholders have identified to address market failures, cover sector gaps or provide transition assistance likely to be best delivered at the state level?

There are some policies that are best delivered on the State level, even if they involve national harmonisation. This includes policies delivered through State bodies, such as the TAFE system. Where energy efficiency policies are best delivered at the national level, AEPCA supports national streamlining or harmonisation. However, complementary State policies (eg. the NSW Energy Efficiency Trading Scheme) should not be removed before the Commonwealth Government commits to introduce an equivalent scheme at a national level.

9. Please provide qualitative and quantitative information to assist IPART in analysing the overall costs and benefits of NSW climate change measures nominated for review.

Australian governments generally collect limited data for robust development of energy efficiency policy, including rigorous evaluation of existing policies. AEPCA urges IPART to recommend better data collection to develop, evaluate, improve or eliminate policies.

12. & 13. How do the measures compare against the assessment framework and how can they be better designed or phased out

As noted, there are market-failures that justify the types of programs that are established in the NSW Energy Efficiency Strategy and Climate Change Fund. AEPCA has not carried out a detailed assessment of how well the current and proposed energy efficiency programs are designed and their cost-benefit ratio. Nevertheless, some broad recommendations can be made. AEPCA has focused its comments on commercial and industrial energy efficiency.

Measure	Recommendations and comments
GGAS	**Remove:** GGAS overlaps significantly with the CPRS, and should be removed with a careful transition program to the CPRS and the NSW Energy Efficiency Target Scheme.
Climate Change Fund	**Retain:** Energy efficiency programs can generate spillover benefits from reduced network infrastructure costs, reducing distribution charges. AEPCA therefore recommends retaining this fund until alternative mechanisms are introduced for internalising the infrastructure spill-over benefits from energy efficiency programs. The individual programs funded through this program are discussed below.
NSW Energy Efficiency Strategy	**Enhance and redesign:** AEPCA commends the NSW Government on attempting to develop a comprehensive program to address energy efficiency market failures. The individual programs that form the strategy are discussed below.
Business programs: - NSW Green Business Program - Energy Savings Action Plans - Small Business Energy Efficiency Program - Sustainability Advantage Program	**Enhance and review:** Programs are required to overcome the range of market-failures affecting energy efficiency in businesses, including information barriers, bounded rationality, organisational issues and principal-agent problems (Garnaut 2008). There is a role for State Government delivery of these types of program, particularly in relation to commercial buildings and companies that fall below the threshold for participation in the Commonwealth's Energy Efficiency Opportunity (EEO) Program. Programs should focus on encouraging the implementation of energy saving measures. This involves supporting companies to enter into relationships with energy service companies to both identify and implement energy saving measures. AEPCA strongly recommends the development of a program to encourage the retrofit of commercial buildings in NSW to complement the existing suite of measures.

Public sector programs: - Public Facilities Program - Schools Energy Efficiency Program - Government Energy and Water Efficiency Investment Program (GEEIP) - Energy Performance Contracts - Carbon Neutral - Sustainability policy	**Enhance and review:** Programs are required to overcome a range of barriers to cost-effective energy efficiency in the public sector, many arising due to problems in budgeting and procurement processes. Some components of the NSW Government's program are broadly in line with AEPCA recommendations, such as the GEEIP and Energy Performance Contracts, although these could be significantly more effective and need to be expanded. Generally, programs that involve governments' staff identifying energy efficiency investments are relatively ineffective, due to the lack of expertise in energy efficiency. Programs that facilitate departments to work with private sector energy service companies will deliver the most cost-effective energy efficiency investments. AEPCA would welcome the opportunity to work with the NSW Government to enhance its public sector programs, particularly around hospitals and schools.
NSW Energy Efficiency Trading Scheme	**Retain but deliver nationally if possible:** White Certificate schemes can overcome information and bounded rationality barriers by mobilising third parties to support energy efficiency (Garnaut 2008). They can also internalise infrastructure spillover benefits from energy efficiency if they are well designed. Ideally this type of program would be delivered at a national level, but in the absence of a Commonwealth commitment it should be implemented on a State basis and nationally harmonised. Resources need to be invested to ensure that this program is well designed. The UK has refined its program over several years. See: http://www.defra.gov.uk/environment/climatechange/uk/household/supplier/keydocs.htm
Energy Efficiency Skills Development Program	**Enhance:** Improving the skills of specialists such as builders, engineers, architects and energy service company staff will be essential to deliver cost-effective energy efficiency. Training is also required for non-specialists such as mangers and accountants to foster the uptake of energy services.
Renewable Energy Development Program	**Retain and expand to energy efficiency:** Research and development programs, including commercialisation programs, are required to address the public benefits and early mover spillovers from research. Specific programs are required for energy efficiency R&D, such as support for ground-breaking building retrofit projects.

References and further reading

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ATTACHMENT 1

Complementary policies to maximise energy efficiency

AEPCA recommends the following policies as priorities at a national level:

I. Governments improve the energy efficiency of their own operations

Governments are large consumers of energy and play a critical role in both driving the market for energy efficiency and setting an example to the private sector. For example, the decision by the Commonwealth Government to occupy 4.5 Star rated buildings is driving changes across the property sector. However, to date most governments have made only limited and sporadic improvements in their own energy efficiency.

AEPCA strongly recommends that all levels of government in Australia:

- Commit to genuine improvements in energy efficiency, and implement rigorous measurement and verification standards to ensure these gains are genuine
- Streamline the purchasing process for energy efficiency services, including a commitment to EPCs as a preferred service model
- Establish dedicated budgets to drive energy efficiency
- Set up a central team of energy efficiency procurement experts to assist each department to improve their energy efficiency.
- Set energy efficiency targets and policies that are binding on all departments
- Set a low internal rate of return target for energy efficiency investments, to reflect the long-term stability of government operations

II. Green economic stimulus packages

In the current economic climate a range of stimulus packages are being considered to bolster the Australian economy. AEPCA urges that any stimulus packages should be designed to improve the environmental performance and competitiveness of the Australian economy. Stimulus packages should not help perpetuate outmoded business models, but transform Australian companies so that they thrive in a global carbon-constrained economy.

In particular, AEPCA recommends that any stimulus packages to the building and industry sectors should be tied to improvements in energy efficiency. One option to deliver this is 'Green Depreciation' (see CIE 2008). To drive innovation, rather than just compliance, the scale of government support that a company receives should be tied to the scale of improvement in energy intensity.

III. Internalise the benefits from avoided electricity transmission infrastructure

Investing in energy efficiency can reduce the need to invest in electricity infrastructure. Electricity transmission infrastructure is largely delivered by monopolies operating under government regulation. Current regulations mean that infrastructure providers are paid to build infrastructure, but infrastructure providers or other private companies cannot receive compensation if they offset the need for infrastructure by investing in energy efficiency. AEPCA welcomes the opportunity to further discuss options to address this barrier.

IV. White certificates

White certificate schemes can account for the spillover benefits from energy efficiency (such as avoided electricity transmission infrastructure) and provide an incentive for experts to assist households and businesses improve their energy efficiency. White certificates can be cost-effective if designed well.

V. Financial products for energy efficiency

Access to capital can impede energy efficiency investments. The Australian Government has recognised this and introduced a Green Loans program for households. AEPCA recommends that the Australian Government work with the finance sector to develop a range of suitable financial products to assist the private sector to invest in energy efficiency.

VI. Research and development (R&D) programs for energy efficiency

Some energy efficiency R&D takes place in organisations that have access to traditional sources of R&D funding. However, R&D in energy efficiency also occur when companies develop new installation techniques, combine existing technologies in novel ways and optimise the performance of a whole production process or building. Specific incentive programs will be needed to support these types of R&D.

VII. Market transformation programs for products and services

A range of approaches are required to drive market transformation for energy efficient products and services. A well-designed program that combines tailored incentive programs, labels, standards and education can deliver cost-effective energy savings, particularly in the long-term.

VIII. Performance standards for appliances and new and existing buildings

Building and appliance standards are consistently amongst the most cost-effective method to drive energy efficiency. In addition to progressively raising standards for new buildings and appliances over time, the Australian Government should investigate introducing performance standards for existing buildings. Setting standards that existing buildings have to meet at some point in the future, such as 2020, would ensure that improvements occur during normal refurbishment cycles.