

John Hawkins  
Committee Secretary  
Senate Select Committee on Climate Policy  
[climate.sen@aph.gov.au](mailto:climate.sen@aph.gov.au)

16 April 2009

Dear Mr Hawkins

The Energy Efficiency Council, welcomes the opportunity to provide a submission to the Australian Senate Select Committee on Climate Policy.

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

The Energy Efficiency Council recommends:

- The adoption of tough national targets for emissions reductions in 2020
- That all parties work together to introduce a CPRS in 2010. The Energy Efficiency Council welcomes the Select Committee's commitment to ensure that the CPRS is as well-designed as possible.
- A significant proportion of CPRS auction revenue should be directed towards industrial and commercial energy efficiency programs. In addition to this, compensation to strongly affected industries and emissions-intensive trade-exposed industries should be tied to improvements in emissions intensity.
- That energy efficiency should be the "second plank" of a climate change response.
- That the CPRS must be accompanied by complementary measures. On its own a CPRS will not drive the lowest-cost abatement. The Energy Efficiency Council recommends measures including:
  - o Governments dramatically improve the energy efficiency of their own operations
  - o Green economic stimulus packages and white-certificate schemes
  - o Internalising the benefits from avoided electricity infrastructure
  - o Financial products for energy efficiency

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

## The Energy Efficiency Council

The Energy Efficiency Council is the Peak Body for companies that deliver non-residential energy management. The Council aims to build the market for energy efficiency products and services and ensure that energy efficiency is implemented with excellence and accountability. The Energy Efficiency Council was formed in 2009, incorporating the members of the Australasian Energy Performance Contracting Alliance.

### The need for action

The Energy Efficiency Council supports urgent domestic and global action to reduce greenhouse gas emissions.

There is considerable scientific evidence that anthropogenic greenhouse gas emissions are driving an increase in global temperatures, with potentially severe social, economic and environmental impacts. This evidence is more than sufficient to warrant strong action. As noted by the Leader of the Opposition, Malcolm Turnbull, "The issue is simply one of risk management" (The Age, 24 January 2009).

The global and domestic financial situation does not alter the need for urgent action to address climate change. The cost of failing to adequately tackle climate change now will far outweigh the short-term impacts from addressing climate change. Extensive modelling exercises both in Australia and abroad have confirmed this view.

There is need for urgent action. Domestic and global emissions are growing rapidly and policies are required now to avoid locking in new greenhouse-intensive assets. Furthermore, there is growing evidence of 'tipping points' in the climate system, whereby feedback loops will result in very dangerous levels of climate change if certain global temperature thresholds are exceeded.

The speed of climate change, not political expediency, dictates the need to rapidly develop climate policy. Excessive delay in the introduction of climate policy carries far greater risks than excessive haste. In fact, it would be extremely hard to characterize the development of climate change policy in Australia over the last decade as showing 'excessive haste'.

The Energy Efficiency Council urges all parties to work together to introduce a CPRS in 2010 and complementary policies as soon as possible. The Select Committee has the ability to provide robust but rapid critique of the proposed Carbon Pollution Reduction Scheme (CPRS) by drawing on the extensive domestic and international policy work carried out over the last decade.

### Technical potential for emission reduction

The Energy Efficiency Council members have extensive experience in developing and implementing practices and technologies to reduce emissions. It is impossible to develop effective climate policy without understanding the opportunities and constraints imposed by real-world emission reduction options.

A broad range of technologies, behaviours and social changes will be required to deliver emission reductions in Australia.

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.

Given the real and substantial emission reductions possible through new and existing energy efficiency technologies, The Energy Efficiency Council urges both parties to adopt energy efficiency as the 'second plank' of a climate response.

The Energy Efficiency Council'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.

### **The global and domestic policy response**

The Energy Efficiency Council agrees that 'Australia must work in concert with the rest of the world', which requires Australia to commit to aggressive domestic action in order to:

- Foster a genuine and effective international climate change agreement
- Position Australia in a global low-carbon economy

Australia will not achieve international agreement to real reductions in greenhouse gas emissions by adopting a 'wait and see' approach. Australia need to take a leadership role to show its commitment and demonstrate that success is possible. While Australia should adopt a target for 2050 that reflect a 'fair share' of the global abatement effort, adopting a strong unilateral target for 2020 that goes beyond a 'fair share' would foster international cooperation. The higher costs of a tougher domestic 2020 target would be offset by the genuine chance it would create for an effective international agreement. The Energy Efficiency Council urges all parties to support strong unilateral targets for 2020.

International permit trading will be an important tool to lower the cost of abatement and foster international cooperation. However, over the next decade Australia will need to achieve much of its emissions cap through genuine domestic abatement, rather than purchasing international credits.

Firstly, this is necessary to demonstrate that developed nations can and will reduce their emissions, rather than putting the burden on developing nations. Secondly, achieving domestic abatement in the next decade is essential to position Australia for the more substantial adjustment required to succeed in a carbon-constrained global economy. Early domestic transition will avoid stranded assets and develop the skills, businesses and infrastructure for a flourishing Australian economy.

### **The Carbon Pollution Reduction Scheme**

A suite of policies is required to deliver the technological and social changes to achieve lower emissions in Australia.

The Energy Efficiency Council strongly supports incorporating the cost of carbon emissions into energy prices through a CPRS. A permit system is required to link individual sources of emissions to the domestic cap and allow the market to determine where emission reductions occur. Without a CPRS, governments will need to decide where emission reductions occur in the economy and regularly adjust a plethora of policies to ensure that the cap is achieved.

The Energy Efficiency Council notes that the White Paper proposes that auction revenue will largely be directed to households, trade-exposed industries and strongly-affected industries. The Energy Efficiency Council suggests that while directing much of the auction revenue to households is appropriate, a large proportion of auction revenue should be set aside for research, development and energy efficiency programs in the industrial and building sectors. In particular, all compensation to 'strongly affected industries', and much of the compensation to emissions-intensive, trade-exposed industries, should be directed to improvements in the efficiency of energy generation and energy use.

While The Energy Efficiency Council supports the broad intent of the CPRS, on its own the CPRS will not deliver the lowest cost abatement. The CPRS will increase the price incentive for energy efficiency, but will fail to mobilise the full potential of energy efficiency. Complementary policies are essential to lower the cost of abatement and achieve short-term domestic reductions in emissions.

## Market failures that impede energy efficiency

The failure to internalise the cost of carbon in the cost of energy is only one of the barriers to energy efficiency. In fact, there is a large unrealised potential for energy efficiency that is already cost-effective, even in the absence of a carbon price.

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 6. The following list of market failures affecting energy efficiency is not exhaustive:

<b>Externalities</b>	In addition to the carbon externality, energy efficiency has spillover benefits such as reduced network infrastructure costs
<b>Early mover spillovers</b>	Support for research and development is required to extend the potential of energy efficiency
<b>Principal agent problems</b>	The incentives facing landlords, tenants and building managers are frequently not aligned, resulting in sub-optimal outcomes
<b>Public good information, spillovers and information asymmetry</b>	Many homeowners, 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
<b>Bounded rationality and organisational failures</b>	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.

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 information 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 awareness about the potential for energy efficiency and EPCs amongst building owners, managers and tenants.

## **Complementary policies to maximise energy efficiency**

Complementary policies will assist in lowering the cost of abatement. The Energy Efficiency Council recommends the following policies:

### **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.

The Energy Efficiency Council 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. The Energy Efficiency Council 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, The Energy Efficiency Council 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. The Energy Efficiency Council 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. Well designed white certificates can be highly cost-effective.

## **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. The Energy Efficiency Council 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.

### **References and further reading**

Bjornstad, D.J. & Brown, M.A. 2004, *A Market Failures Framework for Defining the Government's Role in Energy Efficiency*, Joint Institute for Energy and Environment, Knoxville, Tennessee.

Garnaut, R. 2008, *The Garnaut Climate Change Review: Final Report*, Cambridge University Press, Melbourne.

Golove, W.H. & Eto, J.H. 1996, *Market Barriers to Energy Efficiency: A critical reappraisal of the rationale for public policies to promote energy efficiency*, Lawrence Berkeley National Laboratory, Berkeley, California, <http://eetd.lbl.gov/EA/EMS/ee-pubs.html>

International Energy Agency 2008, *Energy Technology Perspectives 2008: Executive Summary*, International Energy Agency, Paris.

Jaffe, A.B, Newell, R.G and Stavins, R.N. 2005, 'A tale of two market failures: Technology and environmental policy', *Ecological Economics* 54: 2-3 p164-174

McKinsey & Company 2008, *An Australian Cost Curve for Greenhouse Gas Reduction*, McKinsey & Company, Sydney.

Paton, B. 2001, 'Efficiency gains within firms under voluntary environmental initiatives', *Journal of Cleaner Production* 9: 167-78.

Sorrell, S., O'Malley, E., Schleich, J. & Scott, S. 2004, *The Economics of Energy Efficiency*, Edward Elgar Publishing Ltd, Cheltenham, United Kingdom.