The Climate Institute

Australia's National Strategy for Energy Efficiency

Policy Paper
November 2008

Supported by:

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STATEMENTS OF SUPPORT

This Policy Paper is supported by the following organisations:

AUSTRALIAN CONSERVATION FOUNDATION

"Australia needs to get energy smart.

Improving our energy efficiency will cut carbon pollution, create jobs and boost our economy at a time when it needs a boost. A recent report by the Australian Council of Trade Unions and the Australian Conservation Foundation found with the right incentives from Government the energy efficiency sector could grow to a $50 billion industry employing 75,000 people by 2030.

A National Strategy for Energy Efficiency is a crucial step towards cutting our carbon pollution by at least a third by 2020 and helping give a fighting chance to Australia's natural icons, like the Great Barrier Reef and the Murray-Darling Basin, from the dangers of climate change."

- Don Henry, Executive Director, Australian Conservation Foundation

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"Better residential energy efficiency is essential to improve amenity and comfort, minimise bills and reduce greenhouse gas emissions. The task of improving residential energy efficiency offers great opportunities for low income households to play a part in climate change solutions."

- Lin Hatfield Dodds, ACOSS President

ACTU

"Energy efficiency is a key to reducing greenhouse emissions and the cost of making the transition to a new low carbon economy. Australia can develop the skills and expertise necessary to roll out energy efficiency programs and be a world leader in creating green jobs and green industries."

- Sharan Burrow, President, ACTU

Brotherhood of St Laurence
Working for an Australia free of poverty

"The Brotherhood of St Laurence commends the Climate Change Institute on its report *Australia's National Strategy for Energy Efficiency*. The Brotherhood strongly supports the report's recommendation that a large-scale retrofitting program targeting low-income households should be a core aspect of a national energy efficiency strategy. Energy efficiency programs such as retrofitting are an important way for low-income households to reduce their vulnerability to rising energy prices."

- Tony Nicholson, Executive Director, The Brotherhood of St Laurence

CFMEU
Mining and Energy

"Improving energy efficiency saves money, creates jobs and reduces global warming. It's the sort of win/win measures that we must implement. Especially in light of the economic crisis, these measures represent a major way to help rebuild our economy and reduce emissions at the same time."

- Tony Maher, CFMEU

Energetics

"We have been working with business on improving energy efficiency for 25 years and while progress has been made the current drivers and incentives favour the use of more energy rather than less. Business uses more than 70% of Australia's energy - so driving efficiency with business will deliver major emission reductions as well as cost savings for business. But this does need to be guided by policy, as our current business models are not designed to use energy wisely. Energetics endorses The Climate Institute's call for a broad and effective National Strategy for Energy Efficiency to realign incentives and legislation, to harness business innovation to make a real impact on our emissions."

- Jon Jutsen, Executive Director, Energetics

green building council australia

"The Prime Minister is right to identify energy emissions in the built environment as the 'second plank' of the government's climate change strategy. Buildings in Australia offer the largest and most cost-effective abatement opportunity and meeting our greenhouse gas targets will be more challenging unless the potential within our built environment is unlocked.

The initiatives contained in the Climate Institute report such as accelerated depreciation, strengthening the residential and commercial building codes and establishing a National Energy Savings Trust provide real policy options for the government to achieve their abatement targets. This builds on recent work undertaken by the Centre for International Economics, which highlighted that in terms of the built environment, the Carbon Pollution Reduction Scheme (CPRS) will only achieve a 3-4 per cent reduction in greenhouse gas emissions whereas the implementation of a range efficiency measures will achieve between a 30 and 35 per cent reduction in emissions."

- Romilly Madew, Chief Executive of the Green Building Council of Australia

INTRODUCTION

The Council of Australian Governments (COAG) has committed to developing a National Strategy for Energy Efficiency, to be implemented from June 2009. This strategy should provide the basis for achieving the Federal Government's pre-election promise to put Australia "at the forefront of Organisation for Economic Cooperation and Development (OECD) energy efficiency improvement."

To date, energy efficiency programs in Australia have largely focussed on implementing measures that are privately cost effective for households and businesses. As a complementary measure to the Government's Carbon Pollution Reduction Scheme (CPRS), the priority of the National Strategy for Energy Efficiency must be to unlock socially cost effective energy efficiency improvements. This will allow Australia to achieve deep cuts in greenhouse gas emissions at the lowest cost to households, businesses and the economy as a whole.

Focused on stationary energy use, this Policy Paper calls for Federal Government leadership in three broad areas:

- Household Support
- Commercial/Industrial Financial Incentives and Support
- Improved Standards and Disclosure

Backed by a range of supporting policies including improved information and coordination, these measures will underwrite households' energy affordability, improve Australia's global energy productivity ranking, and lower the cost of addressing climate change. A strong, nationally coordinated energy efficiency strategy will also enhance competitiveness and cost savings for business in a potentially difficult economic environment. It will also transform the building and energy services industries and create tens of thousands of jobs in the emerging low carbon economy.

It is critical that policy measures committed to in the Strategy are implemented in a nationally consistent manner to avoid a multitude of sub-national schemes. This will require strong Federal Government coordination in a spirit of partnership with the state and territory governments that builds on recent state initiatives.

As an important first step, the Federal Government should establish a National Energy Efficiency Consultative Roundtable to draw on private sector and community expertise during the development of the Strategy. The Roundtable can provide information to Government on lessons learned and best practice in implementing energy efficiency strategies which will underpin the long-term success of the Strategy.

THE CASE FOR ENERGY EFFICIENCY

Australia is yet to tap into its energy efficiency potential: A complete and detailed analysis of the potential to improve energy efficiency in Australia has not been undertaken and would be extremely difficult to complete with any level of accuracy (MMA 2008a, Productivity Commission 2005). However, various studies indicate that Australia has extensive un-tapped energy savings, estimated to be in the order of 13-73% in the residential sector; 10-70% in the commercial sector; and 6-46% for manufacturing industries (see MMA 2008a).

Even in companies that are large consumers of energy, low cost energy efficiency opportunities exist and are yet to be fully exploited (see EPA Victoria 2007, Energetics 2008a, Allen Consulting Group 2008). In addition, Australia lags behind most other OECD countries with respect to annual end-use energy intensity improvements, which implies that significant energy savings have yet to be realised (see International Energy Agency 2008, MMA 2008a).

Energy efficiency offers low cost abatement opportunities: A number of recent studies have highlighted very low cost abatement opportunities in Australia through energy efficiency (McKinsey 2008, Centre for International Economics 2007a, The Climate Institute 2008a). The Australian Sustainable Built Environment Council (2008) has identified abatement opportunities in the residential and commercial building sectors of around -$116/tonne and -$147/tonne respectively.

Failure to implement energy efficiency options may also increase the cost of adjustment in the longer-term and limited action may result in "carbon lock-in" (McKinsey 2008, MMA 2008a). Strong action on energy efficiency will lower energy demand and reduce the need for costly investments in energy infrastructure. Similarly, introducing higher building standards in the short-term will avoid more expensive building retrofits in the future.

Energy consumption and aggregate efficiency uptake are not very sensitive to price: The introduction of emissions trading through the Carbon Pollution Reduction Scheme (CPRS) will result in higher energy prices for Australian households and businesses. It is expected that this "price signal" will unlock some of Australia's energy efficiency potential as consumers seek to manage rising costs. However, the price elasticity for electricity is relatively low (see NIEIR 2007 and Allen Consulting Group 2008) and experience in Australia and abroad shows that the price signal alone is unlikely to drive socially cost effective energy efficiency uptake in the short to medium term.

Market failures give rise to a strong prima facie case government intervention: There is significant evidence that privately and socially cost effective energy efficiency options are currently not being adopted in Australia. It is widely accepted that this can be attributed to a number of price and non-price market failures, which stand in the way of achieving improved energy efficiency and productivity in Australia (see for example MMA 2008a; Allen Consulting Group 2008; and Allen Consulting Group 2004).

A summary of key market failures is provided in Table 1.

Table 1: Non-price market failures restricting energy efficiency improvements (adapted from MMA 2008a)

Information failures	Access to relevant and easily understandable information limits the uptake of energy efficiency opportunities. Examples include: information on the energy rating of new appliances; and information on opportunities to improve energy efficiency when designing a new building or renovating an existing building.
Incentive misalign-ments	In theory, the opportunity to save money should provide an incentive for households and businesses to take steps to improve their energy efficiency. However, this incentive is not always available to the person who makes decisions that will affect energy use. This includes split-incentives, whereby the person making a decision that will affect energy consumption has no (or limited) incentive to invest in energy efficiency, because they will not be paying the energy bills. The split-incentive exists most clearly in rental accommodation where landlords have little incentive to invest in energy efficiency if it is the tenants who pay the energy bills.
Capital constraints	While most energy efficiency improvements will provide economic savings, they often require up-front capital expenditure (e.g. purchasing efficient appliances), which is a barrier for many households and businesses. Capital constraints are particularly acute for low-income households, but are also relevant to higher-income households and businesses when energy efficiency investments are not budgeted for.
Public good information	Research, development and deployment (RD&D) of new energy efficiency technologies and practices will be crucial if Australia is to achieve large-scale improvements in its energy productivity. However, investing in RD&D presents a degree of risk for businesses, because the benefits are often shared by competitors and the community as a whole. This creates a barrier to the private sector investing in socially beneficial RD&D.
Behavioural barriers and bounded rationality	Individuals and organisations do not always behave in economically rational ways. Therefore, despite energy efficiency making good economic sense, other factors are often more important influences on decision making and behaviour. For example, consumers may be attracted by product design and other features that outweigh energy efficiency. Energy bills are a very small percentage of total expenditure of most households and businesses. Unless the business is a large, energy intensive facility, staffing costs are generally far higher than the cost of energy. In such cases it makes more sense to choose an office building with pleasant amenity rather than energy efficiency.

International experience shows a broad suite of policies are required to unlock energy efficiency: Based on recent reviews of energy efficiency policy in developed and developing countries (World Energy Council 2008, Urge-Vorsatz et al 2007, UNIDO 2008, UNFEGEE 2007) the key features of national energy efficiency policy include national targets to define ambition, mandatory appliance and building standards, efficiency labelling, mandatory auditing, financial incentives (e.g. tax credits, accelerated depreciation) and targeted subsidies (e.g. for low income groups and high capital cost investments). Regulation through appliance and building standards and the provision of financial incentives through the tax system have been shown to be particularly effective.

Building political and community support and reduced long-term burden on government: A well designed, appropriately resourced and nationally-led energy efficiency strategy, implemented from 2009 will put households and businesses on the front foot and better prepared for the CPRS. By engaging households and businesses directly in efforts to cut emissions, energy efficiency programs will help to build institutional and political support for significant emission reductions. As highlighted in the 2008 Climate of the Nation survey, most Australians nominate energy efficiency as a top priority for action on climate change (The Climate Institute 2008b). As such, investing in household energy efficiency will also help to build lasting political support for Australia's climate change program.

The Federal Government has committed to direct financial support for low income households. Energy efficiency must also be a priority for investing government revenue from the CPRS. Over time, improving energy efficiency can significantly lower households' exposure to rising energy prices further building public acceptance of reducing emissions. It would also reduce the future burden on governments to provide ongoing direct financial assistance (see Hatfield-Dodds, Denniss 2008, KPMG 2008).

Well designed energy efficiency programs can also provide transitional support for Australian businesses, helping them to adjust to a low-carbon future. The importance of support for businesses was highlighted by a recent Energetics (2008b) survey of 2,000 businesses, which found that 85 per cent "have no or very limited energy management systems in place." With businesses accounting for a greater share of total electricity consumption than households, well targeted and appropriate energy efficiency support from governments will be essential to manage the transition to higher energy prices and to sustain support for the CPRS.

Energy efficiency interventions are justified on non-greenhouse policy grounds: As well as lowering the cost of tackling climate change, improving energy efficiency has a number of co-benefits, which further justify government support. As articulated in the Government's CPRS Green Paper, arguably the most important additional benefits derived from improved energy efficiency will be felt in Australian low income households, where energy costs generally consume a much higher proportion of income than in higher income families (Hatfield-Dodds and Denniss 2008). Many households also experience health benefits after energy efficiency measures have been undertaken, due to reduced exposure to extreme weather conditions (see Howden-Chapman et al 2007).

Additional co-benefits identified by MMA (2008a) include a reduction in non-greenhouse gas air pollution, improved energy security, and infrastructure savings, derived from delaying or avoiding the need to build additional energy generation and transmission infrastructure. Energy efficiency programs can also modernise the skills base of tradespeople, provide extra low-carbon jobs and boost the building and energy services industry generally.

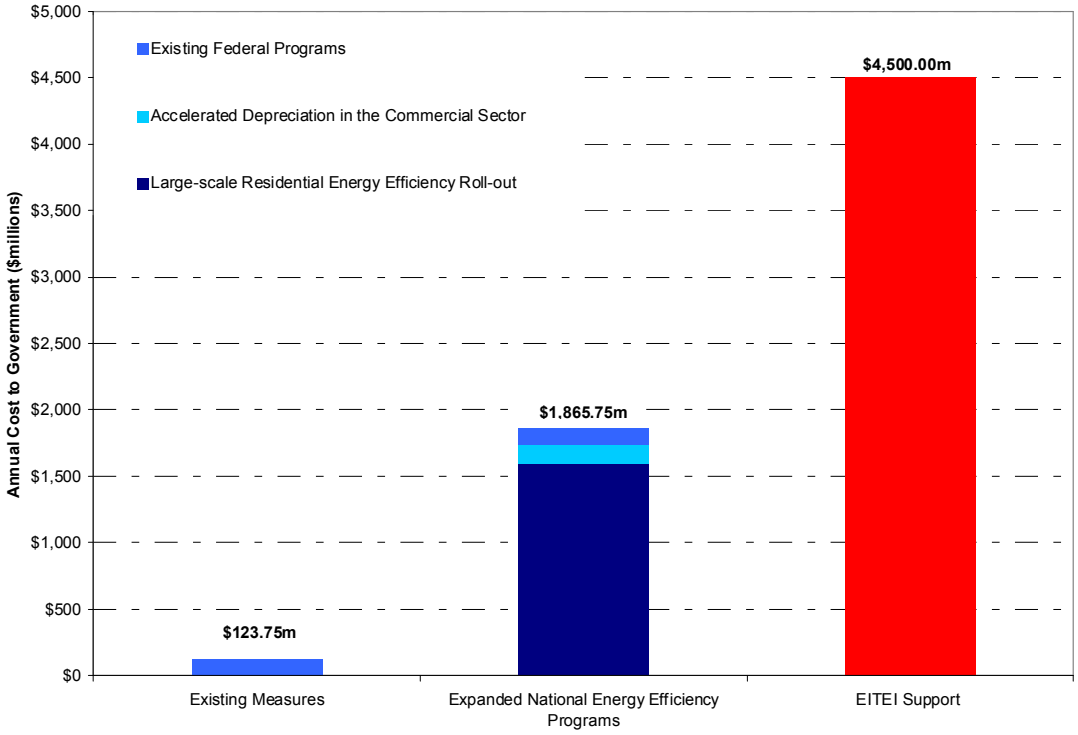
Financial implications for the Government: Energy efficiency investments are often cost neutral and in many cases lead to a net economic saving. However, the National Strategy for Energy Efficiency will have implications for government budgets and revenue streams. This includes the need for budget allocations to implement certain measures, as well as foregone revenue through the provision of possible tax incentives. Obviously, these financial implications must be an important consideration during the design of the strategy.

However, the auctioning of emission permits will generate a multi-billion dollar revenue stream for the Government. High priority for revenue from this emissions trading dividend should be given to supporting vulnerable low income communities, funding further development and deployment of new and existing low-emission technologies, and assisting developing countries to reduce emissions and adapt to climate change.

Energy efficiency must also be a priority for the use of CPRS auction revenue. As well as complementing the CPRS price signal by targeting non-price barriers, investing in energy efficiency will reduce the impacts of emissions trading on households' energy bills. This will help to minimise the level of direct financial assistance required to offset the impacts of the CPRS on households (see KPMG 2008).

It is important to view the investment in energy efficiency alongside other proposed support programs, including those for emission intensive, trade exposed industries (EITEIs). To put this in perspective, and as illustrated in Figure 1, the scale of investment needed in energy efficiency is minor when compared to the proposed assistance to EITEIs (using a mid-range estimate, based on a carbon price of $30 per tonne).

Figure 1: Illustrative comparison of cost to government of energy efficiency programs and EITEI support



Notes: Cost of large-scale roll-out of energy residential energy efficiency program is from KPMG (2008). Cost of accelerated depreciation taken from CIE (2007b). The existing government energy efficiency programs included here are: the Green Loans program, the Clean Business Australia Initiative and the Green Precincts Fund (costs are from official Commonwealth Government budget allocations). Cost of EITEI support is a mid range estimate, based on a carbon price of $30 per tonne (MMA 2008b).

PRINCIPLES FOR GOVERNMENT POLICY

The National Strategy for Energy Efficiency should be guided by the following policy principles:

1. Contribute to Australia being at the forefront of OECD energy efficiency improvement by 2015;
2. Improve household energy affordability and assist businesses with the transition to a low carbon economy;
3. Address well defined market failures that are unlikely to be addressed by the CPRS and which are likely to be overcome by additional government intervention;
4. Complement the CPRS by unlocking socially cost effective carbon pollution reduction opportunities and reduce the cost of meeting scientifically and internationally credible emission reduction targets;
5. Recognise that significant health, industry, economic and environmental co-benefits can stem from action to improve energy efficiency and that these may justify government intervention over and above greenhouse policy considerations;
6. Be nationally consistent and implemented by the appropriate level of government in partnership with relevant service providers in the private and community sectors;
7. Unlock both short and long term energy efficiency opportunities, balancing economic efficiency imperatives with the need to avoid lock-in of new carbon polluting infrastructure; and
8. Where appropriate, be transitional to avoid ongoing and unnecessary government intervention.

KEY ELEMENTS FOR THE STRATEGY

The consistent message from researchers both in Australia and abroad is that there is no single policy solution to improve energy efficiency. The most successful approach will involve a suite of interrelated policy measures, including regulations, fiscal incentives, and information and awareness campaigns. While economic efficiency is best achieved if government interventions target specific market failures, in most cases more than one policy measure will be needed.

While there are a number of existing government programs in Australia, to date these have been ad hoc, had limited effect and significant gaps remain. An assessment undertaken by the Australian Sustainable Built Environment Council (2008) found that there has been significant government attention on information and education, but only limited attention has been given to addressing incentive misalignments, bounded rationality and capital constraints. This conclusion is supported by a recent survey of Australian businesses, in which financial incentives were identified as the most important area for future government action (Energetics 2008a).

In addition, the Commonwealth (through the Wilkins Review) and a number of state jurisdictions are currently undertaking reviews of existing greenhouse policies and how they may complement the CPRS. The intention of these reviews is supported, but while examining the effectiveness of existing policies is a crucial first step, this should not delay the introduction of the National Strategy for Energy Efficiency.

Recognising that the National Strategy for Energy Efficiency must unlock Australia's full energy efficiency potential by directly targeting existing non-price market failures, action in three broad areas is recommended:

1. Household Support
2. Commercial/Industrial Financial Incentives and Support
3. Improved Standards and Disclosure

In addition to these core areas for government intervention, a range of supporting policies will be needed. The proposed structure for the National Strategy for Energy Efficiency is illustrated in Figure 2, with details of the specific policy measures provided the subsequent section.[1]

Importantly, the National Strategy for Energy Efficiency must be framed as a package of policy measures, rather than as a collection of stand-alone policies and programs. For example, while financial incentives have an important role to play, they must be underpinned by a stronger regulatory framework. At the same time, improved information and behaviour change programs will be needed to maximise the uptake of financial incentives and to ensure compliance with regulations.

Strong and ongoing emphasis is needed on monitoring, verification and enforcement of all energy efficiency policies. Not only will this ensure the policies are effective, but will also ensure delivered energy savings are "additional" to business as usual. Experience has also shown that effective energy efficiency interventions promote behavioural change as well as technological improvements. This highlights the need to ensure auditing and stakeholder engagement are central features of government energy efficiency programs, particularly at the household and small business level.

[1] These recommendations are based on externally published reports (e.g. MMA 2008), commissioned internal research papers on financial incentives to unlock energy efficiency, and expert and industry consultations including "Chatham House Rule" discussions with peak business associations. More information/background is available on request.

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Figure 2: Proposed Structure for the National Strategy for Energy Efficiency

SUPPORTING POLICES

- **CPRS**: Prices Greenhouse Gas externalities and helps overcome price barriers.
- **Support/implement Energy Efficiency Opportunities (EEO) program, mandatory disclosure of energy ratings at point of sale and lease for buildings and mandatory labeling of appliances.** Strengthen the EEO, including through: stronger public reporting requirements; alignment with the National Greenhouse and Energy Reporting program; and greater external auditing. Mandatory uptake of energy efficiency opportunities should be foreshadowed as a future option, pending a full evaluation of the program.
- **Energy Savings Trust**: Establish and adequately fund an independent national "Carbon Trust" type body to:
  i. Oversee existing and proposed Government funds (e.g. Green loans, Climate Action Fund and Climate Ready Program).
  ii. Engage stakeholders to enhance the effectiveness of existing and proposed funds and incentives (e.g. work with banking and property industry to increase awareness and uptake of Green loans and energy efficiency tax credits).
  iii. Run national and sector specific information campaigns to increase awareness of energy efficiency options.
  iv. Coordinate and enhance energy data collection.
  v. Report annually to Parliament on the effectiveness of all policies and measures and make recommendations for improvements.
  vi. Engage with state and territory governments to encourage coordination, consolidation and collaboration of programs and policies.
- **Skills and training:** Skills Australia should lead a national program to identify and stimulate the green skills, knowledge and work needed for a low-carbon economy.

HOUSEHOLD SUPPORT

- **Implement National Energy Efficiency Program proposed by the Brotherhood of St Laurence and KPMG**: Large-scale, government funded, rollout of energy efficiency measures and transition payments to 3.5 million low-income households (KPMG 2008).
- **Low-interest loans:** Implement the Green Loans program to drive energy efficiency improvements in existing residential buildings.

COMMERCIAL/INDUSTRIAL FINANCIAL INCENTIVES & SUPPORT

- **Use the tax system to overcome market failures:** As a transitional measure and a priority, implement accelerated depreciation and tax exceptions/credits for energy efficiency expenditure above a specified level in the commercial and industrial sectors. RD&D projects should also be given special tax treatment.
- **Remove perverse subsides:** In the context of the Henry Review and ongoing discussions around energy market reform remove perverse subsides to energy use and barriers to demand side management (e.g. among transmission network operators).
- **Energy efficiency grants and low-interest loans:** Assistance for R,D&D; trials of new technologies and processes; and capital intensive commercial scale demonstration projects. Implement the Green Building Fund for retrofitting existing commercial buildings and encourage beyond compliance in new buildings.

IMPROVED STANDARDS AND DISCLOSURE

- **Minimum Energy Performance Standards (MEPS):** Introduce national legislation to expand and strengthen MEPS (for residential, commercial and industrial applications) to move beyond world's best practice. Japan's "Top Runner" program, by which the best practice appliance sets the minimum standard, has proven very effective. Energy performance disclosures as part of the safety certification process for new appliances should also be investigated.
- **Strengthen residential and commercial building codes:** Introduce national legislation to update new residential building codes to 7 star equivalent and 5 star equivalent for new commercial and major retrofits. Also signal a graduation to stronger codes in the medium term.

HOUSEHOLD SUPPORT

A comprehensive, government funded, household energy efficiency program will lock-in low cost abatement options, build political support for emission reductions, reduce the need for direct government payments to households affected by the CPRS and help to secure long-term energy affordability for Australian families.

Combined with well-targeted direct financial assistance, this will also help to minimise regressive economic impacts from the introduction of the CPRS on low-income households (Hatfield-Dodds & Denniss 2008, KPMG 2008). Energy efficiency programs targeted at low income groups are justified on equity grounds alone and if implemented at large scale would deliver benefits to households more broadly (e.g. by building a strong energy service industry and reducing the cost of energy efficiency options).

Since the impacts of the CPRS will be immediate, it is important that the Government introduce a household energy efficiency program prior to the beginning of the scheme, with urgent priority given to low income households. While it is obvious that such a program will not be able to reach all households before the introduction of the CPRS, a start can be made during 2009.

Importantly, if this program is at a sufficiently large-scale, providing support to millions of households across Australia, it may also help to contain the inflationary effects of the CPRS. By sending a powerful signal to the Australian community that government support will be provided to assist with rising consumer expenses, a large-scale household energy efficiency program will help to limit inflationary expectations and constrain upward pressure on wages (Hatfield-Dodds & Denniss 2008).

Recommendation: *The Federal Government should establish an integrated household energy efficiency program. It is important that this support for households be delivered as an integrated package, with a single "entry point" for households to ensure the appropriate level of assistance is provided. As discussed in more detail below, this could best be achieved through the establishment of an Energy Savings Trust with broad responsibilities for coordinating government energy efficiency programs.*

As a priority, support for households should be delivered through two key channels:

National Energy Efficiency Program: *Proposed by KPMG, the Brotherhood of St Laurence and Ecos Corporation, this program involves the large-scale roll-out of energy efficiency measures for 3.5 million low income households (KPMG 2008). Importantly, this large-scale program will provide flow-on benefits for higher income groups, by generating the economies of scale needed to bring down the cost of energy efficient products and associated services. The program includes a "green vouchers" scheme to assist households to purchase energy efficient appliances and fixtures. This is a more effective option than using rebates and may be appropriate for use beyond low-income households.*

Low-interest loans: *Low-interest loans provide an effective option for encouraging energy efficiency improvements in higher-income households, where capital constraints are also a barrier. The Federal Government's Green Loans program provides a useful pilot, which could help to design a larger program. Through the proposed Energy Savings Trust the government should investigate options to build linkages with banks and other financial institutions to deliver the program on scale.*

FINANCIAL INCENTIVES

Providing greater financial incentives is one of the best options available to governments to encourage businesses to invest in energy efficiency. This will help to overcome capital constraints, split incentives and other barriers that currently limit investments in energy efficiency.

Three preferred policy options for strengthening financial incentives are described in more detail below.

Accelerated depreciation and other tax incentives: Experience overseas has shown accelerated depreciation for energy efficiency expenditure to be a particularly effective policy measure (see Price et al 2005). This would allow capital expenditure – including plant fixtures, fittings and capital works – to be deducted against taxable income over a shorter life-span, thus making energy efficiency investments more attractive.

In nominal terms accelerated depreciation is revenue neutral for the governments, as it does not change the amount of tax that is paid over the life of an asset (Centre for International Economics 2007b). Although, since accelerated depreciation alters the timing of tax payments, in present value terms it does have implications for government revenue. Impacts on revenue must be weighed against the alternatives. For example, providing government grants is likely to be less economically efficient because of the administrative costs involved. In addition, energy efficiency reduces the overall cost to the economy of Greenhouse Gas abatement, thus securing other sources of tax revenue that may be at risk if more expensive abatement options are relied upon to cut Australia's emissions.

It is recognised that the effectiveness and economic efficiency of accelerated depreciation will depend on some crucial design elements. In particular, it is important to have certain standards in place to ensure the incentive is well targeted and applies only to expenses that will lead to additional energy savings. In addition, the implications for government revenue can be contained if certain limits are applied. The UK's Enhanced Capital Allowances program, which restricts the incentive to certain technologies, provides one approach that should be investigated further.[2]

The rate of depreciation will vary according to the effective life of the asset, but will need to be set at a level that provides sufficient incentive to unlock energy savings (for example, see: CIE 2007b). When setting the depreciation rates, the Government should also consider the experiences of other countries where accelerated depreciation has been used, including Japan, Singapore, the Netherlands and Canada (see Price et al 2005).

> ***Recommendation:*** *The Federal Government should introduce provisions to allow accelerated depreciation to provide a financial incentive for businesses to invest in energy efficiency. Accelerated depreciation will target barriers associated with capital constraints and bounded rationality. This would be a transitional measure and in concert with the CPRS price signal, this will help to pull forward investments in major retrofits and energy efficiency improvements.*[3]

Remove perverse subsides: It has been noted that in some instances government subsidies, incentives and support programs may create a perverse incentive for the inefficient use of energy. Riedy (2007) has identified a number of examples affecting stationary energy use, including subsidised electricity for certain industries, network price regulations and end user pricing. The existence of these and other perverse incentives has the potential to undermine government support for energy efficiency and is an issue that should be addressed.

> ***Recommendation:*** *As part of the Henry Review and ongoing discussions around energy market reform perverse incentives should be identified and removed.*

Energy efficiency grants and low-interest loans: While not always the most economically efficient option, grants do have an important role to play in unlocking socially cost effective energy efficiency measures. In particular this includes grants for research, development and deployment of new technologies and processes, including trial and demonstration projects.

[2] See: www.eca.gov.uk

[3] Other specific tax incentives that could be used to address market failures and barriers and which deserve consideration by the include: tax concessions for energy efficiency expenditure (e.g. GST concessions); tax concessions on the sale of energy improved (retro-fitted) buildings (e.g. stamp duty or capital gains tax); tax-deductable non-compulsory energy audits for small and medium sized businesses; and favourable tax arrangements for energy service companies to encourage private-sector actors in the delivery of energy efficiency services.

Low interest loans can be used to address the capital constraints faced by many small and medium sized businesses, with the savings in energy bills assisting the building owner to pay back the loan. Low interest loans have the advantage of leveraging a larger scale of investment in energy efficiency than can be achieved through grants and other fiscal measures. Such schemes can also be combined with behaviour change programs to address information barriers.

As is the case for all government funded programs, sound accounting, auditing and enforcement will be required to ensure the public funds deliver the expected return on investment and energy savings and are not misappropriated.

> ***Recommendation:*** *Existing state and federal programs (including the proposed Climate Action Fund in the CPRS Green Paper) should be consolidated into a new, nationally coordinated, energy efficiency support mechanism. It is envisioned that this would fall under the mandate of the proposed Energy Savings Trust, which is introduced in more detail below. This would provide a "one-stop-shop" for businesses to apply for and receive grants and low interest loans for eligible energy efficiency activities.*

WHAT ABOUT PROPOSED STATE-BASED TARGETS?

Several state governments have announced plans to introduce energy efficiency targets, to be implemented through "white certificate" trading (see MMA 2008a, Passey et al. 2008 for review of this policy option). There is an open debate on whether a white certificate trading scheme would complement or be at odds with the CPRS (MMA 2008a). If white certificate trading is implemented it is critical that it be adopted as a national scheme to reduce the compliance burden on industry and to avoid stakeholders investing in strategic lobbying behaviour to undermine energy efficiency policy.

If a national white certificate trading scheme is introduced, it is important to ensure that energy efficiency improvements in low-income households are also realised and that possible regressive impacts are avoided. This may be achieved by requiring that a certain per cent of the energy savings come from low-income households (as is the case in the UK's scheme), or through a separate large-scale, government-funded program. As outlined above, this should be at the scale proposed by KPMG, the Brotherhood of St Laurence and Ecos Corporation (KPMG 2008).

IMPROVED ENERGY EFFICIENCY STANDARDS

Improved government regulation, through more stringent energy efficiency standards, will be necessary to ensure Australia's full energy efficiency potential is realised. Minimum energy performance standards (MEPS) for new appliances and stronger energy efficiency standards for new buildings are particularly important measures.

Minimum Energy Performance Standards (MEPS): MEPS play an important role in overcoming barriers to improved energy efficiency including incentive misalignments and information and behavioural barriers (see Garnaut 2008).

Currently MEPS only apply to a limited number of appliances, are often delayed due to the need for mirror legislation across different government jurisdictions and often only target the very worst energy performers. This approach could be strengthened by expanding the number of items covered by the scheme and by increasing stringency of the performance standards that must be achieved.

If well designed this policy option can shift Australia beyond world's best practice in the energy efficiency of appliances, equipment and fixtures. The worst performing products will no longer be available, thus overcoming behavioural and information barriers that currently exist.

There is a risk that certain consumer items will be more expensive to purchase as a result of this measure. However, if the standards are set at an appropriate level these costs should be off-set by lower operation costs.

> ***Recommendation:*** *The Federal Government should introduce national legislation to expand and strengthen the national MEPS program. With the objective of accelerating the shift to beyond world's best practice, Australia should adopt a MEPS program, where appliances with leading-edge energy efficiency features set the performance benchmark for the rest of the market. Japan's "Top Runner" program, in which the best practice appliances set the minimum standard for like-products, provides an effective model for accelerating energy efficiency improvements through MEPS.*

Strengthen residential and commercial building codes: Introducing a nationwide 7 star minimum energy efficiency standard for new residential buildings and 5 stars for new commercial buildings should be a priority for Australian governments. This will deliver major long-term benefits by improving the efficiency of Australia's building stock and avoid the costs associated with expensive retrofits at a later date.

This option would help to overcome incentive misalignments in the building sector (currently builders and developers have limited incentive to invest in energy efficiency during design and construction as they will not pay the bills). Energy affordability for Australian households will also improve over time as result of this measure.

> ***Recommendation:*** *Introduce national legislation for nationwide 7 star minimum energy efficiency standard for new residential buildings and 5 stars for new commercial buildings. The Government should also indicate an intention to introduce stronger future standards and commit to a process for regularly reviewing and strengthening these standards, to ensure continuous improvement in the housing stock. This review would consider the impact of the CPRS.*

One criticism that is often made of this approach is that it may accentuate housing affordability issues, as developers and builders will be forced to pass on higher construction costs. However, recent research from Victoria has shown strong consumer support for more stringent energy efficiency ratings, as the ongoing savings are seen to outweigh the relatively small upfront costs (Wallis Consulting Group 2007). Moreover, as Garnaut (2008) points out, governments can help to minimise costs to the building industry by providing an indicative pathway for future standards, allowing time for the sector to prepare and adapt its practices. As discussed below, the government can also provide support through skills and training initiatives to support the shift towards more stringent energy efficiency ratings.

Introducing mandatory energy efficiency standards for existing buildings is a further option that deserves consideration, as a means of accelerating improvements in Australia's building stock. This measure should be assessed in light of the success or otherwise of the requirement for mandatory disclosure of energy efficiency ratings at point of lease and sale, recommended below. There is also scope to introduce such a measure in conjunction with low-interest loans and grants in order to ease the compliance burden for landlords.

SUPPORTING POLICIES

A number of supporting policies will play a key role in achieving large-scale energy efficiency improvements. A brief snapshot of these policies is provided here.

Carbon Pollution Reduction Scheme: The CPRS will lead to higher energy prices which will help to overcome price barriers, leading to some improvements in energy efficiency. Improvements in response to this price signal are expected to be most significant in the commercial and industrial sectors. However, the price increase combined with greater community awareness about climate change issues is also expected to see some energy efficiency improvements by households. At the very least, higher prices are likely to make other energy efficiency policies far more effective, by increasing the financial savings to households and businesses.

The design of the CPRS and associated assistance packages will be critically important. A weak scheme will see a weak price signal, thus limiting the impacts on energy efficiency. Similarly, while managing the impacts of the scheme on households and businesses is important, any measures that blunt the price signal will lessen the potential energy savings.

Other Regulatory Programs: A number of other government programs can help to support the government's overall energy efficiency program. As a priority, the Federal Government should strengthen the Energy Efficiency Opportunities (EEO) program, to overcome incentive misalignments and other barriers to improved energy efficiency existing within companies.

A number of improvements could be introduced to improve the impact of this program including:

- Standard public reporting template on a common website to facilitate public comparisons of performance by companies in the same ANZSIC codes,
- Extension of the program to all companies captured under the National Greenhouse Energy Reporting program, and
- Extensive 3rd party auditing of program reporting and assessments.

Mandatory uptake of energy efficiency opportunities should be foreshadowed as a future option, pending a full evaluation of the program at the end of the first assessment cycle. This evaluation should take into consideration the extent to which participating businesses are implementing energy efficiency measures with less than a four-year payback period.

There is also a strong case for merging similar state-based programs into the single EEO program, to ease the regulatory burden on industry.

As identified in NFEE Stage 2, the Government should introduce a nationally consistent requirement for mandatory disclosure of energy ratings at point of sale and lease for buildings. Publicising the energy efficiency rating of residential and commercial buildings at the point of lease and sale will provide an incentive for landlords and owners to invest in energy saving improvements. This will help to overcome split-incentives and will also address information barriers. To be effective public disclosure requirements should be implemented in accordance with a rigorous rating system.

The program of mandatory labelling of appliances should be extended to additional appliances, as this provides an effective way to overcome information barriers. Energy performance disclosures as part of the safety certification process for new appliances should also be investigated.

Energy Savings Trust: The Federal Government should establish and adequately fund an independent national Energy Savings Trust. Experience in the UK, where the government has established the Carbon Trust, has shown that an organisation such as this has proven to be critical to the success of government energy efficiency programs. A key function of the Energy Savings Trust will be to oversee and administer existing and proposed Government funds (e.g. Green loans, Climate Action Fund, and the Climate Ready Program). The Trust will also play a stakeholder engagement role, to enhance the effectiveness of existing and proposed funds and incentives (e.g. work with banking and property industry to increase awareness and uptake of Green loans and energy efficiency tax credits). Other functions for the Trust would include coordinating national and sector specific information campaigns; enhancing energy data collection; monitoring and reporting on the effectiveness of current policies and measures; and coordination of national and sub-national energy efficiency initiatives.

Skills and training: To a certain extent, the success of Australia's energy efficiency programs will depend on a skilled workforce, which can deliver a large-scale rollout of energy efficiency improvements (see Garnaut 2008). Skills Australia should lead a national program to indentify the types of jobs, skills, and knowledge needed to improve Australia's energy efficiency and transition to a low-carbon economy.

> ***Recommendation:*** *The National Strategy for Energy Efficiency should be implemented in conjunction with a suite of supporting policy measures. This includes a strong and well designed CPRS; an improved EEO program and other regulatory measures; the establishment of a national Energy Savings Trust; and a national skills and training program.*

SUMMARY OF RECOMMENDATIONS

This Policy Paper includes the following recommendations for the Federal Government:

1. Establish a National Energy Efficiency Consultative Roundtable to draw on private sector and community expertise during the development of the Strategy. The Roundtable can provide information to Government on lessons learned and best practice in implementing energy efficiency strategies which will underpin the long-term success of the Strategy.

2. Establish an integrated household energy efficiency program, to be delivered through two key channels:

    a. Implementation of the National Energy Efficiency Program proposed by KPMG, the Brotherhood of St Laurence and Ecos Corporation, to roll-out energy efficiency measures for 3.5 million low income households; and

    b. Provision of low-interest loans to encourage energy efficiency improvements in higher income households, where capital constraints are also a barrier. The Federal Government's Green Loans program provides a useful pilot, which could help to design a larger program. Through the proposed Energy Savings Trust the government should investigate options to build linkages with banks and other financial institutions to deliver the program on scale.

3. Introduce provisions to allow accelerated depreciation to provide a financial incentive for businesses to invest in energy efficiency. Accelerated depreciation will target barriers associated with capital constraints and bounded rationality. This would be a transitional measure and in concert with CPRS price signal, this will help to pull forward investments in major retrofits and energy efficiency improvements.

4. As part of the Henry Review and ongoing discussions around energy market reform perverse incentives encouraging high energy use should be identified and removed.

5. Establish a new, nationally coordinated, "one-stop-shop" for businesses to apply for and receive grants and low-interest loans for eligible energy efficiency activities. This will include new and existing state and federal programs (including the proposed Climate Action Fund in the CPRS Green Paper).

6. Introduce national legislation to expand and strengthen the national MEPS program. With the objective of accelerating the shift to beyond world's best practice, Australia should adopt a MEPS program, where appliances with leading-edge energy efficiency features set the performance benchmark for the rest of the market. Japan's "Top Runner" program, in which the best practice appliances set the minimum standard for like-products, provides an effective model for accelerating energy efficiency improvements through MEPS.

7. Introduce national legislation for nationwide 7 star minimum energy efficiency standard for new residential buildings and 5 stars for new commercial buildings. The Government should also indicate an intention to introduce stronger future standards and commit to a process for regularly reviewing and strengthening these standards, to ensure continuous improvement in the housing stock. This review would consider the impact of the CPRS.

8. The National Strategy for Energy Efficiency should be implemented in conjunction with a suite of supporting policy measures. This includes a strong and well designed CPRS; an improved EEO program and other regulatory measures; the establishment of a national Energy Savings Trust; and a national skills and training program.

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