

NATIONAL STRATEGY ON ENERGY EFFICIENCY

Background

In October 2008, the Council of Australian Governments (COAG) agreed to develop a National Strategy for Energy Efficiency (the Strategy) to accelerate energy efficiency efforts, to streamline roles and responsibilities across levels of governments, and to help households and businesses prepare for the introduction of the Carbon Pollution Reduction Scheme (the Scheme). A first round of stakeholder consultation was conducted in late January and early February 2009, with national workshops covering energy efficiency in the buildings sector, appliances and equipment and industry. The development of the draft Strategy drew on these consultations.

The draft Strategy set out in this paper is designed to substantially improve minimum standards for energy efficiency and accelerate the introduction of new technologies through improving regulatory processes and addressing the barriers to uptake of new energy-efficient products and technologies. The Strategy aims to encourage and support innovation in energy efficiency technologies and approaches. The Strategy incorporates and builds on measures already agreed by COAG and the Ministerial Council on Energy through the National Framework on Energy Efficiency (the Framework).

The development of the Strategy will be further progressed over the coming months. This will include the development of specific measures, implementation plans and targeted consultation with stakeholders. The final Strategy will be presented to COAG in mid-2009.

Strategy Themes

The measures in the Strategy are framed around the following four key themes:

1. Assisting households and businesses to transition to a low-carbon future;
2. Reducing impediments to the uptake of energy efficiency;
3. Making buildings more energy efficient; and
4. Government working in partnership and leading the way.

Many of the measures outlined in this Strategy can potentially fit under one or more theme – however, for simplicity, measures are listed in the Strategy only under the theme with which they most closely align.

The processes required to establish and implement the measures are set out in the measure descriptions. For a number of the measures, details of the process will require further development over the next few months.

1. Assisting Households and Businesses Transition to a Low-Carbon Future

Measures under this theme will assist households and businesses to transition to a low-carbon future by providing material assistance as well as the information and skills necessary to improve the efficiency of energy use. Complemented by the Australian Government's Energy Efficient Homes package, the Strategy will further help households, industry and businesses reduce energy use by

ensuring that they are more aware of, and better positioned to, make well-informed decisions regarding investments in energy efficiency.

One key element to support this transition is the development of a trained and fully engaged workforce to provide sufficient numbers of skilled people to achieve Australia's energy efficiency potential. The Strategy is designed to encourage innovation and the development, enhancement, deployment and operation of more energy efficient technologies in the Australian marketplace. The Strategy includes measures to improve consumer awareness of the need for and benefits of energy efficiency and the adoption of energy efficiency measures by informed choice. The collection of adequate baseline data is a critical component of the strategy to allow for effective implementation and evaluation of policy measures.

1.1. Industry and Business:

The business sector is by far the largest energy user in the Australian economy. The industrial sector alone accounts for almost half of Australia's energy end use, and around two-thirds of stationary energy use. Australia has one of the more energy intensive industrial sectors among the developed countries,¹ which partly reflects relatively low energy prices and high levels of energy-intensive raw material production and mineral processing. However, Australia's past performance suggests there may be potential for significant energy efficiency improvements in the industrial sector. Even under a carbon price signal from the Scheme, a range of market impediments may combine to cause businesses to under-invest in energy efficiency. There is also an important transitional role for policy to help ensure businesses are well equipped to implement energy efficiency investments to help offset higher energy prices as the price on carbon generated from the CPRS flows through the economy.

The industry and business component of the Strategy will assist companies and smaller businesses to address market impediments to energy efficiency uptake. Initiatives will help ensure that businesses have adequate knowledge, skills and capacity to operate in a low carbon economy. The Strategy has a strong focus on assisting businesses to make informed choices to improve their energy efficiency. Targeted outreach information, support to identify and implement projects with high energy savings potential, and help to assess and prioritise energy efficiency opportunities will be part of the Strategy. Additionally, there will be measures targeted at small and medium enterprises (SMEs).

Under the Strategy, actions will also be taken to identify skills gaps and support development of the skills and capacity of the energy services sector, particularly in the area of energy efficiency advice, audit and assessment. Developing these skills will not only assist the transition to a low carbon economy but will help build the jobs of future. Finally, the strategy will seek to maximise the potential for the application of co-generation, tri-generation and other distributed generation technologies that have the potential to increase energy efficiency.

¹ International Energy Agency (IEA), *Energy Use in the New Millennium Trends in IEA Countries*. IEA/OECD 2007.

| Measure | Key Elements | Process |
|--|--|---------|
| <p>1.1.1 Provide support to companies to assist them in improving their energy efficiency and to make informed choices regarding energy efficiency by addressing barriers.</p> | <ul style="list-style-type: none"> - Develop a national approach to encourage companies to develop internal systems to assess and prioritise energy efficiency opportunities. - Extend the Energy Efficiency Opportunities (EEO) program to smaller users. - Support companies to identify and implement high energy saving energy efficiency opportunities including through whole of supply chain assessments and systems optimisation of priority industrial technologies. - Provide targeted support to fund energy efficiency assessments in selected industry sectors. - Cross-jurisdictional collaboration to improve the effectiveness of energy efficiency support programs targeted at SMEs. - Develop targeted outreach information to assist companies, including information on systems optimization of priority industrial technologies including motor and steam systems. | |
| <p>1.1.2 Assist business and industry to ensure they have adequate knowledge skills and capacity to meet the challenges of operating in a low carbon economy.</p> | <ul style="list-style-type: none"> - Identify skills gaps and fund activities to address skills shortages including in energy auditing and advisory services, and energy-using corporations. - Promote best practice and innovation within energy-using corporations and the energy services sector (through case studies). - Develop the skills and capacity of the energy services sector and energy using corporations. (noting that skill requirements identified will be addressed through the broader energy efficiency skills initiative outlined in 1.2.1). | |
| <p>1.1.3 Maximise the potential for the application of co-generation, tri-generation and other distributed generation technologies that increase energy efficiency.</p> | <ul style="list-style-type: none"> - Provision of information and assistance with the development of complementary/mutually beneficial partnerships. | |

1.2. Skills and Training:

The transition to a low-carbon future will demand the development and application of knowledge and skills that may not be sufficiently available in Australia at present. The skills and knowledge requirements for the transition to a low carbon economy are many, from professionals in engineering, architecture, industrial design, energy services including audit and advice,

environmental sciences, planning and policy, to technical skills in a wide range of trades and industries.

| Measure | Key Elements | Process |
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| <p>1.2.1 Develop for approval in 2009 and implementation in 2010, a national Energy Efficiency Skills Initiative as a comprehensive strategy to provide for the future skill requirements of a low carbon economy and the implementation of sustainability strategies.</p> | <ul style="list-style-type: none"> - Identify energy efficiency skills requirements across the economy and associated training, accreditation and higher education needs. - Build on existing Framework process of identification of relevant professions and trades and associated skills and training gaps. - Develop training courses and materials, in association with educational institutions and industry, to address gaps. - Seek inclusion of energy efficiency in relevant trades and professional training, and integration of accreditation schemes and qualifications into existing licensing regimes where appropriate. - Develop accreditation standards and systems to support the value of energy efficiency training and provide consumers with confidence in accessing energy efficiency services. - Publicise training and accreditation developments to encourage market for energy efficiency services, encourage training and provide customer awareness and protection. - <i>Note:</i> Development of training programs should take strategic guidance from the proposed National Action Plan for Sustainability in Vocational Education and Training Sector. | <ul style="list-style-type: none"> - Task the Ministerial Council on Energy to develop a national Energy Efficiency Skills initiative and accelerate current work under the Framework on trade and professional training. - MCE to consult with the Ministerial Council on Employment, Education, Training and Youth Affairs and the Ministerial Council for Vocational and Technical Education (MCVTE) and have regard to the context of the broader skills initiative being overseen by the MCVTE. |
| <p>1.2.2 Strengthen national capability in energy auditing and assessment.</p> | <ul style="list-style-type: none"> - Rationalise existing energy efficiency audit and assessment processes with the aim of achieving nationally consistent approaches and requirements. - Review need for additional training in energy auditing. - Review (AS/NZ 3598:2000) and (AS/NZS 3598:2000) subject to timing of next scheduled review. | |

1.3. Advice and Education:

The efficient use of energy requires information that motivates, facilitates and reinforces rational and responsible behaviour by business and consumers. The Strategy is designed to ensure Australians have access to clear, consistent and credible information on energy efficient products and services. The jurisdictions will collaborate when developing communications campaigns designed to change community attitudes and behaviours in relation to energy efficiency, and

consumers will be given energy use benchmarking information. Governments will support the uptake of new technologies by showcasing and promoting energy efficient technologies and energy conservation measures.

| Measure | Key Elements | Process |
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| 1.3.1 Ensure access to clear and consistent information on energy efficient products and services, reducing energy consumption and incentives. | <ul style="list-style-type: none"> - Establish an energy efficiency innovation element in the Commonwealth web portal (currently known as the "On line Portal"). | |
| 1.3.2 Jurisdictions will collaborate when developing communications campaigns designed to change community attitudes and behaviours in relation to energy efficiency to ensure campaigns are based on nationally consistent (and climatically relevant) information and advice. | <ul style="list-style-type: none"> - Recent examples include: Black balloons ads; the E3 program Energy Labels; and the 'Your Home' suite of products. | |
| 1.3.3 Implementation of benchmarking in consumer energy bills. | <ul style="list-style-type: none"> - Provide energy use benchmarking information on customers' electricity bills. | <ul style="list-style-type: none"> - Continue to support the Framework project on Energy Bill Benchmarking, which will provide householders with information that will allow them to measure and compare their energy consumption. - A Regulatory Impact Analysis for the Framework Energy Bill Benchmarking proposal will be prepared and released for consultation during 2009. |
| 1.3.4 Showcase and promote energy efficiency technologies and energy conservation measures. | <ul style="list-style-type: none"> - Use community and government buildings and educational facilities to showcase new technologies. - Establish a network/partnership of key research institutions to promote the development of energy efficient technologies. - Support innovation and the adoption of best practices to reducing energy intensity in the way that Australians live and work, with a focus on energy conservation measures that reduce or avoid the need for energy through better design, planning and product lifecycle management. | |

1.4. Data:

Accurate, timely and comprehensive data is fundamental to the development and successful implementation of new energy efficiency measures. Currently, the availability of broad and consistent energy efficiency data is limited, with little information about energy use in critical parts of the economy, for example commercial buildings. This Strategy seeks to improve data upon which national and jurisdictional energy efficiency policy development and evaluation, reporting, and benchmarking can be based.

| Measure | Key Elements | Process |
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| 1.4.1 Improve data upon which national and jurisdictional energy efficiency policy development, reporting and benchmarking can be based. | <ul style="list-style-type: none"> - Continue with the Framework data project including scope of Phase 2 data collection framework. - Support energy efficiency data series and ad-hoc collections through the Australian Bureau of Statistics. | |

2. Reducing Impediments to the Uptake of Energy Efficiency

The introduction of the Scheme will address the absence of a price signal for carbon emissions, however, impediments are likely to remain that prevent individuals and businesses from taking-up all cost-effective energy efficiency opportunities. These impediments arise from a range of market failures and barriers but in the main result from information failures and split incentives.

The Strategy is designed to encourage and enable action by individuals and business by providing the right information and ensuring that the regulatory frameworks are in place to deliver continuing improvements to: electricity markets (in bringing forward demand side initiatives), the energy efficiency of appliances and equipment, and the energy efficiency of the transport sector.

2.1. Electricity Markets:

Historically, energy prices have been relatively low in Australia compared to other OECD countries. However, prices will continue to rise in the future as a result of the price on carbon under the Scheme, the expanded renewable energy target (RET) and increasing capital expenditure requirements to meet peak demand growth. These price increases together with more cost-reflective retail prices, including the roll-back of retail price caps where competition is found to be effective, will help drive more efficient use of energy. The roll-out of advanced metering infrastructure ("smart meters") combined with information on energy efficient equipment and behaviours is also expected to assist customers to make energy-efficient consumption choices, while direct load control is also expected to assist manage peak demand growth.

Demand side initiatives include general demand reductions from energy efficiency, peak load shifting, cost-reflective pricing, and measures to address asymmetry of information. There is substantial overseas and local evidence to suggest that despite the existence of cost-effective demand side initiatives, they are often not effectively accessed by electricity markets as alternatives to expanded supply initiatives. The relatively low energy prices in Australia have provided consumers with little incentive to act on energy consumption, but with energy prices expected to rise, demand side measures are likely to become a higher priority for consumers.

Distributed generation including co-generation and tri-generation can be a cost effective and economically efficient alternative to conventional supply arrangements, with the advantages of greater efficiency of use of the primary fuel, avoidance of transmission and distribution losses and potential reduction of the need for network augmentation. However, factors such as lack of integrated planning and design for new buildings and uncertainty among users as to legal and commercial aspects of such projects can act as barriers to the implementation of cost-effective and economically efficient distributed generation.

The Strategy includes measures to review and develop actions in consultation with the Ministerial Council on Energy to address barriers to harnessing electricity markets to better enable the uptake

of economic and cost-effective distributed generation and demand side initiatives, while maintaining reliability of supply for consumers and industry.

| Measure | Key Elements | Process |
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| 2.1.1 Consider the effectiveness of the electricity market in bringing forward demand-side energy efficiency measures. | <ul style="list-style-type: none"> - Initial consideration through the current Australian Energy Market Commission (AEMC) Demand Side Participation Review aimed at identifying obstacles in the Rules to efficient demand-side participation and options for addressing these barriers where there are benefits in doing so. - If required, further independent review to assess: <ul style="list-style-type: none"> - impediments in electricity market settings to investment in cost effective energy efficient practices; - regulatory arrangements affecting energy efficiency in energy markets (in addition to the National Energy Market), such as retailer obligation schemes; and - barriers to the uptake and application of distributed generation, including tri-generation and co-generation. - Issues that could be assessed include technical restrictions and barriers to the efficient operation of the price signal in the market. | <ul style="list-style-type: none"> - Following conclusion of Phase Two of the AEMC Demand Side Participation Review, COAG to direct MCE to request AEMC to either: <ul style="list-style-type: none"> - include in its Phase Three review the issues listed under 'Key Elements'; or - review the issues listed under 'Key Elements' by another process. - With the need for an independent review in addition to the above to be assessed at that time. |

2.2. Appliances and Equipment:

Energy consumed by residential appliances and industrial and commercial equipment is a major source of greenhouse gas emissions in Australia. By addressing a number of areas where low cost energy efficiency opportunities exist and are yet to be fully exploited, this strategy enables Australians to access highly energy efficient appliances and equipment for residential, commercial and industrial applications, aligned with leading international standards.

The Strategy embraces a range of measures aimed at increasing the energy efficiency of products used in the residential, commercial and industrial sectors. Performance codes and standards are the most widely used measures internationally to reduce energy use and greenhouse gas emissions from appliances and equipment. Energy efficiency labelling assists consumers by providing information, allowing them to make rational choices having regard to likely operating costs. Minimum energy performance standards (MEPS) provide consumer protection in a higher energy price context by ensuring that inefficient products are not available. These proposed measures include an acceleration of Australia's current MEPS and labelling program through the Equipment Energy Efficiency (E3) program. The program includes implementation of new and revised standards in the E3 work plan which was developed through stakeholder engagement and a review of international best practice.

Subject to a regulatory impact analysis, national legislation will be established to provide a nationally consistent policy framework covering appliance and equipment minimum energy

performance standards and labelling, streamlining governance arrangements and regulatory processes, simplifying compliance and enforcement responsibilities for all stakeholders, and reducing transaction costs for business.

Inefficient lighting products in the Australian market will be phased-out and the range of lighting merchandise covered by MEPS increased over time. Inefficient and greenhouse intensive hot water systems will also be phased-out through a mix of regulatory measures, incentives and industry development elements. Although the market penetration of electric resistance water heaters is falling, roughly half of Australian households still possess this type of hot water system. This phase-out will greatly reduce the total electricity used and decrease households' water heating costs.

To complement expanded MEPS and labelling programs and the phase-outs of inefficient lighting and greenhouse-intensive hot water system products, the Strategy includes measures to augment additional consumer information programs. Mandating the requirement for star rating of appliances to be displayed on advertising material such as brochures, television advertisements and websites, will ensure that consumers have access to the most up-to-date information to make better informed choices about the products they are buying. Household action is an important part of Australia's climate change approach. This Strategy is designed to give consumers confidence to make better choices and promote behavioural change.

| Measure | Key Elements | Process |
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| 2.2.1 Accelerate and expand the current Minimum Energy Performance Standards (MEPS) and labelling program. | <ul style="list-style-type: none"> - Broaden (beyond the current Framework Equipment and Energy Efficiency program (E3) plan) the range of products and increase the level of (energy performance) stringency for covered products. - Expand MEPS significantly into the industrial equipment sector to cover off-the-shelf products in areas such as: compressors, boilers, industrial chillers, pumps and fans, heat exchangers and refrigeration equipment. - Improve processes of: <ul style="list-style-type: none"> - engagement with industry; - developing test methods and standards; and - Regulatory Impact Assessment. - Expand enforcement and verification testing to maintain E3 program integrity. - Accelerate the review of the stringency in MEPS for priority appliances. For example, examining a ten percent improvement in air-conditioner performance from 2012. | <ul style="list-style-type: none"> - Implement new and revised standards and labelling as agreed in the 2008/09-2011/12 E3 work plan. - Review and expand the coverage of the current standards and labelling program - through stakeholder engagement and with reference to international best practice. - Implement verification testing for an expanded range of products and increase compliance monitoring activity. |

| Measure | Key Elements | Process |
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| 2.2.2 Establish national legislation for MEPS and labelling, and over time move to add Greenhouse and Energy Minimum Standards (GEMS). | <ul style="list-style-type: none"> - Measure is intended to include an overhaul and streamlining of the MEPS process to include target timelines for development and implementation of new standards. - Including gas products in MEPS and labelling. - GEMS legislation expected to cover non-electrical appliances and system components that affect the energy efficiency of appliances (e.g. air conditioner ducting). | <ul style="list-style-type: none"> - Develop and implement in 2010 (subject to regulatory impact assessment) national legislation for energy performance standards. - Include examination of issues and processes for introduction of greenhouse standards and labelling in the regulatory impact analysis. - The Commonwealth will lead the regulatory impact assessment process in consultation with the states and territories through the Framework. |
| 2.2.3 Phase-out inefficient lighting products in the Australian market, commencing with incandescent globes | <ul style="list-style-type: none"> - Implement import and sales restrictions on incandescent globes in 2009. - Progressively increase the range of lighting products covered by the phase out by introducing minimum energy performance standards. | <ul style="list-style-type: none"> - The range of lighting products covered by minimum energy performance standards will be increased over time, subject to cost effective alternatives being available in the Australian market. |
| 2.2.4 Phase-out of inefficient and greenhouse-intensive hot water systems | <ul style="list-style-type: none"> - A set of measures (including energy efficiency standards) to phase-out conventional electric resistance water heaters (except where the greenhouse intensity of the public electricity supply is low) and increase efficiency of other types. - Appropriate regulatory mechanisms in each jurisdiction, (for example plumbing regulations in conjunction with the National Construction Code when developed), will be used to prevent installation of high emission electric systems. - MEPS to regulate remaining technologies. - Education and industry development measures. - Jurisdictions to work to better integrate, simplify and reduce red tape associated with incentive schemes, such as by offering rebates as point of sale discounts and offer one-stop shop approach for rebate applications. - Mandatory labelling of gas, solar and heat pump water heaters will also be introduced. | <ul style="list-style-type: none"> - As per the current Ministerial Council on Energy program - implement a mix of regulatory and industry development elements through stakeholder engagement. |
| 2.2.5 Develop and implement additional consumer information programs | <ul style="list-style-type: none"> - Mandate the requirement for star ratings of appliances to be displayed in advertising material such as brochures, television advertisements and web sites (subject to Regulatory Impact Analyses). - Develop information and advice to assist the promotion and sale of the most efficient products. | |

2.3. Transport:

The need to reduce emissions from transport is becoming a major challenge for business and the community. Greenhouse gas emissions from the transport sector in Australia continue to grow and amounted to some 13.7 per cent of total emissions in 2006. A number of government-led processes currently under way are examining opportunities for energy efficiency and addressing emissions reductions in the transport sector. These processes, under the Australian Transport Council (ATC) and the Environment Protection and Heritage Council (EPHC), will recommend potential measures for inclusion in this Strategy.

| Measure | Key Elements | Process |
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| 2.3.1 Develop a package of measures to improve the fuel efficiency of the Australian vehicle fleet and travel demand management opportunities in Australia. | <ul style="list-style-type: none"> - Potential measures to be considered by the ATC and EPHC include: <ul style="list-style-type: none"> - CO₂ standards for new light vehicles; - fiscal measures to encourage the demand and supply of low emission vehicles; - standards for non-engine components; and - a range of consumer information measures. | <ul style="list-style-type: none"> - The Vehicle Fuel Efficiency Working Group will report to the ATC and EPHC in May 2009 on the assessment of potential measures and recommendations for future actions. - The ATC is also considering environment and climate change issues in the development of the National Transport Policy. Councils are then to provide a report to COAG. - Recommendations from this report agreed by COAG would become elements within the Strategy. |
| 2.3.2 Encourage the domestic car manufacturing industry to develop and build more efficient passenger motor vehicles. | <ul style="list-style-type: none"> - The Commonwealth Government's \$6.2 billion <i>A New Car Plan for a Greener Future</i> is designed to encourage innovative industry responses to market challenges, particularly investment in environmentally-friendly automotive technologies. - In particular, the \$1.3 billion Green Car Innovation Fund will provide assistance over ten years to design, develop and manufacture low-emission, fuel-efficient cars and components in Australia. | |

3. Making Buildings More Efficient

Historically our buildings have not been built with energy efficiency as a key concern, although voluntary industry action and reforms instituted over the past decade have begun to transform our built environment. Energy consumption in buildings accounts for approximately 20 per cent of Australia's greenhouse gas emissions – split equally between commercial and residential buildings.

This Strategy sets the foundation for a transformation of Australia's building stock. The Strategy is designed to drive significant improvement in minimum energy efficiency standards to deliver substantial growth in the number of highly energy efficient homes and commercial buildings, reflecting international best practice. The transformation will be achieved through a combination of measures addressing both new buildings construction and the existing building stock.

New buildings will be constructed according to increasingly stringent energy efficiency standards that will lead to a reduction in energy consumption. These standards will account for climatic variation. Major renovations will be subject to the same standards.

This Strategy also includes measures to help raise the energy efficiency of the existing building stock through voluntary action in response to better information about building energy use. In particular, people seeking to buy or lease properties will be provided with information about the energy efficiency of the buildings through proposed new mandatory disclosure provisions. Armed with this information, consumers and businesses will be able to make informed choices about the energy efficiency of the buildings they buy and lease – and builders and building owners will respond to those market signals by investing in energy efficiency.

This Strategy encompasses early action in the commercial and residential sectors to significantly improve the energy efficiency of new buildings from 2010 and also to phase-in mandatory disclosure commencing in 2010. This early action will be followed by major reforms to the building standard setting and rating system in 2011 to deliver national consistency in the way minimum standards for building energy efficiency are set and how performance outcomes and design are assessed and rated.

Governments will set out a clear process and timetable for periodic review (for example, every three years starting in 2012) of energy efficiency standards so that over the life of this strategy energy efficiency requirements will be progressively increased. This will give industry greater confidence to innovate and develop affordable solutions to improve building energy efficiency. Six, seven and eight star buildings, or equivalent, will become the norm in Australia, not the exception.

3.1. Consistency in Standard Setting and Performance Assessment Frameworks:

| Measure | Key Elements | Process |
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| <p>3.1.1 All jurisdictions will work together to develop a consistent outcomes-based national building energy standard setting, assessment and rating framework for driving significant improvement in the energy efficiency of Australia's building stock - to be implemented in 2011.</p> | <ul style="list-style-type: none"> - This measure will be used to increase the energy efficiency of new residential and commercial buildings and major renovations, for example with minimum standards to be increased every three years. - Energy efficiency improvements will continue to be communicated via star ratings, underpinned from 2011 by new national measurement and reporting metrics relevant to both new and existing buildings, under the national framework. - This framework will: <ul style="list-style-type: none"> - apply to new and existing building stock; - cover all classes of commercial and residential buildings; - over time set increasingly stringent minimum performance standards for new buildings (subject to regulatory impact analysis); - include common metric(s) to underpin standard setting and performance assessment; - include flexibility to account for climatic variation; - accommodate mandatory disclosure of energy performance at time of sale or lease; - work towards convergence of existing, measurement-based rating tools (eg, NABERS) for existing buildings with predictive or modelling-based tools used for rating new buildings; and - be capable of extension over time to cover broader sustainability elements, including water management and greenhouse gas emissions; and the maintenance of energy efficiency performance through commissioning, operation and maintenance of buildings. | <ul style="list-style-type: none"> - The Building Code of Australia (BCA) will be the instrument by which the framework is implemented for both new building work and major renovation of existing buildings. - The revised code will: <ul style="list-style-type: none"> - increase the performance standard for all new buildings and transition to a nationally consistent performance based assessment system by the end of 2011; - cover the building envelope and energy efficiency of building services; - allow innovation in meeting defined performance standards; - provide for the use of rating tools developed by the market which provide an accurate assessment of a building's performance, and that such tools be transparent and user friendly; and - facilitate effective monitoring and compliance. - Governance arrangements for developing this framework will be determined as part of the intergovernmental agreement. |

3.2. Commercial Buildings Sector:

| Measure | Key Elements | Process |
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| <p>3.2.1 Significantly increase over time the stringency of energy efficiency provisions for all commercial buildings (i.e. Class 3, 5 to 9) in the Building Code of Australia (BCA) – starting with the 2010 version of the BCA.</p> | <ul style="list-style-type: none"> - This measure will be achieved under the new national framework for building energy standard setting and rating. - A package of energy efficiency measures for implementation in 2010 – for new buildings and major new work in existing buildings – which meets a benefit to cost ratio of 2:1. - New efficiency provisions for heating, ventilation and air-conditioning systems and for artificial lighting. - Enhancement of the national governance framework of NABERS Energy as a part of the development of a unified national framework. - Note: the last BCA update included a package of commercial buildings energy efficiency measures with a benefit to cost ratio of 5:1. Tightening the energy efficiency measures such that the regulatory impact assessment comes in at 2:1 represents a significant strengthening of standards. | <ul style="list-style-type: none"> - Initially, task the Australian Building Codes Board (ABCB) with developing more stringent energy efficiency provisions for all commercial buildings for inclusion in BCA 2010 noting that changes to the BCA are subject to a full regulatory impact assessment process. - A clear process and timetable for periodic review of energy efficiency standards will be established so that over the life of the strategy the stringency of energy efficiency standards is progressively increased. - This will incorporate an examination of how international best practice can inform each periodic review. For example, including consideration of how measures such as the UK zero-carbon buildings target are driving innovation. |
| <p>3.2.2 Phase-in from 2010 the mandatory disclosure of the energy efficiency of commercial buildings.</p> | <ul style="list-style-type: none"> - Implement a national mandatory disclosure scheme for large commercial office buildings (2000m² or larger) (Phase 1). - To also cover commercial buildings owned or leased by Commonwealth, State and Territory Governments. - Consideration of expanding mandatory disclosure to other building types, including hotels, retail, schools and hospitals (Phase 2). | <ul style="list-style-type: none"> - Develop legislation to implement mandatory disclosure. Noting that the mandatory disclosure consultation Regulatory Impact Analysis process was released by the Framework Buildings Committee in late 2008. - Establish national administration unit to implement mandatory disclosure scheme. |

| Measure | Key Elements | Process |
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| 3.2.3 Implement the Heating, Ventilation and Air Conditioning High Efficiency Systems Strategy (Framework Cool Efficiency Program). | <ul style="list-style-type: none"> - A code of best practice for maintenance and operation. - A building services log book (including codes of best practice and system documentation standards). - Voluntary standards (including log books) for maintenance of heating, ventilation and air conditioning (HVAC) systems in commercial buildings where standards are not mandatorily in place. - Clean Efficiency Project: measure energy savings achieved from cleaning and protection of heat exchange services. - 'Calculating Cool' – online tool for experimental and interactive advice about keeping buildings cool. - Measure monitor and meter selected older HVAC systems to inform control strategies and reporting regimes to building managers. | <ul style="list-style-type: none"> - In partnership with peak industry bodies and relevant government agencies, deliver the projects of the Cool Efficiency Program. - Develop consistent guidelines for regulated and non-regulated practitioners. |

3.3. Residential Buildings Sector:

| Measure | Key Elements | Process |
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| 3.3.1 Significantly increase the stringency of energy efficiency provisions for all new residential buildings in the Building Code of Australia and broaden coverage of efficiency requirements. Minimum energy efficiency standards will be upgraded to 6-stars, or equivalent, nationally in the 2010 update of the Building Code of Australia, to be implemented by May 2011 and reviewed regularly for potential upgrade thereafter, for example 3-yearly from 2012. | <ul style="list-style-type: none"> - This measure will be underpinned from 2011 by new measurement and reporting metrics under the single national framework. <ul style="list-style-type: none"> - First step is to increase minimum energy efficiency requirements in the 2010 version of the BCA, so that new buildings and major renovations must achieve a six-star rating or equivalent, noting that changes are subject to regulatory impact assessment. - Include in the 2010 BCA separate new energy efficiency requirements for hot water systems and lighting. | <ul style="list-style-type: none"> - The Australian Building Codes Board will be tasked with developing and implementing these new requirements, including undertaking the associated regulatory impact assessment. - Subsequent increases in minimum energy efficiency requirements (star ratings or equivalent) will be determined through the process outlined in measure 3.1.1. |
| 3.3.2 Phase in mandatory disclosure of residential building energy, greenhouse and water performance at the time of sale or lease, commencing with energy efficiency by May 2011. | <ul style="list-style-type: none"> - Credible and meaningful information is publicly and readily available to market participants to assist them in making lease/purchase decisions. | <ul style="list-style-type: none"> - Progress the Framework mandatory disclosure process and leverage work from the ACT mandatory disclosure scheme. - Examine the implications of different implementation options, including for landlords and tenants. |

| Measure | Key Elements | Process |
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| 3.3.3 Provide incentives for residential building owners to undertake energy efficiency improvements. | <ul style="list-style-type: none"> – Commonwealth: Energy Efficient Homes package (including: the low emission plan for renters, the household insulation program, and the solar hot-water rebate). – The range of States and Territory programs designed to improve the energy efficiency of existing residential housing stock. | |
| 3.3.4 States and Territories to audit the energy efficiency of their public housing stocks. | <ul style="list-style-type: none"> – States and Territories to consider implementing cost-effective upgrades. | |
| 3.3.5 Address the opportunities that can be derived from building lot or precinct level layout that support good solar access to living areas, solar hot water, and solar photovoltaic systems for new buildings. | <ul style="list-style-type: none"> – Building on existing voluntary measures and investigating the use of mandatory energy efficiency standards for building lot layouts which provide scope for passive solar design of new buildings. – Provision of incentives for development approval applications for subdivisions and dwellings that are designed to have outstanding energy efficiency performance. | <ul style="list-style-type: none"> – Develop a standard for assessment of efficient lot layout, and an accompanying strategy to encourage the take up of the standard into planning and development systems. |
| 3.3.6 Provide and promote information on energy efficient housing options | <ul style="list-style-type: none"> – Demonstration projects in a wide range of housing types to show what can be practically achieved to significantly enhance energy efficiency. | |
| 3.3.7 Improve our understanding of the energy efficiency of Australia's existing housing stock. | <ul style="list-style-type: none"> – Undertake a comprehensive on-ground study to assess the actual energy efficiency status of the existing housing stock. This study would include end use metering to determine overall home energy use, energy use by home appliances and assess the thermal performance of the building shell for different housing types. – Subject to outcomes of the studies, determine possible cost effective options for increasing energy efficiency for a range of house types. | |

4. Government Working in Partnership and Leading the Way

Governments are significant users of energy in the community. Improving the energy efficiency of Commonwealth, state and territory governments' operations will therefore not only contribute to reducing Australia's total energy consumption (and help to meet its greenhouse gas emission reduction goals) but also, importantly, demonstrate leadership and thus encourage wider community acceptance of management tools and other efforts to increase the efficiency of energy use.

The Strategy encompasses several ways to improve energy efficiency of Government operations, and consequently reduce the whole of life cost and environmental impact. For example, governments are major clients in the commercial buildings market, with the Commonwealth Government alone representing around 13 percent of the commercial office market. To improve the

performance of the building stock that Governments own or occupy, Australian, state and territory governments will jointly develop a national approach to improving the performance of their buildings. Greater emphasis will also be placed on energy efficiency as part of broader improvements to the sustainable procurement practices of governments.

Governments will also aim to achieve transport energy efficiencies through using a national TelePresence conferencing network to reduce government air travel. Street lighting is of variable efficiency across the country which presents opportunities for more efficient uptake. The Strategy includes a measure to identify barriers to the uptake of more efficient street lighting and develop strategies to address any identified problems.

| Measure | Key Elements | Process |
|--|--|--|
| 4.1.1 Governments to significantly improve the performance of the buildings they own or occupy. | <ul style="list-style-type: none"> - Develop initiatives which demonstrate leadership to significantly increase the performance of the buildings they own or occupy. - Promote the use of energy performance contracting to upgrade government buildings. - Develop a National Green Lease Policy for Government buildings. | <ul style="list-style-type: none"> - Australian, State and Territory Governments jointly develop a national policy approach, by mid-2009. |
| 4.1.2 Reduce travel relating to government business and its related greenhouse gas emissions. | <ul style="list-style-type: none"> - Establish a national TelePresence conferencing network to reduce COAG-related and other official travel. | <ul style="list-style-type: none"> - Roll out of TelePresence network in First Ministers' departments in all jurisdictions by June 2010. |
| 4.1.3 Place greater emphasis on energy efficiency as part of broader improvements to the sustainable procurement practices of governments. | <ul style="list-style-type: none"> - Review the effectiveness of current procurement strategies in promoting energy efficiency. - Work through the Australian Procurement and Construction Council to implement the Australian and New Zealand Government Framework for Sustainable Procurement. - Promote and accelerate the use of energy efficient equipment (including information-communications technology, refrigerators, etc) in government operations, and investigate the adoption of mandatory energy efficiency requirements, including the use of whole-of-life costing. - Governments will progressively transform their vehicle fleets to be more fuel efficient. | <ul style="list-style-type: none"> - Jurisdictions to develop agreed minimum energy efficiency standards for government procured equipment. |

| Measure | Key Elements | Process |
|--|--|---------|
| 4.1.4 Increase the energy efficiency of street lighting. | <ul style="list-style-type: none"> - Identify barriers to the uptake of more efficient street lighting and develop strategy to address any identified problems, including considering introduction of mandatory standards for lighting energy efficiency and related cost implications for local government. - Collect and make available to street lighting service providers and local governments nation-wide information on energy efficient street lighting. - Consider whether an incentive mechanism for distributors to install efficient equipment is needed to give effect to this measure. | |

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