

Towards a National Framework  
for Energy Efficiency –  
Issues and challenges

Discussion paper



The Development of the National Framework for Energy Efficiency is a joint initiative of the Governments of:

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Northern Territory  
Queensland  
South Australia  
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Victoria  
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Around the world, governments and business are increasingly targeting energy efficiency as a means of increasing business competitiveness, saving the community money and harnessing cost-effective greenhouse gas emission reduction opportunities.

Similarly in Australia, commonwealth and state energy ministers, through the Ministerial Council on Energy, have called for a National Framework for Energy Efficiency (National Framework or NFEF).

The Ministerial Council on Energy (MCE) was established in June 2001 by the Council of Australian Governments (COAG), comprising commonwealth, state and territory ministers with responsibility for energy policy. A key task of the Ministerial Council is to identify policies and programs which will deliver significant improvements in energy efficiency through coordinated action by federal, state and territory government agencies. In November 2002, MCE endorsed a proposal for development of a National Framework for Energy Efficiency to define future directions for energy efficiency policy and programs in Australia. The Ministerial Council has placed a high priority on developing policies and programs that could assist in improving energy efficiency in Australia.

Business has also started to call for the creation of a nationally integrated approach to energy efficiency as a means of better utilising public and private sector resources to unlock the considerable economic benefits energy efficiency can deliver. These calls are based on the recognition that there is a growing need for energy and that energy efficiency has the potential to deliver significant net economic benefits while generating significant reductions in greenhouse gas emissions. Put simply, there should be no net cost of appropriate action on energy efficiency—but there are real costs associated with inaction. It is also recognised that energy efficiency is an important means of improving international economic competitiveness and ensuring that Australian products and services remain competitive in the world markets.

Through the Energy Efficiency and Greenhouse Working Group (E2G2), established under the MCE, preliminary work has been conducted to commence the formation of a National Framework and this *Discussion paper* seeks information and input from stakeholders.



# Section 1

## Introduction

The National Framework aims to unlock the significant economic, social and environmental potential of increased investment in energy efficiency.

### Purpose

The purpose of the National Framework is to achieve a step change in Australia's energy efficiency with the objective of unlocking the significant economic potential associated with increased implementation of energy efficient technologies and processes to deliver a least cost approach to energy provision in Australia. Developing the National Framework will help identify major areas of inefficiency and areas for improved coordination and cooperation across jurisdictions in the delivery of energy efficiency policies and programs.

### Scope

The National Framework will be strategic in focus and developed cooperatively with involvement of all jurisdictions and key stakeholders, taking into consideration the individual circumstance of particular regions and jurisdictions. It will focus on demand-side energy efficiency, primarily in the industrial, commercial and residential sectors. However, it will also consider energy use in energy conversion and address intermediaries with the ability to influence energy efficiency choices, such as energy retailers, builders, financiers and appliance, equipment and material suppliers.

### Inviting community discussion

This *Discussion paper* consists of the following sections. Section 2 identifies some reasons why Australia should seek to capitalise on the untapped economic potential that energy efficiency can deliver. Section 3 quantifies the estimated technical and economic potential for increasing energy efficiency. Section 4 provides a broad overview of efforts and achievements in increasing energy efficiency in recent years. Section 5 seeks to identify some of the key barriers to energy efficiency. Section 6 presents some of the key challenges that need to be addressed to increase the uptake of cost-effective energy efficiency measures. Finally, Section 7 outlines the next steps towards developing a National Framework on Energy Efficiency.

The principal aim of this *Discussion paper* is to seek the views and ideas of stakeholders in industry, government and the community on how to effectively address the key energy efficiency barriers, challenges and opportunities outlined in this paper.

## Section 2

# Why is action needed on energy efficiency?

### Economic, social and environmental dividends

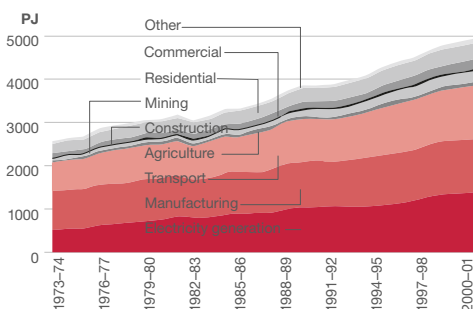
Improving the efficiency with which energy is used is important to Australia's economic, social and environmental wellbeing. The analytical work undertaken in the development of the National Framework indicates that energy consumption in the manufacturing, commercial and residential sectors could be reduced by 20–30% with the adoption of current commercially available technologies with an average payback of four years.

The magnitude of inefficient energy use represents a considerable and unnecessary wastage of economic resources as well as a range of negative social and environmental externalities. It is clear that increased action on energy efficiency could yield substantial economic and environmental dividends.

### Energy consumption trends

In the 27 years from 1973–1974 to 2000–2001, total energy consumption in Australia has grown at an average 2.5% per annum (see Figure 1).

**Figure 1: Australian primary energy consumption by sector 1973–1974 to 2000–2001.**



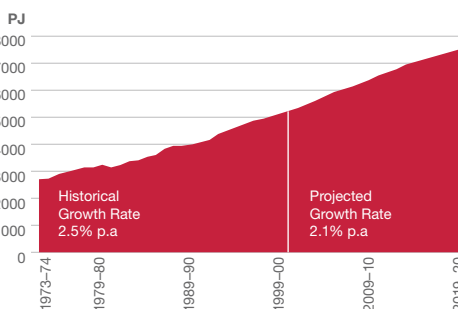
The nation's energy consumption is expected to continue to grow at approximately 2.3% per annum in the short-term (to 2005–2006) and 2.1% in the longer-term (to 2019–2020)<sup>1</sup> (see Figure 2). This represents a significant increase in total energy consumption. Without action on energy efficiency the existing energy generation and supply infrastructure will require substantial additions over the next decade. Adopting cost-effective measures that increase energy efficiency could make a significant contribution to reducing this rate of growth in consumption and the amount of economic resources that would need to be devoted to augmenting energy supplies.

Two complementary options exist for bridging the gap between expected growth in demand and the available energy supply:

- 1 Increasing total energy supply by expanding the capacity of the generation and supply networks for electricity, gas and other energy sources.
- 2 Reducing demand for energy by ensuring that energy is used more efficiently in generation, distribution and at point of end-use.

While action will clearly need to be taken to increase total energy supply, the National Framework will focus on the second option—improving the efficiency of energy use.

**Figure 2: Australian primary energy consumption—historical and projected.**



Energy consumption in the manufacturing, commercial and residential sectors can be reduced by 20–30% with current commercially available technologies.

### Energy efficiency gains limited to date

Australian governments and the private sector have made a considerable contribution to the facilitation of improved energy efficiency over the past two decades, but much of this has relied on incremental improvements and the measures have captured only a small proportion of the cost-effective energy efficient potential. Governments also recognise that to maintain international economic competitiveness, Australia must also capitalise on a larger proportion of the cost-effective efficiency measures than it currently does.

Recent analysis by the Australian Bureau of Agricultural and Resource Economics (ABARE)<sup>2</sup> indicates that there has been a shift in the economy over the last 20 years towards less energy intensive industries, particularly the services sector. However, when the energy intensity of the economy is adjusted for this so called 'structural effect' it is apparent that since the early 1990s the real trend in energy intensity (a proxy for energy efficiency) shows little or no improvement in a number of sectors.

<sup>1</sup> ABARE: Australian Energy—National and State Projection to 2019–2020, Report 02.10, June 2003.

<sup>2</sup> ABARE: Trends in Australian Energy Intensity 1973–1974 to 2000–2001, Report 03.9, June 2003.

## Section 3

# What is the technical and economic potential to improve energy efficiency?

### The energy efficiency gap

Technical analysis and economic modelling, undertaken as an initial input to the development of the National Framework, indicates that existing technologies and processes have the potential to deliver very significant improvements in energy efficiency (the technical potential)—up to 60–70% of energy consumption in some sectors. While it is recognised that not all of these technically possible improvements are also economically viable at present (the economic potential), or that all the economic potential can be captured, it is also clear that there is a significant gap between what is both technically and economically viable and what has actually been achieved to date by the market and government programs (current level of energy efficiency).

It should be noted that the level of economic potential from increased energy efficiency varies between countries, due to variations in energy prices, structural characteristics, capital costs and access to technology. Direct comparisons between what is economic in other countries and what is economic in Australia can be problematic and should not be considered as a basis for estimating the extent of untapped potential.

None the less, the gap between the actual economic potential and the market delivered energy efficiency outcomes represents a significant amount of untapped market potential—there are significant economic benefits available that are not exploited by the market (see Figure 3). It is this apparent untapped potential that the National Framework seeks to address.

### Energy efficiency improvement potential

As part of the research and analysis phase for the National Framework, a preliminary assessment of demand-side energy efficiency improvement potential and costs was undertaken. Two scenarios were developed:

- 1 Low energy-efficiency improvement scenario—current commercially available technologies with an average four-year payback.
- 2 High energy-efficiency improvement scenario—existing or developing technologies potentially available within the study timeframe with an average eight-year payback period.

There is a significant gap between economically viable levels of energy efficiency and what is actually being delivered by the market.

The analysis indicated significant energy efficiency improvement potential available to be exploited across all sectors of the economy (see Figure 4).

Applying the energy efficiency improvement potential to 2000–2001 stationary energy use, the potential annual energy savings are shown in Figure 5. Note that the low numbers represent a 50% penetration of the low energy-efficiency improvement potential, and the medium numbers represent 100% penetration of the low energy-efficiency improvement potential (all those measures with an average four-year payback).

Figure 3: Extent of unrealised economic potential.

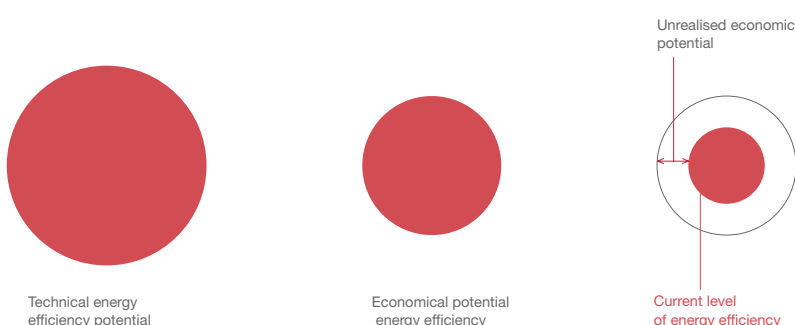
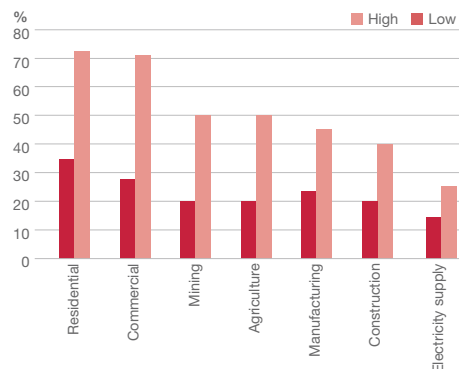


Figure 4: Percentage cost-effective energy consumption reduction potential across different sectors.



Up to 9000 jobs would be created by accelerating investment in energy efficiency.

### Economic impact of enhanced energy efficiency

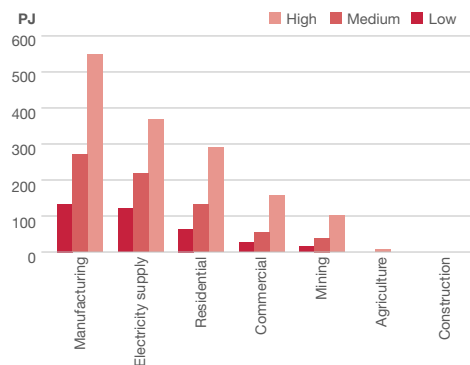
The economic modelling has shown that significant economic benefits would be delivered under the very conservative scenario of only a 50% penetration over a 12 year period of the low energy-efficiency improvement scenario (excluding the electricity supply sector). The modelling results for the more conservative scenario show that in year 12 after the energy efficiency improvement has commenced, enhanced energy efficiency delivers the following economic benefits:

- Real GDP would be \$1.8 billion higher (+0.2%).
- Employment would increase by around 9000 (+0.1%).
- A 9% reduction in stationary final energy consumption (-213 PJ).
- A 9% reduction in greenhouse emissions from the stationary energy sector (-32MT).

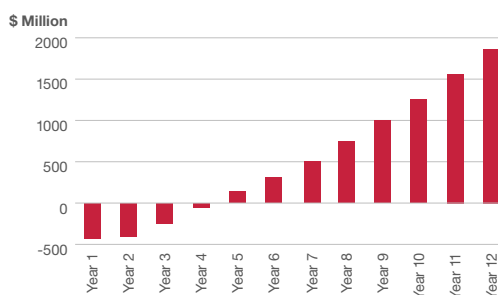
Figure 6 shows the incremental impact of improved energy efficiency on GDP. Accessing these benefits would require an investment in energy efficiency over the 12 years of approximately \$12.4 billion (NPV terms) generating lifecycle energy savings of approximately \$26.9 billion (NPV terms). Overall these measures would achieve a 26% internal rate of return on investment.

The gains would be much larger if a concerted effort were made to capture all cost-effective gains. While it is recognised that it would be unrealistic to expect to capture all cost-effective measures, the analysis does indicate that achieving even a modest proportion of the potential offers considerable economic and environmental benefits.

**Figure 5: Potential annual energy savings based on 2000–2001 stationary energy use across sectors.**



**Figure 6: Incremental impact on GDP of low energy-efficiency scenario.**



## Section 4

# Efforts and achievements to date

The National Appliance Energy Efficiency Program demonstrates the benefits gained from a national coordinated approach.

### What has been done?

A range of government measures are (or have been) aimed wholly or in part at improving energy efficiency—these measures include various sectoral and cross-sectoral programs, policies, energy efficiency targets and regulations. In addition to this government activity, it is recognised that individual consumers have also undertaken many energy efficiency actions independent of these programs—primarily because these actions save them money.

### Voluntary, information and financial assistance programs

There has been a considerable range of energy end-use programs across the manufacturing/industrial/commercial, community/residential and government operations sectors. These programs have tended to focus on raising awareness and voluntary approaches and building capacity to identify cost-effective energy efficiency opportunities, with some limited financial incentives and implementation assistance. There has been limited effort directed at addressing fundamental barriers to energy efficiency or creating incentives to accelerate investment in energy efficiency.

### Regulatory measures

The focus of regulatory measures to date has primarily been on development and national implementation of Mandatory Energy Performance Standards (MEPS) for a limited number of domestic and industrial equipment and appliances; development and jurisdictional implementation of MEPS for new housing; and mandatory energy labelling at a national level. Where measures have been coordinated nationally and approaches and methods harmonised the results have been encouraging. The National Framework would focus on expanding and building on these achievements.

In addition to these explicitly focused energy efficiency measures, there have been some regulatory measures (such as the NSW Electricity Retailer Greenhouse Gas Benchmarks scheme), which are not primarily targeted at energy efficiency but are likely to generate some energy efficiency improvements.

### Government operations

Governments around Australia have also chosen to demonstrate leadership by setting energy efficiency targets for their own operations. For example, the Commonwealth Energy Efficiency Policy includes targets for office lighting and power, central services and defence. These targets have now largely been met and a new range of measures will soon be developed. Several other jurisdictions have also set energy use reduction targets of up to 25% for their own operations.

### What has been achieved?

Detailed figures on what has been achieved in total by the range of Australian energy efficiency programs have not been possible to compile because the data is incomplete and the methods used to report outcomes in most cases lack independent verification. There have been some notable achievements in increasing energy efficiency in some sectors. For example, the MEPS equipment and appliance program will, between 2003–2018, deliver 560 PJ in energy savings with net benefits of over \$4.2 billion (NPV 10% discount). However, in general, the progress has been mixed and overall has been less than what would have been hoped for.

Several case studies have been included in this paper to demonstrate the types of energy and cost savings that energy efficiency initiatives can deliver. However, for each case study reported, the energy savings have only been realised after governments worked with the particular organisations. Here lies a major challenge for the National Framework—how to stimulate the routine uptake of cost-effective energy efficiency measures without the need for significant or ongoing government involvement?

### What is the overall gap between what has been achieved to date and what may be possible?

While the range of energy efficiency programs and activities undertaken since the late 1980s have contributed to unlocking an improvement in energy efficiency, the actual achievement is estimated to represent less than 20% of what is estimated to be economically beneficial by achieving half the low energy-efficiency improvement scenario.

# Energy efficiency delivers real benefits— but uptake is very limited

While research and case studies demonstrate that significant energy and cost saving opportunities exist throughout the economy, it is also clear that existing programs are not capturing the vast majority of cost-effective opportunities. A range of commonwealth and state government programs have, however, had some success in assisting participating companies to identify their potential for improved energy management and associated cost savings. These programs have addressed a range of barriers, including lack of information, high transaction costs, access to finance, lower order management priorities and split incentives. The programs have assisted companies to overcome these barriers and implement the opportunities by providing technical and other assistance. Examples of successes include:

- A major brewery achieved energy performance improvements to the plant's refrigeration system at one site in Victoria, resulting in identified savings worth approximately \$500 000 per year.
- A leading Australian paper products manufacturer has identified quick payback energy efficiency measures in its NSW operations that, when implemented, will reduce their annual energy bill by \$2.2 million—\$608 000 of these savings have now been achieved at an internal rate of return of 74%.

- For an initial investment of \$254 000, two wineries have achieved total annual projected savings of \$136 000, while avoiding additional capital investment of \$1.25 million at one site alone.
- A major bakery franchise has designed and built an energy efficient showcase bakery as a working demonstration of best practice building design, baking practices and equipment efficiency—achieving 32% savings in operational energy costs per year.
- A Sydney hotel has introduced a number of simple energy saving initiatives with minimal capital cost that have resulted in annual energy cost savings of approximately \$130 000 at an internal rate of return of 80%.
- A major Australian bank introduced an energy management program and is now achieving annual energy savings of around \$400 000 in one state at an internal rate of return of 46%.
- An initial pilot project at a Victorian aluminium smelter will achieve energy cost savings of \$66 000 per annum plus productivity improvements by reducing waste and improving process control for an investment of \$33 000.

- A NSW Government department has achieved annual energy savings of \$136 000 under an Energy Performance Contract which has funded an \$805 000 lighting and air conditioning upgrade project at five sites.
- A major NSW health service has recently undertaken a comprehensive \$465 000 package of energy upgrades which will return annual savings of \$72 000 at an internal rate of return of 16%.
- A NSW agency is requiring the construction and maintenance for 15 years of a building that performs at 4.5 stars under the Australian Building Greenhouse Rating scheme—which will use 30% less energy than a typical office building.
- The introduction of a new Five Star Standard for new residential buildings in Victoria from July 2004 will mean that, within five years, new homes will deliver estimated annual energy savings worth \$30–40 million.

These examples demonstrate the types of energy and cost savings that energy efficiency initiatives can potentially deliver. However for each of these examples, it is only after significant involvement of government working with the particular organisations that the energy savings have been realised. In addition, for each success story there are multitudes of unexploited opportunities. Here lies a major challenge for the National Framework—how to stimulate the routine uptake of cost-effective energy efficiency measures without the need for significant or ongoing government involvement.



## Section 5

# What are the barriers to further action?

### Individual barriers and deficiencies

Assessments of energy efficiency programs and policies have identified a range of barriers that, to varying extents, are seen as contributing to the current degree of low market uptake of cost-effective energy efficiency opportunities. These individual barriers and constraints, which clearly affect different sectors and types of consumers to a greater or lesser extent, include:

- Relevant information is not always available at the right time to the right people to enable informed energy efficiency choices to be made.
  - The policies and programs that only provide information do not address or overcome behavioural barriers and inertia.
  - As energy is a small proportion of total expenditure for most consumers, the potential savings aren't perceived as justifying the necessary investment in time and effort to consider and implement energy efficiency improvements.
  - Many organisations do not have easy internal or external access to the necessary expertise or tools to identify or take advantage of the available energy efficiency opportunities.
  - There are limits and priorities on the capital available to any organisation—and energy efficiency has to compete for this capital with other potential investments.
- Organisations appear to use a higher hurdle rate for energy efficiency investments than for other investments.
  - In some situations the financial incentives are split—the person or organisation that would need to invest in the energy efficiency improvement is separate from those that will gain the benefits of the resulting reduction in energy use.
  - There is uncertainty regarding the consistency and adequacy of resources, and continuity of government measures over the long-term.
  - Energy efficiency is not broadly integrated into the current curricula of TAFEs and universities, or the professional development programs of both professional and trade organisations.
  - There is a lack of evidence of achievements from energy efficient applications and government measures as a result of a lack of consistent measuring and reporting of energy use and efficiency.

### Organisational and cultural inertia

It is apparent that there are significant organisational and cultural barriers to implementing the necessary changes to achieve greater uptake of cost-effective energy efficiency opportunities. Too many organisations find it is easier to continue to use the same technologies and processes that are already in place, rather than bear the cost and risk of investing time and money in new processes and technologies. This is, in part, driven by a tendency to 'fit in' with historical budget allocations for energy efficiency. It is also apparent that some organisations do not even consider the potential significant gains to be achieved through energy efficiency in business planning activities.

To be successful, the National Framework will need to provide the drivers to overcome the individual barriers and deficiencies, and provide sufficient incentives, motivation and targeted assistance to overcome organisational inertia to change. Importantly though, this assistance does not need to be delivered solely by the public sector. In fact, an effective long-term approach to energy efficiency requires that the issue and the solutions increasingly become a mainstream business concern, rather than a short-term response to government measures.

### Could you provide the following feedback?

- 
- Does your organisation/body strongly agree or disagree with any of these identified barriers? Are there any barriers that your organisation/body thinks should be added to those mentioned in this paper?
  - What does your organisation/body see as the major barrier(s) you face in accelerating the uptake of energy efficient practices and technologies? (Prioritise/highlight these barriers that are particularly important to your organisation/body.)

A range of barriers contribute to the low market uptake of cost-effective energy efficiency opportunities.

### **Lack of national coordination of government policy**

There are currently a significant number and range of different energy efficiency programs and policies across all jurisdictions. While the extent of the programs varies significantly between jurisdictions and different sectors, it is apparent that improved national coordination has the potential to achieve a greater result for any given level of available resources devoted to energy efficiency than continuation of the current, largely uncoordinated approach.

A clear example of the benefits that can be gained from a coordinated national approach is evidenced by the success and achievements of the MEPS program. MEPS will make a major contribution to increasing energy efficiency in a range of appliances over coming years. Expanding the level of national coordination to other energy efficiency areas through the National Framework would assist in capturing a greater amount of the cost-effective energy efficiency potential.

In addition to minimising overlap and duplication, and maximising the efficiency of government resources, improved coordination has the potential to reduce the cost and complexity for consumers—for example, by reducing unnecessary differences in approach and compliance requirements between jurisdictions. Successfully addressing the need for improved national coordination is therefore considered to be a vital element of any national framework aimed at unlocking greater energy efficiency for Australia.

There are a number of reasons why a nationally coordinated approach is necessary if the full economic, social and environmental potential of energy efficiency is to be unlocked. These reasons include:

- minimising duplication
- maximising efficiency of government funded programs
- reducing cost and complexity for consumers in adopting cost-effective energy efficient applications
- improving national consistency in approaches
- facilitating certainty of direction in an increasingly national marketplace
- raising the priority of energy efficiency in jurisdictions with limited resources
- developing a standard national approach to the measurement, monitoring and reporting of energy efficiency measures.

## Section 6

# What are the challenges to achieving more?

Building a self-sustaining energy efficiency industry is a key challenge.

### Challenges to be addressed

A range of challenges to address the identified barriers include:

- Ensuring appropriate incentives and support be provided so that continuous improvement in energy efficiency becomes a mainstream and self-sustaining business activity in Australia.
- Building a self-sustaining energy efficiency industry in Australia.
- Ensuring that the necessary expertise exists and is available to consumers to identify and implement energy efficiency opportunities.
- Making it easier or cheaper for consumers to exploit the opportunities for energy efficiency savings. For example, assisting to overcome or minimise the transaction costs of implementing energy efficiency measures.
- Reducing inertia and increasing the motivation to implement energy efficiency opportunities, for example by increasing the perceived level and range of benefits in implementing energy efficiency opportunities.

- Making energy efficiency important enough for decision makers to devote time and resources to addressing the opportunities. For example, in the short-term, how can the necessary level of senior management awareness of the issues and opportunities be raised?
- Connecting the savings produced with those who are required to make the investments, particularly in the industrial and commercial building sector.
- Encouraging and facilitating internal or external access to the required capital for investment in energy efficiency opportunities—for example, by raising the internal priority for investment in energy efficiency or spreading the costs or risks.
- Assessing the extent of information gaps, and ensuring that relevant, consistent and non-duplicative information (from awareness raising to detailed technical information) gets to the right people at the right time.

- Encouraging increased monitoring of the necessary information and encouraging the provision of this information to consumers and the government to ensure that measures and application are effectively delivering the desired outcomes.
- Developing a long-term nationally consistent approach to energy efficiency while maintaining sufficient flexibility for regional or jurisdictional initiatives.

In addition to these general challenges there are several sector specific challenges that warrant attention.

### Could you provide the following feedback?

- 
- Does your organisation/body strongly agree or disagree with any of these identified challenges? Are there any other challenges that need to be added to those already listed in this paper?
  - What does your organisation/body see as the major challenge(s) you face in accelerating the uptake of energy efficient practices and technologies? (Prioritise/highlight these challenges that are particularly important to your organisation/body.)
  - What possible solutions does your organisation/body propose to effectively address the specific challenges?
  - What potential opportunities does your organisation/body foresee as being realised from the resolution of the specific challenges?

## Industrial sector

The industrial sector covers manufacturing, mining, agriculture and construction. Stationary energy use in 2000–2001 was 1404 PJ. The manufacturing sector accounted for 85% of this (1191 PJ) and since 1973–1974 energy consumption has grown at an average 1.0% per annum. However there have been major structural adjustments to the industrial sector over this time, with many smaller energy intensive industries exiting the market. The energy intensity of the remaining areas of industry has increased at a greater rate with the increase in mechanisation and new technologies.

Based on the work undertaken to date, a key barrier for accelerating energy efficiency in this sector is the inertia of current organisational attitudes and cultures towards energy and the continued use of the same technologies and processes that are already in place. Specific challenges identified for the industrial sector include:

- embedding energy efficiency improvements and investment into the top priorities of business, such as productivity improvements
- stimulating energy innovation
- expanding coverage and influence to small-to-medium enterprises (SMEs)
- assisting middle management to present a successful business case for energy efficiency to executive management
- encouraging opportunities for thinking beyond customary approaches
- engaging all personnel across a site in energy management thinking.

## Commercial sector

Total energy consumed in the commercial sector in 2000–2001 was 218 PJ and consumption has grown strongly at an average of 3.8% per year since 1973–1974. The growth of energy consumption can be attributed to structural change in the economy bringing with it an increased number of commercial buildings, an increased proportion of air conditioned buildings, and an increased use of electrical and electronic equipment.

Like the industrial sector, a key barrier for accelerating energy efficiency in this sector is the inertia of current organisational attitudes and cultures. Some specific challenges for the commercial sector are:

- stimulating energy innovation in commercial building design and construction
- supplying high-performing energy efficient buildings
- stimulating energy efficient upgrades and refurbishment of existing buildings
- ensuring building tenants are aware of building energy costs and the options for reducing these costs
- improving the energy management skills of building management
- demonstrating the operational effectiveness and non-energy benefits of low-energy design buildings
- effectively demonstrating government commitment and leadership.

## Could you provide the following feedback?

- 
- Does your organisation/body strongly agree or disagree with any of these identified challenges? Are there any other challenges that need to be added to those already listed in this paper?
  - What does your organisation/body see as the major challenge(s) you face in accelerating the uptake of energy efficient practices and technologies? (Prioritise/highlight these challenges that are particularly important to your organisation/body.)
  - What possible solutions does your organisation/body propose to effectively address the specific challenges?
  - What potential opportunities does your organisation/body foresee as being realised from the resolution of the specific challenges?

For energy retailers, how can it be made more profitable to sell energy efficiency.

### Residential sector

Total energy consumed in the residential sector 2000–2001 was 400 PJ and consumption has grown at an average of 2.0% per annum since 1973–1974. Nationally, the major end-use applications are space air conditioning (45% of energy use) and water heating (25% of energy use), but there are major differences across states.

Based on the work undertaken to date, a key barrier in the residential sector is lack of sufficient relevant information for decisionmaking, combined with consumers and market intermediaries' attitudes, behaviours and culture towards energy use. Specific challenges identified for the residential section include:

- accelerating the refurbishment of housing stock for greater energy efficiency
- ensuring disclosure of housing energy performance to empower buyers and tenants, such as required in the ACT
- ensuring segments of the community with limited resources are not disadvantaged.

### Conversion sector

Energy used for electricity generation, including transmission and distribution losses, in 2000–2001 was 1474 PJ, and has grown at an average of 4.0% per year since 1973–1974.

Specific challenges identified for the conversion sector include:

- stimulating more significant improvement in generator energy efficiency
- stimulating alternative energy generation options that increase the reliability and thermal efficiency of the energy supply system.

### Intermediaries

Based on the work undertaken to date, key barriers in this sector are intermediaries' attitudes, behaviours and culture towards energy and their willingness to advocate and innovate. Specific challenges identified for the intermediaries sector include:

- making it more profitable to sell energy efficiency
- creating an energy market that delivers low energy-cost energy services to business and the community, not just low energy prices
- creating an environment for intermediaries to advocate energy efficiency to clients
- motivating intermediaries to provide energy efficiency services
- increasing incentives for energy retailers to provide energy efficiency services.

### Could you provide the following feedback?

- 
- Does your organisation/body strongly agree or disagree with any of these identified challenges? Are there any other challenges that need to be added to those already listed in this paper?
  - What does your organisation/body see as the major challenge(s) you face in accelerating the uptake of energy efficient practices and technologies? (Prioritise/highlight these challenges that are particularly important to your organisation/body.)
  - What possible solutions does your organisation/body propose to effectively address the specific challenges?
  - What potential opportunities does your organisation/body foresee as being realised from the resolution of the specific challenges?

## Section 7

### The next steps

Feedback, views and ideas from key stakeholders are invited.

The first step and the aim of this *Discussion paper* is to get the views and ideas of key stakeholders in government, industry and the community on how to effectively address the key barriers and challenges and opportunities outlined in this paper.

In addition to welcoming written submissions, a consultation process will be established to provide an opportunity for interested organisations and individuals to participate in discussions about the development of the National Framework. This may include stakeholder workshops which will be organised by the relevant government agency in each state and territory. The timing and location of these workshops, and the closing date for written submissions, are listed at the Sustainable Energy Authority Victoria's website, visit [www.seav.vic.gov.au](http://www.seav.vic.gov.au). The closing date ensures that there is an opportunity for thorough consideration by all key stakeholders. Interested parties are invited to forward written submissions to:

National Framework for Energy  
Efficiency Secretariat  
GPO Box 621  
Canberra ACT 2601  
E-mail [nfee.secretariat@deh.gov.au](mailto:nfee.secretariat@deh.gov.au)

Following receipt of stakeholder views and any necessary follow-up consultations, a draft National Framework will be prepared outlining possible policy and program options to deliver enhanced energy efficiency. The options will be based on the Energy Efficiency and Greenhouse Working Group's preliminary assessment of energy efficiency initiatives and will incorporate, where appropriate, the views of key stakeholders. Subject to approval by the Ministerial Council on Energy, the draft National Framework will then proceed through a formal public consultation process.





