



## 1. Introduction

Environment Victoria is Victoria's peak environment organisation with over 1000 members and 100 affiliated environment groups representing about 15,000 members across the State. Environment Victoria has been an advocate for energy efficiency for most of its 36 years, in recognition of the social, environmental and economic benefits that flow from minimising the waste of precious resources. Our organisation has also overseen the implementation of community education, demand management and behaviour change programs promoting the uptake of resource efficiency. This includes such programs as Cool Communities, a national program to abate residential greenhouse gas emissions, Green Home Action, a State-based household sustainability program, in Victoria and Nha Dep the same for the Vietnamese community. Environment Victoria's transport programs aims to save energy and greenhouse emissions through promoting walking, cycling and public transport and driving less through community education (eg. Smogbusters Way to School, Older People and Active Transport) and advocating improvements in urban planning, infrastructure and services.

Environment Victoria welcomes the opportunity to respond to the Productivity Commission's Inquiry into Energy Efficiency. We commend the Commission for initiating this important and timely round of consultation on the economic benefits of energy efficiency.

This submission will briefly discuss the barriers to and benefits of energy efficiency.

## 2. Long term planning

One of the single greatest barriers to the uptake of energy efficiency has been the lack of long-term planning from Government at both State and Commonwealth levels. Planning for energy efficiency must adopt 30-50 year time horizons in order to realise the full benefits for all sectors and the economy as a whole. To date, energy efficiency policy has been characterised by fits and starts and the vagaries of fashion. Planning must be sustained by a stable policy framework that will foster, guide and reward uptake over the long-term. There must be provision for regular evaluation and continual improvement based on transparent criteria that incorporate social and environmental benefits in addition to economic outcomes.

Energy efficiency and reductions in greenhouse emissions should be planned for in land-use and transport planning and where new commonwealth funded development is proposed; as such development design affects energy use for generations.

## 3. Sustainability Framework

Silo thinking will be the death of any worthwhile energy efficiency policy. An energy efficiency policy must sit within a broader Sustainability Framework that addresses resource efficiency and how people relate to resource use as a whole. The framework will recognise that:

- resource use occurs within complex, interdependent systems;
- systems are not confined to infrastructure but include people and how they behave;
- a systems-based approach to resource efficiency can yield the best results.

In other words, in addressing energy use, we should also look at water and materials; infrastructure and plant; the built environment; development location and transport options; people's attitudes and most importantly behaviours in relation to all these. It is well known that taking action in one arena of resource use will yield benefits in others. Table 1. illustrates an example at a residential level.

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**Table 1.**

Action	Greenhouse outcome	Water saving outcome
Install AAA rated shower rose	Reduced hot water use means less gas or electricity is required to reheat water therefore reducing household GHG pollution.	Reduced flow rate from approx. 20lt/min to 9.5lt/min can halve water use when taking showers.
Insulate hot water pipes	Reduces the energy required to heat water.	Reduces need to waste cold water waiting for the hot water to reach the tap or shower, etc.
Install external blinds to reduce summer heat radiation.	Air conditioning and evaporative cooling are energy and greenhouse intensive appliances. Passive cooling measures can decrease heat intrusion, reducing household dependence on cooling appliances.	Evaporative coolers use between 400-900Lt water daily. Passive cooling can save large amounts of water.

A policy framework with an integrated systems-based approach will yield maximum and sustained benefits.

However, there are numerous policy frameworks that are good at articulating platitudes and poor at setting hard targets. Australia is one of the most carbon-intensive, water wasteful and energy inefficient developed nations on earth. There are real limits to our wasteful practises that are defined by hard ecological data. A Sustainability Framework should set targets to avert the well-documented consequences of inaction, which include substantial economic and social costs.

#### 4. Institutional support

Sustained and integrated action requires resources and institutional support. A resource efficient economy requires research and development. It requires expertise and a capacity for Government to motivate change, sustain implementation, make independent assessments of policy and combat inertia. The minerals industry has the institutional support of Geo Science Australia, which received \$95.78 million in FY 03-04. Geoscience Australia is Australia's national agency for geoscience research and geospatial information and provides input for decisions that impact upon resource use, and environmental management. Energy and resource efficiency as a whole will require a similar level of investment in institutional support to generate long term, economy-wide benefits.

This level of support must provide sufficient expertise to educate and advise Government about the benefits of resource efficiency and help ensure that a whole of government approach is adopted.

#### 5. Lead by example

Government needs to lead by example. The Coalition of Australian Governments (COAG) should set mandatory energy efficiency targets for all governments. All government buildings and other assets to which energy efficiency can be applied should have mandatory targets. The Victorian and NSW governments have set a good example in this field. The example should be adopted nation-wide and be more ambitious including targets for the location of government buildings with good access by public transport, cycling and walking and rail for freight to reduce transport energy by workers and visitors.



Commonwealth departments and funded facilities like hospitals and universities should be located to minimise transport energy, or federal funding provided to upgrade public transport and cycling paths/lanes to these facilities. Each facility/department should be required to prepare a green transport plan to promote energy efficient travel to commonwealth funded facilities by workers, visitors and freight. Government can lead in the area of vehicle energy efficiency by amending purchasing policies to require energy efficient vehicles rather than larger Australian made models. This would encourage local production of energy efficient cars such as hybrids – although planning to drive less is the preferred long term approach.

## **6. Regulation**

Apart from policy setting and leading by example, Government naturally has a role passing legislation to establish regulatory measures that promote the uptake of energy efficiency.

## **7. Taxation**

Taxation law has significant scope to drive energy efficiency. PriceWaterhouseCoopers has identified the following possible measures:

- Accelerated depreciation: the tax life of an energy efficient asset is reduced and an increased depreciation rate is allowable;
- Investment allowances: a tax deduction based on the cost of qualifying expenditure; and
- Tax credits for energy efficient commercial buildings (PWC 2003).

Losses to Government income can be offset by de-subsidising wasteful or polluting industries. A recent study has found that over \$5.3 billion is spent subsidising the use of fossil fuels that create dangerous greenhouse gas emissions (Riedy 2003).

In transport, commonwealth subsidies are perverse, encouraging energy wasteful and highly polluting transport choices and excessive motor vehicle use. The following such subsidies should be removed, as a matter of urgency to reduce dependence on limited oil resources and reducing greenhouse emissions;

- Fringe Benefits Tax for cars and free car parking allowances,
- lower import tariffs for four wheel drive cars,
- greater allowances for larger engines - cents per kilometre

Fuel excise should also be increased with inflation (similar to public transport fares) and with road user charges increased to reflect the full costs of motor vehicle use to communities, health, the Australian economy and environment. A proportion of fuel tax and road user charges should be directed as in the USA to enhanced urban and regional public transport, walking, and cycling facilities and urban planning and street design to support public transport, walking and cycling by consolidating destinations and reducing the need to drive.

## **8. Energy use reporting**

The Federal Government should introduce mandatory energy use reporting in the corporate sector. Major international and Australian investors have identified the investment liability of energy intensive (therefore greenhouse polluting) businesses. According to recent studies, Australian businesses perform poorly against world standards, with little or no energy use reporting (BT Financial Group 2003, p. 5). In an increasingly carbon and energy-constrained world and sensitive global investment community, Australian business is best placed to attract future investment with better reporting of resource use. The Federal Government is able to strengthen the corporate sector's position in the global market by mandating energy use reporting as part of an energy efficiency framework.

Energy audits and reporting will identify actions that need to be taken to achieve energy efficiency.





With the introduction of mandatory reporting a clear time line should be set for identified actions to be implemented. Qualification for tax and other benefits should be conditional upon the fulfilment of a mandatory and enforceable action timeline.

State Environment Protection Agencies can introduce licensing conditions that mandate greenhouse gas and energy reporting and the achievement of targets, on the same model as the Victorian EPA has done (EPA 2004). Energy reporting should include transport energy associated with the businesses workers, freight and visitors.

## **9. Retail benchmarks and energy efficiency investment**

State Governments should set mandatory targets for retail companies to provide more energy efficiency. This should be supported by institutional measures that encourage investment in energy efficiency over network augmentation or new plant. Distribution companies, typically regulated monopolies, should be directed to invest in energy efficiency measures to:

- abate network constraints;
- flatten and reduce energy demand.

Distribution tariffs can be based on providing a rate of return on investments in a range of efficiency measures in industrial, commercial or residential sectors. This can be addressed in a comprehensive review of distribution pricing, co-ordinated nationally, that specifies codes of practice to direct distribution companies to invest in demand management options.

## **10. Tariffs and metering**

Tariff structures provide important signals to consumers and can help support demand reduction behaviour. Environment Victoria supports the adoption of inclining block tariffs based on the pricing principle of “the more you use the more you pay”. Inclining block tariffs should also apply to distribution tariffs in order to target medium to high-energy consumers such as for air conditioning or pool pumps. Currently, the flat-rate service charges, which include distribution tariffs, mean that high energy use is subsidised by low and efficient users. Tariff structures should support energy efficiency behaviours, drive investment and innovation.

Interval metering will provide consumers with good information that can influence demand reduction behaviour and investment. State Governments must intervene to mandate appropriate tariff structures and interval metering.

## **11. Mandatory Energy Ratings Industrial, Commercial & Residential buildings**

COAG should co-ordinate the national introduction of mandatory energy ratings for new and existing industrial, commercial and residential buildings. Ratings should be conducted and provided at the point of sale, advertisement or tenancy.

Energy efficiency rating tools should be updated to include walk-through audits that account for installed appliances and user behaviours. They should also be integrated with new tools that assess water efficiency and materials efficiency. The development of new tools such as BASIX, which incorporates land-use planning, location and transport options is commendable and should be adopted nationally. In the context of the Sustainability Framework noted above, there is a strong case for the development of a “killer application” that can rate resource use and user behaviour in the built environment. This development should be supported by all Governments.

A national mandatory rating framework should adopt world-best practice, looking to phase in higher standards i.e. 10 star ratings over an agreed timeframe, ideally 5 years or less.

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## 12. Funding recipients and resource efficiency

As a significant source of funding for many organisations and businesses, Government can mandate reasonable energy efficiency requirements for funding recipients. For social welfare organisations, extra funding can be provided to initiate a process of energy efficiency. Optionally, this may be paid back from savings made over time, or hypothecated to further resource efficiency investment.

## 13. Programs

The long-term uptake of energy efficiency will require sustained programs targeted to economic sectors and segments. There are several good examples of programs world wide, such as those provided by the UK Carbon Trust and the Sacramento Municipality Utility District (SMUD) and Australian programs such as Cool Communities for residential end users. Important features of these programs should include:

1. Stable long term relationships between energy efficiency service providers and the business/end user. Relationship should be seen as a strategic stewardship.
2. An accreditation system for energy efficiency services to ensure quality management. Quality criteria should include a “systems” working paradigm. The systems paradigm includes not just engineering solutions, but solutions to attitudinal, behavioural and organisational cultural barriers. That is, the service undertakes a process that changes the relationship the organisation and its employees have to resource use. This approach will best capture water and materials efficiency outcomes.
3. Funding for programs may be derived from one, two or a combination of policy approaches:
  - A levy to fund energy efficiency services may be better suited to the industrial sector. Each industry is so different, making it difficult to baseline performance, which would tend to require individual stewardship. A levy may be drawn from pool management or correlated to carbon or intensity.
  - Capital investment from distribution companies delivered through retailers and other accredited energy efficiency service providers.
  - Regulated benchmark with tradable energy efficiency certificates, which may be better suited to the commercial and residential sector.
4. Transport Community Education – Provide grants and funding opportunities to encourage uptake of sustainable transport options and prepare new national cycling and walking strategies, including a nation-wide program of cycling education for children and adults and promotion of cycling and walking for transport, re-creation and tourism. Much car travel is for short strips which generate high levels of energy use and emissions – these could easily be converted to low energy forms of transport such as walking and cycling. Currently in Melbourne 20% of car trips are less than 1km - a serious waste of energy and generator of greenhouse and air pollution.
5. Transport funding from the Federal government to;
  - Broaden the Federal/AusLink land transport program to support walking, cycling, urban public transport and demand management and set mode share targets for passenger and freight transport. Assess new proposals’ triple bottom line benefits and consideration of energy use, greenhouse emissions and alternative proposals offering greater triple bottom line benefits.



- Require all road projects to incorporate provision for active transport modes similar to the Intermodal Surface Transportation Efficiency Act and subsequent Transportation Equity Act in the USA.
- Extend public transport infrastructure (to provide greater service coverage in urban and regional areas including light and heavy rail), and improve service frequency, traffic priority and directness of public transport routes, integration between modes and connections to facilities for cycling and walking – Australia is one of the few OECD countries without funding for urban public transport and a transport budget very heavily weighted towards roads and transport energy inefficiency.
- Improve rail infrastructure and inter-modal connections to increase the role of rail in freight
- Locate commonwealth funded facilities (including hospitals universities, airports and department offices) in activity centres with the best public transport available in the municipality (frequency, span of hours and choice of modes) and the best possible walking and cycling access; And funding to upgrade these transport services where currently poorly provided to commonwealth facilities
- improve land-use planning, development and commonwealth funded development to ensure;
  - new destinations like employment, commercial and community facilities are developed in locations accessible by good public transport, bike and walking and consolidated with other developments to reduce travel and driving.
  - that new urban development is designed for convenience and safety for walking cycling and public transport provision
  - all urban households are within comfortable walking distance of shops and frequent 7 days a week public transport
- Establish an inquiry into Australia's oil vulnerability and the impact of rising fuel costs and recommend sustainable transport priorities including mode shift, vehicle fuel efficiency and alternative transport energy improvements.

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