

Ms Maaïke Gobel, Senior Policy Analyst  
Department of Economic Development, Jobs, Transport and Resources  
Level 10, 121 Exhibition Street  
Melbourne VIC 3000



17 December 2015

**Re: New Energy Technologies Discussion Paper**

Dear Ms Gobel

The Energy Efficiency Council (EEC) welcomes the opportunity to comment on New Energy Technologies Discussion Paper.

Energy efficiency, demand-management and cogeneration (collectively termed 'energy efficiency' in this submission) represent the largest 'new energy technology' opportunity for Victoria. Energy efficiency will deliver economic benefits through two routes.

- **Investment and employment in energy efficiency services and products:** The potential local and global market for energy efficiency is huge. The International Energy Agency (IEA) and HSBC have both estimated that global investment in energy efficiency is around USD 350 billion per annum (see page 3), around 1.5 times annual investment in renewable energy. Global investment in energy efficiency could double as efforts to reduce emissions ramp up. Even if we just tap the local market for building upgrades, Environment Victoria estimates that it would stimulate AUD 10 billion of investment and create 13,000 jobs (gross) over 10 years<sup>1</sup>. If Victoria tapped just 1 per cent of global demand for energy efficiency services, it could generate USD 3.6 billion to USD 6.8 billion of income per annum.
- **Benefits for Victorian energy users:** Developing a robust local market for energy services will be essential to foster an industry that can tap into the global market for energy services, but will also strengthen local industry. Better energy management will lower the cost of energy supply, ensure that businesses get more out of each unit of energy and deliver significant 'co-benefits', including more productive use of materials (e.g. in food production) and more comfortable and productive workspaces. These benefits are likely equal to, or greater than, the benefits of investment and employment in energy efficiency services, and would support the development of Victoria's five other priority industry sectors, such as food and fibre and professional services.

If Victoria is going to tap into the growing global market for energy services, it will need to:

- Build the local market for energy efficiency services and products; and
- Foster investment in the development, trialling and deployment of energy efficiency services and products.

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<sup>1</sup> Environment Victoria, 2015, Six Steps to Efficiency Leadership, The path to Energy and Water Efficient Homes and Businesses <http://environmentvictoria.org.au/efficiency-leadership>

The EEC has provided a comprehensive submission to the Victorian Energy Efficiency and Productivity Strategy about how to build the local market for energy efficiency services and products. This submission is attached, but key actions include:

- Reintroduce and strengthen the Greener Government Building (GGB) program, to save energy in government buildings.
- Energy market reform, including the introduction of the Demand-Response Mechanism and ensuring that tariff structures encourage energy efficiency.
- A residential energy efficiency disclosure program.
- Minimum standards for rental dwellings (including new and existing buildings).
- An 'efficient mid-tier office buildings' program that includes incentives and minimum lease standards for office buildings.
- An energy efficiency program for Small to Medium Enterprises; and
- A skills, capabilities and job-creation program with a budget of at least \$15 million over 4 years. The program would include energy auditor certification based on the new AS/NZS 3598 series, support for the Building Retrofit Toolkit (which would provide information and tools for building owners) and training for electricians.

In addition to these policies, to the Victorian Government should undertake the following actions to support industry development:

- **Foster bipartisan support and policy certainty.** While policy needs to evolve, the chop-change nature of policy in Australia in the last 5 years has caused immense damage. In particular, the closure of the Victorian GGB Program in 2014 mid-way through a tender process cost the industry millions of dollars and resulted in significant job losses. The EEC acknowledges that the current Government on its own cannot ensure policy continuity, but requests that it work closely with the opposition and minor parties to build consensus around policy directions.
- **Develop the venture capital and innovation culture** of Australia. This issue is much broader than just new energy technologies, and involves:
  - o More active support for R&D; and
  - o Fostering an investment culture that supports start-ups and innovation. This includes many aspects, including an acknowledgement that some failures are inevitable in a healthy startup investment portfolio.
- **Trial and demonstrate new and innovative energy efficiency technologies** and services in Victorian Government and local government buildings and operations. Demonstrating a technology or service is critical to its development.
- **Support a number of 'New Energy Towns'**, where regional towns are supported to work with networks, retailers, energy service providers and others to trial integrate a variety of new energy technologies and services. These 'New Energy Towns' should be allowed to operate outside the normal electricity laws and regulations, and would be as much about trialling alternative market structures as technologies. The projects should demonstrate cost-effective models, but would be subsidised to recognise the cost of developing new business models.
- **Invest to estimate the size of the current and potential market** for energy efficiency products and services in Victoria and Australia. This project would have a relatively modest cost that lines up well with the size of the New Energy Jobs Fund.

The EEC notes that the New Energy Jobs Fund is only \$20 million. To have any impact it will be essential to complement this with additional funding for actions such as trialling new technologies in government buildings, which should be kept separate from the funding for the GGB Program. In addition, the New Energy Jobs Fund should ideally be used where it can lever additional funding. For example, directing some of the New Energy Jobs Fund towards 'New Energy Towns' could allow trialling of multiple technologies, as the overall economic drivers for the new energy towns would pay more much of the cost of technologies.

We look forward to ongoing engagement with the Victorian Government as it finalises its New Energy Technologies Strategy. You can contact me on [rob.murray-leach@eec.org.au](mailto:rob.murray-leach@eec.org.au) or 0414 065 556.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Rob Murray-Leach', is positioned above the typed name.

Rob Murray-Leach  
Executive, Policy and Advocacy  
Energy Efficiency Council

**Question 3 Where are the greatest opportunities for investment and employment in the installation of new energy technologies? What is the likely scale of these opportunities? Are there industry data sets or reports that can be shared with Government regarding these opportunities?**

**Question 12 What are Victoria's high growth opportunities? Which types of companies are likely to be the greatest sources of new jobs growth to 2025?**

The global energy efficiency market (including markets for demand-management and cogeneration) is potentially the largest opportunity for investment and employment in new energy technologies.

Estimating the size of the energy efficiency market is more complex than estimating the size of renewable energy markets. For example, while the production and installation of solar PV is a relatively discreet market, 'energy efficiency' is a feature of many categories of goods and services, such as vehicles, appliances and buildings.

HSBC estimate that global investment in energy efficiency in the building, industry and transport sectors was USD 365 billion in 2012, which is 1.5 times greater than their estimate of global investment in renewables that year<sup>2</sup>. The IEA used a different methodology, but estimated that global investment in energy efficiency was between USD 310 billion and USD 360 billion in 2011<sup>3</sup>.

The buildings sector has been identified as a particularly large market. HSBC estimate that global investment in buildings in 2012 was USD 271 billion, which was 74 per cent of their estimate of total investment in energy efficiency. They also estimate that the global residential new build market was 3.5 times the size of the non-residential new build market.

The IEA used a very different methodology and estimated that global investment in building efficiency in 2014 was USD 90 billion, but would reach USD 120 billion per annum in 2020<sup>4</sup>. This highlights that global market for energy efficiency should grow rapidly due to:

- **Shifts in consumer preferences towards efficiency:** Consumers are increasingly demanding more efficiency goods and appliances for a range of reasons. For example, more efficient offices are more comfortable and therefore productive.
- **Growth in global market for energy services:** Increasing global population and wealth, particularly in developing countries, creates demand for buildings, appliances and energy. Energy efficiency has delivered a substantial amount of the global demand for energy to date, with the IEA estimating that investments in energy efficiency since 1990 alone delivering 24 exajoules of 'avoided demand' in 2014. Efficiency will likely deliver a much larger proportion of the growth in demand for energy services over the next two decades.
- **Accommodating renewables:** the shift to renewable generation will create complimentary markets in energy storage and demand-management to manage the variability in generation from a number of technologies.
- **Addressing climate change:** The IEA estimate that energy efficiency represents around 50 per cent of global abatement opportunities in the energy sector to 2050. ClimateWorks Australia came to a similar conclusion, estimating that energy

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<sup>2</sup> HSBC Global Research 2014, Sizing energy efficiency Investment  
<https://www.research.hsbc.com/R/20/K2kb6gL5ynU7>

<sup>3</sup> International Energy Agency 2014, Energy Efficiency Market Report 2014  
<http://www.iea.org/topics/energyefficiency/publications/energyefficiencyreport2014/>

<sup>4</sup> International Energy Agency 2015, Energy Efficiency Market Report 2015  
<http://www.iea.org/publications/freepublications/publication/MediumTermEnergyefficiencyMarketReport2015.pdf>

efficiency could deliver half of the abatement needed in Australia's energy sector to 2030. As a result, the Paris Agreement should substantially increase the market for energy efficient goods and services, with the IEA estimating that the global market for building efficiency would be USD 215 billion per annum if the world was on track to limit the increase in global warming to 2°C above pre-industrial levels.

If Victoria could capture even 1 per cent of the current global demand for energy efficiency services, based on the IEA and HSBC estimates it would generate USD 3.6 billion to USD 6.8 billion of income every year.

Environment Victoria recently estimated that upgrading the energy and water efficiency of Victoria's building stock could stimulate \$10 billion of investment and create up to 13,000 jobs (gross) over 10 years and 8,500 ongoing jobs<sup>5</sup>.

**Questions 4 Where are the greatest opportunities for the local manufacture of equipment relating to energy data and management, renewable energy and energy efficiency improvement? What is the likely scale of these opportunities?**

The EEC's experience is that successful Australian innovations have come from a broad range of areas, including demand-response, lighting controls, building controls and water heating. As such, we do not recommend focusing on any particular area of innovation.

**Question 5 What barriers face Victorian business in providing smart meter-enabled products, services and solutions? Is there a role for the Victorian Government to help businesses address these barriers and, if so, what actions should the Victorian Government consider?**

The EEC notes that there are two barriers to smart meter-enabled products, services and solutions.

- The market is immature market and still suffers reputational issues from the original roll-out of smart meters; and
- Distribution Network Service Providers (DNSPs) still create barriers for products that interact with smart meters, including protocols that vary between DNSPs and the 1-7 day timeframe for the DNSP to open the pairing window.

The Victorian Government should consider active support for the emergence of the smart-meter service market, including:

- An educational campaign about the benefits of smart-meter enabled products; and
- A review of the barriers introduced by the DNSPs

Question 7 Are there specific skills and training gaps that need to be addressed? If so, what are they and what is the scale of the problem? What more needs to be done to build, attract and retain the right skills for businesses involved in the renewable energy and energy efficiency industries?

**Question 11 What opportunities exist for the Victorian Government to work with the education sector to develop new energy related technical and/or tertiary level qualifications?**

There are numerous skill and training gaps. We recommend that the Victorian Government engage with other governments and the EEC to identify and address these gaps, as agreed in the COAG Energy Council's National Energy Productivity Plan.

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<sup>5</sup> Environment Victoria, 2015, Six Steps to Efficiency Leadership, The path to Energy and Water Efficient Homes and Businesses <http://environmentvictoria.org.au/efficiency-leadership>

**Question 21. What policy or regulatory reform should the Victorian Government consider that will support and grow investment and assist Victoria's new energy technology businesses expand?**

The EEC's submission to the Victorian Energy Efficiency and Productivity Strategy included the following actions:

- Reintroduce and strengthen the Greener Government Building (GGB) program, to save energy in government buildings.
- Energy market reform, including the introduction of the Demand-Response Mechanism and ensuring that tariff structures encourage energy efficiency
- A residential energy efficiency disclosure program
- Minimum standards for rental dwellings (including new and existing buildings)
- An 'efficient mid-tier office buildings' program that includes incentives and minimum lease standards for office buildings
- An energy efficiency program for Small to Medium Enterprises; and
- A skills, capabilities and job-creation program with a budget of at least \$15 million over 4 years. The program would include energy auditor certification based on the new AS/NZS 3598 series, support for the Building Retrofit Toolkit (which would provide information and tools for building owners) and training for electricians.

In addition to these policies, to the Victorian Government should undertake the following actions to support industry development:

- **Foster bipartisan support and policy certainty.** While policy needs to evolve, the chop-change nature of policy in Australia in the last 5 years has caused immense damage. In particular, the former Victorian Government closed the GGB Program mid-way through a tender process, costing the industry millions of dollars and resulting in significant job losses. The EEC acknowledges that the current Government cannot ensure policy continuity, but requests that it work closely with the opposition and minor parties to build consensus around policy directions.
- **Develop the venture capital and innovation culture** of Australia. This issue is much broader than just new energy technologies, and involves:
  - o More active support for R&D
  - o Fostering an investment culture that supports start-ups and innovation. This includes many aspects, including an acknowledgement that some failures are inevitable in a healthy startup investment portfolio.
- **Trial and demonstrate new and innovative energy efficiency technologies** and services in Victorian Government and local government buildings and operations. The first demonstration of a technology or service is critical to its development.
- **Support a number of 'New Energy Towns'**, where regional towns are supported to work with networks, retailers, energy service providers and others to trial integrate a variety of new energy technologies and services. These 'New Energy Towns' should be allowed to operate outside the normal electricity laws and regulations, and would be as much about trialling alternative market structures as technologies.
- **Invest to estimate the size of the current and potential market** for energy efficiency products and services in Victoria and Australia.