

**QUICK CLEAN ENERGY JOBS FOR
VICTORIA**



CLEAN ENERGY COUNCIL
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EXECUTIVE SUMMARY

Victoria is in need of new sources of employment and economic activity. This was given additional urgency following decisions by several major Victorian-based manufacturers to exit the Australian market. The state needs new jobs that are sustainable, in sectors that have significant future growth potential.

Clean energy is one of many sectors that can make an added contribution to Victoria's economy. It has the capacity to provide a large number of new jobs along with a range of other social, economic and environmental benefits.

This paper is deliberately focused on policy recommendations that involve either simple tweaks to existing policy settings, modest regulatory changes or expenditure of existing funds, to better embrace renewable energy or energy efficiency technologies in Victoria.

These opportunities are all grounded in reality and include recommendations for clear and concrete actions that can generate real results without the need for major new programs or complex reforms. Even greater opportunities exist for job creation through more comprehensive reforms, but here we have focused on the need to have policies that can be enacted quickly without the need for lengthy development of programs or regulations.

In the case of the state's proportional concessions payments to vulnerable households, bringing forward budgeted payments to fund solar hot water systems could create new jobs, lock in savings to state budget by tens of millions of dollars and help households to reduce their power bills – all while increasing clean energy use across the state.

There are also opportunities to help those in public housing reduce their power bills by allowing for 'three-way contracts' to encourage solar power.

In many cases what is needed is not any kind of government subsidy or financial assistance, but for the Victorian Government to remove impediments to private investment using new business and finance models that have emerged in recent years but which regulators have failed to keep pace with.

The potential pay-off for Victoria runs into thousands of jobs and hundreds of millions of dollars. The good news is that the opportunities outlined in this paper are low cost and can be powered by policy settings and existing programs rather than new public funding.\

Summary of opportunities for quick clean energy jobs

Opportunity	Job growth potential
Solar hot water/heat pumps <ul style="list-style-type: none"> Finance solar water heating for lower income households through future savings to government electricity concessions liabilities. 	200
Insulation and energy efficiency <ul style="list-style-type: none"> Immediately announce that the Victorian Energy Efficiency Target will be retained for a further three years at the current target level, and reinstate insulation to the scheme. Require that insulation installers be accredited 	2000
Residential solar power for public housing tenants, renters and low-income owners <ul style="list-style-type: none"> Assist public housing tenants to access solar power through 'three-way contracts'. Assist private renters or low-income private owners to access solar leasing agreements. 	20-30
Cutting red tape for commercial solar power <ul style="list-style-type: none"> Remove duplication requiring multiple retail license exemptions for the same company Remove the archaic requirement for the Governor to sign off on each retail license exemption. 	15-50
Bioenergy for regional councils <ul style="list-style-type: none"> Use existing funds from Regional Development Victoria or the Energy Technology Innovation Strategy to assist regional local councils to assess the feasibility of local thermal waste-to-energy facilities. 	Up to 40
Total	2240-2320 FTE

Introduction

Not only are new jobs badly needed in Victoria, but the state's clean energy sector is also uniquely well placed to generate them. Victoria can take advantage of the depth of existing skills and infrastructure in the renewable energy and energy efficiency industries which are ready to rapidly expand with simple policy changes. Almost all types of employment in these industries would benefit, from traditional manufacturing, R&D, through to skilled tradespeople, sales and back office roles.

Creating hundreds of jobs across Victoria, cutting millions of dollars from household electricity bills and delivering significant environmental benefits can all be achieved simultaneously, quickly and relatively easily.

The policy proposals contained in this paper would not impose any new costs on consumers, and in almost all cases could be financed from existing government programs. They would support well established businesses as well as new entrants. And they would help consumers reduce their electricity bills, while making Victoria's electricity supply more diverse and resilient.

Victoria already has an established and diverse clean energy sector. The state has more than a dozen wind farms and more than 200,000 households have installed a solar power system. On the energy efficiency side, a large number of homes have installed solar hot water, heat pumps, insulation and a range of other energy efficiency solutions.

In many cases these sectors are operating below capacity in terms of manufacturing and installation and so are primed and ready for growth.

In many cases what is needed is not any kind of government subsidy or financial assistance, but for the Victorian Government to remove impediments to private investment using new business and finance models that have emerged in recent years but which regulators have failed to keep pace with.

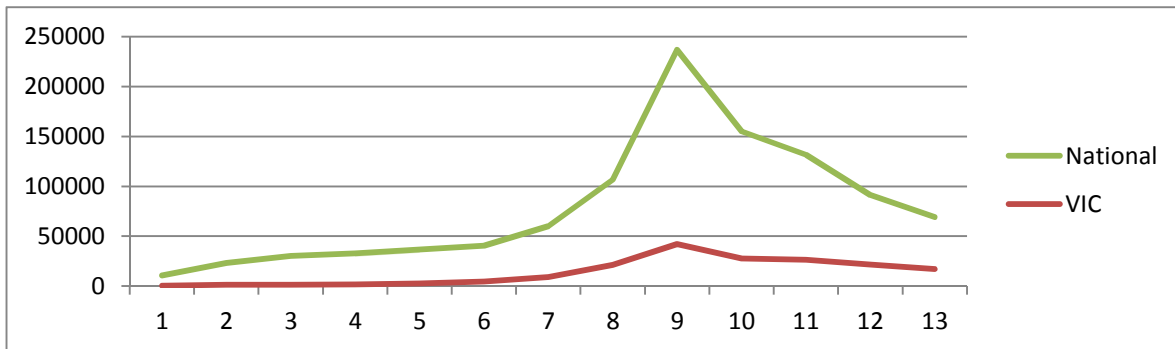
These industries are well understood by the community, by relevant regulators and by potential financiers, which is why they offer 'quick jobs' growth with the right policy environment.

Opportunity 1 – Solar hot water/heat pumps

Financing solar hot water and heat pumps for households that receive electricity concessions could save the government approximately \$10 million a year, reduce energy bills for vulnerable households and support approximately 200 jobs.

The solar hot water sector provides an excellent opportunity for policymakers. Consumer demand for solar water heaters has declined sharply in recent years as governments have progressively scaled back their support for the industry. In 2009 there were 200,000¹ systems installed nationally, but by the end of 2013 the figure had slumped to just over 50,000 per annum.

Figure 1. National vs Victorian installations of solar water 2001-2013



In Victoria the slowdown has been slightly less steep as a result of minimum energy efficiency standards for new homes, which drive the installation of solar hot water. The challenge lies in the market for replacing existing hot water systems at the end of their life, when less than 1 per cent of Victoria households are opting to go solar.

Solar hot water has higher up-front costs compared to gas or electric systems, but much lower operating costs. The overall economic case for solar hot water is strong, but consumers often make quick or uninformed decisions, or lack the financial resources to make a decision that will ultimately be the most cost-effective over the life of the system.

Natural gas prices have already doubled and some analysts predict they will triple this decade. That means households that install a gas or electric-only water heater are locking in annual price rises in power bills for the life of the appliance.

The fall in demand for solar water heating has had a dramatic impact on jobs in the sector. Total employment in the Australian solar hot water industry in 2009 was approximately 2000, but had slumped to about half that in 2013.

A win-win-win for the most vulnerable households, jobs and the budget

Government-funded energy concessions are paid to eligible lower-income Victorian households on a proportional basis (17.5 per cent of summer and winter bills), rather than a fixed payment as in all other states.

Victoria’s energy concessions payment system is a crucial piece of social policy, but it could also be the basis for the creation of quick jobs. A simple policy change could create demand for solar

¹ The Solar Report, Green Energy Market, November 2012, p.25.

hot water lasting many years, while simultaneously creating significant budget savings and lowering electricity bills for vulnerable consumers.

A proportional payment system is also better from a government expenditure perspective. By making the concession payments proportional there is also a financial incentive for governments to help households save energy, as this will reduce budget expenditure.

In the context of jobs in Victoria, the proportional concession payments also create the funds to invest in technologies like solar hot water which improve energy efficiency. The Clean Energy Council has commissioned research on the scale of the potential savings that could be achieved if significant numbers of low-income households took up solar hot water or heat pumps when replacing their existing water heaters.

The savings for the government can easily run into the tens of millions, with major reductions in electricity bills for affected households as well. But crucially, if solar hot water is the method of improving energy efficiency, potentially hundreds of jobs could be created in a matter of months.

As the modelling report² notes in summary:

- The cumulative cost to the Victorian Energy Concessions Budget of a business-as-usual approach to hot water systems within households eligible for energy concessions is likely to rise from \$45 million to \$76 million by 2022.
- The Victorian Government could save a total of \$106 million over 10 years from the installation of an average of 20,000 additional solar hot water and heat pump systems per year within concession eligible households.
- An annual increase of 20,000 solar water heaters installed in Victoria would create 160 new jobs (excluding manufacturing as not all brands of water heaters are manufactured in Victoria). The program would also secure the future of 120 workers at Rheem's factory in Moorabbin which are currently at risk if demand continues to fall.

The types of jobs created would vary, but looking at the distribution of employment types at Rheem gives an indication of the types of opportunities available.

² The Alternative Technology Association, The Benefits Of Solar Water Heaters On Energy Concessions Budgets, report for the Clean Energy Council, March 2013.

Case Study – Rheem Australia

Rheem currently employs approximately 700 people in Australia, including:

- Manufacturing workers: 200
- Administration and distribution: 25
- Sales and marketing: 20
- Research and development: 15
- Dealer network: 400-500 principals and employees.

A variety of policy tools could be used to support the roll-out of solar hot water in concessions-eligible households.

Almost no solar water heating systems have been installed in Victoria's public housing, but roughly 70,000 existing hot water systems will be replaced each year as they reach the end of their life - at the Victorian Government's expense. The combination of routine asset replacement programs and the prospect of reducing the government's budget exposure to energy concessions means there is a perfect opportunity to support jobs in a financially responsible way.

By ensuring that just 20,000 of those annual system replacements are solar hot water systems, the Victorian Government can achieve gross savings of over \$100 million over 10 years and create approximately 200 jobs.

This program could be expanded to lower-income families in privately-owned houses, through incentives such as rebates, or innovative funding models such as Social Impact Bonds (financed through future savings in the energy concessions budget).

These models are explored in more detail in Clean Energy Council's 2014 pre-budget submission³ to the Victorian Government.

Policy options for delivering quick jobs in solar hot water/heat pumps

1. Solar water heating for lower income households

Each year 70,000 hot water systems in Victoria's public housing or low-income housing need to be replaced. Ensuring that just 20,000 of those are replaced with solar hot water, the Victorian Government can achieve gross savings of over \$100 million over 10 years, lower power bills for vulnerable households and create around 200 jobs.

In addition to direct funding options, the government could adopt innovative financial tools such as Social Impact Bonds (SIBs), which do not require any upfront expenditure from the government in the short term, for the upfront costs of this program.

³ www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/submissions/Victorian-Government/CEC-Vic-Budget-Submission/CEC%20Vic%20Budget%20Submission.pdf

Opportunity 2 – Insulation and energy efficiency

Extending the Victorian Energy Efficiency Target (VEET) scheme and re-introducing insulation as an eligible activity with appropriate safeguards would go a long way towards repairing the economic damage to the sector from the overnight closure of the Federal Government's home insulation program, at no cost to the Victorian Government.

The political and media outcry over the former Federal Government's home insulation rebate scheme has made the industry something of a 'no-go zone' for policymakers. There has been much analysis of the various problems associated with this scheme, while also recognising the range of benefits that come with home insulation. Some approaches for ensuring its safe and effective installation have also been suggested.

When the federal insulation scheme was created, Victoria effectively removed insulation from its own VEET scheme to avoid 'double-dipping'. Five years after the national scheme was closed, insulation has still not been restored to the VEET scheme. The overnight closure of the federal scheme devastated the insulation industry and in Victoria the installation rate ground to a virtual stand-still.

The impact on jobs in Victoria was, and remains, enormous. CSR, a Victorian-based manufacturer of insulation and one of Australia's largest, laid off 100 staff immediately after the scheme was closed⁴. The rest of the local industry followed suit. The Commonwealth Department of the Environment, Water, Heritage and the Arts estimated that over two-thirds of the insulation program's expenditure generated employment downstream of the manufacturers – in distribution, warehousing, installation and support services. The Insulation Council of Australia and New Zealand suggests that for each manufacturing job created there were 20 to 30 downstream jobs created⁵. Most of these jobs were lost too when the scheme collapsed.

The insulation industry in Australia:

- Employs approximately 4000 staff
- Currently approximately 1 million homes have no ceiling insulation
- 2 million homes have less insulation than the current requirements for new homes
- 5 million homes have no wall insulation
- Filling all these gaps would deliver over \$4 billion in energy savings for Australian consumers
- In 2011 Victoria was fourth nationally for the percentage of households with insulation.

The Victorian Government has announced that it will cut the VEET in half and then close it altogether in 2015, ending a program that employs around 2000 Victorians, including 1400

⁴ Anthony Tannous, New report finds insulation scheme will save billions, Radio National, 13/9/12

⁵ Environment, Communications, and the Arts References Committee Report into the Energy Efficient Homes Package (ceiling insulation), Australian Senate, July 2010, p.21

appliance installers. Reversing that decision would not create any new regulatory burden or cost to government. Restoring support for insulation under the VEET scheme would also come at no cost to government, and by expanding the range of activities eligible for support under VEET, that scheme's cost to consumers would also fall.

Households that have participated in VEET so far by implementing energy efficiency measures have saved around \$300 on their electricity bill over the last five years⁶. But even non-participating households benefit from VEET. VEET drives reductions in electricity consumption which lowers average wholesale electricity prices. Even without installing energy efficiency devices, households receive a cumulative electricity savings valued at approximately \$40 between 2012 and 2015.

Lower income households would particularly benefit from extending VEET and restoring insulation in the scheme. Victoria has a relatively high proportion of households (around 75 per cent) with ceiling insulation⁷, but the figures for urban homes are significantly higher than those in rural and regional areas. More affluent households have higher rates of insulation than lower-income homes.

That means the remaining gap in the market is for lower-income and rural households, skewing the new jobs in retail and installation into those regions as well.

Of the roughly 120,000 Victorian owner-occupier households without insulation, 63 per cent say they would install insulation if a grant or rebate such as VEET existed⁸.

Average households that install ceiling installation can expect to save between \$100-165 each year, with a further \$100 for installing wall insulation⁹.

Policy options for delivering quick jobs in insulation and energy efficiency

1. Immediately announce that the Victorian Energy Efficiency Target will be retained for a further three years at the current target level, and reinstate insulation to the scheme.

Although no one wants to risk a repeat of the federal Home Insulation Scheme, the problems from that program were related to the overly generous level of the rebate – effectively making insulation free – and the speed of the roll-out. VEET is only a partial subsidy, and prior to the Federal Government's rebate, the VEET scheme successfully included insulation without incident.

In addition, the industry has developed a new accreditation scheme for insulation installers to improve installer training, which is ready to be rolled out if it were made a requirement of the VEET.

⁶ Department of Primary Industries (DPI) 2011, Regulatory impact statement Victorian Energy Efficiency Target regulations part 2, DPI, Melbourne, 2011, http://www.dpi.vic.gov.au/_data/assets/pdf_file/0006/97584/VEET-RIS-22032011_part2.pdf

⁷ Environmental Issues: Energy Use and Conservation, Mar 2011, Australian Bureau of Statistics, 24/10/10

⁸ Australian Bureau of Statistics, Household Water, Energy Use and Conservation, Victoria, Oct 2009 <http://www.abs.gov.au/ausstats/abs@.nsf/Products/4602.2~Oct+2009~Chapter~Insulation>

⁹ Sustainability Victoria, Victorian Household Energy Report, August 2014, p9

2. Require that insulation installers be accredited

The Clean Energy Council, as the peak industry body for clean energy and energy efficiency, has now developed a comprehensive accreditation scheme for insulation installers, building on our successful administration of the national accreditation scheme for solar PV installers.

This program has the full commitment of the major Australian insulation businesses, along with the two insulation industry groups – the Insulation Council of Australia and New Zealand (ICANZ) and Insulation Australia (IA) – who are also engaged and supportive of the accreditation scheme.

These companies have already committed significant amounts of funds and resources to setting up the accreditation scheme. At this stage the process has been entirely industry-led and financed.

The training program to receive accreditation is a two-day course targeted at unskilled workers, which gives this scheme great promise as means of boosting workforce participation nationally.

Opportunity 3 – Residential solar power

Introducing ‘three-way contracts’ for public housing tenants and working to provide consumer protections and education for landlords about going solar can help to unlock new markets in the solar industry.

The rooftop solar power industry has been an enormous success story for Victoria. Hundreds of solar power retailers, mostly small businesses, have been established here to support the strong consumer demand for solar technology. These businesses support thousands of jobs, such as the 1100 accredited solar installers in Victoria (qualified electricians) and support staff in sales, marketing, administration and logistics.

As a result of the dramatic reduction in the price of solar panels over the last few years, a home solar system is now affordable for households on lower incomes. The suburbs with the greatest concentration of solar households are the places where the average household is on a low or fixed income, such as Hoppers Crossing and Tarneit.

But the price of solar was only one of the barriers limiting uptake of the technology, and so the reduction in prices hasn’t made solar available to everyone. Aside from cost, the other main barrier to solar is a lack of legal right to install a system (for renters or public housing).

That barrier has created unmet demand for solar. Action from the Victorian Government to help remove those barriers could create a wave of new investment in solar over a short period of time, creating new jobs across the state.

Policy options for quick jobs in the residential solar power industry

1. Assist public housing tenants to access solar power through ‘three-way contracts’.

Many public housing tenants have long-term tenure and sufficient resources to buy a small solar power system, but what they lack is the legal right to modify their property. However, since the government is the landlord this problem can be easily resolved.

South Australia has a successful model which involves a 'three-way contract' for public housing tenants with long-term leases, and allows them to buy solar in their own name using their own money. The government's role is simply to agree to the alteration of the property and all the costs are met by the tenant. But as a party to the contract the government can also act to ensure that the terms of the contract are fair and reasonable.

Under this system, which has been in place for two years, approximately 250 households have bought solar power systems. This has helped them manage rising electricity prices and improve their standard of living.

A similar system in Victoria could be expected to result in several hundred households taking up solar over the course of 12-24 months, which would create a score of new jobs in the local solar industry.

2. Assist private renters or low-income private owners to access solar leasing agreements. Renters have always been blocked by the 'split incentive' problem. This means that people who have the legal right to install a permanent appliance (the landlord) aren't the ones who would mostly benefit from the investment (the tenant).

Many solar power companies are now offering solar systems under lease arrangement with either low or no up-front cost.

The landlord still carries some risk that during any significant period in which they don't have a tenant, they will be responsible for the lease payment. But that risk seems small given the very low vacancy rates in most parts of the private rental market.

Governments can encourage private landlords to take up solar leasing by offering a small financial incentive, or through education campaigns for landlords. Finally the government can work with consumer groups to ensure that proper protections are in place for either a three-way lease arrangement or amendments to the standard rental agreement.

Opportunity 4 – Commercial solar power

Remove red tape which makes Victoria the least attractive place to invest in innovative financing models for commercial solar power.

A recent innovation in the financing of commercial-scale solar power systems is the 'Power Purchase Agreement' model (aka Solar PPAs).

The traditional model used by commercial building owners is to buy the system outright and then operate it, much like the average residential solar PV system. Alternatively, some commercial building owners have recently started taking up systems under a lease arrangement, whereby

they pay a monthly fee for use of the system.

Solar PPAs are a third approach, and are new to the Australian market. Effectively a solar PPA is an agreement between a solar PV retailer and a commercial building owner in which the solar retailer installs and operates the system and sells the power generated to the building owner. So unlike a lease, which has a monthly fee, under a solar PPA the client pays per kilowatt hour of power used from the solar system. Effectively the commercial building has a second electricity retailer.

In order for a solar retailer to be able to sign PPAs with clients they need to obtain an exemption from the requirement to have an electricity retail license.

In Victoria the Essential Services Commission (ESC) administers retail licences. There is an administratively complex system of retailer licence exemptions administered by the Department of State Development, Business and Innovation (DSDBI). Under the current Victorian rules a retail licence exemption needs to be obtained for every individual solar PPA agreement. In other states a single exemption covers multiple solar PPAs.

In addition to this regulatory burden, every exemption issued in Victoria also requires written approval from the Governor of Victoria, adding time and uncertainty to the process of completing what is otherwise an entirely private and commercial transaction.

The combination of these two requirements makes Victoria one of the least attractive environments for commercial solar PPAs in Australia. Streamlining these rules would not change the level of consumer protection that exists.

Policy options for quick jobs in the commercial solar power sector:

1. Remove duplication requiring multiple retail license exemptions for the same company

This rule adds no value to either the client or the solar retailer. It does not create any greater level of consumer protection and simply serves to discourage competition in the electricity retail market. It is also grossly excessive compared to all other Australian states.

2. Remove the archaic requirement for the Governor to sign off on each retail license exemption

This requirement is a classic example of outdated red tape. It serves no purpose but creates delays and uncertainties that discourage investors. No other state requires this type of approval.

Opportunity 5 – Bioenergy

Exploring the feasibility of introducing proven technology for converting municipal waste into energy in regional Victoria could create additional employment.

Victoria produces over 12 million tonnes of waste annually. Last year the Victorian Government launched 'Getting Full Value: the Victorian Waste and Resource Recovery Policy' to drive greater efforts at reducing landfill rates and improving resource recovery and reuse. The policy statement recognised that:

“Both local government and industry consider that a lack of clear policy direction about advanced resource recovery facilities has been a barrier to investment. This is particularly the case for technologies that can produce energy and fuels from waste. Clear policy direction from the Victorian Government will promote investor confidence¹⁰.”

Opportunities exist to apply technology that is proven internationally, but not yet deployed in Australia, to deliver higher rates of energy recovery through thermal waste-to-energy (TWtE) technologies. Over 400 TWtE plants are in operation in Europe, but to date these technologies have not been adopted in Australia.

A number of local councils in rural and regional Victoria have expressed interest in developing TWtE power/recycling plants in their areas, but need financial assistance to complete proper feasibility and business case development studies. Victorian based companies such as EcoEnergy Ventures have the potential to develop and build these systems with local labour.

These projects are relatively small and scalable, at around 2MW for an average sized plant, which means that they can be built quickly and provide not only clean “baseload” energy for the local area (improving reliability of local electricity supply) but can be financed by avoided landfill levies and revenue for electricity generation.

There could be dozens of local jobs in construction and permanent operational positions suitable for low-skilled staff in on-site resource management.

Policy options for quick jobs in bioenergy

1. Use existing funds from Regional Development Victoria or the Energy Technology Innovation Strategy to assist regional local councils to assess the feasibility of local thermal waste-to-energy facilities.

A variety of different technologies fall under the TWtE banner, including pyrolysis, gasification and plasma arc systems. These systems do not involve incineration, and can use a wide range of different waste materials to produce electricity.

These technologies are used widely in Europe but have never been properly assessed for commercial viability in Australia despite interest from regional councils.

¹⁰ Victorian Waste and resource recovery policy, Department of Environment and Primary Industries, 2013, p38