

About Moreland Solar City

Moreland Solar City will receive \$4.9 million through the Australian Governments \$94 million Solar Cities initiative. Moreland Solar City is a \$10 million project to initiate a range of specific and practical programs in the City of Moreland:

- > **5000** households will be directly supported with information and advice, access to rebates and packaged services to reduce greenhouse gas emissions by 20% by 2010.
- > **500** businesses will participate by adopting energy efficiency measures aiming to reduce their emissions by 20% by 2010.
- > **50** community organisations including schools, health centres and sporting groups will participate in the Zero Carbon Moreland campaign, implementing energy efficiency measures to reduce energy use.
- > **1000** energy efficiency audits and retrofits for low income households will assist families to reduce energy use and avoid increasing energy costs.
- > The project will assist the \$1 billion redevelopment of Coburg City Centre to become an internationally recognised sustainable urban redevelopment. The 12-year plan will see 3000 new dwellings and over 65,000 square metres of retail and office space.
- > The project will establish structures to develop local sustainable energy generation through technologies such as gas cogeneration and solar photovoltaic.
- > These measures are expected to reduce greenhouse gas emissions by more than **15,000** tonnes a year by 2010.



Key Project partners:

Moreland Energy Foundation Ltd is an independent, not-for-profit, community-based organisation that delivers innovative programs to help reduce greenhouse gas emissions across the City of Moreland and beyond.

Moreland City Council is a national leader in sustainability practice, with a proud history of implementing key environmental and social initiatives across its diverse community.

Sustainability Victoria is a Victorian government agency, partnering with government, business, industry, communities and householders to tackle the global challenge of climate change at a local level.

Brotherhood of St Laurence works for an Australia free of poverty recognising equity as a critical part of a sustainable society for our generation and future generations.

As we build partnerships to deliver the program, the project will engage with a wide range of local and like-minded organisations.



Climate change is now accepted as the major challenge of the twenty first century.

The science leaves no room for doubt – people, our lifestyles and our industrial processes are the main cause of climate change.

It is here, it is now and we need to act.

'The world is moving towards high risks of dangerous climate change more rapidly than has generally been understood'
Prof. Ross Garnaut, 2008.

Energy today

In Victoria our historic reliance on brown coal has led to us having one of the highest per capita greenhouse pollution levels in the world. Governments originally made significant investments in centralised infrastructure to secure low priced energy for the community. Today, the massive carbon and water footprints and inherent inflexibility associated with this outdated approach are presenting major environmental and financial costs for the Victorian community.

Dirty Fuel: Brown coal is 65% water creating 33% more greenhouse gas than black coal¹

Wasted Energy: For every unit of coal burnt 60%–70% of the energy is lost at the power station²

Wasted Water: Victoria's coal generation consumes 20% of Melbourne's water supply each year³

Our Vision

The Moreland community is joining with leading international efforts to prevent adverse impacts on our climate. Moreland is building the foundations to become carbon neutral by 2030. Changing the way we use energy is a critical part of this plan. The Solar Cities initiative is a long-term project that will generate ideas on how to manage our energy better.

Together we can create a new energy future.

For more information

Moreland Energy Foundation Ltd,
Level 1 233 Sydney Road Brunswick
PO Box 276 Brunswick 3056
Telephone 03 9385 8585
Facsimile 03 9381 1733
www.mefl.com.au
www.morelandsolarcity.org.au



people energy power

A sustainable future for Moreland



Australian Government

Solar Cities



Imagine a sustainable community:
we're helping build it



Imagine a sustainable community; one where we find practical ways to improve our homes and businesses; one where we assist those less able to change; where we produce the energy we need sustainably and where we create new places to live and work that tread lightly on our planet.

Here in Moreland we are building a sustainable vision for our community and a practical example for Australia. The plan will harness key elements of sustainability; community action, equity, infrastructure and finance. Together these elements create a powerful and creative set of solutions.

The Moreland Energy Foundation is working with the Australian Government, key project partners and the community to take those steps towards a more sustainable community. Moreland Solar City is one of seven Solar Cities underway across Australia.

About Solar Cities

The Australian Government's *Solar Cities* initiative is helping change the way we think about and use our energy.

Solar Cities is creating partnerships to help people save energy; drive the use of Australia's leading-edge solar energy technologies; encourage energy efficiency and solar power generation; and showcase to all Australians the economic and environmental benefits of wiser energy choices.

Solar Cities is exploring options for a new energy future because the way we use energy now will affect our climate in the years to come. Energy is essential to our daily lives, but it also creates greenhouse gases. These are causing our planet to warm and our climate to change.

Solar Cities is looking for practical and creative future energy solutions, through 'real-world' trials in key urban locations across Australia.

¹ Tarlo, K. 2002, *Institute for Sustainable Futures*, UTS, Sydney.
² Diesendorf, M. 2007, *Greenhouse Solutions with Sustainable Energy*, UNSW Press, Sydney.
³ ABS 2006, *Water Account, Australia 2004-2005* Cat. no. 4610.0, ABS, Canberra.

Climate Change – Meeting the Challenge

Towards Zero Carbon Moreland

The City of Moreland has a proud history of equity and social involvement.

Our Council vision is, One community, proudly diverse. Moreland is also known as a leader in sustainability and innovative community-based action on climate change.

In 1894, Melbourne's streets were lit by electric lights for the first time. A couple of years later, Brunswick resident John Pender purchased Victoria's first motor car, and the energy age was truly upon us.

The Brunswick Progress Association launched the first clean air campaign in Victoria; a hugely successful community-driven movement that in part led to the establishment of the Victorian Environment Protection Authority (EPA) in 1970.

Electricity supply in the area was managed by Council owned Coburg and Brunswick Electricity Supply Department (BESD) and in the 1980s the Brunswick Department was delivering some of the first innovative programs to promote energy efficiency and renewable energy use in Australia.

Around the same time, CERES (Centre for Education and Research in Environmental Strategies) was established. CERES is now Australia's foremost city-based environmental park, drawing thousands of visitors annually.

In the 1990s, the privatisation of the Victorian energy industry saw the sale of BESD. Community members lobbied the council to apply some of the funds from the sale to an entity that would provide the local community with energy efficiency services.

The result was the Moreland Energy Foundation, incorporated in 2001 and since that time is working to reduce community greenhouse gas emissions in the City of Moreland.

In 2007, Moreland City Council launched its Climate Action Plan 2007-2012, and committed to zero net corporate emissions by 2020 and zero net community emissions by 2030.

The following four activities form the basis of Moreland Solar City and will work towards creating a zero carbon Moreland by 2030. (right)



Community action on climate change

The Zero Carbon Moreland campaign will inspire and facilitate a community wide response to climate change. Through a range of programs, information provision and practical support, Moreland households, businesses and community organisations will understand their carbon impact, take immediate sustainability actions and plan a long-term strategy to reduce their emissions.

Case Study

St Ambrose Parish is moving closer and closer to becoming zero carbon. Some of the simple things they have done include installing water efficient showerheads and energy efficient light globes. Adding ceiling insulation to one of the Parish properties has meant the house uses less energy for heating. They have also replaced thirteen old electric heaters with a high efficiency gas central heating unit.

With assistance from government rebates, the Parish has also replaced an old electric hot water unit with a solar hot water system. They estimate that this is saving them about \$80 per bill and saving us all about five tonnes of greenhouse gases per year.

More recently the Parish has signed up for 100 percent GreenPower on two of their residential properties.

Equity and social change

A key part of the Moreland Solar City project will be the development of a community enterprise to deliver energy efficiency services. Building on past initiatives and using a highly-successful model drawn from the UK, the community enterprise will provide training and employment, and deliver practical energy efficiency services to low income households. Energy efficiency audits and retrofits will assist families reduce energy use and prevent increasing energy costs.

Infrastructure and urban renewal

The Coburg Initiative is an exciting inner urban project that will see a major portion of central Coburg redeveloped to deliver outstanding new community amenities, infrastructure, housing and shopping. The Initiative, which will ultimately result in investment of \$1 billion in the area, will feature environmentally sustainable designs, low energy use and low impact construction on a scale not seen in Melbourne before. It is set to become a national and international example of how urban development can meet the challenges of a carbon constrained future.



Financing and enabling change





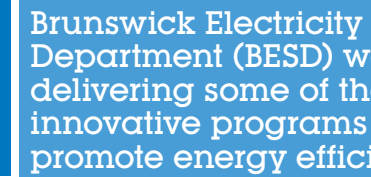



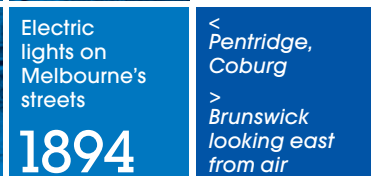


Moreland Solar City will develop and deliver small-scale distributed power generation (see right) within the municipality using an effective energy services company (ESCO) model. Distributed generation uses a range of technologies and approaches to better meet the needs of the local community. By generating heat and power on a local scale and recapturing wasted heat or energy to increase efficiencies, we can reduce the cost of providing sustainable energy services.

A New Approach

Australia has seen many recent changes in the ownership, regulation and purchasing of energy. However we continue to rely on the same physical system that was built half a century ago. Decentralised energy or distributed generation is a new approach of setting up small, highly-efficient, low polluting energy sources within the community so that energy supply and demand are close together.

Decentralised energy is generally powered by cleaner fuel sources such as natural gas, wind and solar energy. In turn, distributed generation systems have typically higher energy conversion efficiencies than centralised energy systems and avoid associated losses through the high voltage transmission and distribution network. For example, co-generation systems can achieve efficiencies of up to 90% compared with less than 33% for centralised power stations.



 <p>First motor car purchased by Brunswick resident</p> <p>1896</p>	 <p>Brunswick Electricity Supply Department created</p> <p>1912</p>	 <p>CERES (Centre for Education and Research in Environmental Strategies) was established</p> <p>1980s</p>	 <p>Brunswick Electricity Supply Department (BESD) was delivering some of the first innovative programs to promote energy efficiency and renewable energy use in Australia</p> <p>1980s</p>	 <p>Moreland Energy Foundation incorporated</p> <p>2001</p>	 <p>Moreland City Council launched its Climate Action Plan 2007-2012</p> <p>2007</p>	 <p>Climate Action Plan committed to zero net corporate emissions by:</p> <p>2020</p>	 <p>Climate Action Plan committed to zero net community emissions by:</p> <p>2030</p>
 <p>Electric lights on Melbourne's streets</p> <p>1894</p>	 <p>< Pentridge, Coburg > Brunswick looking east from air</p> <p>1960s</p>	 <p>The Brunswick Progress Association launched the first clean air campaign in Victoria</p> <p>1990s</p>	 <p>Moreland becomes one of Australia's seven solar cities</p> <p>2008</p>		