Large Scale Solar Electricity Generation Initiative

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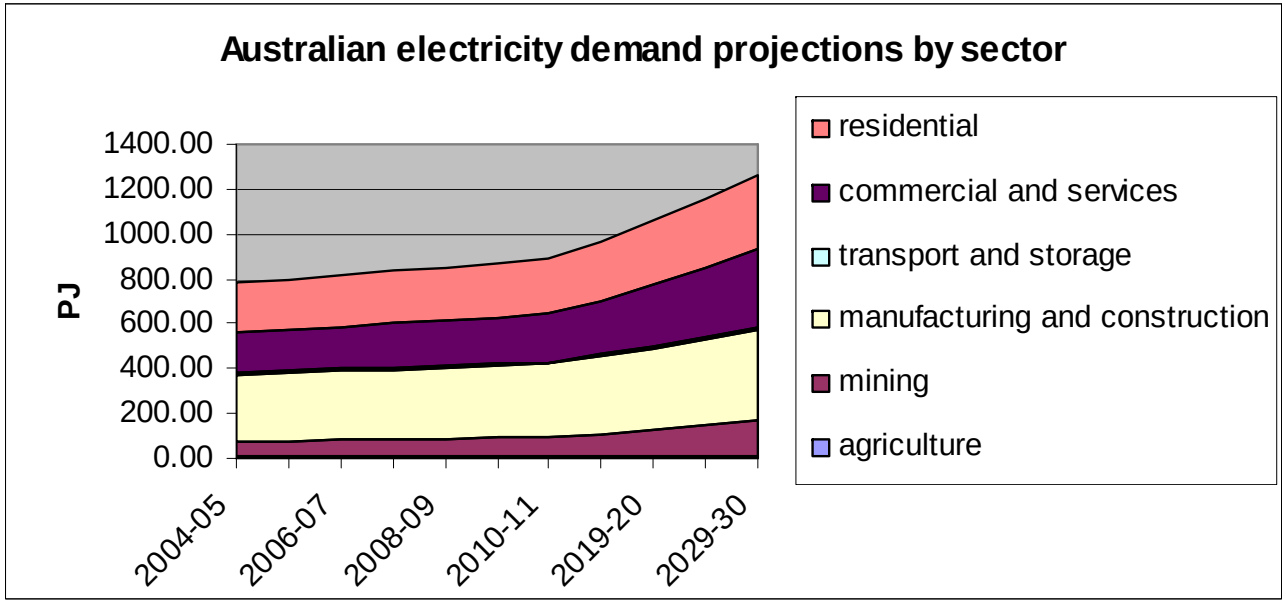
Australian Electricity Supply

- Total generation capacity, 2005-06: 45GW Total electricity generation, 2007: 227TWh
  - sourced from: coal (81% of generation) gas (12%) hydro (6%)
- Average 3.2% per annum growth in electricity consumption, 1995-2008;
- 2% pa growth expected to 2030



Source: Australian Bureau of Agricultural and Resource Economics (ABARE)

Energy Policy Objectives

The Victorian Government has the following energy policy objectives:

- Ensure an efficient and secure energy system;
- Ensure those supplies are delivered reliably and safely;
- Ensure consumers can access energy at affordable prices; and
- Ensure our energy supplies and the way we use them are environmentally sustainable.

Developing the Right Energy Mix

To meet these objectives requires a suite of energy technologies which must be:

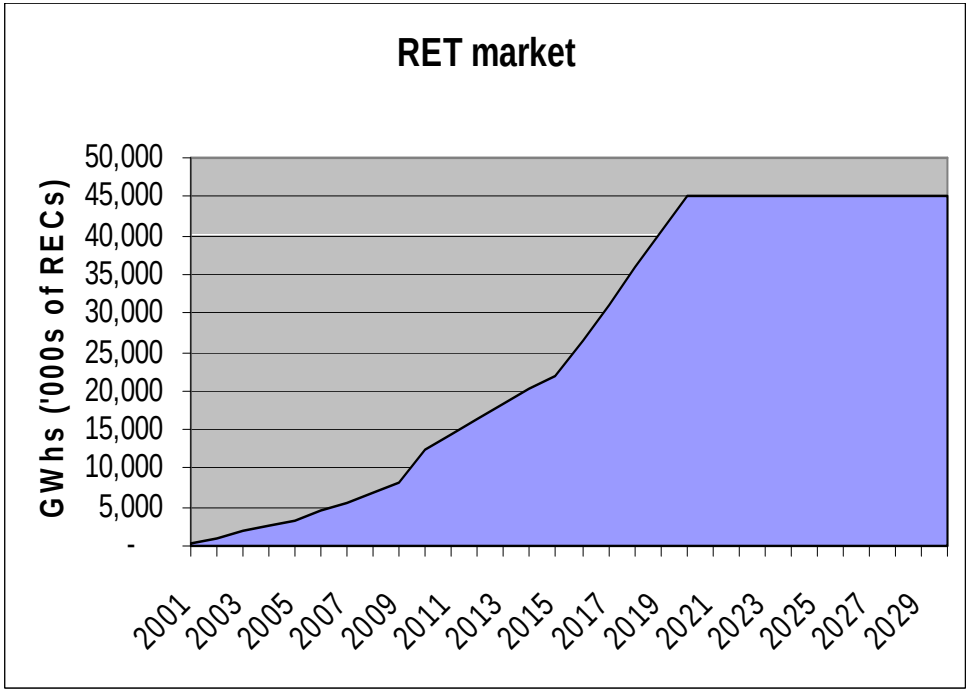
- **dispatchable** – the technology should allow for output which can match demand in the NEM;
- **abundant** – the technology should employ a resource which is widely available throughout Australia;
- **secure** – the technology should employ a resource which is not subject to sudden supply disruptions due to natural or international market forces;
- **environmentally sustainable** – the technology should not impose undesired impacts on local environments including biodiversity, surface water or groundwater;
- **socially acceptable** – the technology should not impose unacceptable impacts on local communities including visual intrusion, noise, odour, vibration, and competition for common resources; and
- **broader economic benefits** – the technology should lead to significant, long-term benefits to the Australian economy (employment, skills development, components supply, regional development etc).

Renewable Energy – Australia's Renewable Energy Target (RET)

- In 2000 Australian Parliament passed into legislation the *Renewable Energy (Electricity) Act*
- The Act establishes the Renewable Energy Target (RET)
- The scheme works by requiring liable parties (chiefly electricity retailers) to buy certificates (renewable energy certificates, or RECs) proportional to their wholesale market purchases of electricity. Penalties apply for non-compliance
- Each certificate represents a megawatt hour (MWh) of electricity generated by an eligible renewable generator
- **Renewable generators effectively become sellers of two products: MWhs, and RECs**
- The size of the market (the annual target) changes each year as determined by legislation
- In 2007 the new Commonwealth Government committed to expand the RET to 45TWh to be achieved by 2020
- In April 2009 the Council of Australian Governments (COAG) agreed to transition individual state schemes into the expanded national target
- Legislation to expand the target now before Parliament

Annual targets

- Scheme commenced in 2001 at 330 GWh/a
- 2009 calendar year target: 8,100 GWh
- Will reach 45,000 GWh in 2020
- Will terminate in 2030



By 2030 renewable energy is expected to be cost-competitive due to escalating carbon pricing and technology evolution

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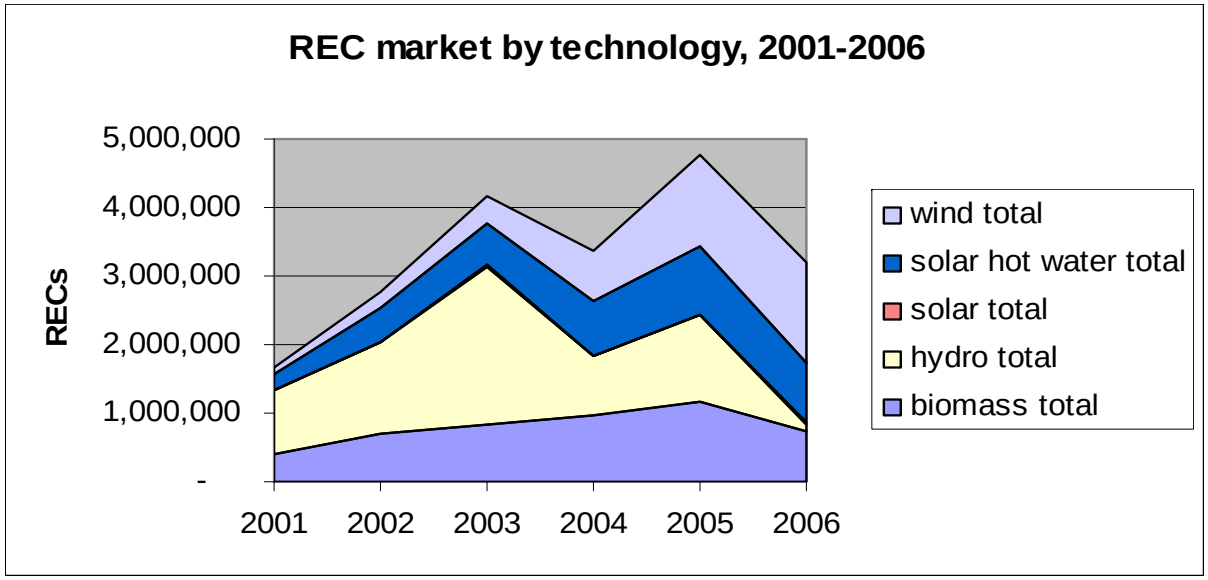
Historic share of market by technology

- Trends to date: declining output from hydro (due to drought)
- Steady growth in wind, biomass, solar hot water
- Solar, ocean, geothermal negligible to date



Data source: Office of the Renewable Energy Regulator, 2007

Background to the Large Scale Solar Initiative

June 2008:

Victorian Premier John Brumby and Queensland Premier Anna Bligh visit solar facilities in the US

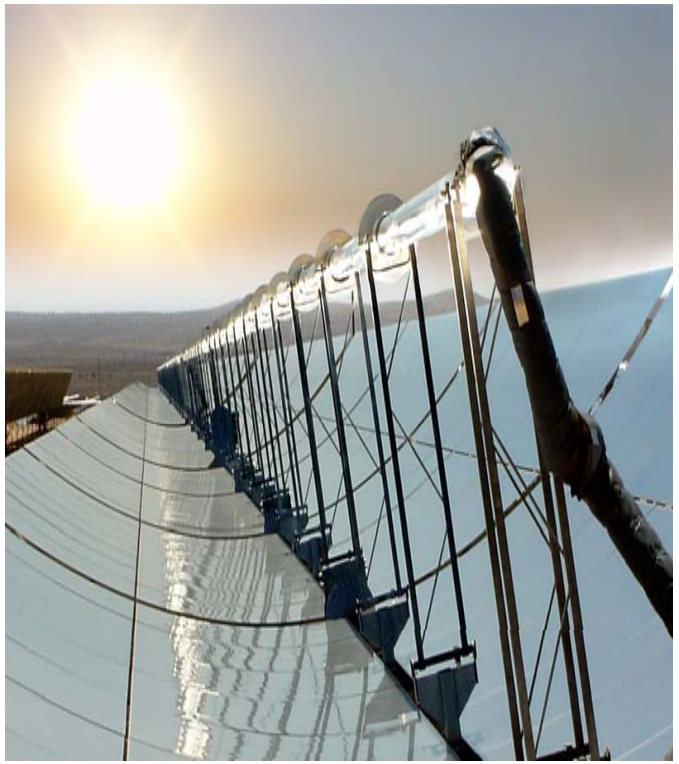
Premiers pledge cooperation to facilitate growth in the Australian solar industry:

Solar fellowships – to increase local skills

Solar atlas – to increase resource information for investors

March 2009:

Victorian Premier announces up to $100 million to attract co-funding from the Australian Government and private investors to build a large-scale solar electricity generator



What we want

The generation project must:

- Be located in Victoria;
- Demonstrate equal or greater financial support from each of the Australian Government and the private sector; and
- Generate a targeted minimum of 330GWh per annum of electricity from solar energy for a period of at least 20 years.

Hybrid systems are eligible to apply but only the electricity generated by the solar component [and that dispatched from any solar energy stored] will be counted towards this target

The form and nature of the project (ownership structure, technologies, physical location) are open to negotiation

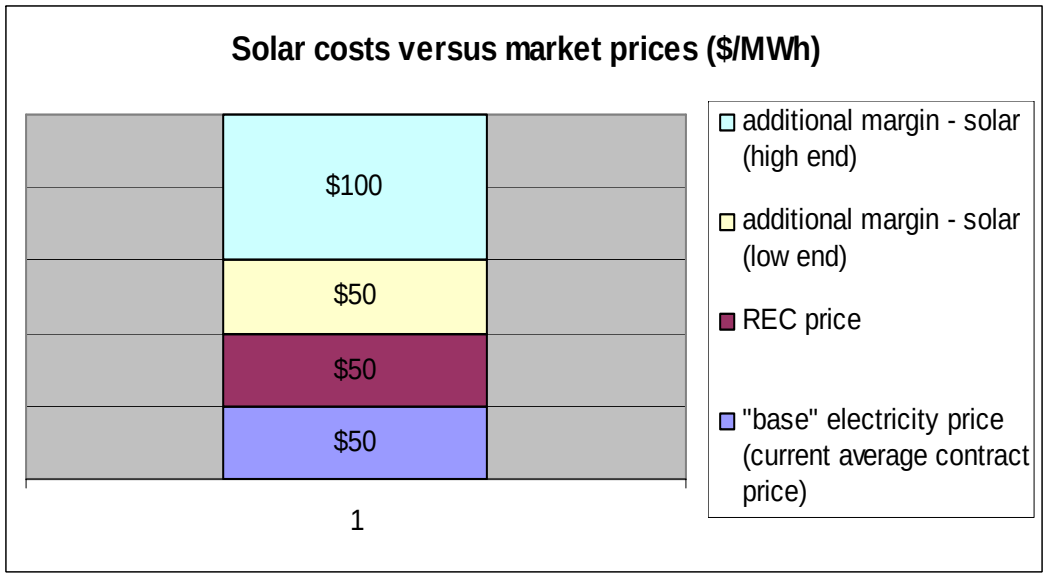
What Government will do

- The Government will provide up to $100 million in the form of a grant, based on a competitive proposals process (the Request for Proposals or RFP)
- The Government does not intend to:
  - recover funds extended to the project;
  - acquire equity in the electricity generator resulting from the project;
  - acquire ownership of any intellectual property associated with the project;
  - demand surrender of Renewable Energy Certificates (RECs) associated with the generation asset(s) once operational; or
  - enter into a Power Purchase Agreement (PPA) with the project owners for the purchase of electricity associated with the generation asset(s) once operational.

Why $100 million?

RECs + base electricity expected to provide Australian renewable energy generators income of approx. $100/MWh…

… but electricity from existing solar technologies cost between $150-$250 to produce



If the costs of closing this funding gap are borne equally by Commonwealth and State Governments, Victoria will need to contribute approx. $100 million

The expectation is that a competitive process yields the lowest possible cost

Commonwealth co-funding?

- Initially Renewable Energy Demonstration Program (REDP) was the only Commonwealth funding source envisaged:
  - REDP worth $435 million
  - REDP applications closed 15 April 2009
  - Some potential proposals may not have been able to apply within this time
- Commonwealth's 12 May 2009 budget announcement included new funding of $1.365 billion for Solar Flagships:
  - Total installed capacity: 1,000MW
  - Total number of projects: 4
  - Grid-connected
  - Further details to be announced

Why a grant and not…

- Feed-in-Tariffs?
  - *Guaranteed high, technology-specific prices do not encourage cost-minimising innovation*
- PPAs?
  - *PPAs create long-term commercial risks for future Governments*
- Equity?
  - *Victoria has a privatised electricity generation sector. Analysis to date indicates it is operating competitively and to the benefit of customers*

Grants provide competitiveness, transparency, minimal risk and maximum capacity for negotiation between parties

Anticipated Timetable

10 March 2009	Premier's announcement
9 April 2009	Launch RFP
25 September 2009	Applications close
December 2009	Announce successful project
2010	Settle contractual matters
2011-2015	Construction of plant

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Further information

www.dpi.vic.gov.au/largescalesolar

Inquiries to largescale.solar@dpi.vic.gov.au

Website contains:

- Premier's media release of 10 March
- Request for Proposals (RFP) document
- Presentations from Stakeholder workshop
- Place to notify others of capability and interest to collaborate