

# SECURING NSW'S

## ENVIRONMENTAL AND ENERGY FUTURE



TOTAL ENVIRONMENT CENTRE



Australian  
Conservation  
Foundation

**GREENPEACE**



North Coast Environment Council Inc.



# Securing New South Wales' Environmental and Energy Future

"The only debate worth having now is how we deal with global warming."  
(Premier Carr, 20.11.2003)

The Premier has taken a national leadership role on reducing greenhouse gas emissions. He must now get down to business by implementing the viable alternatives to another greenhouse polluting power station for NSW.

Greenhouse emissions must be reduced by at least 60 percent by 2050 if we are to help prevent NSW being severely damaged by climate change. We will not reach this target if we build new coal fired power stations.

The signatory environment groups call on the NSW Government to rule out polluting, coal-fired power for NSW. Instead we should adopt the smart approach to our energy needs by implementing the recommendations in this report. NSW energy needs can be met by implementing renewables, demand management, energy efficiency, cogeneration, gas and green energy.

**Over 5,984 MW** of smart, clean energy or energy efficiency is now available. This would be an increase of 43% on current capacity, especially for peak power. Most can be implemented more quickly and more cost-effectively than building new power stations. A range of these proposals are close to sign-off, promising clean energy and jobs growth well in excess of the jobs found in the fossil fuel electricity generation industry.

**Australian Conservation Foundation  
Climate Action Network Australia  
Greenpeace  
National Parks Association of NSW  
Nature Conservation Council of NSW  
North Coast Environment Council  
Rising Tide  
The Hunter Environment Group  
The Wilderness Society  
Total Environment Centre  
WWF-Australia**

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## Develop Market for Renewables

Wind, solar, low impact hydro and geo-thermal technologies are available for uptake. However, regulatory support is needed to encourage the market.

- NSW should introduce state renewable energy targets of 10% by 2010 and 20% by 2020, with eligibility restricted to genuine renewables.
- Support tax deductions and credits for investment in renewable technologies and allow accelerated depreciation on investments in renewable technologies.
- NSW is still lagging far behind Victoria and SA in terms of wind energy development. This is not because NSW lacks potential. NSW is estimated to have the potential for over 1000MW of wind energy, of which only **17MW** has been installed.<sup>1</sup>
- Feasibility studies for 10 wind farm projects in NSW have been completed with a potential total capacity of **550MW**<sup>2</sup>.
- There are over 92 agricultural waste projects that have been identified by SEDA<sup>3</sup> and over 57 small hydro sites have been identified by Sinclair Knight Mertz (1998)<sup>4</sup> with a capacity to generate over **1000MWh**.
- Current grid infrastructure is no barrier to renewables - NSW could harness 3100MW from renewable energies without any difficulties.<sup>5</sup>
- 16 sites investigated across NSW by the Sustainable Energy Development Authority confirmed that **107MW** of bioenergy generation could be installed, powered by agricultural and wet wastes.<sup>6</sup>

## Demand Management and Energy Efficiency

**Demand Management** and energy efficiency offer 1070MW with an average of six months lead time needed and minimal emissions. Within the DM toolkit are energy efficient appliances and buildings, distributed generation, standby generation, interruptible contracts, improved network efficiency and better pricing.

Up to 50,000 air-conditioners are set to be sold every year in NSW, driving inefficient spending on electricity networks and cross-subsidisation of high-energy users. Air-conditioners consume around 40 per cent more energy than natural cooling, and use up to 250 per cent more network capacity on hot days.

- Establish Demand Management Fund independent of the networks based on a levy of at least \$0.001 per kWh (\$65 million pa) to purchase DM services from the market.
- Improved efficiency of coal related technologies in existing power stations, including Bayswater, Liddell = **450 MW**.
- Rescue the failing NSW Government Buildings Energy Management Policy (target of 25% reduction for 2005/6).
- Mandatory appliance labelling showing energy efficiency, sourcing and consumption rates in monetary terms.
- Levy of 10% on the total cost of energy intensive products to raise around \$5 million per year for the Demand Management Fund.<sup>7</sup>
- Mandatory targets for commercial buildings and apartments.
- Aggressive energy efficiency targets for the National Framework for Energy Efficiency.
- Total savings from DM initiatives = > **1070 MW**.<sup>8</sup>

## Cogeneration and Gas as a Transition Option till 2050

**Cogeneration** uses a single fuel to generate multiple types of energy by harnessing energy that would otherwise be wasted. Co-generation can double efficiency. Generating electricity onsite also reduces capacity constraints on networks. **Gas** currently represents 2345 MW of potential electricity in NSW, and emits 60% less CO<sub>2</sub> than coal. This makes gas suitable for use as a transition fuel until 2050.

- Cogeneration at Botany and Kurnell has been approved by Government = **770 MW**.<sup>9</sup>
- Gas Turbine Combined Cycle at Tomago awaiting final sign-off = **800 MW**.<sup>10</sup>
- Gas Turbine Combined Cycle at Tallawarra = **350 MW**.<sup>11</sup>
- Industrial Small Cogeneration = **400 MW**.<sup>12</sup>

## Encourage Green Electricity Products

Green Power products ensure that 80% of the energy consumers use is sourced from new renewable projects, helping to boost the renewables industry. Compared to Victoria and Queensland, NSW's state owned retailers are failing to encourage take-up of Green Power products by consumers. The quarter ending September 2004 saw only 13,772 domestic customers in NSW compared with 31,786 in Victoria and 48,786 in Queensland (1000 less than the previous year). The NSW Government owned retailers, Energy Australia in particular, are failing to capitalise on the potential of the Green Electricity market.

- Mandatory percentage of Green Power Accredited Products for retailers set at industry leader's current performance and ramped up gradually over the next ten years.
- Introduce measures to increase entry by non NSW retailers and thus improve consumer choice of green energy products. (For example, access to ETEF (Electricity Tariff Equalisation Fund) and simple switching to another retailer.)

## Statewide Take-up of Solar Hot Water

Australia leads the world in solar hot water technology, with the newest systems offering 'payback' within 3 to 4 years. Over the average ten year life of a system, solar is cheaper than electric hot water. The only hurdle is up front cost.

- Bulk government purchasing to replace old systems as they become obsolete on the 128,353 government owned public housing properties across NSW. Load reduction = **350 MW**.<sup>13</sup>
- Planning ordinances to make solar hot water and/or heat pump mandatory on all new housing.
- 62% of new homes in NSW could have solar electric boosted hot water. Potential replacement market of 7% per annum of existing electric hot water units. Load reduction from replacement of 95,000 units = **120 MW**.<sup>14</sup>

- <sup>1</sup> SEDA, [www.seda.nsw.gov.au/](http://www.seda.nsw.gov.au/)
- <sup>2</sup> AUSWAE, [www.auswea.com.au/projects/proposed.asp](http://www.auswea.com.au/projects/proposed.asp)
- <sup>3</sup> SEDA, *Potential for Electricity Generation Using Agricultural By-Products in NSW*, 2001
- <sup>4</sup> Sinclair Knight Merz, *An Assessment of Small Hydro Potential on Existing Dams in NSW and ACT*, 1998
- <sup>5</sup> Outhred H., *National Wind Power Study*, AGO, November 2003
- <sup>6</sup> Sustainable Energy Development Authority, *Potential for Electricity Generation Using Dry Agricultural By-products in NSW*, 2001.
- <sup>7</sup> \$100 for every \$1000 of air-conditioner unit cost. Assume \$1000 each and 50% of new customers to retailers over next 10 years.
- <sup>8</sup> Sustainable Energy Development Authority, *Distributed Energy Solutions*, Feb 2002.
- <sup>9</sup> Ibid; Australian Greenhouse Office, *Energy Markets: Fossil Fuel Power Stations - Proposed Plants*, August 2002.
- <sup>10</sup> Macquarie Generation
- <sup>11</sup> Macquarie Generation
- <sup>12</sup> Sustainable Energy Development Authority, *Distributed Energy Solutions*, Feb 2002.
- <sup>13</sup> Total Environment Centre, *20% by 2010*, 2000, p.6.
- <sup>14</sup> Sustainable Energy Development Authority, *Distributed Energy Solutions*, Feb 2002, p. 31.