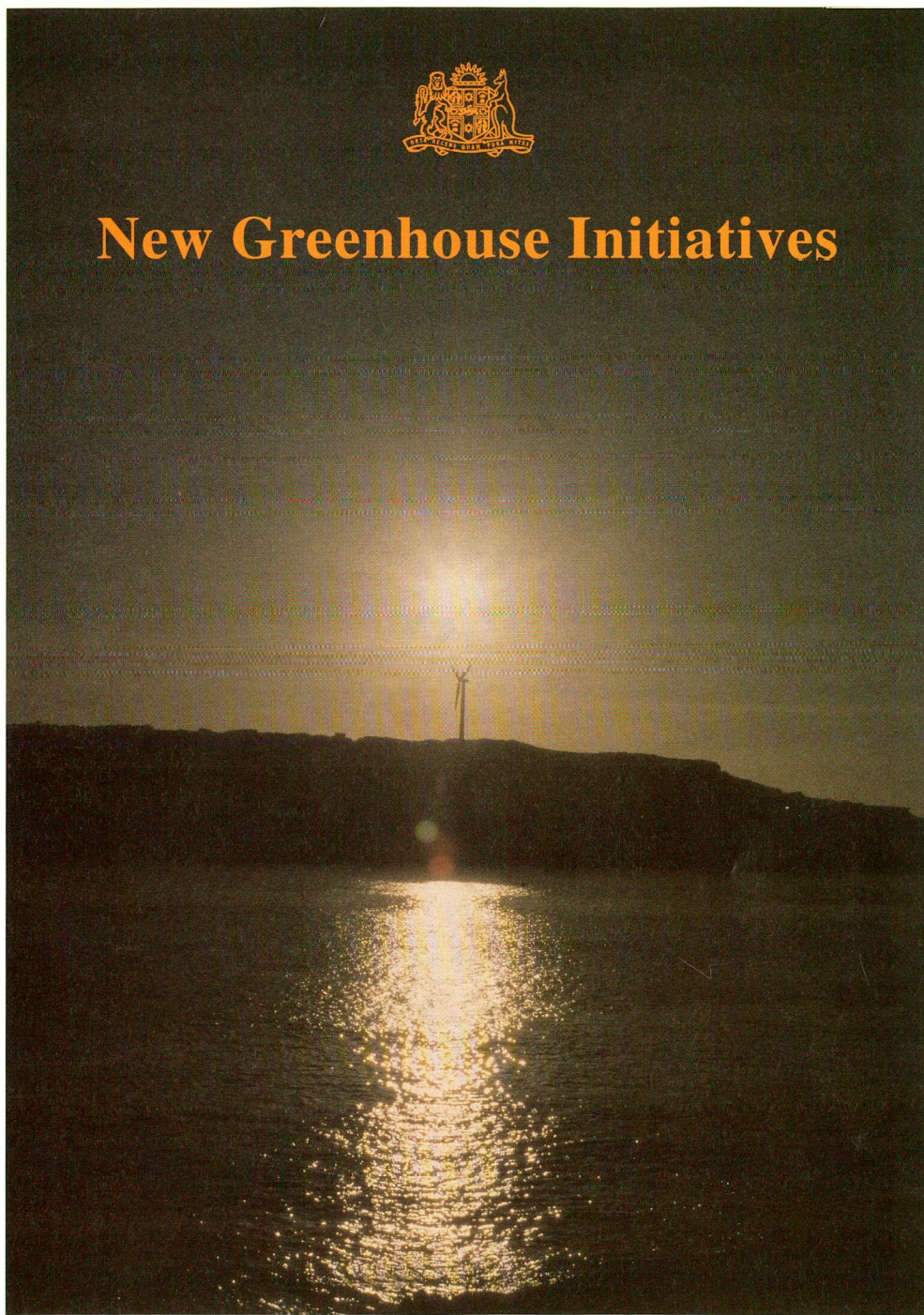


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## New Greenhouse Initiatives



NSW Greenhouse Action Plan 1998



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**NSW GREENHOUSE ACTION PLAN 1998:  
NEW GREENHOUSE INITIATIVES**

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# Overview

The NSW Government has long been the leading Australian administration on climate change action; the wide scope of its activities is summarised in the *Greenhouse Action Update* component of this *Greenhouse Action Plan 1998* and in my statement *NSW Tackles Greenhouse*, released in June 1997.

This leadership has included pioneering the Green Power scheme, which was recently awarded the 1998 International Climate Protection Award by the US Environmental Protection Agency. This effectively recognises the scheme as a world-leading model for establishing renewable energy as a commercially viable measure for reducing greenhouse gas emissions. I confidently expect other Australian administrations to take up this initiative.

The *Greenhouse Action Plan* adds nine further initiatives to the actions already under way. These initiatives cover a wide range of activities dealing with climate change, from fundamental research to improving public understanding, with an emphasis on directly reducing greenhouse gas emissions.

## Research

The greenhouse gases being emitted into the atmosphere will continue to cause climate change. NSW will need to improve its understanding of the potential effects and determine how it will adapt and respond.

Government agencies will be working with the CSIRO to examine the prospective **impacts of climate change** in the Hunter River catchment and its adjacent coastline. Elements to be studied include changes in the scale and frequency of extreme events, the availability of water, and the occurrence of pests and diseases. This \$70 000 project builds on a recently completed three-year, detailed, \$250 000 CSIRO study of potential rainfall and temperature changes across NSW.

## Sustainable energy

The development of sustainable energy in NSW will benefit from new support through the **Sustainable**

**Energy Research and Development Fund**. This will complement the work of the Sustainable Energy Development Authority on the commercialisation and use of technologies for both energy efficiency and renewable energy. The fund will have an initial provision of \$2 million for new projects over the next two years and will be seeking funding applications shortly.

Assistance for the development of **small hydro-electric schemes** will directly support the supply of renewable energy. These schemes will be encouraged where they are cost-effective and use existing dams and other water flows. This will increase NSW's hydro power without the environmental consequences of new dams. The schemes could generate **Green Power** for up to 50 000 homes and reduce the state's greenhouse gas emissions from electricity generation by as much as 0.7 per cent. Up to \$5 million will be available over three years for this. The Minister for Energy will be announcing further details shortly.

The Government is also moving to increase demand for renewable energy. As a personal commitment, NSW ministers have joined the 22 000 NSW electricity consumers opting to receive Green Power in their homes. The Government already requires departments benefiting from the Government's bulk electricity contracts to take 5 per cent of their consumption as Green Power; this will now be increased to 6 per cent, increasing demand for Green Power by more than 2000 MWh a year.

Commercial and office buildings use large amounts of energy, often inefficiently. The Government has already identified targets for reduced energy consumption in government buildings (85 per cent of 1995 levels by 2001). To help people involved with building construction and management to incorporate energy considerations into their decisions, the Government is now developing a **Greenhouse Rating Scheme** for commercial buildings to allow their energy performance to be assessed. This should be available in the first half of 1999. The potential savings from improved building efficiency could cut 1% from NSW's

total greenhouse gas emissions and reduce business costs by \$125 million a year.

The Government has also adopted a broader **Government Energy Management Policy** aimed at reduced consumption, greater use of 'green' energy technologies, and buying energy economically. Voluntary programs, new tools and new procurement arrangements will improve energy management in agencies. To emphasise the importance of the policy, each government department will be required to nominate an energy manager, and chief executives will be held accountable for energy management through their performance agreements. The same arrangements are being promoted to the Government's public trading enterprises. Further details will be announced shortly.

Improving energy efficiency often requires an initial investment before savings can be achieved. As part of its commitment to social justice, the Government is ensuring that this initial cost is not a barrier to the installation of energy- and water-saving improvements in community and public housing. The **Community Housing Energy Program** will be extended to a further 3500 homes. The improvements made under the program cut a householder's annual average costs for water and electricity by about \$150 and save some 1.1 tonnes of carbon dioxide emissions per household.

## Local government

The Government is alert to the role that local government will need to play in reducing greenhouse gas emissions. **Newcastle City Council** has already achieved outstanding results in cutting its own energy costs and is now looking to transfer its skills and learning to other councils across NSW and Australia. The Government is backing this initiative with a grant of \$50 000 to support a pilot training program.

## Community involvement

Energy efficiency is also a component of a successful program of community involvement pioneered by the Hawkesbury-Nepean Catchment Management Trust. Under the **Greenhouse Parks Program**, schools are engaged in energy-saving actions and in doubling the resulting reductions in greenhouse gas emissions by planting trees as carbon sinks in local areas. This also brings other environmental gains such as wildlife corridors. Community groups involved in the program include Rotary, Landcare and School Communities Recycling All Paper. The Government is providing an additional \$100 000 in 1998-99 to extend the program to other catchment areas, initially in the Sydney region, and then across the state.

Bob Carr  
**Premier**

## CSIRO research project

Under a three-year, \$250 000 contract with the NSW Government, the CSIRO developed climate models to give detailed regional information about likely climate changes in NSW, focusing on temperature, rainfall and frequency of extreme weather events.

The final report of this study is now complete, and the results place NSW in a leading position of knowledge about the anticipated changes. NSW now has an excellent base from which to examine the potential physical impacts of climate change on key activities in NSW.

The Government is now funding a new study in conjunction with the CSIRO to examine the detailed information generated from the modelling already done. This study will focus on the Hunter River catchment and its adjacent coastal zone. It will enable agencies:

- to identify the likely scale of impacts in relation to their areas of responsibility
- to begin assessing the adaptation responses likely to be needed
- to clarify what information they need to assess the impacts
- to determine the likely value of such impact studies in other regions.

At the same time, the project will provide valuable information on the specifics of the Hunter catchment.

Issues to be considered include:

- the frequency and intensity of extreme events, such as floods, storms and hot days
- changes in storm surges and wave patterns
- the likely shift in conditions favourable to pests and diseases affecting human health and rural industries
- water availability and soil moisture.

## NSW Sustainable Energy Research and Development Fund (SERDF)

The SERDF will play an important role in the Government's efforts to foster research and development in renewable energy. This new fund replaces the former State Energy Research and Development Fund, which was established in 1986 to support research and development projects aimed at reducing the energy costs of consumers, enhancing the reliability and safety of energy supply, promoting employment growth, and reducing the environmental impact of energy production and supply. Since 1986, more than \$18 million has been invested in more than 130 projects.

Under the new SERDF, in recognition of the growing need to harness alternative energy sources, the

Government will place greater emphasis on supporting research and development projects in renewable energy, energy efficiency and Greenhouse-friendly transport fuels.

The SERDF will closely complement the work of the Sustainable Energy Development Authority (SEDA) by encouraging medium-term to long-term investment in appropriate technologies and by enabling NSW researchers to develop new concepts for commercialisation through agencies such as SEDA.

To mark the establishment of the SERDF, the Minister for Energy will shortly make a public call for new research and development projects, with funding of \$2 million to be provided over the next two years.

## Small hydro program

The Government is exploring opportunities to use existing assets more effectively for generating electricity and increasing the availability of Green Power.

Over the next three years, SEDA will work with government agencies, private developers and electricity retailers to develop small hydro projects on existing dams and waterways, where commercially viable. The initiative builds on work by, for example, the Department of Land and Water Conservation, which has already installed hydro power stations on some dams and has tendered rights to develop small hydro schemes at the Pindari and Split Rock dams.

Up to \$5 million will be available. Funding will be offered, on a competitive basis, to government

agencies, private developers and electricity retailers interested in investing in, and tapping into, renewable sources of energy. SEDA will provide data on the feasibility of establishing small hydro schemes on existing assets, identify private developers to build and finance hydro projects, and facilitate cooperation between participants.

The development of small hydro schemes could add substantially to NSW's stocks of Green Power and reduce greenhouse gas emissions from electricity generation by as much as 0.7 per cent, or more than 0.2 per cent of the State's total greenhouse gas emissions. At the same time, because such schemes use existing assets, they avoid the environmental impacts associated with building new dams.

## Increased take-up of Green Power

The Government is using its buying power in the deregulated energy market not only to save costs but also to promote the take-up of Green Power.

Under the Government's bulk electricity purchasing arrangements, departments are required – and trading agencies are encouraged – to use a small part of the savings made to buy 5% of their electricity as Green Power from renewable resources. A number of agencies, including State Forests and the Department of Public Works and Services, are already taking significantly more than this. The Green Power purchasing requirement will now be increased to 6%, increasing the demand for Green Power by 2000 MWh a

year. Further increases may be considered following a detailed examination of the cost and availability of Green Power.

This stimulus to the renewable energy market will add to that being provided by the 22 000 NSW households that have opted to receive Green Power under schemes introduced by electricity retailers and accredited by SEDA. This increased demand will help the Green Power generators to increase production and lower costs. It will also contribute to the Prime Minister's target of raising the share of renewable energy in Australia's total electricity consumption by 2 percentage points by 2010.

# Greenhouse rating scheme for commercial buildings

Through SEDA, the Government is developing a greenhouse rating scheme for commercial buildings to inform owners, tenants, developers and architects of the energy efficiency of commercial buildings.

The scheme will be voluntary and will apply to existing buildings, new developments and refurbishments. Ratings will be based largely on energy use in lighting, heating, ventilation and cooling.

The scheme provides a significant opportunity to reduce greenhouse gas emissions in the commercial sector because it will stimulate demand for improved energy efficiency in commercial buildings. In particular, it will:

- encourage best practice for energy efficiency in the design, operation and maintenance of commercial buildings
- provide market recognition for energy-efficient buildings
- encourage the use of sustainable energy technologies
- raise awareness of the environmental impact of commercial buildings.

It is estimated that, by 2010, the scheme could reduce carbon dioxide emissions by 2 million tonnes a year, or by more than 1% of total emissions in NSW. By the same year, NSW businesses could be saving \$125 million a year.

## Government Energy Management Policy

The NSW Government has consistently followed the approach that to encourage industry, business and the community to reduce their greenhouse gas emissions, it must lead by example. The Government Energy Management Policy gives a further illustration of this leadership by providing a mechanism for achieving and sustaining reductions in greenhouse gas emissions and energy costs across the NSW public sector.

The policy is mandatory for all general government agencies and encompasses all facets of government operations, including buildings and infrastructure, transport and motor vehicles, plant and equipment, and goods and services. Reduced energy consumption, greater use of sustainable energy technologies, and procuring energy services economically are integral to the aims of the policy.

Individual agencies will bear the primary responsibility for implementing the policy. In particular, they will be required:

- to establish accountability for managing energy use by nominating energy managers and including energy management responsibilities in the

performance agreements of chief executive officers

- to set energy management goals
- to monitor, report on and publish performance in reducing energy consumption
- to adopt best practice in energy management by ensuring that energy efficiency goals are built into the planning and design of new and refurbished assets.

In addition, the policy draws together a range of existing energy efficiency strategies to ensure that energy management in the NSW public sector is coordinated to achieve best results. These strategies include:

- voluntary programs and initiatives such as SEDA's Energy Smart Government Buildings program to help agencies improve their energy efficiency
- tools such as energy performance contracting to overcome barriers to energy efficiency
- the Government's use of its purchasing power in the deregulated energy market to increase public sector acquisition of Green Power.



# Community Housing Energy Program

Under the Community Housing Energy Program, the Government is installing energy-efficient equipment into the homes of low-income-earners in public and community housing to reduce their energy consumption, and energy and water costs, while improving their comfort. Examples of the equipment being installed include water-efficient and energy-efficient taps and shower roses, water-saving devices for toilet cisterns, compact fluorescent light globes and

roof insulation.

It is estimated that each house will save an average of 40 000 litres of water, reduce its greenhouse gas emissions by 1.1 tonnes of carbon dioxide, and save around \$150 each year.

Under phase 1 of the program, 3500 homes have already been fitted out. The Government will now fund a second phase of the program, and a further 3500 homes will be fitted out in phase 2 in 1998-99.

## Australian Municipal Energy Improvement Facility (AMEIF) pilot

The AMEIF is a concept developed by Newcastle City Council and modelled on an existing facility operated by the International Council for Local Environment Initiatives, based in Canada.

In the first stage, Newcastle Council will train and show local councils nationwide how to save energy, energy costs and greenhouse gas emissions. The service will be provided on a fee for service basis. The AMEIF will eventually become a separate business unit of the Council.

Newcastle Council has a national reputation as the

leading council in enhancing energy efficiency and promoting the use of renewable energy. The transfer of this expertise to other councils will help them to lead their communities in reducing greenhouse gas emissions and, at the same time, in cutting energy costs. This will complement state and national efforts with the same aims.

Through SEDA, the Government is granting Newcastle Council \$50 000 to test the effectiveness and financial viability of the concept through a pilot training program.

# Greenhouse Parks Program

The Greenhouse Parks Program was established in 1997 to encourage local communities to reduce their greenhouse gas emissions and to support local catchment strategies. The program is initially focusing on schools, and has two key elements: helping schools cut their consumption of energy and rewarding them with tree seedlings to be planted in local Greenhouse parks. As the trees grow, they will absorb as much carbon dioxide as that avoided through the energy savings, effectively doubling the reduction of greenhouse gas emissions.

The program currently operates in the Hawkesbury-Nepean catchment and is managed by the Hawkesbury-Nepean Catchment Management Trust. Broad community cooperation is a feature of the

program. Numerous bodies are participating, including the Department of Land and Water Conservation, the Department of Public Works and Services, the Department of Education and Training, Integral Energy, Keep Australia Beautiful Council NSW, Rotary Trees for 2000, School Communities Recycling All Paper, Greening Australia, Landcare Australia and the NSW Local Government and Shires Associations, as well as the schools themselves.

The program has been operating successfully and has shown the potential for practical community involvement on a wider basis. The Government has now provided a \$100 000 grant to enable the expansion of the program into other catchment areas, initially in the Sydney region, and then across the state.

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