



CHIEF MINISTER

Submission No: 144
--------------------

Parliament House  
State Square  
Darwin NT 0800  
chief.minister@nt.gov.au

GPO Box 3146  
Darwin NT 0801  
Telephone: 08 8901 4000  
Facsimile: 08 8901 4099

The Committee Secretary  
House of Representatives Standing Committee on Industry and Resources  
PO Box 6021  
Parliament House  
CANBERRA ACT 2600

Dear Sir/Madam

Please find enclosed a submission from the Northern Territory to the Case Study into Renewable Energy in Australia.

Yours sincerely

CLARE MARTIN

2.8.07

# **SUBMISSION FROM NORTHERN TERRITORY GOVERNMENT TO THE CASE STUDY INTO RENEWABLE ENERGY IN AUSTRALIA**

---

## **INTRODUCTION**

The Northern Territory Government appreciates the opportunity to make a submission to the House of Representatives Inquiry into the development of non fossil fuel energy industry in Australia and to review its activities related to renewable energy developments.

The Territory has a very active involvement in this sector particularly with respect to the application of solar energy and is anticipating future development of geothermal power generation.

The recent declaration of Alice Springs as a solar city will further encourage these ambitions.

## **STATE OF PLAY**

The Territory has no active program which could lead to commercial development of wave, tidal or hydrogen power generation.

The (currently) relatively small energy economy in the Territory and the large distances between market centres does not lend itself to economies of scale with some of the more capital intensive power generation schemes.

## **TIDAL**

While the Territory coast is subject to a significant (3-7 metre) tidal range, the size of a system and the technology required have yet to be economic. There are no tidal power generators in the Territory and none are planned.

## **WAVE**

The Territory coast lacks the geographic aspect to be subject to sustainable wave activity and no wave based power generation projects are anticipated.

## **HYDROGEN**

At this stage the development of a hydrogen technology is not contemplated in the Territory, however the potential development of a domestic natural gas industry could in the longer term future make hydrogen production a potential energy source.

## **GEOHERMAL**

The Territory has an extensive area that is underlain by shallow heat sources, some of which are expressed at the surface near Katherine as thermal springs. This encouraging scenario has prompted the Territory Government to approve the development of legislation to grant geothermal exploration and development tenure. It has been decided to pass a separate Geothermal Energy Act rather than adapt existing mining or petroleum legislation to meet that need. Drafting of the legislation has commenced and indications are that the legislation may become operative in mid 2008.

Development of geothermal electricity generation is almost entirely reliant on an available market for the electricity. In the Territory the only relevant market is the Darwin-Katherine grid, or an existing or as yet undeveloped mining project. In that context the initial grant of geothermal tenure will probably be offered by tender so that the government can carefully consider appropriate grantees. Clearly it is likely to be many years before a commercial geothermal power generator is operating in the Territory.

## **SOLAR**

The Territory is well endowed with abundant sunshine, and is in a unique position to harness solar resource. Solar energy has been used in the Territory for many years in a variety of applications, including domestic hot water, domestic and commercial power generation, and telecommunications. The Territory Government encourages the adoption of renewable energy, particularly in remote areas that are not serviced by an electricity grid. According to Australian Bureau of Statistics (ABS) data of 2005 about 44% of households in the Territory used solar energy, the highest usage level in Australia. The national average was only 5%.

The Territory Government is involved in managing a number of programs which are based on solar energy sources such as:

- Renewable Energy Rebate Program (RERP) funded by the Commonwealth Government's Renewable Remote Power Generation Program (RRPGP).

The Department of Primary Industry, Fisheries and Mines (DPIFM) is currently implementing the Australian Government funded incentive program RERP to increase the uptake of renewable energy. Under the \$46 million RRPGP cash rebates of up to 50% are provided to remote power users and power providers towards the installation of renewable technology in remote areas. Since 2001 rebates totalling about \$20 million have been offered to mainly solar related projects. Solar power projects at Bulman, Kings Canyon, Bradshaw Field Training Area, Hermannsburg, Yuendumu and Lajamanu are operational.

- Photovoltaic Rebate Program (PVRP) funded by the Commonwealth Government's PVRP program.

DPIFM administers the PVRP program in the Territory. It provides cash rebates to householders and owners of community buildings to install grid-connected or stand-alone photovoltaic systems.

The PVRP program was launched in the Territory in 2001 but the uptake of photovoltaic power in the grid connected area had been slow due to high upfront cost compared to the eligible rebate amount. On 8 May 2007 the Australian Government announced a continuation of the PVRP with additional funding of \$150 million over five years until 2012 and the rebate for residential properties have doubled from \$4 000 to \$8 000 per kilowatt (capped). Schools and community groups will now be eligible to apply for up to 50% of the cost of a solar system, with an upper limit of two kilowatts. With this new rebate announcement, it is anticipated that there will be significant uptake of solar power in homes and community buildings.

- Solar Hot Water Rebate program

The Power and Water Corporation (PWC) administers the solar hot water rebate program in the Territory. The average rebate is one-third of the cost of a new system. The price currently offered by PWC is \$25.00 per Renewable Energy Certificate.

- Alice Springs Solar City Program

Solar Cities is a \$75 million initiative of the Commonwealth. On 16 April 2007 the Commonwealth Government announced that Alice Springs was the fourth city selected as a "Solar City". Solar Cities is an innovative program which is designed to demonstrate how solar power, smart meters, energy efficiency and new approaches to electricity pricing, can combine to provide a sustainable energy future in grid connected urban areas. DPIFM is the funding conduit for the Territory Government. The Alice Springs Town Council leads the Alice Springs Solar City Consortium. The \$27 million Alice Springs Solar Cities Project will make a positive difference to Alice Springs's energy production and consumption.

## **WIND**

The key players in the Territory in the wind energy sector are the PWC and wind generator companies and managers like PowerCorp. Novolta Pty Ltd is mainly involved in the research and Delta Electrics Pty Ltd is mainly a supplier and installer of small wind turbines. PWC currently has a 80kW wind turbine installed at Epenarra commissioned on July 1999 and it has been monitoring wind data in the Tennant Creek region. PWC has recently called for Expressions of Interest (EOI) for a wind generator near Tennant Creek. The scope for wind in the Territory is very limited generally because of the low wind speeds. There may be pockets in areas like Borroloola or elsewhere in the Barkly region where it is still viable. Since 2001, under DPIFM's RERP program, only two small wind turbine systems (400W and 1000W) for Borroloola have been approved.

## **BIODIESEL**

The sole biodiesel producer in the Territory is Natural Fuels Darwin Limited, a wholly owned subsidiary of Natural Fuels Australia Ltd (NFAL). NFAL is a 50:50 Joint Venture between Natural Fuels Ltd and Babcock and Brown Environmental Investments Ltd. They commissioned their \$77 million, 138M litre per annum plant in November 2006, the plant achieving nameplate capacity in March 2007. The facility has the potential to expand production by a further 200 000 tpa.

Vegetable oil feedstock for the plant is a blend of refined bleached deodorised (RBD) palm olein (90%) and RBD soybean oil supplied by ConAgra under a long term agreement. Some 82% of the plants diesel production has been sold through long term off-take agreements. End users are largely in North America and Australia.

Natural Fuels in 2006 conducted a trial, in conjunction with Darwin Bus Services, Australian Fuel Distributors and Charles Darwin University, of a B20 fuel blend. Trial results were positive for the environment while illustrating no negative impact upon vehicles utilising the fuel.

Opportunities for the growth of various crops including soya bean for use in the production of biodiesel are being examined by various private sector proponents. These investigations may be characterised as being exploratory at the moment.