

2015: Moving the Territory Ahead

Economic Development Summit

Energy in the Northern Territory

Energy and energy infrastructure are central to economic development and lifestyle in the Territory. Energy supply, distribution, consumption and markets together with the relevant policies and strategies are critical components. This information paper summarises the scope of energy issues in the Territory and the strategic directions towards 2015.

Overview

Energy consumption is distinguished from the use of energy resources as the feedstock in manufacturing (eg production of LNG from natural gas). Energy in the Territory is consumed in the form of electricity and liquid fuels to operate a variety of machines. Only a small portion (mainly natural gas) of the rich energy resources produced in the Territory is consumed as energy within the Territory. The bulk is exported in a crude form (eg Timor Sea crude oil) or in a moderately transformed form (eg uranium ore).

Demand for energy

A total of 75.6 petajoules (10^{15} calories) of energy was consumed in the Territory during 2003-04. Manufacturing (predominantly Alcan alumina production), transport fuels and electricity generation consumed just over 80% (see *Facts and Figures*). Residential consumption was under 3%. The balance was consumed by the various other sectors in the economy.

The demand for energy is largely dependent upon the population size and the demand of major projects.

Business and domestic electricity demand is expected to increase at 2-3% per annum.

Major projects will dominate future demand. The operation of the Alcan G3 Expansion project will account for a major energy consumption increase of 18 petajoules.

The major future demand for energy resources for manufacturing will come in 2006 as 175 petajoules per annum of natural gas feeds into the new Darwin LNG plant. The next stage of the LNG expansion will require an estimated 280 petajoules of feedstock.

FACTS AND FIGURES

Share of energy consumption by industries 2003-04:

Manufacturing	30.3%
Transport	28.0%
Electricity generation	22.2%
Commercial	7.4%
Mining	6.0%
Residential	2.8%
Agriculture	1.9%
Other	0.8%
Construction	0.8%

Value of energy resources produced during 2004-05:

Oil	\$ 559m(p)
Natural gas	\$ 45m
Uranium	\$ 231 m

Forecast values of energy resource 2009-10:

Oil	\$ 1 155 m
Natural gas	\$ 224 m
<i>(Half share with Timor Leste)</i>	
Uranium	\$ 331m
LNG	\$ 595m
<i>(Net of value of feedstock)</i>	
Helium	\$ 11 m

Electricity costs 2003-04:

Small business	15.3 c/kWh
Large business	9.6 c/kWh
Residential	15.4 c/kWh
[NT costs were more expensive than most States – Source: ESAA]	

Efficiency of energy use

Average efficiency has increased by 3% annually over the last 15 years

Sourcing energy supplies

Refined petroleum products for transport are imported, mainly from Singapore. Heavy bunker fuel for alumina manufacturing is also imported. Electricity generation in Darwin, Alice Springs, Tennant Creek, Katherine and MacArthur River Mine is derived from natural gas piped from the Amadeus Basin in Central Australia. Most of the electricity generation is provided by the Power and Water Corporation (PowerWater) using gas supply contracts due to expire in 2009 and 2012. Commercial negotiations are underway for future gas supplies.

Production of energy resources

The total value of production of crude oil, natural gas and uranium ore in 2004-05 was \$ 835 million (see *Facts and Figures*). All was exported except natural gas. The value of production will increase dramatically, as illustrated in the accompanying forecast statistics for 2009-10 (see *Facts and Figures*).

Energy strategies

Two prime objectives are identified in the Northern Territory. The first objective is to achieve long term security and sustainability of energy supply, including electricity, natural gas and liquid fuels. Resource development, bringing gas onshore, energy infrastructure and diversifying the energy mix are the accompanying strategies.

The second objective is to supply energy at the most competitive price possible to encourage investment in establishment of industry in the Territory, and to improve and sustain an attractive lifestyle for all Territorians. The accompanying strategies are the facilitation to fully realise the benefits of energy market reform, encouraging adoption of renewable technologies and promoting efficiency in energy supply and use.

These strategies are consistent with the 2004 Commonwealth White Paper on *Securing Australia's Energy Future*. The Australian Government's objective is to ensure that all Australians have reliable access to competitively priced energy, the value of the resources is optimised, and environmental issue are well managed.

Energy market and pricing policy

PowerWater is the sole supplier for most electricity generation and distribution in the NT and its activities are subject to competition oversight by the Utilities Commission. The Commission in 2004-05 noted that the Territory energy sector (gas and electricity) is on the threshold of a period of significant change. A significant opportunity exists to consider the combination of electricity industry arrangements (structural, institutional and regulatory) that may allow the maximum public benefit to be gained from the changes in prospect.

National energy policy is concentrating on the National Electricity Market in the southern and eastern States. Gas market reform is to follow, implementing similar principles to the electricity market. The main impact for the Territory relates to third party gas pipeline access and competition principles to be applied in the electricity market.

Territory Energy in 2015

The Territory energy scenario for 2015 is likely to be high and expanding levels of resource (mainly offshore) exploration and production, and high levels of manufactured energy products for export markets. Global energy prices are likely to have risen substantially generating high export revenue earnings and upward pressures on electricity and transport costs locally. The design, operation and regulation of the electricity and liquid fuel market places will likely be important issues for Territory businesses and residents. Improving the efficiency of energy use and reducing greenhouse gas emissions will become increasingly important in moving ahead towards 2015.