



TERRITORY 2030

A plan for Territorians

Energy, urban design & transport ideas

SUBMISSION TO TERRITORY 2030

INTRODUCTION

A blueprint for development of the Northern Territory over the next 21 years has to take account of worldwide knowledge and concern about climate change, global warming, and use of fossil fuels that produce CO₂ emissions and the build up of CO₂ in the atmosphere.

The Territory cannot ignore international undertakings, such as the Kyoto Agreement, to reduce greenhouse emissions, especially by 2030, the time frame of this project.

In the US, President, Barack Obama has stated:

The energy challenge we face is so great and the consequences of inaction are so dangerous. We must act quickly and we must act boldly to transform our whole economy – from our cars and our fuels, to our factories and our buildings.

Obama has challenged the US to face:

...one of the great challenges of our time: confronting our dependence on foreign oil, addressing the moral, economic and environmental challenge of global climate change, and building a clean energy future that benefits all...

Obama has set a number of targets to meet these challenges, including ensuring that 10% of US energy comes from renewable sources by 2012, and 25% by 2025.¹

The transition from fossil fuels to renewable energies, in particular solar energy, is a very important step for all governments to progress. We are destroying the climate that we live in and we are running out of fossil fuels. Unless we take concerted action to replace our fossil fuel consumption with renewable energy our civilisation will collapse. The advantage of solar power is that once the initial capital cost has been made the energy produced is clean and free.

While there is increasing information and concern about the urgency to remedy these impacts individuals are largely powerless in controlling their use of fossil based energy. Territory citizens can and are making adjustments at the margins, for example, through recycling, installing solar water heaters and photovoltaic cells. But when they leave home and go to the cinema or supermarket and buy and consume manufactured goods they realise they are still unwittingly contributing to global warming.

While in the Territory we have access to large offshore and onshore gas fields that provide a cheap fuel for electricity generation, this advantage may only be short term as the Australian Government moves to regulate emissions. By using renewable energy the Territory can help preserve valuable gas resources, making them more available for the future and for export, and thus improving our balance of payments.

Strategic planning and systematic government action can address the real change that is necessary, can help absolve the individual of guilt and responsibility and can engage citizens to work together to reduce their carbon footprints. The Territory 2030 project is an ideal means to design a viable future direction and to build confidence and support to achieve it.

NORTHERN TERRITORY ENERGY FOR 2030

The cost of producing large-scale solar power is now competitive with coal and nuclear electricity generation. Solar thermal generation is becoming one of the cheapest sources of electricity in the USA and Europe, and the investment costs are falling. Solar thermal plants burn no fuel, use minimal water, have no air or water emissions and create jobs.

Renewables are now capable of providing the base load through the grid network. Californiaⁱⁱ aims to have 20% renewable power by 2010, and 30% by 2020. Germanyⁱⁱⁱ currently produces over 13% of its electrical power from renewable sources; Spain produces 7% from renewable sources. We are seeing enormous changes worldwide.

Demand for electricity in the Territory will rise with increasing use of electric cars; with new urban development where housing is built to cyclone standards and with new medium and high-rise developments – all of these will need to install air conditioning.

The most economical way of producing renewable power is for Governments to be proactive, to make the move to efficient large-scale solar units that feed low cost electricity into the grid, rather than relying on pockets of individual goodwill. It is cheaper and more effective to have a large-scale solar generator than it is for individuals to install domestic photovoltaic units that produce small quantities of electricity for their household consumption and feed excess production back into the grid. Individual installations are expensive and are ineffective in terms of achieving national carbon reduction goals.

In some Australian States consumers have the option of paying an extra amount i.e. a higher tariff for electricity consumption, in order to support alternative energy production. These initiatives have not been well supported, only a small percentage of consumers have taken up the offer.

For the future growth of the Territory, in order to get new jobs and industries, the Government will have to offer incentives to industry to relocate or to set up operations here. Possibly the most effective incentive would be access to clean solar power. This would be most attractive to new industry as it would mean they would not have to meet the impost of caps and carbon emission targets, and they could market their products as eco-friendly.

Recommendation 1

We recommend that Territory 2030 sets ambitious and realisable targets for production of electricity from clean energy for the Territory grid, using large scale solar generation, as fast as practicable in the next 21 years.

NORTHERN TERRITORY URBAN DESIGN FOR 2030

At the heart of urban design for 2030 must be efficient use of energy. The current blueprint for the urban conurbation of Darwin in 2030 is three separate cities: Darwin, Palmerston and Weddell. Palmerston and Weddell will remain satellite cities, reliant on higher order facilities, and on employment and public infrastructure in Darwin. To avail themselves of these facilities the residents of the satellites will have to overcome the tyranny of distance and meet high and increasing costs of private transport.

To maximise energy efficiency, the 2030 urban plan can set urban growth boundaries and encourage development within existing urbanised areas to ensure a better use of existing urban infrastructure. A 2030 plan can set boundaries for mixed-use development in the Darwin CBD, medium-density development in middle-ring suburbs, and high-rise and sustained commercial development along the Stuart Highway, with transit development to reduce automobile dependence. The success of Weddell could be assured by utilising the Western Australian model of a transit led development of its satellite cities^{iv}.

At the crux of a viable, cost effective 2030 growth plan for Darwin is the relocation of Darwin Airport. This would create space for medium density middle-ring development that would allow Darwin to cater for a substantially bigger population without the cost and lead time of laying down infrastructure on a greenfields site. New middle-ring suburbs built around existing heritage sites and buildings within the airport lands could quickly accommodate people who want to live close to higher order facilities, and reduce their travel time to work.

Relocation of the Airport and the RAAF will require persuasive negotiation with the Australian Government. Unfortunately for these stakeholders, history has placed it on land now most desirable for urban consolidation, and to accommodate the growing city of Darwin, expected to grow quickly to 500,000. While the public cost of moving the airport may be enormous, this cost could well be substantially less than the long term private cost savings and public benefit of the move. There would also be the added benefits of reduction in noise pollution and in risks attached to the site of a major military establishment so close to the city.

Recommendation 2

We recommend that Territory 2030 sets clear targets for urban consolidation, including relocation of Darwin Airport and development of the current airport land into middle-ring medium density suburbs, definition of urban growth boundaries, and transit led development of Weddell.

NORTHERN TERRITORY TRANSPORT FOR 2030

One consequence of the current economic crises is a fall in demand for petrol. While we are now seeing historically low oil prices, as the international economies recover, so will demand and prices increase for both oil and gas.

Through the current downturn, international oil companies are reducing their financial exposure, winding down exploration and not increasing refinery capacity. Given that many of the major oil fields are now running low, and the cost of drilling deeper wells in new fields is growing, it is unlikely that low oil prices will last beyond the downturn, notwithstanding that consumption may fall as transport moves away from fossil fuels.

While heavy road transport will probably remain basically diesel powered up to 2030, we are beginning to see the end of the gas-guzzlers, SUVs and four wheel drives. These will be replaced by hybrid, plug in electric cars and some gas powered vehicles. In the US, car manufacturers are now being persuaded to produce energy efficient models, but while their change of direction may be swift, the actual replacement on the street will be slower.

Transport in Urban Areas

Urban planning for 2030 should provide for opportunity for Territorians in urban areas to reduce their dependence on fossil fuels and opt for public transport services. These services should also be aimed at reducing the transport disadvantage of Aboriginal Territorians living in the urban areas and providing ready access for them to education, employment, health services and social interaction.

The three cities in the Top End: Darwin, Palmerston and Weddell are linked along the spine of the Stuart Highway. The wide verges of the highway can be readily utilised for an exclusive public transport carriageway. Interurban public transport along this corridor could provide a fast, reliable service at regular intervals from early morning to late evening. Whilst the population densities are low, transit bus services could be used. Increased patronage over time could perhaps point the way to larger capacity solutions such as light rail. Immediate access to an effective public transport service would progress a transit led development of the new city of Weddell and as well, support development of villages, dormitory suburbs and commercial hubs at locations between the urban growth boundaries of the three centres.

A transit-oriented development (TOD) is a mixed-use residential or commercial area designed to maximise access to public transport, and often incorporates features to encourage transit patronage. A TOD neighbourhood typically has a centre with a bus station (train, metro or tram, as appropriate), surrounded by relatively high-density development with progressively lower density development spreading outwards from the centre. TODs are generally located within a radius of 400m to 800m from a transit stop, a manageable scale for pedestrians^v.

Individual subdivisions in Weddell and in other new suburbs should be designed to accommodate through passage of local bus services that will support provision of public transport links to the TOD.^{vi}

Recommendation 3

We recommend that Territory 2030 sets targets for implementation of inter-urban transit services, for development of a public transport corridor linking Darwin, Palmerston and Weddell and for transit oriented developments. Consideration should also be given to extending the inter-urban service to Royal Darwin Hospital.

Transport in Aboriginal Communities

The Australian, 2 February 2009, reported that in larger Aboriginal centres, where traditional owners agree to town lease arrangements, permit-free townships will be developed with access to roads and airstrips. Town leases have already been signed with several communities. These new towns and villages will be the ideal locations for new primary, middle and high schools to improve educational opportunities for young Aboriginal people. They will also provide job opportunities as other basic village services such as a post office, a motor mechanic, overnight accommodation for visitors, are developed.

The Australia Government Intervention, requiring many Aboriginal families to redeem vouchers in approved supermarkets in larger centres has already exposed the enormous transport disadvantage within Aboriginal communities.

Recommendation 4

We recommend that Territory 2030 takes a leadership role to ensure the development of transport services for Aboriginal Territorians living in regional and remote areas.

To support the development of new rural towns and villages, two forms of transport are required: development of school bus networks to bring children in from outlying communities around the new towns, and community transport to provide regular, reliable and affordable services for transport disadvantaged people to access shops and services in the town centres.

Community transport programs meet the needs of people who are socially, geographically, economically or physically disadvantaged. They can increase their access to services such as recreation, shopping, education, medical care and social services, and to increase participation in community life.

Community transport is usually provided by non-government, community-based organisations in situations where conventional passenger transport services are not available or not appropriate. In some instances services are government funded or subsidised. The primary focus of community transport is on the needs of passengers rather than on the operating requirements of transport systems.

The first community transport service in the Central West of New South Wales provided a fortnightly bus service to and from a network of villages around Bathurst, enabling in the first instance, elderly residents to come to town to shop, attend medical appointments and to continue to remain in their homes in the villages. The Bathurst Community Bus has continued its operations for over 30 years and the model has been taken up in hundreds of communities in all other States.

A Community Bus service in Roebourne, WA is supported by Rio Tinto. A Community Bus service in Brewarrina operates under a Shared Responsibility Agreement between the Aboriginal Community and the Australian Government. It addresses school attendance issues and is used to transport community groups to events outside the town including sporting events and camping/cultural trips.

In NSW transport authorities recognised that there was a need to ensure effective community transport services were available, especially in rural and regional communities, since this was often the only transport option available to those who were disadvantaged.^{vii} Transport NSW minimised impediments to community transport volunteers and addressed road safety needs by requiring particular classes of driver's licence for particular types of vehicle categories, that included size and weight of vehicles.^{viii}

In the mid 1990's Transport NSW developed and implemented operator accreditation standards for community transport groups using a bus (that is, a vehicle which seats more than eight adults) and which received Home and Community Care Program, the NSW Community Transport Program and the Area Assistance Scheme funding.

NSW operator accreditation was designed for community transport groups in recognition of their 'not-for-profit' status and the difference in service provision between community transport and commercial public passenger services. Accreditation standards for community transport operators are less stringent than those for bus operators and could provide a model for training and accrediting Aboriginal community bus drivers in the Territory.

Accreditation should also include a school service operator category to enable community members to be licensed, contracted and subsidised to drive children to and from school.^{ix}

Recommendation 5

We recommend that Territory 2030 endorses the principle of provision of school and community transport for rural and remote communities across the Territory and sets targets for their implementation.

BEYOND 2030

As we go into a changing world we cannot know or predict what exogenous and dynamic factors may appear that have not been incorporated in our planning. In planning for 2030 we cannot simply use a growth factor and apply it uniformly. There must be recognition of existing forces and uncertainties and as well, emerging forces.

The most pressing current uncertainty is how long the current global economic downturn will continue. It is possible that Australia could go into prolonged recession or depression. We know that international banks are still in difficulties, especially in providing the funds needed to undertake large scale projects. We are seeing many of our large mining companies looking to foreign owners to provide equity to replace existing loans.

Reduced taxation revenue and GST payments to the States over a prolonged period will adversely effect government ability to provide funds for capital works as well as recurrent expenditure. A consequence of this for the Northern Territory is that, notwithstanding multiple stimulus packages, the capacity of the Territory Government to bring an ambitious program for 2030 in on time may be constrained. The target time frames for the desired outcomes of Territory 2030 may need to be extended.

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ENDNOTES

- ⁱ Quotations and targets from: *Obama and Biden New Energy for America Plan. 2008.*
- ⁱⁱ In central California, Ausra is developing a 177 megawatt solar thermal plant that will create 350 skilled jobs on-site during construction, and an additional 100 permanent jobs in the area.
- ⁱⁱⁱ Germany, with far less solar radiation than the Territory, has subsidised development of solar power plants by private enterprise. It also subsidises domestic photovoltaic units, buying back the excess produced at levels that provide an incentive for people to install them. People in Germany now rent other people's rooves to produce an income from solar power. The cost of Government support to the renewable producers is charged to all consumers in their tariff.
- ^{iv} The WA New Metro Rail project links Perth with satellite cities and dormitory suburbs. The Premier, Alan Carpenter said at the opening of the Mandurah section on 24 December 2007:
This railway becomes part of a 105km public transport spine for our city, from Clarkson to Mandurah, helping thousands of people link more easily with friends and family, jobs, education and enjoyment. The new line is expected to carry 50,000 passenger journeys and take up to 21,000 cars off the Kwinana Freeway each working day. It will also create new, less car-dependent residential areas and help generate new commercial development along its route.
- ^v TODs can be seen across the Singapore Mass Rapid Transport system that circumnavigates the island; in the new towns developed in France, Sweden and Japan after the Second World War, in communities built on reclaimed land in the Netherlands and in exurban developments in Denmark.
- ^{vi} Numerous subdivisions, for example in Western Sydney, use curvilinear designs and cul de sacs that prevent bus service access.
- ^{vii} In NSW more than \$36.5 million in recurrent funding has been allocated for 2008-2009 to 134 community transport service providers under the Home and Community Care Program, the NSW Community Transport Program and the Area Assistance Scheme. See NSW Ministry of Transport Website. Local and Community Transport Programs page: <http://www.transport.nsw.gov.au/lact/programs.html>
- ^{viii} See Transport NSW *Review of the Regulatory Framework For Community and Courtesy Transport Services in NSW Report*. May 2002.
- ^{ix} In rural areas of other States school bus operators can be local farmers/farmers' wives/residents who have their drivers license and their vehicle certified and regulated for that purpose.