Secretary, Committee on the Northern Territory's Energy Future Via email: <u>contef@nt.gov.au</u>

#### **Electricity Pricing Options**

Thank you for the opportunity to provide a submission to the Northern Territory Parliamentary Committee on Energy Futures Inquiry into Electricity Pricing Options with the terms of reference:

- a. The advantages and disadvantages of different electricity tariff designs;
- b. Factors to be taken into consideration in the design and implementation of electricity tariffs; and
- c. Options for Feed-in-Tariffs for renewable electricity generation.

While my interest and perspectives regarding this submission are informed by:

- having held the position of Director Energy Policy and Climate Change, Department of the Chief Minister, Northern Territory Government from 2010 until 2012,
- Research Fellow, Charles Darwin University.
- Freelance Consultant and sub consultant, Jacobs SKM.

The comments I make in this submission are my own and do not reflect the position of these organisations.

Sincerely, Vikki McLeod 17 OCT 2014

### Introduction

The NT Governments needs to be congratulated on its commitments outlined in the "Northern Territory Electricity market Reforms: Information Paper" published by the Department of Treasury and Finance, February 2014.

By implementing the blueprint for reform, will bring the Northern Territory in line with other Governments and the National Electricity Market and reforms.

Noting that from 2015, the NT intends to adopt all the applicable functions of the National Energy Customer Framework (for example, the consumer protection, retail competition and performance monitoring functions) other than retail price regulation.

The stated intention of the Northern Territory Government to retain the power to set regulated retail tariffs is a caution that is reasonable in the short to medium term.

### National and Global Mega Trends

In addressing the terms of reference it is also useful to take into consideration the Global Mega Trends in energy consumption, technologies and markets.

Such trends through the implementation of policy, price signals and incentives:

- Decarbonisation of the electricity sector and the Increasing demand for gas in the short to medium term;
- Increasing uptake on Solar PV and also energy storage in the near future with a reasonable expectation that the domestic sector will be the first to "succeed from the grid".
- Improved energy efficiency of technologies resulting in reduced demand and in some declining demand and in some cases stranded assets.

While the Northern Territory is unique in a number of perspectives, it is worth noting some of the broader National Trends regarding electricity consumption and pricing:

- All Australian jurisdictions have experienced an increasing and hyperinflationary trend in electricity pricing.
- As a result of the current National Energy Market regulatory model the key drivers of these increased electricity prices has been investment in the electrical networks.

### Network Pricing

The Australian Electricity Market Commission (AEMC) has conceded that in making price determinations the previous network regulation rules did not get the balance right in relation to the regulators ability to scrutinise the capex programs of the network businesses and the available evidence.

High quality of supply standards provide little incentive for network owners to change the business model of building networks to meet peak demand. Network design and investment is "belt, braces and a piece of string" and as a result we all have ended up paying more.

There is also no incentive or demand management price signal to use the network economically and efficiently.

Currently consumers who use less electricity at peak times and more at other times, are subsidising consumers who use a lot of power at peak times (for example air-conditioner users). This subsidy from the low peak energy user to the higher peak time consumers is estimated to be around \$150 a year. (Reference: Queensland Competition Authority).

The Grattan Institute report "Fair Pricing for Power"<sup>1</sup> explores these issues and notes that:

• Demand Management trials suggest that better tariffs could reduce household peak demand by between 20 and 40 per cent.

While the NT has adopted a revenue cap on the network pricing, the Queensland experience would demonstrate this is not sufficient protection from overinvestment and network price increases.

While electricity regulation is complex, what is generally agreed at both the state and the Australian Government level is that there is a long overdue need for reform.

### Demand Management and Network Pricing

The general consensus of industry papers and reports, is there is a need for more cost reflective pricing.

Many Distribution Network Service Providers (DNSPs) around Australia are moving towards demand based tariffs and as a way to reflect the actual cost structure to customers. This is in response to a number of factors including:

- Rising cost of energy and network charges.
- In an environment of Revenue Cap on Network Service Providers.
- The Introduction of the Australian Energy Market Commission (AEMC) Rule Change.
- Enable more efficient decision making by customers to reduce their call on networks during peak periods.

Ultimately, a demand or capacity based tariff is intended to send a cost-reflective price signal to customers. It communicates the impact their demand is having on fixed network costs and is an incentive to manage their demand in order to save money.

<sup>&</sup>lt;sup>1</sup> <u>http://grattan.edu.au/wp-content/uploads/2014/07/813-fair-pricing-for-power.pdf</u>

A A demand or capacity based tariff also improves the utilities revenue recovery capability by diverting volume driven revenue to a fixed charge and demand driven revenue.

The electricity industry as a whole, is reviewing pricing models following issues with the introduction of domestic roof top PV and seeking demand reduction, equity and the right investment signals. It is most likely that a new tariff will have a demand component.

This strategy will provide a better basis for navigating the challenges of emerging distributed energy technologies such as batteries and electric vehicles, and declining energy consumption caused by increasing penetration of solar PV and energy efficiency.

## Equity and Fairness

Equity and fairness of energy pricing is a major issue. Currently customers with low energy needs during peak demand periods are subsidising those with high energy needs such as consumers who operate air conditioners or other major appliances during peak demand periods.

Higher electricity price impacts have a disproportionate impact on low income households. These householders also have a lower capacity to hedge against increasing electricity cost as they are not able to afford alternative sources of energy (such as Solar PV) or energy efficiency measures (such as upgrading to more efficient fridges).

Apart from the excellent work that Coolmob is undertaking with low income households, there is very little energy use analysis or energy demand data collected in the Northern Territory.

Coolmob are reporting high levels of energy poverty and that low income households a face with a choice between paying the electricity bill and putting food on the table.

The capacity for the NT to ascertain the impacts the introduction of tariff changes – either demand reduction benefits or equity and fairness and the usage of the Network – are also limited.

### Gaps in data and market understanding

A commitment by the NT to principles of economic regulation are commended, however this needs to be supported by more data and understanding of energy consumers and the constraints of the NT market.

The true cost of electricity generation and cost drivers are not well understood. And as a consequence the economics of energy supply and demand and what it means for NT electricity bills are not well understood.

In the absence of this data it is not possible to identify:

- Customers who are vulnerable and in energy poverty or unable to manage load eg associated with medical equipment.
- Other impacts which may present with political consequences.

While it is reasonably anticipated that the current process of separation of Power and Water Corporation will result in improved data sets, there is:

- An absence of understanding of downstream energy use and demand side policy in the NT.
- An absence of published data on network constraints and interactive energy demand metrics.

Data which is needed to monitor investment, especially in areas where the network is under strain and allowing network businesses to identify investment alternatives to network investment and pass on the savings through lower electricity prices.

The recent Fuel summit illustrated that NT consumers are not as sensitive to fuel price increases as economic rationalists would reasonably expect. While this may be an anomaly of the liquid fuel market particularly for corporate customers, the caution for the NT is price elasticity and a small market with too few competitions and combined with a lack of data and therefore understanding of demand side dynamics.

The NT Govt from the perspective of Equity and fairness needs to have the awareness of how energy market reforms may result in disproportionate effects on a customer or demographic cohort – either increased costs or abnormal cost reductions. End use energy and understanding of how energy is used and downstream data is the key.

Queensland Government response to the Interdepartmental Committee on Electricity Sector Reform is a good summary of these issues and includes recommendations to readdress. <u>http://www.dews.qld.gov.au/ data/assets/pdf\_file/0007/78568/queensland-government-response-to-idc-report.pdf</u>

# Northern Territory Context

There are a number of emerging issues in the NEM states which are resulting in concerns regarding sustainability of electricity businesses.

These risks are priced and presenting as higher electricity pricing and include:

- Pricing and revenue and the network business model of operating under a Revenue cap.
- Cross subsidisation between customer groups.
- Consequences of the AEMC ruling volumetric pricing and Long Run marginal Cost (LRMC) effecting the price signal in the absence of vertical integration that is a separated electricity market model.
- Likelihood of TUOS (Transmission Use of System) charges from TNSPs (Transmission Network Service Providers) will migrate to include a demand component.

- TNSPs are beginning to pass through a quasi demand charge to DNSP. Next will be the long term LMRC of generators passed through to DNSPs and customers.
- Reduced rate of growth both (energy and demand). Reasons for reduced growth are not well understood but are a combination of the economic factors, growth being offset with business sector downturn, energy efficiency and uptake of Solar PV.

The NEM is experiencing a window of opportunity while growth in demand is flat to address the failings for the disaggregated market.

### Diversity of Fuel Sources and Energy Efficiency as a means to promote Energy Security

To my knowledge the Darwin Katherine Integrated electrical system has experienced two significant energy security events in the last six months.

Taking into consideration the Northern Territory electricity market characteristics and constraints, in summary:

- Main source of NT electricity generation is from Gas.
- Increased demand for gas both export and domestic will impact on the NT gas demand and pricing particularly if the NT Gas link connects with the Eastern Australia gas market.
- While Solar Water Heating is used in the order of 60% of NT households, the uptake of Solar PV is not matching the uptake of other Australian jurisdictions.
- Less than 2% of electricity is estimated to be from Renewable Energy (McLeod, 2011).

And broader Australian energy dynamics

- Australia's gas prices are rising sharply. Over the last five years, network charges have driven up retail gas prices by 36% in real terms.
- Next year, liquefied natural gas exports from Queensland will increase with the expectation that domestic gas prices will increase by at least 100% flowing through to Australian customers, both households and businesses. (Grattan Institute, National Institute of Energy and Resource Economics)

Taking these factors into account, the NT Government would be prudent to consider the introduction of policies and again greater understanding based on data, which are specifically targeted at energy security.

The NT does not have a diversity of fuels or the market maturity of other states. In the NT the only commercially viable alternatives for householders and businesses are through Solar PV and energy efficiency. Large Energy Users in Darwin are already considering large Solar PV roll out and combined with energy efficiency and load shifting measures. However the average business or householder does not have the capacity or information to be able to make sophisticated judgments.

Policy intervention in the form of the creation of investment environments and / or supported by price signal would be a means for the NT Govt to promote both energy efficiency and a diversity in fuel supply and result in improved energy security and lower electricity prices for businesses and householders.

In other states this has ranged from market based renewable energy, gas and energy efficiency markets through to direct action. Some of these schemes are a feed-in-tariff, energy efficiency targets or obligations, gas development and infrastructure targets.

### <u>Gas</u>

In other states such as Victoria where there is a diversity of fuels, the high price of gas would result a switch away from gas to other available options. In the eastern states upward price trends could result in a switch away from gas and it may see a situation in which gas is priced out of the market.

In the case of the Northern Territory, the gas used domestically has the opportunity cost of not being sold into the export market or interstate in the event of the NT Gas Link to the eastern states.

In the Northern Territory where there is not currently the diversification of generation fuel alternatives makes the NT particularly vulnerable. Again the vulnerability to gas price rise does raise the question if the NT should diversify its fuels and what a government investment incentive may look like: renewable energy and energy efficiency being the only current commercial alternatives even if only to augment gas, diesel or heavy fuel oil generation.

A reminder, courtesy of the Grattan Institute, of the impacts and fall out from the Longford gas explosion and the ensuring Victorian gas crisis:

 <u>http://newsstore.fairfax.com.au/apps/viewDocument.ac?page=1&sy=nstore&kw=%22g</u> <u>as+supply%22&pb=age&dt=enterRange&dr=1month&sd=01%2F01%2F1995&ed=31%2F</u> <u>12%2F2005&so=relevance&sf=text&sf=headline&rc=200&rm=200&sp=adv&clsPage=1&</u> <u>docID=news981005\_0358\_8989</u>

Notwithstanding the domestic gas reservation policy of Western Australia and the consideration of the NT to adopt a similar policy, there is a growing consensus between policy makers, gas industry and economists that gas reservation policies actually impair energy security, local gas supply and affordability, rather than improve it.

#### Complementary Policies

In the context of managing the energy security and price exposure risk, it would be appropriate for the NT Government to introduce complementary policies to encourage diversity of fuel supply and result in energy security and energy affordability.

These complementary policies may be in the form of:

- Policy options to create investment environments for Renewable Energy and energy efficiency. This could be in the form of Feed in Tariff, demand management tariff or other mechanisms.
- Assistance to and protection from Energy Poverty and protection. Programs such as Fridge swap out, Audits and retrofits.
- Mechanisms to enable electricity consumer can manage their cost exposure risk to avoid peak use times, for example.

The strength and design of these complementary policies needs careful consideration, so not to introduce cross subsidisation or other unintended consequences. Consideration as to how complementary policies might interact with the Australian Government policy such as the Renewable Energy Target which is currently under review.

#### <u>Summary</u>

The Northern Territory Government is to be congratulated on:

- Commitments to energy market reform of the electricity sector.
- Controlled and staged deregulation.

There is a need for complementary policy by Government to:

- Ensure cost transparency and cost bench marking in the market.
- Collect data and promote the understanding of how energy is used, by whom and what on and to support best practice policy.
- Create investment environments and price signals to promote energy security and affordable and reliable energy.
- Encourage competition in the market but also encourage competition for network services, energy services, fuel options and most importantly energy efficiency.
- Protect those in energy poverty. Consider policy initiatives such as Fridge swap outs, energy efficiency targets and initiatives for all sectors that is householders, commercial and industrial as a risk mitigation strategy and a means to reduce vulnerability to electricity price increases.