

## **Committee on the Northern Territory's Energy Future- Inquiry into Electricity Pricing Options**

### **Territory Generation Submission**

This Submission has been prepared by Territory Generation (T-Gen) identifying a range of generation pricing options from Generation's perspective with the merits associated with the options. It also covers T-Gen's concerns in relation to the potential revenue impact created by the uptake of alternative energy sources (solar) in the Territory.

#### **Options of Electricity Pricing Structure**

##### **a) Current Pricing Structure (Flat Rate Pricing and Time of Use Pricing)**

Currently, customers who do not have a smart meter installed are being charged a flat rate regardless of when electricity is consumed. The advantage of this pricing methodology is simplicity and easy to understand. However, it does not provide incentive for customers to shift loads to shoulder and off-peak periods, which presents a difficulty for the system controller to manage the system load.

If a smart meter is installed, customers have the option to consume energy based on different rates throughout the day. These rates are divided into two separate bands known as on-peak and off-peak. Under this pricing structure, customers are incentivised to shift energy usage from peak period to shoulder/off-peak periods to reduce energy bills. Consequently, the load shifting management may be able to defer generation capacity augmentation, and avoid increasing costs of generation.

T-Gen currently calculates wholesale generation prices for contracted customers on an individual customer basis and for the franchise market as a whole. This has become difficult to administer since the full retail contestability was introduced in April 2010.

##### **b) Future Pricing Structure (Real Time Pricing with Separate Capacity Charge)**

The current wholesale energy arrangements are characterised by generation and retailers directly transacting with each other through bilateral agreements, rather than through a market pool arrangement. This is the primary difference between the NEM and the arrangement in the NT.

To drive efficiency and transparency, T-Gen supports the Government's direction to develop a wholesale electricity market based on a market pool pricing arrangement. This would ensure that the wholesale energy prices paid by customers are similar to those that would occur in a competitive environment.

The pricing structure under the concept of the wholesale electricity market comprises an energy-related real time trading price and demand-related reliability charge. This requires the entire generation supply chain to have a comprehensive understanding of the underlying production costs of supply and the costs associated with ancillary services. It is believed that the concept of the wholesale electricity market would provide greater transparency to the electricity customers and improve generation efficiency.

## **The Relationship between Renewable Energy (Solar) and Power System Security**

The growth in the installation of rooftop photovoltaic (PV) systems in the Territory is likely to impact on T-Gen's system operations and potential system security. The level of system spinning reserve will still be required to be maintained as the system demand can vary widely depending on weather conditions (i.e. clouds). Also, while the energy demand has shown a downward trend from previous years due to increasing solar energy, T-Gen is still required to maintain an N-2 planning criterion in order to meet the system peak demand.

The concept of the capacity charge is introduced in the initial design of the NT wholesale electricity market. This charge is determined based on customers' contribution to the peak demand on the generation system. It allows generators to maintain the required capital to ensure customers can have larger than normal supplies of energy available to them at a moment's notice due to the intermittent nature of their PV supplies.