# Briefing: Energy Supply and Climate Change in SA

## Overview

**Purpose**

**T**o demonstrate that traditional energy suppliers to ratepayers – will double and treble power costs over the next three years with no mitigation of climate change.

**T**hat Councils have an alternative (renewable energy) power option that addresses both costs and climate change.

**Audience**

Councillors, Staff and Ratepayers

**In this document**

This document contains the following topics.




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# Background

**Description**

From May 16, 2006 South Australia's electricity system has been operated by an array of Australian and overseas businesses. It was once entirely operated by the SA Government. Victor Harbor draws power via one line from McLaren Vale.

ETSA's decision to spend around **$500** million over the next three years upgrading its infrastructure - more than its current annual after-tax profit - demonstrates the importance of infrastructure. As its customer base edges towards 800,000, the ETSA network - much of it 50 years old and at the end of its lifespan - simply will not cope with demand from a power-hungry society flicking the switch on increasing numbers of electrical gadgets.

**Problem**

Ten companies, many foreign, marketing and selling electricity to 750,000 consumers plus five, providing *competition* for 350,000 gas customers. Infrastructure has been neglected and none of them predicted Climate Change. These private companies pay their executives million dollar salaries and will continually increase energy costs to ratepayers while simultaneously demanding ratepayer subsidies to fix aging infrastructure.

**History**

Climate change will heavily impact energy economics and necessitates a rethink of traditional energy supply. In January 2006, there were 383,000 electricity customers, or 51 per cent, and 151,000 gas users, or 41 per cent that had switched to market contracts in search of lower energy bills. Energy Supply Association of Aus (ESAA) says that energy loads across Aus will increase 20% between 2004 and 2014. Qld, NSW and Vic will lead demand. They already account for 80% of electricity nationally. This will be 82% by 2014. ETSA had 807,553 users as at August 09.

**Urgency**

ESAA says **$25bn** is needed to meet demand. Coal fired power stations provide 84% of generation output while gas fired plants are lifting their share 2% to 9%. Gas suppliers share is set to double between 2006 and 2030. Their emission rates are 40% of the greenhouse gasses emitted by coal fired. Business consumption is the bulk of power use at 70% of output vs. domestic at 28%; prices will increase as investment in new plant soars to meet demand. As it is nearly all private industry and they are slow to spend on infrastructure like delivery systems, rises are inevitable – unless renewable energy power sources are deployed, i.e. solar/wind installations at local levels.

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**Potential impact**

35% of the state's high-voltage transmission infrastructure is up to 60 years old and owner-operator ElectraNet has identified the need to spend almost **$800** million over the next five years to ensure it can meet demand. ETSA chief executive officer Lew Owens believes the average residential bill of about $1200 a year is likely to rise by about $20 to cover the cost!

Climate change is not addressed nor alternative energy methods. Consumers will wear the costs of emission trading imposts.

**Large Scale Wind Farms**

The Essential Services Commission had made a draft decision imposing tougher licensing for SA wind farms. Licence conditions include technical standards so SA wind farms would be more robust and better able to withstand problems such as a spike or sudden drop-out in the system – called "fault ride through". While capacity is high, wind farms mostly deliver about a third of their capacity annually and can only be relied on for about 10 per cent of their capacity to meet peak demand at the highest spot price.

739MW of capacity is extant - another 128MW is under construction.

Large scale wind farms rely on the traditional model of massive plant located distantly and pumping product through the grid at the highest spot price.

# Key Issues

**Overview**

- Decrepit infrastructure
- Continuing price increases – what competition?
- Foreign ownership – shareholder focus not customer e.g. TRUenergy's parent company, China Light & Power. Simply Energy is Victorian
- Greed not climate change concern driving acquisition

**Decrepit infrastructure**

An ETSA public consultation document says many of the network's substations, transformers, poles and wires were constructed in the 1950s and 60s with a design life of 40 to 50 years. The Victor Harbor Single Wire Earth Return (SWER) feeder, supplying the coast via a sub-station in Mclaren Vale is under capacity. Diesel generators are to be installed @ a pa running cost of $4m.

**Continuing price rises**

AGL applied to raise South Australian domestic power bills by nearly 5% from July 2008. That adds $13 to the quarterly bill for an average household, increasing the charge to about $293. Average households which also have electric hot water systems face an increase of $16 per quarter, or a total bill of $348. The application goes before the Essential Services Commission.

**Foreign ownership**

ETSA, the only electricity business retaining a link with the past via its name, carries electricity to SA's homes and businesses through a network of 393 substations and 80,103km of power lines. It is 51 per cent owned by Hong Kong's Cheung Kong Group and 49 per cent owned by Spark Infrastructure, which listed on the ASX in December 2006.

TRUenergy, owned by Chinese conglomerate CLP, and International Power, owned by British multinational International Power PLC have gone begging to Canberra for more compensation – triple the CPRS compo to $10b over the next five years.

Alinta Energy, (was Babcock and Brown) owners of SA's Flinders power station is debt laden. It needs to repay 11 banks $2.7b beginning March 31, 2011.

**Greed driving acquisition not environmental concern**

ElectraNet operates SA's high-voltage, large capacity electricity transmission network and the 500-megawatt inter-connector from Victoria. ElectraNet's owners included Westpac's Hastings Funds Management, Malaysian company YTL Power Investments and Queensland-based Harold Street Holdings. Queensland's Powerlink, ABB and Macquarie Bank formed a consortium and paid $938 million for ElectraNet in 2009. There has been no salary decrease for any of these CEOs.

# Summary and Next Steps

**Summary**

Clearly - if our community relies on traditional energy companies we face increasing energy costs with no corresponding means of addressing climate change. When emission trading schemes (ETS) are introduced, further costs will be passed on to ratepayers.

An opt in/out program of retrofitting existing ratepayer houses and key buildings with solar panels augmented with wind turbines provides a solution that short term - lowers power bills and longer term - decreases the city's carbon footprint and its reliance on traditional energy.

This type of program was first described by Dr Andrew Blakers of the Australian National University, Canberra in 2002. The Shire of Towong is the first Council to implement it and at least 40 other councils are looking at the plan.

**Decisions actions**

- Evaluate existing Council renewable energy operations. (Towong)
- Brief Council
- Brief Ratepayers
- Write renewable energy policy and council plan
- Let tenders for partners, finance and authorised solar/wind installers
- Institute Council led program of retrofitting sustainable energy devices
- Investigate university R&D efforts to develop further sol/wind programs

**Next steps**

- Council adopts policy
- Council informs ratepayers
- Council institutes renewable energy program
- Council ensures energy program is ongoing

**Incentives need to be supported by state and Federal Govts.**

PVP systems can 'upload' electricity directly onto the grid. This proven technology is being extensively utilised overseas, with a significant commercial by-product of job creation in the electrical industry. In Germany, an estimated 120,000 new direct and indirect jobs have been created to install PVP systems and grid connections.

Such success is based on gross feed-in tariffs being paid to owners of grid-connected PV systems - paid for every kW produced, **not just the surplus power they don't use.** The net feed-in tariff - is what all Australian states (except NSW) do or are proposing, which is proving to be insufficient incentive for the community to move en masse to PVP technology. Only the ACT and Northern Territory offer gross feed-in tariffs, where demand is appreciably higher than elsewhere in Australia.