

Briefing: Energy Supply and the Fleurieu Peninsula

Overview

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

That 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.

Topic	See Page
Background	2/3
Key Issues	4
Summary	5

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- Reference Documentation**
- Projected Distribution Network Constraint – Electricity Supply to the Fleurieu Peninsula – ETSA – March 2010.
 - The Economics of Solar Power – McKinsey – 2008.
 - Smart Grid Report – CSIRO – March 2010.
 - Demand Management Program – ETSA – June 2010
 - ElectraNet's 2007 submission to the Australian Energy Regulator citing 35 per cent of its infrastructure was between 40 and 60 years old - one of the oldest electricity networks in Australia.
 - Sustainable Public Lighting – LGA – August 2009
 - Feasibility Study of the Application of Integrated Solar and Wind Power Plant in the City of Victor Harbor – Adelaide University – May 2010

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 via McLarenvale.
- 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 – just 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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Background, Continued

Potential impact 35% of the state's high-voltage transmission infrastructure is up to 60 years old and operator ElectraNet has invested **\$800 million** in transmission in SA since 2000. CEO Ian Stirling expects at least a **\$2 billion** capital injection in the next 10 years.

ElectraNet owns 6000 circuit kilometres of wires and 79 substations in SA. It generated revenue of \$300 million last financial year and represents about 10% of the power price paid by South Australians.

ETSA CEO, Lew Owens believes the average residential bill of about \$1200 a year is likely to rise by about \$20 to cover the cost.

Large Scale Wind Farms The Essential Services Commission licenses 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. 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.

Millionaires Want More The State Government and four of SA's major energy firms - Origin Energy, Pacific Hydro, Transfield Services and Acciona Energy filed a Macquarie Capital study claiming three wind zones on Eyre Peninsula and one in the state's north have potential capacity to deliver 30 per cent of Australia's renewable-energy target.

The report suggests that taxpayers can pay the necessary \$4.5 billion investment as a "simple federal regulatory change would unlock billions of dollars in investment" which would be rolled out between 2015 and 2018. \$1.8 billion would be spent in SA.

It is easy to see why Macquarie Capital is involved, they bought ElectraNet in 2009.

Key Issues

Overview	<ul style="list-style-type: none">• Decrepit infrastructure• Continuing price increases – what competition?• Massive infrastructure cost• 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 McLarenvale sub-station 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	<p>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 borrowed \$250m to cover a \$225m debt due Dec 2010.</p> <p>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. (Was looking at voluntary administration)</p>
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.

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 (Vic) was the first Council to implement it and at least 40 other councils are looking at the plan. Victor Harbor implemented its 1st program in 2009 and the LGA is now following with a similar program across several pilot councils in 2010.

Decisions actions

- Evaluate existing Council renewable energy operations.
- 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
- Council encourages where possible local turbine/electronics manufacture

P.S. 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.

Renewable Energy incentives need to be supported by State and Federal Govts.

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 most 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.