SENCE Research Project <2> SS2011 – B. Eng. Paul Lais

Project Topic: Market Trend Analysis for PV Applications in Australia as it relates to Business Model and Products, Conergy Australia Pty Ltd

Project Scope

This project report was written as a result of an internship, which is part of the postgraduate course Sustainable Energy Competence in Germany.

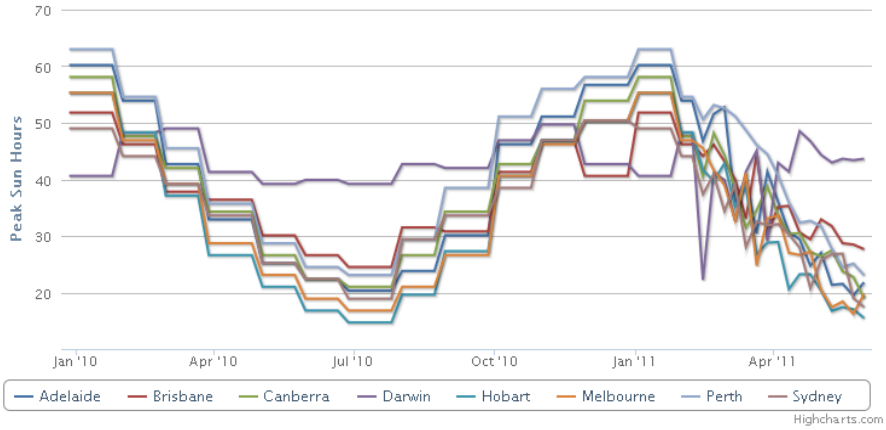
The Project was completed at Conergy Australia Pty Ltd at its headquarters in Perth. The company is an overseas branch of the German Conergy AG in Hamburg which was founded in 1998, and is one of the leading solar companies worldwide.

The Australian PV market has been pushed with Feed-in-Tariffs and financial incentives over the last years. Many new solar companies were formed in these years, while Conergy is already on the market since 2005. With many years experience Conergy was able to establish their products on the market and to become one of the market leaders in Australia.

As the market situation is changing quickly in Australia, Conergy wants to be prepared for the upcoming years. This market trend analysis has been created to summarize the current situation on the Australian market, to show the most important events on other big markets and to find the key stakeholders and their possible influence to Conergy's business in Australia.

Finally, the report gives a recommendation which direction Conergy should go to keep growing over the next years. This includes a business model, strategic products and promotion that should be done to increase market share and to boost the PV market in general.

One of the main challenges is that Australian Feed-in-Tariffs (FiTs), rebates, utility conditions, legislation and incentives differ from state to state. In addition, the peak sun hours generate a big difference in every state. Figure 1 shows an example from the year 2010.



* This data is supplied by the Australian Bureau of Meteorology.
* 'Peak sun hours' is the equivalent number of hours per day when solar insolation averages 1000 watts per square meter.

Figure 1 Peak Sun Hours in Australian Capitals

Australia's Electricity Grid

As Figure 2 shows, Australia has three major electricity grids which are not connected to each other:

- The National Electricity Market links the whole east coast and South Australia.
- The Western Australian grid surrounds Perth, a few cities and towns in southwest and connects some remote mining towns.
- The Pilbara local grid serves a big mining area in the north-west.

(Thorogood, 2008 http://www.greenbizcafe.com.au/?p=165)

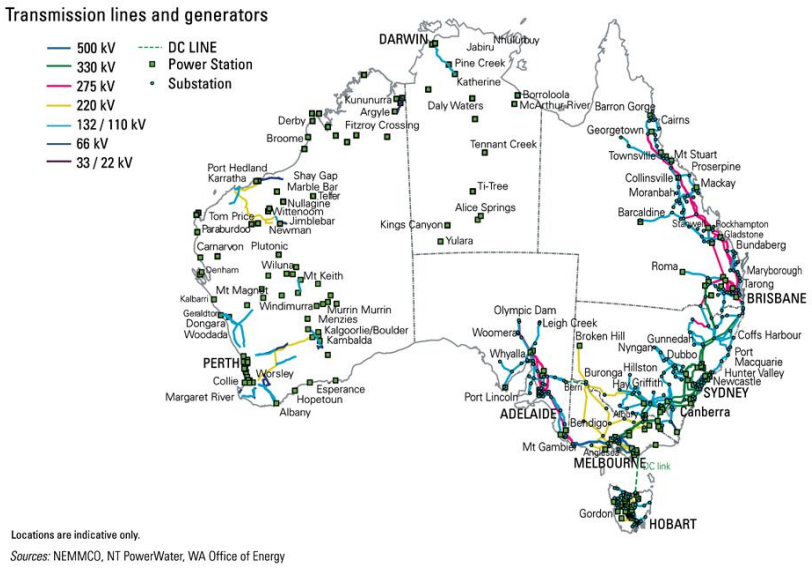


Figure 2 Electricity Grids Australia as of April 2009 (GENI Foundation: http://www.genifoundation.org.au/geni-facts.html)

The low density of transmission lines makes it even more complicate to build up commercial PV power plants. Only places with surplus grids can handle new power plants without big investments in the Australian electricity grid.

The National Electricity Market is the biggest grid in Australia with most consumers and where the most power is necessary. Big amounts of commercial power plants would have the highest effect if they would be connected directly to this grid.

Charts and Statistics about the Australian Market

The following charts and statistics are useful to show a brief summary of the current Australian market. Figure 3 shows a chart with Australian population, electricity demand and the current installed PV capacity in percent. The three biggest markets are NSW, VIC and QLD. These are the markets where Conergy should focus most on.

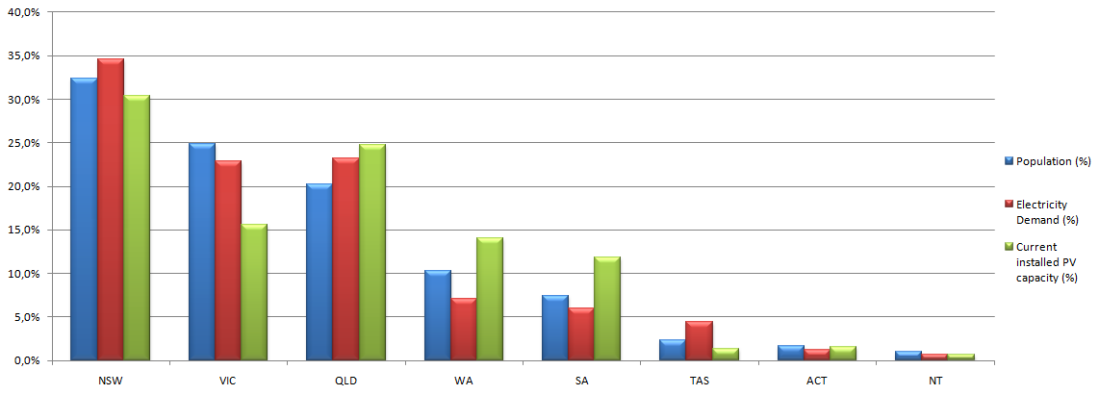


Figure 3 Chart of population, electricity demand and current installed PV capacity in per cent

Figure 4 shows two pie charts with the electricity demand and the installed PV capacity per capita. ACT, NT and WA have the lowest demand for electricity per capita. TAS has by far the biggest demand. In addition, they have the lowest installed PV capacity at the moment.

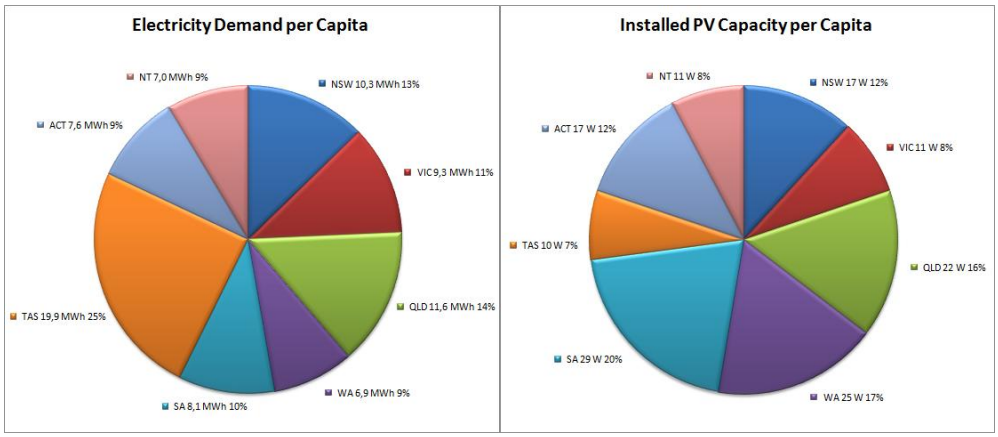


Figure 4 Electricity demand and installed PV capacity per capita in Australia

Figure 5 shows the installed capacity as of 2010 and the goal for the year 2020 for Australia, Germany and the EU. Unfortunately, there is no goal for the Australian states. The value for Australia is based on 4.5 GW, which was listed as a goal in the APVA newsletter on 15th June 2011.

The value for the EU is based on 21 out of 27 countries. The other six countries do currently not install PV systems and have no goal for the year 2020. Therefore, the EU value is dragged down by these six countries.

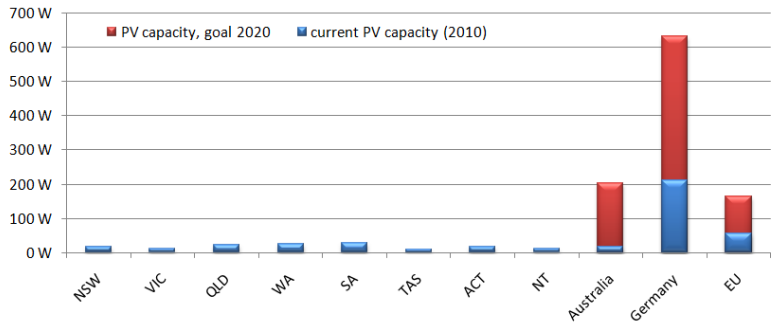


Figure 5 Installed PV capacity per capita in 2010 and goal for 2020 in Australian states, Germany and European Union

Summary

Currently the Australian market is unstable and without much support. FiTs and Renewable Energy Certificates (RECs) are changing irregularly, governments are afraid to lose voters and the Australian Photovoltaic Association (APVA) is too small to have a big influence on the market. Similar to the events in Spain, where PV installations exploded in 2008, the Australian market is currently growing more than expected. Conergy must be prepared for reductions in FiT.

Many other countries seem to be entering the PV market over the next years; therefore a further price reduction is expected.

The APVA needs more support to become more powerful and to help the industry. 2010 and 2011 are good years for the PV market but the unclear future makes it hard to invest in Australia. After long discussions, the carbon tax was announced in July but because of several protests it might be blocked.

To improve the situation on the market and increase Conergy's market share, more attention should be payed to the key stakeholders. This includes especially the installers and dealers. They should be supported, informed, trained and advised. Conergy should stay in contact and give them reasons to prefer Conergy's quality products.

Commercial PV power plants will get more important, soon. Conergy should start to specialize in this business to be one step ahead of competitors.