



## Renewable Energy – Investing in the Future

Around the developed world demand for electricity is either static or falling. In Europe and North America demand has been flat for the last few years, yet both areas are investing significantly in new renewable energy generation.

All forecasts point to substantial growth rates in renewable electricity generation, due to initiatives that combat carbon pollution from CO<sub>2</sub> emissions in OECD countries and encourage economic expansion powered by renewables in developing markets. Why then is there a pause in renewable electricity development in New Zealand?

The Fukushima Nuclear Plant disaster in 2011 strengthened the German drive towards renewable energy development. In Germany, renewable energy sources are driving lower wholesale power prices. Even as one of the most heavily industrialised countries in the world, Germany is currently on track to get to 35% renewable sources of electricity by 2030 and 80% by 2050, with CO<sub>2</sub> emissions falling to 30% and 80% below 1990 levels.

A similar story can be told about Australia, where falling electricity generation emissions have more than offset growth in carbon pollution from the transport sector for the last four years. Research from the Australian Energy Market Operator found Australia could shift towards 100% renewable energy for a similar cost to using fossil fuels. In addition, analysis by the University of NSW compared the likely costs of pursuing 100% renewable power by 2030 with a range of coal and gas options and found a shift to commercially available clean energy would be cost-effective and relatively low-risk.

In the US last year, more wind generation was installed than all types of gas generation, including new shale gas. In addition, US coal use was at its lowest since 1983, resulting in coal prices declining globally. So, Solid Energy's woes can partially be attributed to the massive increase in renewable generation in the US.

Other key players are also getting in on the act. Neither the European Investment Bank nor the World Bank will fund new coal-fired power plants. The International Monetary Fund is calling for a

move away from all fossil fuel subsidies, which it says totalled nearly \$US2 trillion in 2011, or 2.5 percent of the world's GDP. This estimate includes direct subsidies and indirect subsidies, such as the environmental costs of using fossil fuels. Methods of subsidising the energy sector vary from country to country. In the US for example, tax credits are used, whereas in some developing country governments directly subsidise fossil fuels to reduce prices to consumers.

So, the cost of renewable energy policies pale in comparison to the subsidies paid to the fossil fuel industry. In the US it is estimated that the fossil fuel industry has received US\$447b versus the renewable subsidy of US\$6b over the last hundred or so years. The International Energy Agency estimates that fossil fuel subsidies equate to US\$110/tonne of CO<sub>2</sub> pollution. Globally, fossil fuel subsidies are, at the very lowest estimate, six times those for renewable energy.

New Zealand has very supportive policies and subsidies for the fossil fuel sector. Successive NZ Governments have systematically sought to reduce costs for this industry by increasing certainty – either through provision of research facilities, tax incentives for investment or help with marketing the industry to overseas investors. In particular, the Government has a favourable taxation regime for oil exploration, funds data acquisition and invests in research to support the fossil fuel industry.

We are ranked in the top 10 countries for policies that are favourable for oil and gas exploration. But we rank 39 out of 40 for policies that support renewable energy investment. Our neighbours on this list (prepared by Ernst and Young) are Saudi Arabia, the Ukraine and Greece. Wind has had none of the fossil fuel favours, possibly because it has no fuel cost and its cost is almost all in the capital area where incentives could be seen as subsidies that distort the market.

The government could change this. It could adopt an Obama – style “all of the above” energy policy, that supports both renewable and fossil fuel generation.

Apart from enhanced international reputation – which is important for a small, independent nation - what’s the benefit for New Zealand if we focus more strongly on renewable energy? An answer is jobs. The world is hungry for renewable electricity solutions. New Zealand companies are experienced in this area and some are becoming successful internationally, so we have the potential to gain a good slice of the international renewable energy industry.

New Zealand has a clear bipartisan policy of 90% renewable electricity generation by 2025, which should see us follow the OECD model in reducing carbon pollution. However, progress towards this target is slow. In fact our percentage of renewable electricity is lower than it was in 1990 and our CO<sub>2</sub> emissions from electricity generation in 2012 were 84% higher than in 1990.

A shift in policy to better support renewable electricity generation could eliminate at least four million tonnes of NZ's carbon pollution. This is a significant amount, the equivalent of one third of the emissions from road transport.

There are lots of wins: cheaper electricity, more successful kiwi companies bringing dollars back to NZ, an enhanced international reputation, and better relationships with our Pacific Island neighbours who are increasingly concerned about climate change.