

## I can and I will

The world needs energy. It is running out of conventional forms and renewable energy is now a real solution, and mandated in many parts of the world. There is an ever-increasing requirement for electricity from renewables. The next 20 years will need a focus on providing a grid capable of delivering that electricity. The Renewable Energy Target had driven innovation, something the greater Geelong region needs as it rises to the challenge of major changes in the manufacturing and automotive sector. These energy targets respond to the need to move towards a more efficient and sustainable energy model regarding the use of energy, to reduce our dependence on foreign energy and contribute towards the fight against climate change. Absence or lack of renewable energy usage means more reliance on gas usage for electricity resulting in high spikes in fuel bills. Wind Energy – The Front Runner Wind energy will be a major contributor for the foreseeable future. There is a bright future for wind as part of an energy solution which will start the process of creating a more sustainable world for future generations. Wind power's credentials as a rapidly deployable clean technology have put it at the forefront in the fight against climate change. Wind is generally the most cost competitive renewable source of electricity generation behind hydro. Proven and mature wind power technology has highly penetrated energy matrix at global level, hence among all available RES, maximum impact potential lies with wind power at largest scale. In Australia, wind farms have proliferated in the National Electricity Market (NEM), with some 3,100 MW of installed capacity entering the market to date. Wind energy generation at such large scale boast of various striking distinctiveness making it a viable player in Australian energy market. Victoria's total installed renewable generation capacity has increased by 50 per cent, rising from 2817 MW to 4221 MW in 2014. Even with restrictive wind farm policies, Victoria states has highest committed wind projects till end of 2013 [BREE]. Permits have been approved for nearly a thousand wind turbines in Victoria, particularly in the Geelong and south west area. New wind energy forecasts by the Australian Energy Market Operator say Victoria's capacity should lift five-fold by the end of the decade. Wind generation in Victoria will reduce climate change emissions by displacing fossil fuel combustion in power stations, primarily a mix of black and brown coal. Hang On, Pain Ends As the world's desire for cleaner energy continues to build, we are confident that renewables like solar and wind energy has the potential to maintain and even exceed the dynamic growth rate of the past several years. Strong, supportive policy and government support is key. A fundamental value of renewables is that it lowers risk in the overall generation mix by bringing in a fixed electricity cost. With no fuel risk, there are no big price spikes that are prevalent when electricity is generated from gas or oil. That means renewables like wind is beneficial to generators, utilities and whole countries, and that will continue to help its development. Implementing smart grid technology is key to the continuing growth of renewable energy, but if it doesn't happen it becomes a limiting factor. It remains important for researchers to develop more reliable designs and technology to help renewable energy integration with grid and provide knowledge base to concerned authorities to maintain long

term growth. The grid will adapt and there is great scope for innovation in generation, transmission and demand technologies and commercial arrangements.

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