Wind power

South Africa has untapped potential to produce wind generated energy. The wind power industry has been incentivised in the implementation of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). The first three windows of bidding under the REIPPP secured capacity of 1,983 MW from wind power projects. Recent wind power potential studies estimate capacity of up to 56 GW with a capacity factor of 25%.[1]

The *wind power* Lever increases the rate of installation and the overall wind power capacity. It is assumed that retired turbines are replaced in order to maintain the capacity.

Level 1

This level assumes that the existing capacity in 2006 of 8.3 MW from Darling, Coega and Klipheuwel and the capacity of 1,983 MW contracted for supply under the REIPPPP prior to the end of 2013 is operating in the country by 2016.

Level 2

This level assumes that in addition to the capacity installed under the REIPPPP in level 1 the wind power industry grows to provide total installed capacity of 8,400 MW total by 2030 as per the Integrated Resource Plan (IRP, 2010). This capacity grows steadily and doubles to 16,800 MW in 2050.

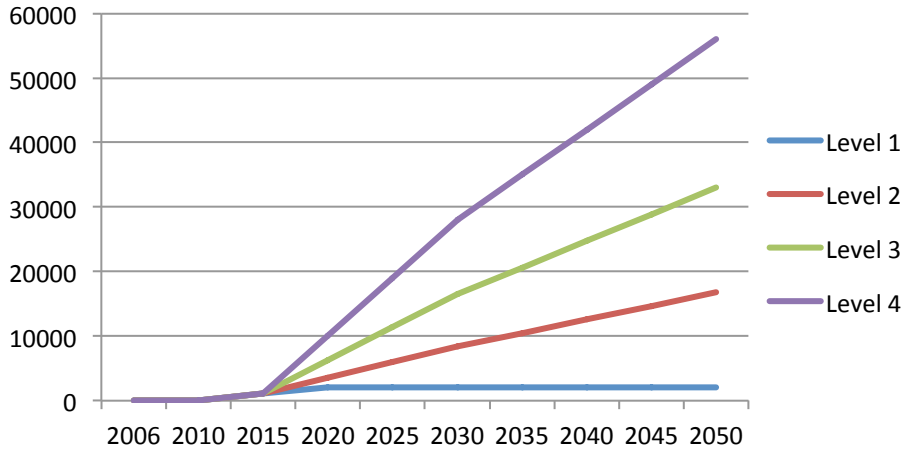
Level 3

In this level, South Africa installs 16,500 MW of wind turbine capacity by 2030, as per the IRP 2010 Emissions Adjusted Scenario, and this capacity doubles to 33,000 MW by 2050.

Level 4

This scenario assumes that capacity of 1983 MW secured under the first three windows of bidding under the REIPPPP is installed and a high rate of growth in capacity to reach a total of 28,000 MW by 2030, and then doubling to 56,000 MW by 2050. This is considered to be the upper limit of capacity that is technically feasible and has been described as an 'Optimistic' Scenario [1].

Wind turbines on a wind farm in Jeffreys Bay. Source: www.sabc.co.za



Total MW installed wind power capacity in each of Levels 1 to 4 from 2006 to 2050

[1] Dr. K. Hagemann, South Africa's wind power potential, SANEA lecture series June 2013.