

6. Offshore wind power

Offshore Wind turbines represent large wind turbines. Located on concrete foundations, or floating in deep water, they take advantage of the extremely smooth wind available. Turbines are designed to operate efficiently at a particular speed (defined by site), and will not operate below a minimum speed (often 3m/s) or above a maximum limit for safety.

The last decade

There has been considerable interest in wind turbine potential along the coast in Bangladesh. The strongest wind potential however is in the SW area of Bangladesh’s Maritime EEZ. As this area has recently been enlarged by agreement with India, the total potential may have to be reassessed. Bangladesh currently has no large scale wind turbines supplying electricity to the national grid.

Assumptions of model

They are assumed to be operating at peak capacity 40-45% of the time. As more turbines are built in multiple locations, this reliability measure increases. A turbine size of about 3.5MW has been used in the model. Turbines are retired after 35-40 years.

Levels

Level 1

Least effort. No onshore wind turbines are added to the national grid.

Level 2

Current policy. Starting from the present, 25MW of new onshore wind capacity are added each five year period.

Level 3

Starting from the present, 50MW of new onshore wind capacity are added each year.

Level 4

Starting from the present, 75MW of new onshore wind capacity are added each year. Including retirement, this is equivalent to having 1000 3.5MW turbines operational by 2050.

Interaction with other levers

No interaction with other levers is expected.

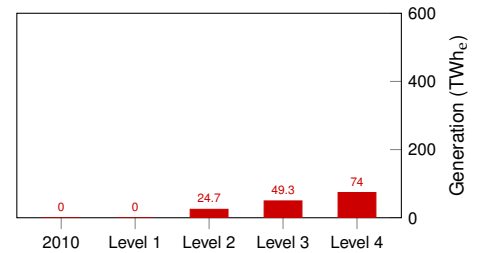


Figure 6.1: Projected Capacity in 2050

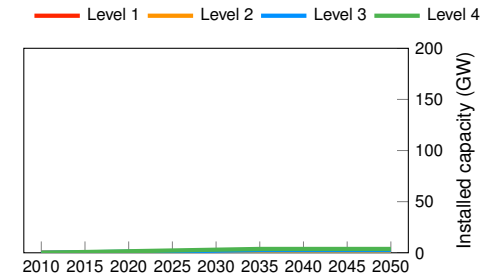


Figure 6.2: Development of capacity by scenario



Figure 6.3: An off shore Wind Turbine