

10. Tidal power generation

Tidal stream technologies harness the energy from the tides using underwater turbines. When the tide in one area rises faster than another, and water flows between them, it is possible to extract energy from the flow. Since Bangladesh is near the equator and has a single coastline, it has a very small tidal range, meaning limited potential sites to extract energy from.

The last decade

There has not been any work carried out with this technology in Bangladesh.

Assumptions of model

Current technology is experimental. It is expected that even in the future turbines will require tidal flows of greater than 1m/s to generate useful amounts of power. Tidal generation power generation is time dependent. It is assumed the generators will be able to operate 24% of the time.

Levels

Level 1

Least effort. No tidal power is built.

Level 2

Current policy. No tidal power is built.

Level 3

A trial unit of 0.1 GW installed in 2010 and capacity expanded to 0.2 GW by 2030.

Level 4

A trial unit of 0.1 GW installed in 2010 and capacity expanded to 0.3 GW by 2030.

Interaction with other levers

There is no interaction with other levers.

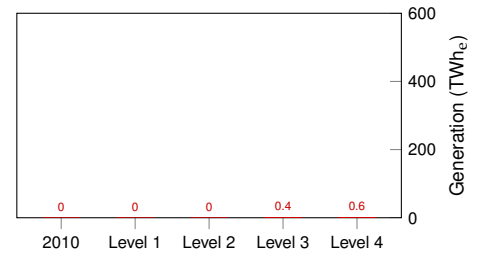


Figure 10.1: Projected Capacity in 2050

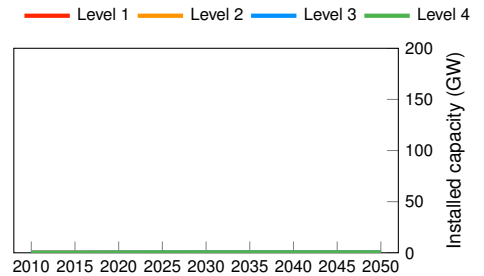


Figure 10.2: Development of capacity by scenario

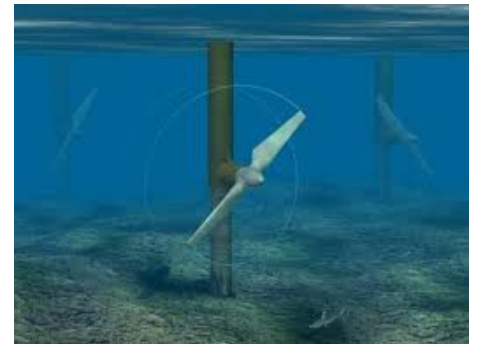


Figure 10.3: An example tidal stream turbine