3. Gas power stations

Gas Power Stations burn gaseous hydrocarbons to generate steam to drive turbines. Natural gas is Bangladeshs main domestic hydrocarbon resource. It is currently the main source of electricity generation in Bangladesh.

The last decade

Gas power station constructed has slowed in the last decade. Between heavy domestic and industrial use, there have been occasional shortages of natural gas. This has led some gas power stations to burn diesel oils as a stop gap measure.

Assumptions of model

The model assumes sufficient generation capacity can be built at the rate specified and sufficient budget is available for construction. Average load factor in 2010 was 45%. Thermal efficiency and self use of electricity are set at 30% and 6% respectively.

Levels

Level 1

Least effort. No new gas power plants built. Power Generation Capacity declines from 7.43GW in 2015 to 2.35 GW by 2050.

Level 2

Current policy. 4 GW of new gas power plants built. This meets the PSMP plan of 8 GW by 2030 and continues building at the same rate afterwards to reach a total capacity of 10GW by 2050.

Level 3

20 GW of new gas power plants built. This meets the PSMP plan of 8 GW by 2030 and then accelerates the building rate to 6% increase each year to reach a total capacity of 25.66 GW by 2050.

Level 4

48 GW of new gas power plants built. This meets the PSMP plan of 8 GW by 2030 and then accelerated the building rate to 10% increase each year to reach a total capacity of 53.82 GW by 2050.

Interaction with other levers

Some of the gas used in power generation can be sourced from concentrated biogas. The rest is sourced from domestic or imported natural gas. The exact source mix will vary according to the settings on the Bio-energy group of levers and the Gas Imports lever.

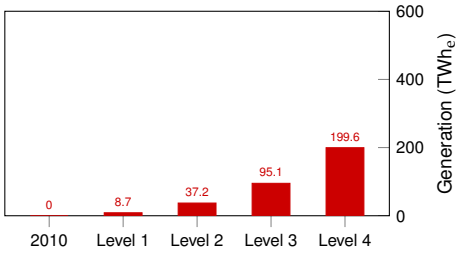

Figure 3.1: Projected Capacity in 2050

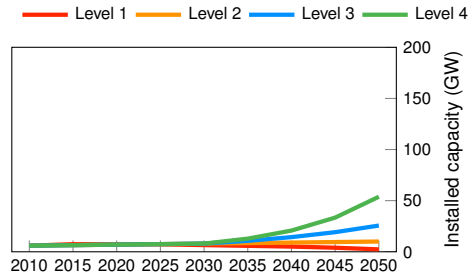

Figure 3.2: Development of capacity by scenario

Figure 3.3: Large Scale Gas Storage