Electricity: Solar

This lever controls the sub-levers listed in the table, and ambition levels are for the end year shown on the right-hand side.

Solar energy is renewable, it generates electricity without emitting greenhouse gases, but does not produce energy continuously. Production depends on factors such as cloud cover, time of day and time of year, making solar a variable energy source. In the short term, variability can be managed by storage, importing or exporting electricity to other countries, or demand side response (getting customers to turn their electricity usage up or down to match the supply).

In 2015 there was 9.5 GW of installed solar photovoltaics (PV) in the UK, of which 60% came from ground-mounted or standalone systems.

Key Interaction

Short term storage will help balance supply and demand, reducing the generation capacity required to meet peaks. As back up capacity is often fuelled by unabated gas this can reduce emissions.

Level 1

Existing solar farms retire, none are built to replace them.

Level 2

70 GW of solar PV is installed, capable of generating 70 TWh per year.

Level 3

165 GW of solar PV is installed, capable of generating 160 TWh per year. The area of PV panels required is around 10m^2 per person.

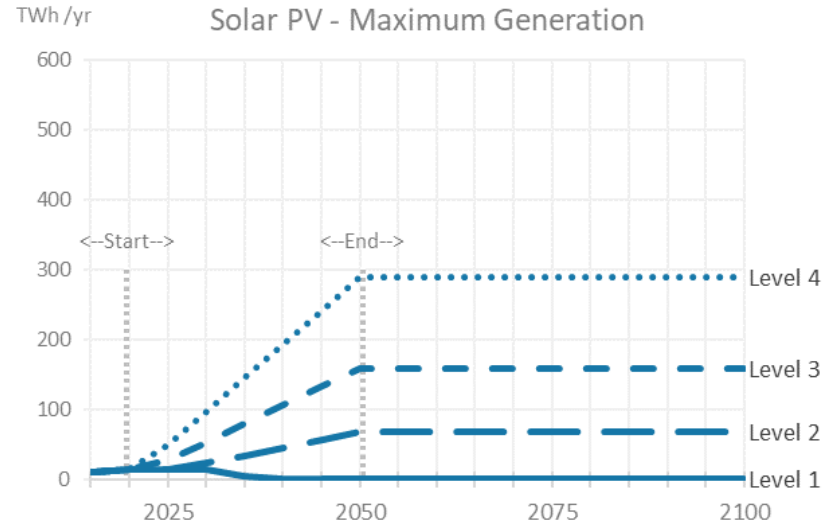
Level 4

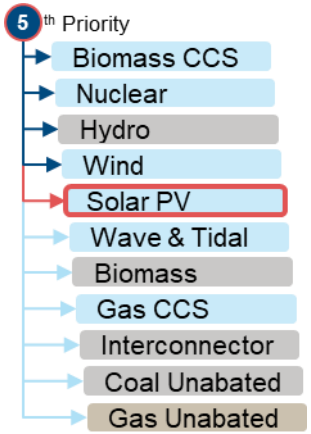
300 GW of solar PV is installed, generating 290 TWh per year. The area of PV panels required is equivalent to around 20m^2 per person.

Default Timing

Start year: 2020, End year: 2050

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Solar PV Capacity	GW	9.5	0.0	70.0	165.0	300.0





Lever Priority

Solar power is fifth in the priority order for generating electricity.

Where supply would otherwise exceed demand, measures lower in the priority order will be superseded by those above them.

Unabated gas will meet any shortfall in demand.