Nuclear power stations

In 2013, Ireland had no nuclear power stations. Given the potential system demand in Ireland relative to the minimum efficient capacity of a nuclear facility (around 1 GW), Ireland would only have use for one nuclear plant.[34] It is assumed that a nuclear power station would begin to be built in 2025 as Moneypoint is decommissioned as it comes to the end of its useful life with 1 GW capacity of Nuclear available from 2030 onwards.

Trajectory 1

Trajectory 1 assumes that no new nuclear power stations are built.

Trajectory 2

Same as trajectory 1

Trajectory 3

Same as trajectory 1

Trajectory 4

Trajectory 4 assumes an increase in capacity to 1 GW of nuclear by 2050 from one power station following the decommissioning of Moneypoint. Around 7 TWh/y of electrical output is generated.

Figure 14. Nuclear power, potential electricity supply and primary energy requirement (TWh/yr)

Note: There are two possible ways of measuring the energy produced by a nuclear power station, modelled in the chart below. Most of the figures in this document show the electrical energy delivered (the green bars), but sometimes it is conventional to display the primary energy (the blue bars), which is the heat generated by the nuclear processes. The electrical energy is smaller than the primary energy due to the inherent conversion losses and the energy requirements of the power station itself. If the nuclear power station was located near to buildings with heat demand they could generate combined heat and power: in return for a modest loss in electrical output much of the 'waste' heat can be delivered to the heat-users.