

Biomass power stations

In 2015 Ireland will have one biomass co-firing plant in Edenderry burning peat and biomass, with 35 MW biomass capacity. If this plant was running 80% of the time, it would require around 47 km² of land for purpose-grown energy crops, either imported or produced locally. See biomass imports and land use levers for user choices.

Trajectory 1

Trajectory 1 assumes 30% co-firing in Edenderry peat plant remains constant up to 2030. All peat plants and co-firing plants are discontinued from 2030 onwards as allocated peat reserves decline.

Trajectory 2

Trajectory 2 assumes 30% co-firing in all three peat power plants by 2025, with an installed capacity of 105 MW. All peat and biomass co-firing plants are discontinued from 2030 onwards as allocated peat reserves decline.



Trajectory 3

Trajectory 3 assumes 30% co-firing in the three peat power stations in Ireland by 2020 and 50%-80% co-firing by 2050, with an installed capacity of 245 MW. The biomass power plants require solid biomass amounting to 7 times Ireland's current use. If this were all from purpose-grown energy crops they could cover an area the size of 310 km²

Trajectory 4

Trajectory 4 assumes that Ireland converts all of its existing peat plants to biomass and constructs a biomass power station roughly equivalent in size to Ireland's current coal station, Moneypoint. Total capacity reaches 105 MW by 2030 and 1.2 GW by 2050. Based on the size of today's average power stations, this requires 3 dedicated biomass power stations and 1 coal-plant-sized equivalent. The power stations generate 8.4 TWh/y, representing 1600 km² of energy crops, an area around the size of County Leitrim. To select this trajectory, the user must choose whether solid biomass is sourced domestically or imported from abroad.

Figure 23: Edenderry co-firing plant, commissioned by Bord Na Mona in 2000.

Figure 24: Primary energy requirement and electricity produced by bioenergy through co-firing (power from peat excluded in chart) or biomass only power plants.

