

## Biomass power stations

In 2015 Ireland will have one biomass co-firing plant in Edenderry burning peat and biomass, with 35 MW biomass capacity.<sup>48</sup> If this plant was running 80% of the time, it would require around 160 km<sup>2</sup> 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.<sup>49</sup>

### Trajectory 2

Trajectory 2 assumes 30% co-firing in all three peat power plants by 2025, with an installed capacity of 105 MW.<sup>50</sup> All peat and biomass co-firing plants are discontinued from 2030 onwards as allocated peat reserves decline.



### Trajectory 3

Trajectory 3 assumes that biomass installed capacity reaches 175 MW in 2025 and 346 MW by 2050 as all peat stations are converted to biomass. This generates about 2.5 TWh/y of electricity. These biomass power stations use up to 10 times more solid biomass than we do today, which could be sourced from 1,400 km<sup>2</sup> of land, an area around the size of County Leitrim.

### 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 over 4,500 km<sup>2</sup> of purpose grown energy crops. To select this trajectory, the user must choose whether solid biomass is sourced domestically or imported from abroad.

Figure 24. Edenderry co-firing plant, commissioned by Bord Na Mona in 2000.

Figure 25. Primary energy requirement and electricity generated from co-firing or biomass power stations (TWh/yr).

