10 fast facts about EirGrid and the work we do

Did you know?

EirGrid is Ireland's TSO, which stands for 'Transmission System Operator'. We plan, manage and develop Ireland's high-voltage electricity grid for a sustainable future. This grid is connected to the lower voltage distribution system managed by ESB Networks, Ireland's Distribution System Operator (DSO), which supplies power directly to homes and business around the country.

Length of electricity circuits, including overhead power lines and underground cables, managed by EirGrid

Did you know?
That's enough to stretch across the Atlantic Ocean – and back again!

7,500 km

134

Electricity generation units connected to the grid, including:

- **61 – wind power**
- **7 – solar power**
- **15 – hydro power**
- **15 – grid-connected battery power units**

What is battery storage?
These are devices that enable energy from renewables, like solar and wind, to be stored and then released when the power is needed most.

Electricity substations on the grid

What's a substation?
Substations are junction points where different circuits connect together, allowing different parts of the country connect to each other. They perform many important functions. It's very important that electrical current is correctly managed to keep people safe, as well as to help prevent damage to the system.

195

575 km

Length of the undersea Celtic Interconnector that will connect the electricity grids of Ireland and France

What's an interconnector?
High voltage cables that connect the electricity systems across different areas and jurisdictions. Interconnectors are important for ensuring we can share electricity, particularly where there's excess renewable energy being produced in some areas that can be shared to help address shortfalls elsewhere.

The number of projects that need to be completed to reinforce the grid, connect electricity generators and meet Climate Action Plan targets

These projects are needed so we can continue to provide a secure, reliable power supply for people across Ireland using clean, renewable energy resources.

Over 360

32,500 GWh

Total system demand in 2023
(the total electricity demand across the full year in gigawatt hours)

What's a gigawatt hour (GWh)?
Gigawatt hours are often used as a measure of the output of large electricity power stations. It is a unit of energy representing one billion watt hours, and is equivalent to one million kilowatt hours, or one thousand megawatt hours. A kilowatt hour is equivalent to a steady power of one kilowatt running for one hour (a standard LED lightbulb uses about 14 kilowatt hours per year).

System peak demand
(the record level of electricity demand in Ireland)

What's a Megawatt (MW)?
Measurements in megawatts (MW) and gigawatts (GW) represent a peak at a specific point in time, whereas megawatt hours (MWh) and gigawatt hours (GWh) measure electrical output over a period of time.

5,577 MW

3,866 MW

Record amount of electricity produced from wind

Did you know?
Electricity demand tends to peak in colder weather. Typically, every 1°C drop in temperature results in an electricity demand increase of approximately 40 MW, or 50 MW when wind-chill is factored in.

The percentage of electricity to come from renewable sources by 2030, as set out by Government targets

Where does electricity come from?
In Ireland we get our electricity from renewable sources including wind, solar and hydropower, as well as non-renewable sources such as gas, coal and oil. The island of Ireland also trades electricity back and forth with Britain through interconnectors.

80%

75%

Up to 75% of Ireland's electricity generation can currently come from variable renewables, such as wind and solar, at any one time. We are working to raise this limit even higher in future.

Sources

- *Shaping Our Electricity Future Roadmap*
- *EirGrid renewable data reports*
- *EirGrid Smart Grid Dashboard*
- *Celtic Interconnector information page*

EirGrid