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Lùth Ath-nuadhachail na h-Alba

Scotland's Renewable Energy — P5–P7

Scotland's renewable energy

1

Why Scotland?

Scotland has approximately 25% of Europe's offshore wind resources, 10% of its tidal energy potential, and significant hydro power capacity. The combination of wind, water, and geography makes Scotland one of the world's most promising renewable energy locations.

2

Wind energy

Scotland generates more electricity from wind than it consumes — in 2023, wind generated 113% of Scotland's electricity demand. Both onshore (Highland turbines) and offshore (North Sea). Scotland's turbine capacity grows every year.

3

Hydro power

Scotland has generated significant hydro electricity since the 1950s. The Cruachan 'Hollow Mountain' pumped storage power station (Argyll) acts as a giant battery — pumping water uphill when electricity is cheap, releasing it to generate power when demand is high.

4

Tidal and wave energy

Scotland has Europe's most advanced tidal energy projects — particularly in the Pentland Firth (between mainland and Orkney), one of the fastest tidal flows in the world. MeyGen tidal array is the world's largest.

5

The transition from oil

Scotland faces a just transition — moving oil and gas workers into the renewable energy sector. Many offshore oil skills transfer directly to offshore wind. Aberdeen is repositioning as the energy capital for renewables, not just oil.

6

Net zero target

Scotland has a legally binding target to reach net zero greenhouse gas emissions by 2045 — five years ahead of the UK target. Renewable energy is central to reaching it.