How the world makes electricity

Hŷpercast tool showcase · open data

Four equations

Maxwell (1865) explains every motor, generator and power line, and predicts light.

$$c = 1/\sqrt{(\mu_o \varepsilon_o)} = 299{,}792{,}458 \text{ m/s}$$

Make

Almost every power station spins a magnet inside coils of wire.

Move

Transformers step voltage up for distance and down for homes. Inverters turn solar DC into AC.

Mix

31.8k TWh in 2025 · 33% coal · 8.7% solar · 43% low-carbon

Mix, by fuel

Coal 10,472 · Gas 6,921 · Hydro 4,435 · Nuclear 2,812 · Wind 2,713 · Solar 2,779 · Oil 842 · Bio 710 TWh (2025)

Map

About 35,000 power plants, mapped.

Store

Batteries hold lithium between layers of cobalt oxide.

Every picture, a different tool

Data: Our World in Data (CC BY 4.0) · WRI Global Power Plant Database (CC BY 4.0)