



Discovery Pod Challenge

Explore concepts around Energy.

Research and design a Discovery Pod to tell a story or present information in a fun, educational, and interactive way. Discovery Pod designs could use interactive audio-visual technology, be a game to solve, a challenge, an animation, video, or a presentation of ideas.

Transgrid operates and manages important electricity network in Australia. Our transmission network transports electricity from generation sources, such as wind, solar, hydro, gas, and coal power plants, to large directly-connected industrial customers and the distribution networks, like Essential Energy that deliver it to over 3.7 million households and businesses in NSW and the ACT.

What is energy?

The Energy is the capacity for doing work and exists in many different forms. Energy cannot be created or destroyed but can be changed from one form to another. Energy can exist in many different forms including kinetic, light, thermal, chemical, sound, mechanical, nuclear, magnetic, potential, and of course electrical. Energy cannot be created or destroyed it can only be transformed into another form.

Electricity is one of the most widely used forms of energy. We use it to power our homes, our devices, cars, and almost everything we use in our modern society.

The Australian National Electricity Market or NEM operates one of the world's longest interconnected power systems from Queensland to South Australia and across the Bass Strait to Tasmania.

> Extra Resources

aemo.com.au
transgrid.com.au/about-us/what-we-do
transgrid.com.au/energy-transition
aemo.com.au/-/media/files/electricity/nem/national-electricity-market-fact-sheet.pdf

Fast Facts

- > The three basic units used to measure electricity are **voltage** (expressed in volts), **current** (amps), and **resistance** (ohms). Overall electrical power is determined by multiplying volts by amps and is expressed in watts.
- > In 2022, Transgrid moved **65,900 GWh** of electricity! (That's almost 55 billion pieces of toast)
- > Electricity is a form of **energy** that orders electrons into a flow capable of doing work.
- > At present only **15%** of Australia's power comes from renewable energy sources.
- > **3.2 Million** or **32.3%** of Australian households (2022) now own a solar energy system.