



Discovery Pod Challenge

Explore concepts around Engineering.

Research and design a Discovery Pod to tell a story or present information in a fun education 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 the transmission 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 that deliver it to over 3.7 million households and businesses in NSW and the ACT.

What is engineering?

Engineering is described as an application of scientific principles to design or develop structures, machines, apparatus, or manufacturing processes. Engineers from a range of professional disciplines are critical to the design, construction, and maintenance of the infrastructure needed to lead Australia's transition to a clean energy future.

Engineering in energy

Engineering at Transgrid is divided into three core specialties: Planning, Design, and Projects. Planning engineers oversee network performance, system and operations planning. Design engineers are critical to the control and flow of electricity across our network and specialise in the design of substations, transmission lines, and communications.

Engineers in the Projects team oversee the end-to-end management of large-scale projects from development and construction, through to delivery.

> Extra Resources

engineersaustralia.org.au
interestingengineering.com
electrical-engineering-portal.com
khanacademy.org/science/electrical-engineering
transgrid.com.au/about-us/what-we-do

Fast Facts

- > **Tamworth** became Australia's first electrified town in 1888.
- > **Substations** are the connection points between generation, transmission and distribution, converting electricity to higher voltage for transmission and stepping the voltage down for distribution.
- > Conventional transmission towers stand on four legs, but did you know Transgrid's **EnergyConnect project** is using an innovative guyed tower design, comprising a centre mast held in place by four steel cables. These require **15%** less steel and **25%** less concrete to build.
- > Transgrid is using SmartValve engineering technology to redirect power off congested transmission lines onto lines with capacity, unlocking additional energy with existing infrastructure.