

People of the Hydro

Teacher introduction and reading notes

- The electricity we all use when we turn on the light, or the TV, or charge our phone, doesn't just appear from nowhere.
- It has to be generated, and then shared for all of us to pay for and use.
- And there are a variety of ways to generate electricity.
- One of the most common ways is burning coal in a power station, and using the heat that generates to make electricity. Coal is what is called a fossil fuel. The downside of burning coal is that it causes pollution and contributes to climate change.
- Burning gas is another effective way of making electricity, that's cleaner than burning coal. But gas can be in short supply, and quite expensive.
- But in Tasmania, we make electricity in a way that's different to most of Australia, and quite special. And a lot of people are very proud of it.
- In Tasmania, we actually use water and gravity to make most of our electricity, in a way that's clean and reliable and quite affordable.
- When it rains, the water is stored in large lakes and dams. To make electricity, the water is released downhill through large pipes called penstocks, building up copious speed and pressure. At the bottom of the hill, the water runs into the power station and spins a huge turbine. The movement of the turbine, and the magnets connected to it, makes the electricity.
- Because it uses water to make energy, this type of electricity is called hydropower, or hydro-electricity. And the most significant aspect of hydropower is that it's *renewable* energy. It doesn't make pollution, and instead of burning something that's then gone and diminished, it uses rainwater that'll keep replenishing and coming back when it rains naturally (as it does abundantly in some parts of Tasmania).
- Other types of renewable energy include solar power from the sun, wind power from the wind, and even recent forms such as wave power in the sea.
- But at the moment, if we want to burn less coal, hydropower can make more electricity, and be used more flexibly, than other renewables like wind and solar.
- Hydropower was one of the very first types of clean renewable energy, and Tasmania was one of the very first places to use it. It's been generating most of the electricity in Tasmania for more than 100 years.
- When electricity was first becoming common, the people in Tasmania decided they needed to generate it here so they could have warm, well-lit houses, harness it to develop industries and resultant jobs for people, and lots of other effects that all needed electricity.
- But because Tasmania's an island, away from other places, it was a tricky thing to do. There wasn't much coal to dig up, and it was slow and expensive to try to bring coal or oil in by boat.

- So the people looked around and investigated alternative resources. And what Tasmania had was lots of rain in the central highlands and west coast, and large lakes for catching that rainwater and storing it, and steep hills and valleys for pouring the water downhill to spin a turbine and make hydro-electricity.
- Early suppliers were either private companies or municipal councils.
- Only after a private company had difficulty accessing loan funds did the Tasmanian Government establish the Hydro-Electric Department in 1914 and invest in generating and distributing electricity.
- So the Hydro-Electric Department began building dams and power stations over many years, generating more and more electricity, making Tasmania a comfortable, modern place for more people and families to come and live, work, and call their home.
- Since 1914, Tasmania's electricity generator has operated under different names (Hydro-Electric Department, Hydro-Electric Commission and Hydro Tasmania), the changes reflecting our growth and governance.
- And I'm now going to show you a video about how Hydro Tasmania started, and how Tasmania's large special hydropower system was built.