



Renewable Energy City

INDUSTRY FOCUS AREA:	New Energy, Advanced Manufacturing
VICTORIAN CURRICULUM LINKS:	Science, Digital Technologies, Personal & Social Capability, Critical & Creating Thinking
TECHNOLOGY USED:	Renewable Energy, Rapid Prototyping
YEAR LEVEL:	Year 8 - 10
DURATION:	2 Days
LEVEL:	Intermediate
MAX STUDENTS:	50

Introduction

The face of energy in the Gippsland region is undergoing change. This has been seen with the closure of the Hazelwood Power Station and the increase in solar, wind, and geothermal energy generation. There is also world-wide pressure to reduce emissions and move towards a greener future. Iceland, Costa Rica, and Uruguay have already achieved over 90% of their energy being generated by renewable sources. Closer to home, the Victorian government has set a target of 25% renewable energy production by 2020, increasing to 40% by 2025⁴.

Program Summary

Over the course of two days students will be introduced to a variety of types of renewable energy. They will investigate the advantages and disadvantages of solar, wind, hydrogen, and hydro energy, conducting experiments with each energy type. On day two they will use this learning to plan, design, build, and test a completely renewable energy powered city. The program also includes a financial element with students needing to work within the city's budget, and a presentation element with a presentation to an industry member from the energy sector at the end of day two.

Taking part in this program, students will collaboratively:

- Conduct experiments to understand different types of renewable energy
- Design, build, and test a prototype
- Conduct financial planning and budgeting
- Reflect on learning

Career Links:

Artisans: machinery operators, electricians, carpenters

Designers: architects, product testers, draftspersons

<https://www.fya.org.au/wp-content/uploads/2016/11/The-New-Work-Mindset.pdf>

⁴ <https://www.energy.vic.gov.au/renewable-energy/victorias-renewable-energy-targets>

