

## Lesson 12:

### Renewable energy



Part of Energy Queensland

# ENERGY DETECTIVES





# Mystery Game!

Your class has been given 3 boxes, each with a mystery energy source. Use the box and the clues to try and identify what types of energy source they are.

## CLUE 1

“I collect light to make electricity.”

## CLUE 2

“I spin blades when the air moves.”

## CLUE 3

“I use the power of the moving ocean.”

# What is renewable energy?



Energy from sources that never run out or can be replaced naturally within a human lifetime.

It is called “renewable” because it can be used again and again

**How does this differ to non-renewable energy?**

**Why do you think renewable energy may be better for the environment than non-renewable energy?**

# Types of renewable energy



## Solar

Uses sunlight to make electricity

Solar panels capture sunlight and turn it into power

Works best on sunny days



## Wind

Wind turns turbine blades to generate electricity

Often used in open, windy areas



## Tidal

Uses the movement of ocean tides and waves to produce power

Reliable because tides happen regularly

Still being developed in many places

# Independent booklet work



**In your assessment booklets, complete the following worksheets:**

- What is renewable energy?
- Solar energy
- Wind energy
- Tidal energy

Discuss your answers with a partner or as a class.

# Renewable energy comparison table

Using the information from the worksheets you completed in your booklets, complete the renewable energy comparison table in your Assessment Booklet, comparing:

How each energy source works

**How each energy source works**

**Advantages**

**Possible problems**

# Renewable energy in our community

**Imagine you have been tasked with introducing renewable energy to your community.**

**Use the information from the lesson to discuss the following questions as a class:**

- Which renewable energy source is best for our community?
- What are the main advantages of each?
- Which is most reliable here, and why?
- Which has the least environmental impact?
- Which is cheapest or easiest to set up?
- If we could only pick one, which should it be? Why?
- What problems could happen if we rely only on that source?
- Could combining two sources work better?



# **Mission report!**

As a class, discuss the difference between renewable and non-renewable energy.

**Which would you prefer to use, and why?**