



Lesson 12:
Renewable energy



Part of Energy Queensland





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.”

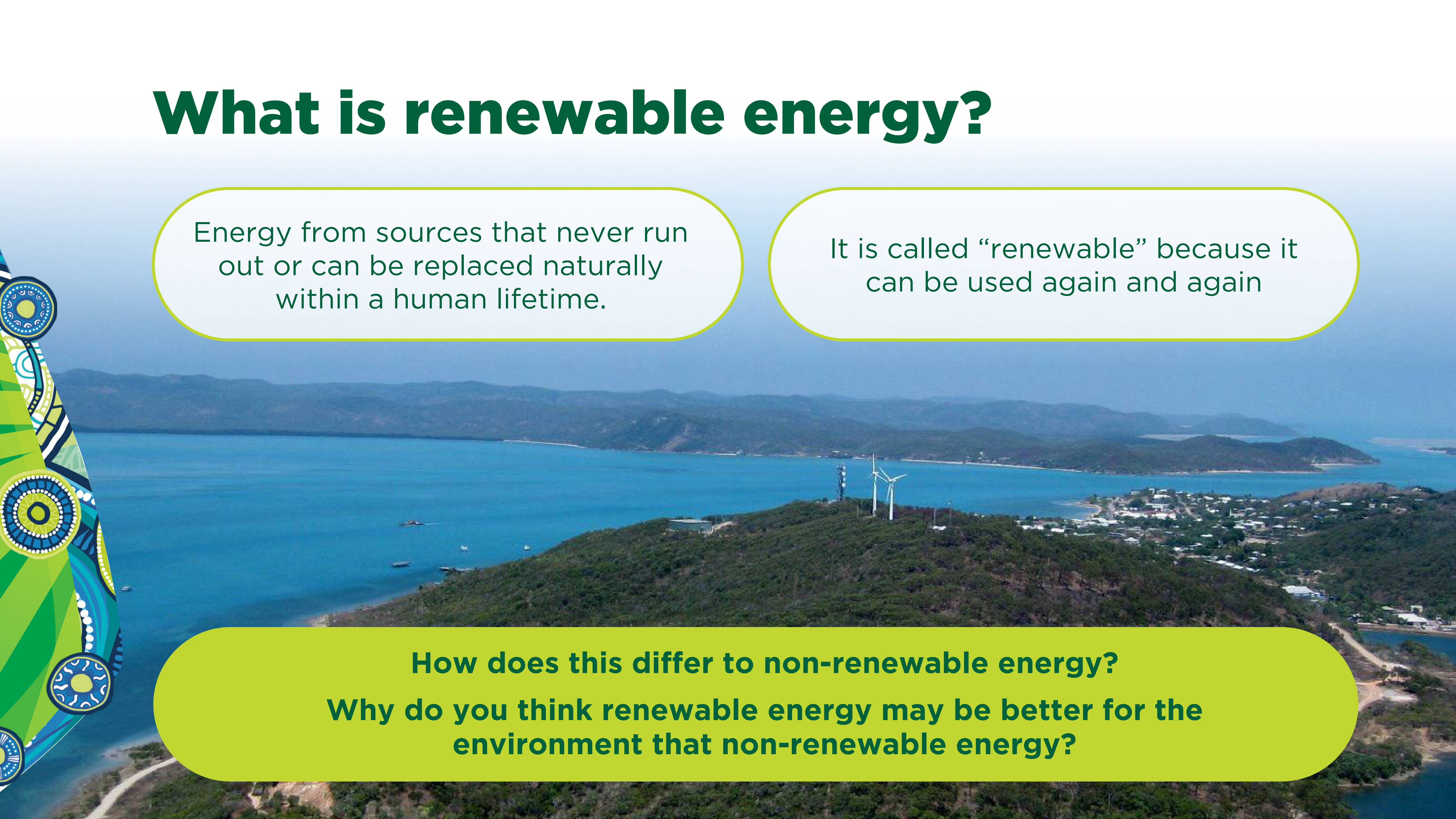
What is renewable energy?

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?