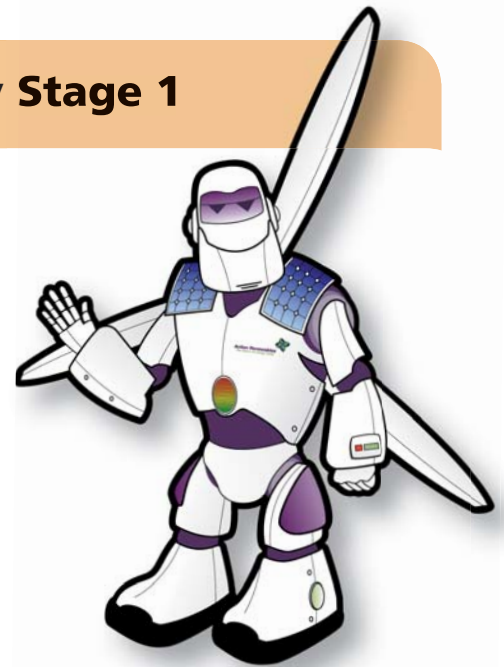
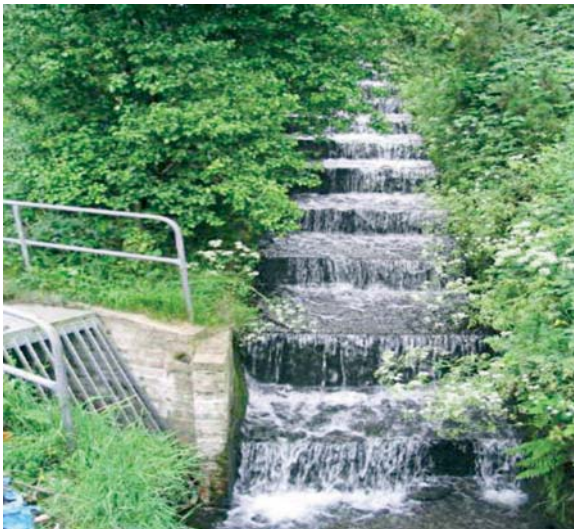


Water Energy

How can water be used as energy?



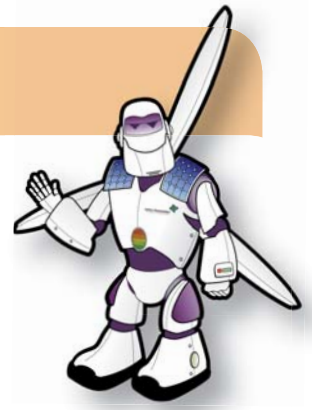
Renewable Robbie is very keen to learn how water can be used as energy. There are a lot of rivers, lakes and seas in the world.



Courtesy of Creggan Country Park

Renewable Robbie has discovered that water has been used for energy for hundreds of years in Northern Ireland. Look at the picture of an old waterwheel:





At Castleward beside Strangford Lough, a watermill was used to grind corn over 2000 years ago. In Templepatrick, water is still used to power machinery to make spades!

Nowadays, electricity can be made by building dams which forces water to turn machines. This is a picture of a dam:

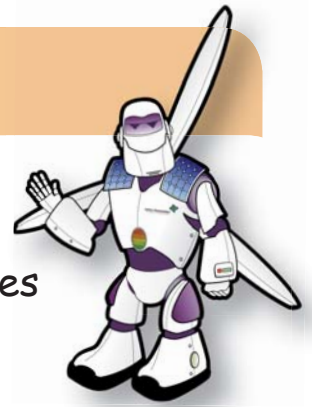


Courtesy of US Army Corps of Engineers, Sourced DTI

A dam is a large wall made of concrete that can hold water back. This is what happens:

- Water is flowing along a river.
- The water reaches the dam and cannot get through. It is stored behind the dam in a large lake called a **reservoir**.





- When the gates in the dam are opened, water rushes through them into big pipes.
- Inside the pipes are machines called turbines that turn round as water passes through.
- Turbines are joined to other machines called **generators**.
- When the generators turn round, electricity is made.

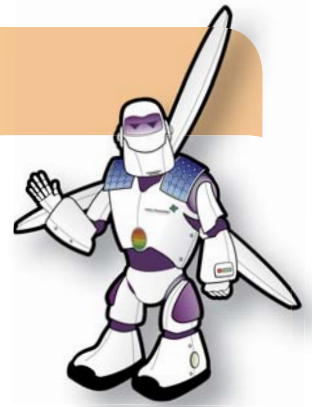
The sea can also be used to make electricity.

- Large dams can be built which makes electricity from tides moving in and out.
- A marine turbine works like a wind turbine except the blades are turned by tides in the sea instead of by wind. Machines inside the turbine make electricity. Look at the picture of a marine turbine below:



Courtesy of Marine Current Turbines Ltd, Sourced DTI





Water energy is good because:

- It is renewable because rain keeps falling.
- We have a lot of water in Northern Ireland.
- It doesn't damage the air.
- Marine turbines turn very slowly so they do not do any damage to life in the sea.

Example of using water as energy

Renewable Robbie went to Creggan Country Park in Derry. The Country Park makes use of water for electricity. They have built a dam which is used to provide electricity for local businesses! This picture shows some of the machines that are used to produce electricity:



Courtesy of Creggan Country Park

The people who work in the Park think it is a great idea to use water as energy because it cuts down on burning fuels like coal, oil and gas.

**Renewable Robbie is very impressed.
What do you think?**

Join him to do some activities on water energy.

