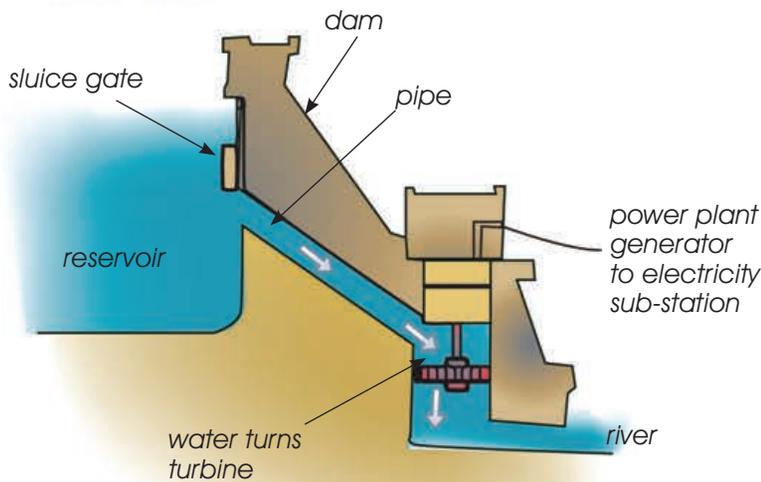


HYDRO ENERGY - FACT SHEET 5 SIDE A



Hydro energy is energy from flowing water.

Watermills have been used to power machinery for hundreds of years. Today, electricity is generated by using water to turn turbines. This is called **hydro-electric energy**.



A HYDRO-ELECTRIC DAM

- ◆ A dam is built across a fast flowing river high in the hills
- ◆ The valley behind the dam is flooded, creating a reservoir or loch
- ◆ Pipes inside the dam take the water to the turbines
- ◆ As the water flows out of the dam along the pipes, it is under great pressure
- ◆ The water pressure turns the turbines and the turbines turn the generators
- ◆ The generators produce electricity as they spin
- ◆ The water is then piped back into the river

HYDRO ENERGY FACTS

How many hydro-electric power plants are there in the UK?	About 200
Which areas of the UK produce the most hydro-electric energy?	The Scottish Highlands and Welsh mountain areas
When were most of our hydro-electric power stations built?	After the Second World War in the late 1940s and 1950s
Where is the newest large-scale hydro-electric power station in the UK?	It is being built in Glendoe near Loch Ness
How much power will be generated by the Glendoe power station?	It will generate up to 100 megawatts of power – enough for every home in a city the size of Glasgow
Can hydro-electric power be switched on and off, as you need it?	Yes, the water is stored behind the dam and can be released as and when it is needed
How much of the UK's electricity is supplied by hydro energy?	Just over 1% of the UK's and about 10% of Scotland's (in 2007)



The hydro electric water dam at Laggan, near Kingussie, as water is released safely.



The dam at Loch Monar, Glen Strathfarrar, near Loch Ness.



The power station at Fasnakyle, near Glen Affric. Water is piped here from the dam at Loch Beinn a Mheadhoin, about 5 miles away.



ADVANTAGES OF HYDRO ENERGY

- ◆ Hydro energy is renewable, it will never run out.
- ◆ Hydro energy is clean and quiet and produces no polluting chemicals or greenhouse gases.
- ◆ Once the dam and power station have been built, the hydro energy is cheap to produce.
- ◆ The energy is stored in the water behind the dam, therefore the energy is available when it is needed, day or night.



DISADVANTAGES OF HYDRO ENERGY

- ◆ A fast flowing river is needed, therefore suitable sites are limited to hilly areas with plenty of rain.
- ◆ Large hydro schemes flood huge areas upstream which can affect people and wildlife.
- ◆ Large hydro schemes can affect people and wildlife below the dam too. Sometimes the water is piped a long way away to the turbines and not put back into the river.