

<http://www.darvill.clara.net/altenerg/>

1. Introduction

Give the name of the metal used to generate nuclear power: ___ Uranium, is a metal mined in various parts of the world.

10 pays produisent 94 % de l'uranium extrait dans le monde : Canada, Australie, Kazakhstan, Niger, Russie, Namibie

Le reste de la production (moins de 20%) se partage entre petits producteurs tels notamment l'[Afrique du Sud](#), l'[Ouzbékistan](#), l'[Ukraine](#), et les [États-Unis](#).



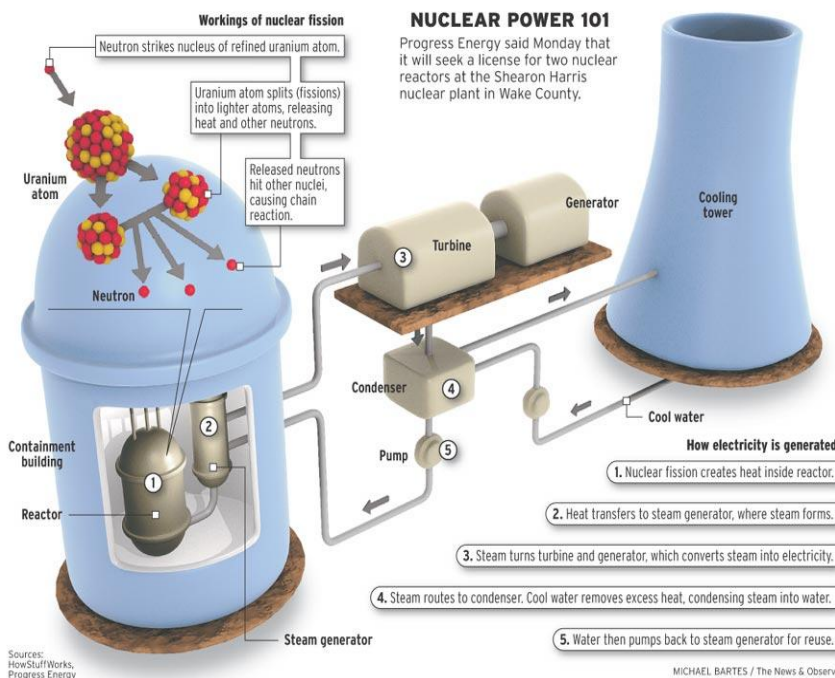
Where can you find nuclear power plants?

_____ On earth, to create electricity, on some military ships and submarines which have nuclear power plants for engines.

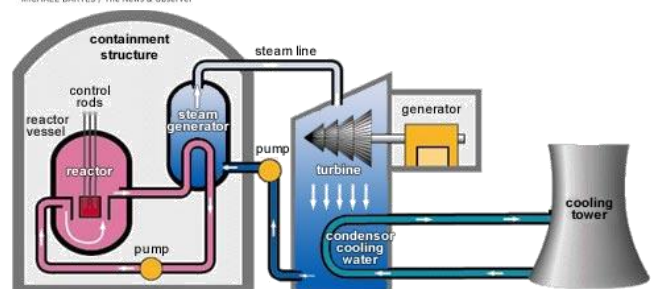
1. How it works

The main bit to remember:

Nuclear fission → Heat water to make steam → Steam turns turbines → Turbines turn generators → Electrical power



Describe how it works:



2. The uranium

Explain the difference between the uranium used to run a nuclear plant and the uranium used to make a bomb:

To run a nuclear plant, you need U-235.
To make a bomb, you need U-235. It is difficult to make.

1. Advantages and disadvantages

Advantages:	Disadvantages:
<ul style="list-style-type: none"> • Nuclear power costs about the same as coal, so it's not expensive to make. • Does not produce smoke or carbon dioxide, so it does not contribute to the greenhouse effect. • Produces huge amounts of energy from small amounts of fuel. • Produces small amounts of waste. <p>Nuclear power is reliable.</p>	<ul style="list-style-type: none"> • Although not much waste is produced, it is very, very dangerous. It must be sealed up and buried for many thousands of years to allow the radioactivity to die away. For all that time it must be kept safe from earthquakes, flooding, terrorists and everything else. This is difficult. • Nuclear power is reliable, but a lot of money has to be spent on safety - if it does go wrong, a nuclear accident can be a major disaster. People are increasingly concerned about this - in the 1990's nuclear power was the fastest-growing source of power in much of the world. In 2005 it was the second slowest-growing.

2. Summary

- Nuclear power stations use uranium as fuel
- Sometimes called "atomic power"
- Non-renewable
- Heat from the reactor turns water into steam, which drives turbines, which drive generators
- Doesn't cause pollution unless something goes wrong

Quiz:

Is nuclear power renewable? (yes/no) no

Nuclear power stations use uranium as fuel. They need very little fuel compared to a fossil-fuel power station, because there is much more energy in nuclear fuel.

The chain reaction inside the reactor vessel creates heat, which turns water into steam to drive turbines, which drive generators to make electricity.

The fuel rods are safe to handle before they go into the reactor, it's only when they come out that you need robot arms and heavy shielding.

Nuclear power stations do not create atmospheric pollution because they do not burn anything. However the small amount of waste they do produce is very dangerous.