Energy Factsheet - Uranium

Introduction - Our lives are dependent on energy and electricity. Consider the role of energy in reading this: energy was required to create the computer that this article was written on. Energy is needed to keep the lights on and to keep the air warm (if you have the heater on) or cool (if you have the air-conditioner on). The materials and construction building you're in required energy to be built. If you're thinking of eating a snack while you're reading then chances are energy was needed to create, store or transport your snack. The clothes you're wearing needed energy to be made and will need energy later to be cleaned.

Evidence of our dependency on energy is all around us. And because we need it for so much in our lives, it makes sense that we should be using a form of energy that is best for us and best for our planet, both now and in the future. This is what we call 'sustainable energy'.

- **Energy** - Scientists describe energy as the ability of a body or system to do work. Energy is all around us and is constantly changing. When you feel the warmth of the sun on your back you're enjoying the heat energy from the sun. When you cook over a campfire you're using heat energy converted from the stored energy in the wood you're burning. There is energy in the food that we eat. This energy comes from plants who used the energy from the sun. And there is the energy we use for making electricity.
- **Electricity** - Electricity is a form of energy. We use this energy in almost every aspect of our lives: heating and cooling, cooking, lighting, charging phones and computers, watching TV and listening to music, and even for charging (some of) our cars.

About uranium - Uranium is a dense radioactive material that occurs naturally in most rocks, soil and in the ocean in tiny amounts. Its average concentration in the Earth's crust is two parts per million – more than gold, but still tricky to find.

The main use of uranium is as a non-renewable fuel source in nuclear power plants. However unlike other fossil fuels - like coal - the production of power from uranium is pollution-free. The construction of nuclear plants themselves on the other hand are very energy intensive, expensive, take ten years to plan, take ten years to build. There have also been several large accidents at nuclear power plants (including Three Mile Island and Chernobyl) that led to mass evacuations and uninhabitable areas due to radiation poisoning.

Uranium is seen by many as a way to move to pollution-free fuel sources. France produces 76% of its electricity from nuclear power plants but on the other hand Germany is phasing them out.

Disposal of the nuclear waste, which remains radioactive for thousands of years, is an issue for this power source. Uranium may have a role to play as a bridging source of energy in some specific cases. But like all the other non-renewable energy sources that we dig from the ground, uranium too will run out soon.