

# How the Atom Benefits Life

## Video Transcript

**Water, Food, Energy, Health** form the corner-stones of modern daily life. They can be protected, provided and preserved through the use of nuclear technologies.

From its headquarters in Vienna, Austria, the International Atomic Energy Agency — the IAEA — supports the use of these techniques throughout the world. This assistance comes in the form of training; the provision of equipment and technical support; and the sharing of expertise and knowledge.

**Water** — without it, we simply couldn't survive.

Freshwater is a limited resource, One that we use wastefully, over exploit and pollute. Using nuclear science, countries can manage their scarce water resources better.

The oceans provide us with so much, but we use them as a dumping ground for the pollution, rubbish and waste we create on land.

Scientists at the IAEA's laboratories in Monaco use nuclear techniques to study the key threats to the marine environment. They advise countries on how to prevent pollution and mitigate its consequences.

A quarter of CO<sub>2</sub> emissions are absorbed by the oceans. Once in the water, the carbon dioxide is transformed into acid — leading to ocean acidification.

Scientists are researching how this acidification is damaging coral reefs and threatening marine life and seafood.

**Food** — whether we grow it, sell it, or eat it — we can't do without it.

The IAEA operates projects that use nuclear techniques to improve crop varieties and soil quality. This leads to more crops and better food.

It promotes the use of a technique to control pests that can destroy fruit and kill livestock, and methods to diagnose and prevent animal disease.

**Energy** — as populations grow, countries develop and industries boom, demand for energy continues to increase.

Many countries see nuclear power as a way of meeting their electricity needs, while reducing their CO<sub>2</sub> emissions.

The IAEA provides assistance at all stages of a nuclear power programme. It advises nations that are considering introducing nuclear power, constructing their first plant or building new ones.

It offers services for the safe and sustainable operation of reactors and helps countries to develop safe and secure control systems for radioactive sources.

These are used widely in medicine, industry and agriculture.

**Health**— we all strive for good health.

Nuclear techniques are used to support national nutritional programmes.

Irradiation can make food safer by killing contaminants that can cause food poisoning. And nuclear techniques can check whether agrochemicals have been used properly and pose no health risks.

Radiology is used to diagnose and manage disease, and radiotherapy to treat and cure it.

**Water — Food — Energy — Health**

We need them now. In the future, we'll need them even more.

Nuclear technologies help to ensure these fundamental needs are met for an ever-growing and developing global population through the support of the IAEA.