

The nuclear power debate literacy task

Should we build a nuclear power station in Ireland?

Quick Summary

- Nuclear energy is generated using Uranium, which is a metal mined in various parts of the world.
- A reactor uses Uranium rods as fuel, and the heat is generated by nuclear fission.
- The waste from this reaction is dangerous and stays that way for thousands of years
- Nuclear power provides over 16% of the world's electricity

You have been asked to take part in a debate on whether Ireland should get a nuclear power plant. In your preparation you will need to use sources to put your response together. Decide if you are for or against after reading the following information.



Source 1

Renewable energy sources for electricity - wind, solar, tidal, wave energy, hydroelectric, geothermal and biomass - are generally not suitable for large-scale power generation where continuous, reliable supply is needed. In the developed world about 2% of electricity is generated from renewables other than hydroelectricity.

Without nuclear power the world would have to rely almost entirely on fossil fuels, especially coal, to meet electricity demands. There is as much electricity generated by nuclear power today as from all sources worldwide in 1960.

Coal and other fossil fuels are required in a much larger quantities than uranium to produce the equivalent amount of electricity. Nuclear power has already reduced the use of fossil fuels.

Greenhouse Gases

On a global scale nuclear power currently reduces carbon dioxide emissions by some 2.4 billion tonnes per year. Carbon dioxide accounts for half of the human-contributed portion of the global warming effect of the atmosphere.

Source 2

- The world will need a greatly increased energy supply in the next 20 years, especially cleanly-generated electricity.
- Nuclear power provides over 16% of the world's electricity, almost 24% of electricity in developed countries, and 35% in Europe. Its use is increasing.
- Nuclear power is the least environmentally damaging way of producing electricity on a large scale. Without it most of the world would have to rely almost entirely on coal, oil and gas - fossil fuels - for electricity production.

Source 3

Nuclear power plants have experienced an admirable safety record. About 20% of electricity generated in the U.S. comes from nuclear power, and in the last forty years of this production, not one single fatality has occurred as a result of the operation of a civilian nuclear power plant in the United States. In comparison, many people die in coal mining accidents every year and approximately ten thousand Americans die every year from pollution related to coal burning.

In the USA the nuclear power industry generates approximately 2,000 tons of solid waste a year. In comparison, coal fired power stations produce 100,000,000 tons of ash and sludge annually, and this ash is laced with poisons such as mercury and nitric oxide.

Source 4

The disposal of nuclear waste is becoming a concern. Nuclear waste is produced at every stage of the nuclear fuel cycle, from uranium mining and reactors to reprocessing irradiated nuclear fuel. Many nuclear power plants around the world are nearing the end of their operating lives. One of the biggest problems facing the nuclear industry is what to do with the radioactive waste generated in a nuclear reactor. Much of this nuclear waste will remain hazardous for thousands or even millions of years, leaving a poisonous legacy to future generations.

Most of the current proposals for dealing with highly radioactive nuclear waste involve burying it underground in deep geological disposals. Whether the storage containers, the store itself, or the surrounding rocks will offer enough protection to stop radioactivity from escaping in the long term is impossible to predict.

“Safe” nuclear reactors are a myth. An accident can occur in any nuclear reactor, causing the release of large quantities of deadly radioactive materials into the environment. Even during normal operation, radioactive materials are regularly discharged into the air and water.

Task

Write your speech outlining why you think Ireland should go nuclear or why you think it shouldn't, Make sure you use the information found within the sources.