

Nuclear power

This essay will be talking about nuclear power and whether it should be used in the future. This essay will also be talking about the social, economic, political, environmental effects of Fukushima and the Chernobyl disaster.

*The nuclear power plant stands on the border between humanity's greatest hopes and its deepest fears for the future.*¹ The first commercial nuclear power stations started operation in the 1950s; and since then, many countries started using nuclear power as a source of energy. This since then foreshadowed unfortunate events. There are over 430 nuclear power reactors operable in 31 countries; they provide over 11% of the world's electricity. According to the World Nuclear Association, France is the most nuclear-dependent nation in 2011; the French have turned to nuclear power because it provides both jobs and power to a country that has little to no natural energy resources. Nuclear power plants don't require a lot of space; they have to be built on the coast, but do not need a large place like a wind farm, another advantage of nuclear power is that a lot of energy is produced from a small mass of fuel and finally it produces a small volume of waste. However it has disadvantages, like Gases released from power plants is considered a main contributor to global warming. Many believe that nuclear power does not cause global warming and that it may actually solve the global warming problem however that may be wrong because it produces heat and, therefore, thermal pollution. Another disadvantage is that disposal of nuclear waste is very expensive; people produce about 2,200 tons yearly with nowhere safe to put it. Currently, the nuclear industry stores the waste in huge concrete structures. France is planning to store its nuclear waste underground, another disadvantage is that nuclear accidents can spread radiation this radiation harms the cells of the body which can make humans sick or even cause death.

*A possible type of reactor disaster is known as a meltdown. In a meltdown, the fission reaction of an atom goes out of control, which leads to a nuclear explosion releasing great amounts of radioactive particles into the environment.*² This disadvantage has caused a massive tragedy; on April 26, 1986, reactor four at the nuclear power plant near Chernobyl exploded, releasing more than a hundred times the radiation dropped on Hiroshima and Nagasaki. The number four RBMK went out of control during a test at low-power, leading to an explosion and fire.

The social effects are that 350, 000 people have been relocated away from the most contaminated areas, 116, 000 of them immediately after the accident. Many parents abandoned their children because they couldn't take care of them in terms of money as many children were born having cancer or birth defects due to the radiation; as millions lived and continue to live in the contaminated area. In Gomel, there is an abandoned babies home, this home has more children with fluid on the brain and after the Chernobyl accident, the amounts of these cases have grown. If a woman is pregnant and lives in a contaminated area, the child will be born with a weak immune system, causing many illnesses. In Belarus, Many people were born with heart defects due to the exposure of radiation; in the neonatal intensive care unit, Gomel, there are approximately 7000 children on a waiting list in a hospital for cardiac surgery who will die without the operation. This hospital lost about 30 children. In Minsk, less

¹ Brain, M. and Lamb, R. 2014. *HowStuffWorks "How Nuclear Power Works"*. [online] Available at: <http://science.howstuffworks.com/nuclear-power.htm> [Accessed: 11 Apr 2014].

² Anon, 2013. *Nuclear Power: Advantages and Disadvantages*. [online] Cyberphysics.co.uk. Available at: http://www.cyberphysics.co.uk/topics/nuclear/advantages_disadvantages_nuclear_power.htm.