

# NUCLEAR ENERGY

## THE BETTER ENERGY

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*Nuclear Energy - The Better Energy is an initiative to create awareness about the applications of peaceful Nuclear Energy. We proudly present our September newsletter.*

### **NUCLEAR 101**

Nuclear 101 is a section where we will bring to you some of the most basic concepts of Nuclear Physics explained in a non-specialist way



With the multitude of applications of nuclear science, it is important that this field is well-regulated and permeated by a culture of safety. Indeed, one of the primary strengths of the commercial nuclear power industry is that it is thoroughly regulated. The industry is monitored at both international and national levels by agencies that enforce policies of safety both for workers as well as facility operation. Other regulations such as nonproliferation are meant to promote peaceful use of nuclear technology.

The International Atomic Energy Agency (IAEA) is an intergovernmental body founded in 1957 in response to the discovery of nuclear science and the development of nuclear reactors. The field of nuclear energy was in its infancy and international standards had to be established for countries beginning to employ nuclear power. Headquartered in Austria, the primary aim of the IAEA is to promote peaceful and safe use of nuclear power and to prevent misuse of this technology.

Currently 171 member states are part of the IAEA. They receive support from the IAEA in areas relevant to nuclear science, such as medicine, environment, and agriculture. Most importantly, these states agree to the safety standards and policies set by the IAEA, one of the most prominent of which is nonproliferation. Member states commit to use nuclear power for peaceful purposes. Generation of isotopes for nuclear weapons is strictly monitored to ensure it does not exceed certain limits. IAEA hence helps monitor the commercial nuclear power industry to enforce policies and regulations that promote safe and responsible use of nuclear energy.

Source: [https://thebetterenergy.net/regulation\\_nuclear\\_energy](https://thebetterenergy.net/regulation_nuclear_energy)

**Visit our website ([thebetterenergy.net](https://thebetterenergy.net)) for latest updates about Nuclear Energy**

# Highlighted Articles

## *Plasma: A Hot Mess*



Written by our member, Dhaval Gadariya, this article serves as the second installment of our Fusion series and introduces the concept of Plasma.

Plasma is commonly known as the 4th state of matter- a mix of electrons, ions and even neutral atoms. The term Plasma has its roots in the ancient Greek language, referring to “moldable substance”. The funny thing is, we are almost always surrounded by at least one form of plasma. Read to learn more about this hot mess.

[READ FULL ARTICLE HERE: \[HTTPS://THEBETTERENERGY.NET/PLASMA-PART-1\]\(https://thebetterenergy.net/plasma-part-1\)](https://thebetterenergy.net/plasma-part-1)

## *Floating Nuclear Power Plants - taking a bold step into the deep*

Written by our member, Vaishnvi Tiwari, this article introduces the novel floating nuclear power plants of Russia. Advancements made in achieving compact, safe and easy-to-assemble designs give nuclear power plants an inherent advantage over other clean energy sources, when it comes to meeting energy requirements in remote locations. This very aspect has been put to use by the Russian State Nuclear Corporation - ROSATOM, that has launched a pioneering floating nuclear power station - Akademik Lomonosov in September 2019.



[READ FULL ARTICLE HERE: \[HTTPS://THEBETTERENERGY.NET/FNPP\]\(https://thebetterenergy.net/fnpp\)](https://thebetterenergy.net/fnpp)

## DID YOU KNOW?

Coal has radioactive uranium and thorium in trace amounts. When coal is burned into fly ash, uranium and thorium are concentrated at up to 10 times their original levels and leach into the soil and water surrounding a coal plant. In fact, **fly ash carries about 100 times more radiation in the surrounding environment than a nuclear power plant producing the same amount of energy.**

Source - [www.scientificamerican.com](http://www.scientificamerican.com)



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