Nuclear Energy

A carbon-free solution

In 2023, Minnesota passed the 100% carbon free by 2040 legislation without a real plan on how we are going to achieve it. The reality is, there is no carbon free resource that can provide baseload power, available 24-7, other than nuclear power.

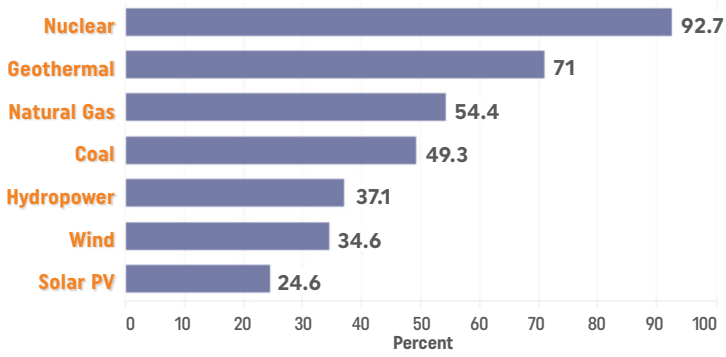
A typical home uses about 11 megawatt hours of energy in a year. Here is the amount of each resource it takes to produce 11 MWH.

92 U **3.5 ounces** of Uranium

1.5 tons of coal

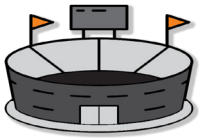
(Carbon Credits) https://carboncredits.com/more-power-per-punch-nuclear-energy-outshines-fossil-fuels/

U.S. Capacity Factor* by Energy Source - 2021



Source: U.S. Energy Information Administration

All the spent fuel from U.S. nuclear reactors since the 1950s would fit into a single football field at a depth of less than 10 yards.



This spent fuel has been safely stored and caused harm to exactly 0 people throughout the life of the industry.

(Source: U.S. Department of Energy)

The used nuclear fuel from one person's entire lifetime of energy use would fit in one pop can.

(Source: Canadian Nuclear Association)

Land use needed to produce 1 million megawatt hours of power:

17,800 acres wind

3,200 acres solar

103 acres nuclear

(Source: Nuclear Energy Institute) https://www.nei.org/news/2022/nuclear-brings-more-electricity-with-less-land

Small modular reactors

Benefits of small modular reactors

- Smaller size
- Siting flexibility
- Enhanced safety features
- Modular build
- Scalability
- Reduced costs

- **We are the only state in the nation that has an outright ban on new reactor construction.**
- **We are advocating for the ability to have conversations about nuclear energy.**

* Capacity factor is a measure of the actual energy produced divided by the theoretical maximum energy produced if operated on a 24-7 basis.

Who is MREA?

The Minnesota Rural Electric Association (MREA) is the statewide organization representing electric cooperatives serving the state of Minnesota. We foster unity among and provide service to all of Minnesota's 50 electric cooperatives. Our mission is serving our members through collaborative leadership and expertise.

www.mrea.org

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