How Much Water Our Electricity Uses

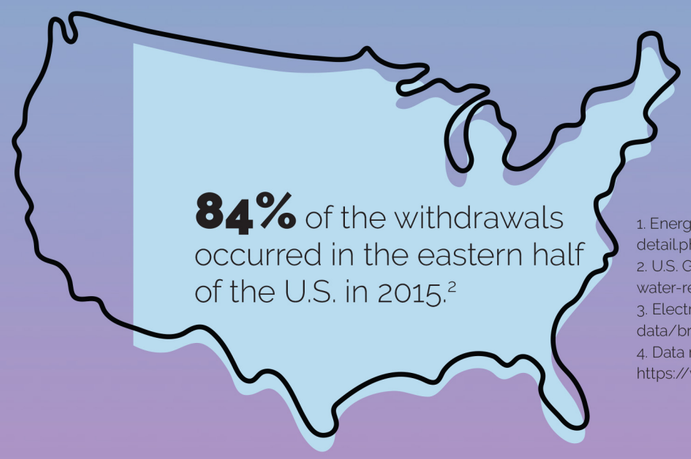
Making electricity requires a lot of water.

11,857 gallons of water

is used **per megawatt-hour** of electricity produced.

The electric power sector used **47.5 trillion gallons** of water in 2020.[1]

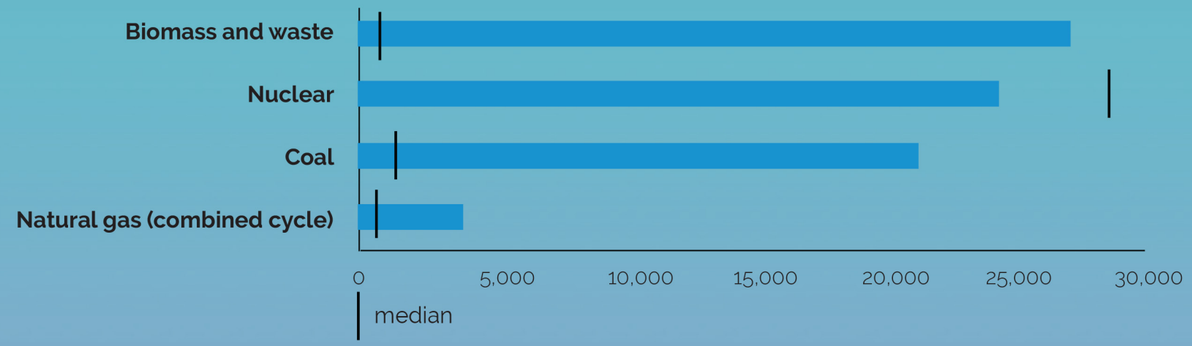
This makes power plants the largest source of water withdrawals, though **most of this water is returned to its source** after helping to cool down thermal generating facilities, such as those using natural gas, coal, or nuclear fuel.

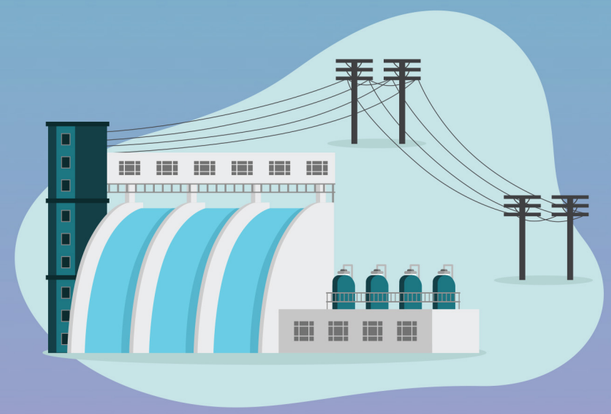


84% of the withdrawals occurred in the eastern half of the U.S. in 2015.[2]

Average water withdrawal by generation type, 2020[3]

In gallons per megawatt-hour





Plus...

more than **1,400 hydropower facilities** generated more than **278,520,000 MWh** of electricity in 2020.

Using less

Since 2015, total water use by the sector has declined more than 10%, and the water use intensity has declined more than 20%. This can be attributed to the changing generating mix and to the deployment of technologies and systems that reduce the need for water at thermal plants.

Certain types of natural gas-fired facilities already have low water use by relying on dry cooling systems — essentially fans — instead of water. Some next generation advanced nuclear systems, such as a small modular reactor project in Idaho with Utah Associated Municipal Power Systems and NuScale, are exploring deploying dry cooling, which could reduce water usage by 90%.[4]

1. Energy Information Administration. https://www.eia.gov/todayinenergy/detail.php?id=50698
2. U.S. Geological Survey. https://www.usgs.gov/mission-areas/water-resources/science/thermoelectric-power-water-use
3. Electricity Data Browser, EIA, https://www.eia.gov/beta/electricity/data/browser/.
4. Data reflects what was submitted to EIA. https://www.nei.org/news/2020/nuclear-solution-for-climate-energy-water