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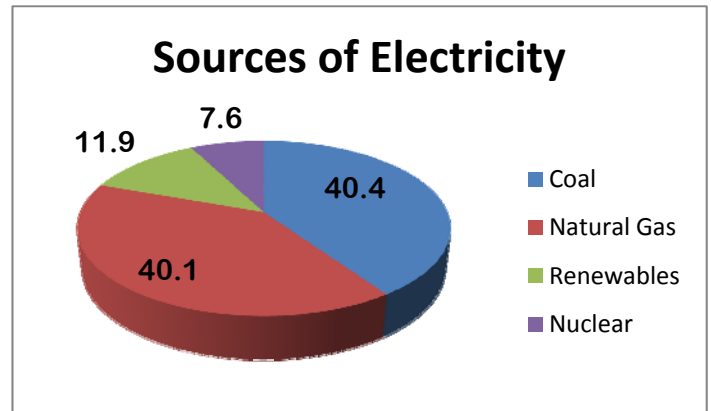
Watt Does It Take to Power Rochester?

Everything from streetlights to night lights and all your household appliances run on electricity. In 2013, Rochester's electrical demand required 1,225,000 megawatt hours to keep humming along. That would power more than 28.3 million 60-watt incandescent bulbs day and night for a month.

The vast majority of Rochester's electricity—

80.5 percent—is generated by burning fossil fuels such as coal and natural gas. Another 11.9 percent of Rochester's electric power comes from renewable resources such as wind energy, hydroelectric and solar power. The remaining 7.6 percent comes from nuclear power.

Generating electrical power for Rochester in 2013 required more than 915,000 tons of CO₂. That's roughly 16,000 pounds of CO₂ for each resident of the city. That is equivalent to burning 824 gallons of gasoline.



How much money leaves our community to pay for our power?

Production of the electricity that powers our homes comes at a cost. Several costs, in fact.

When you turn on the lights or click on the TV and as your appliances run through the day and night, more than 80% of that power is produced from the burning of fossil fuels. To generate its 1.225 million megawatts hours of electricity in 2013, the city's electricity costs included \$17.4 million for natural gas and \$4.2 million for coal.

But without any coal mines or natural gas fields in or around Rochester, that means all that money leaves our community and is burned into CO₂. While Rochester must send money outside the community to purchase fossil fuels, the city has abundant sunshine. Curt Shellum, owner of Solar Connections in Rochester, said that while sunshine varies from month to month, Rochester's yearly sunshine would be rated from good to very good. "Minnesota actually rates quite good in overall available sun," he said. "Over the course of a year, our sunshine is only 25% less than the Southwest."

The cost of producing solar electricity for a typical residential system—with rebates and tax incentives—will pay for itself in eight to 10 years. That same system's warranty is good for 25 years and expected to last beyond 30 years. After the system has paid for itself, there are no associated fuel costs to continue producing power.

In Minnesota, there has been an increase in utility-scale solar photovoltaic systems and community solar gardens. As the size of solar systems increases, the cost per kilowatt goes down. There are still many utilities in Minnesota that cannot offer community solar as an option, but that may be changing as consumers demand access to solar power.

Where does Rochester's electricity come from?

Rochester gets its electrical power from a variety of sources, some close to home but most through a far-flung pair of power providers. Electricity users—whether residential, commercial or industrial—buy their power from Rochester Public Utilities. But where does RPU get its power?

With the closing of the coal-burning Silver Lake Plant, RPU's local sources include the twin turbines of the 83-megawatt Cascade Creek Combustion Turbines, which burn natural gas for power, and the 2.6-megawatt Lake Zumbro Hydro Plant, that uses the lake's spillway to generate electricity.

The remainder of Rochester's energy comes from Southern Minnesota Municipal Power Agency (SMMPA) through the Midcontinent Independent System Operator power grid. The power purchased from SMMPA, which includes the first 216,000 kilowatt hours each day, is broken down into 80.5% fossil fuel-generated power—coal and natural gas—plus 11.9% from renewable resources such as wind energy, hydroelectric and solar power. The remaining 7.6% comes from nuclear power.