



Switch Reliable Energy from Renewable Sources

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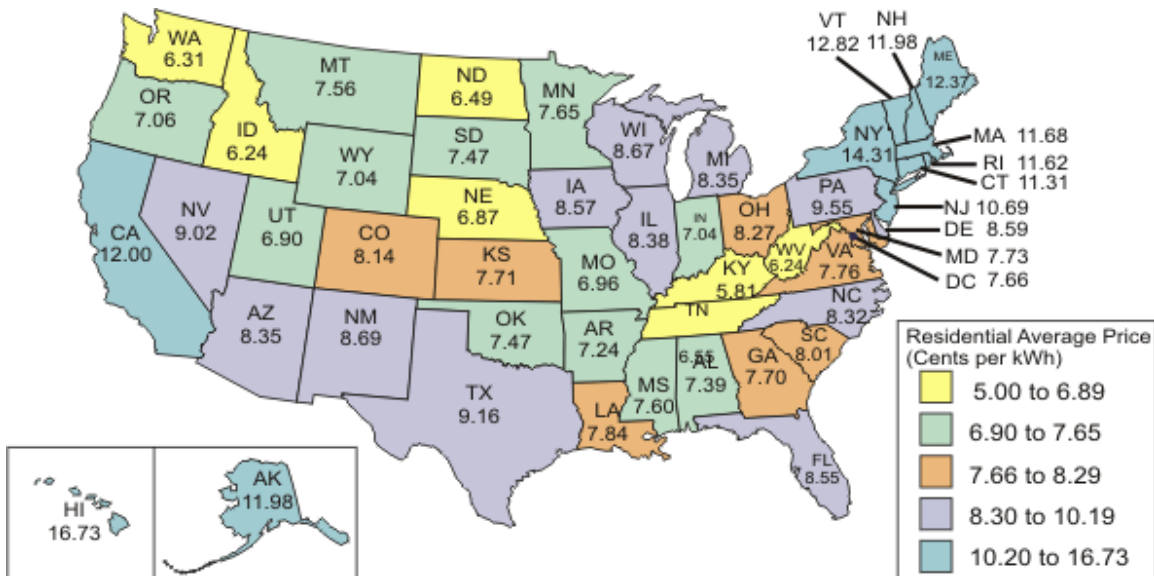
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What Does Your Electricity Really Cost?

Consumer Electricity Costs

Every month we are reminded of the cost of electricity when we get the electric bill. Though your costs may stay constant, the price of electricity varies wildly across the United States. In the northeast and California, it is over twice as expensive as in the northwest and West Virginia. The price of electricity is determined by a number of factors including the availability of resources for producing power and taxes.

Average Consumer Costs of Electricity by State in 2003



Source: Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

The costs show in the graphic above are average costs, which are somewhat deceptive. The costs paid by a customer will vary day by day and hour by hour. For instance, during peak hours of power usage, electric costs are higher than they are during the rest of the day. Customers will not see this in their bill. They will only see an average cost. Generally speaking, costs are highest at mid-day when most people are at work. For businesses, this means their electric charges may be sharply higher during peak hours. Reducing electric use during peak demand hours therefore has a larger effect on energy costs than reducing electric use during non-peak hours.

Costs not Accounted for in the Bill

There are other costs for electricity that you will not find in your monthly electric bill. These are the social and indirect costs of generating electricity. Society must pay these costs in reduced productivity, a degraded environment, reduced agricultural output,



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and increased health care spending. There are two sources of these extra costs: pollution and power outages.

The Costs of Pollution

Americans living in many urban areas see pollution every day in the form of brown air and smog. Polluted air is not just unseemly to look at, it is also very unhealthy. Air pollution causes numerous health problems for Americans, including bronchitis, asthma attacks, and other ailments. These cost the U.S. millions of dollars annually in additional health care. They also reduce the productivity of U.S. workers and the U.S. economy. Air pollution also damages crops, forests, and other economically valuable resources. The overall effect of air pollution is that it costs the United States billions of dollars annually. Because these costs are indirect, they are not reflected in your electric bill, but they do affect you and everyone around you.

Power plants that use coal are the primary contributors to air pollution among electricity producers. These plants are most common in the Midwest and Appalachia, where coal is abundant and cheap. Reducing pollution levels from coal plants to minimal levels would cost about 1 or 2 cents per kilowatt hour (kWh).

The Costs of Power Outages

Outages occur all the time in many different areas. They may be widespread, such as the outages after a natural disaster, or very isolated, such as outages from an animal or falling tree interfering with local electric delivery. Either way, they have a very negative impact on the U.S. economy that is not directly reflected in electric costs. Power outages cost the United States an estimated \$80 billion annually. Putting this cost on your electric bill would amount to every American paying an additional cent per kWh. This is a 12.5% increase for the average residential consumer and a 25% increase for an industrial consumer.

Uninterrupted electric supplies are very valuable to Americans. A study in California indicated that Americans were willing to pay a premium to avoid power interruptions. Residential consumers were willing to pay an extra 1 to 4 cents per kWh and commercial consumers were willing to pay an extra 10 to 15 cents per kWh to get electricity during an average.

Americans do pay these costs to avoid power outages. Uninterruptible Power Supplies (UPS) are battery banks commonly used to keep computers from crashing during a power outage. These are expensive relative to electric costs, Put in terms of electric costs, UPS cost about 40 cents per kWh. This is over three times as expensive as the highest priced residential electricity costs in the U.S.

On-site Renewable Power

Depending on the technology used, the application, and the location, on-site power can cost between 4 and 40 cents per kWh. This is comparable to the costs of grid power in many parts of the United States. Adding pollution and outage costs to the



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electric bill from the grid makes electricity much more expensive. It also makes technologies that do not produce pollution and lower the chance of power outages more valuable. This is what on-site power from renewable energy sources does. It provides low or no pollution energy and provides additional power that can be used by a consumer or community to keep the lights on while the rest of the grid goes down.