

Transforming Power of Electricity

Chances are you haven't had to live without electricity for more than a few hours during a blackout or a few days while camping. Ninety years ago – and for thousands of years before that – **things were very different**. Once electricity became commonplace, people never looked back.

Bright New World

In 1882 Thomas Edison switched on his first power plant and brought electricity to 59 homes. By 1930, less than 50 years later, almost everyone in big cities had electricity – completely transforming daily life. **People could suddenly read, work, cook, and socialize easily after dark**. Streets were safer thanks to bright, electric street lamps. Homes were safer, too: Electric lights meant fewer gas lamp fires. **Electricity ushered in modern America and the high-tech world.**



From Power Plant to Your Home



Energy zips over long distances on the power grid, an interstate highway system for electricity. The National Academy of Engineering named this distribution network one of the greatest achievements of the 20th century. But, to function well in a 21st century world, the power grid needs to be updated to accommodate increased use, replace aging parts, and integrate smaller, local sources of renewable power.

The Power Grid of the Future

One way to upgrade the power grid (see diagram on right) is to create many, smaller, regional power grids. If we generate energy closer to where it is used, power can be more efficient, reliable, and secure. Integrating many new power sources is a technological and policy challenge.

