

Chapter 19: Technological Advances and Economics in the Global Age: 19-1c Energy  
Book Title: The Earth and Its Peoples: A Global History 7th Edition Update, AP® Edition  
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## 19-1c Energy

Electricity, produced in industrial quantities since the 1890s, transformed home life in Europe and North America by attracting private customers. Middle-class homeowners wanted to replace their gas lamps with tungsten filament incandescent bulbs, which improved greatly in brightness and durability between 1904 and World War I. Household items like electric irons, fans, washing machines, and hot plates followed.

Outside of Europe and North America, however, the small size of the middle class made private subscription a poor business model. Electrical generators might be acquired to run factories or light a ruler's palace, but an appliance-oriented lifestyle was slow to develop. Consequently, the foot-operated sewing machine, which had undergone a long development in America and Europe in the nineteenth century, had a wider global spread before World War II than any other appliance. The enormous Japanese electronics company Brother Industries, Ltd. began in 1908 as the Yasui Sewing Machine Company.

In the wake of World War II and the harnessing of nuclear fission for military purposes, scientists developed a method to generate nuclear energy for civilian use in nuclear reactors. The United States, the Soviet Union, Western Europe, and Japan initially embraced the generation of virtually unlimited amounts of energy from enriched uranium as the solution to the energy challenges of the industrial age. Environmental consequences dampened that enthusiasm after the partial meltdown of the Three Miles Island plant near Harrisburg, Pennsylvania, in March 1979. The explosion of a reactor at Chernobyl near Kiev in today's Ukraine in April 1986 killed at least 30 people directly, and between 4,000 and 6,000 over the subsequent years, while permanently injuring or sickening countless others; it also raised global alarm and motivated a decades-long antinuclear power movement across Europe. Revelations about the scandalous attempt of Soviet officials to cover up the disaster to avoid political embarrassment were a major factor in Mikhail Gorbachev's embrace of government reform (see [Chapter 18](#)). In 2011, a tsunami triggered another nuclear meltdown at the Fukushima power plant in Japan, further highlighting the importance of safer carbon-neutral fuels such as solar energy, wind, and geothermal energy.

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