Developing Energy to Power the Nation

Back to Geosciences Supporting a Thriving Society in a Changing World

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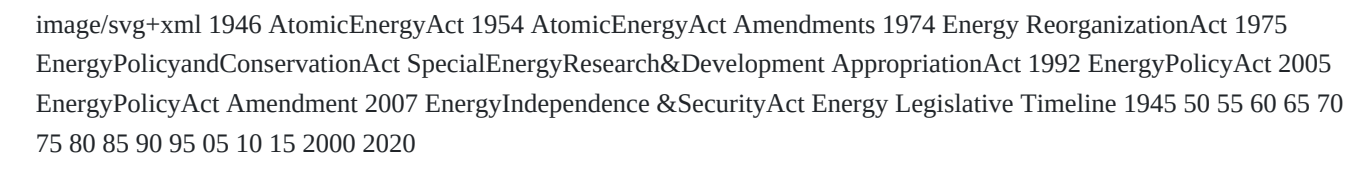
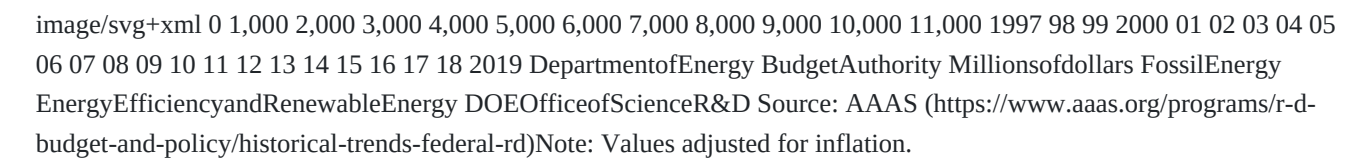
Energy supports economic growth and national security and is essential for all elements of daily life— food, water, transportation, communication, and entertainment. The United States' robust and secure energy systems enable our high quality of life. Geoscientists find and develop earth- and ocean-sourced energy resources, such as oil, natural gas, coal, uranium, and geothermal hotspots. They also find and develop the raw materials needed for renewable energy sources: concrete and metals for dams, critical metals for wind turbine generators and solar installations, and battery storage metals like lithium and cobalt. In addition, geoscientists help determine appropriate locations for energy infrastructure including refineries, transmission lines, dams, and

wind farms.





For an energy-secure nation:

Assess the quantity, quality, and location of energy resources. Geoscientists improve understanding of energy resources, enabling decision makers to create robust energy policies and allowing energy producers to develop resources more efficiently.
Develop the Nation's diverse energy sources. The United States relies on a variety of energy sources including petroleum, natural gas, coal, nuclear, hydroelectric, geothermal, wind, and solar. The continued responsible exploration for and development of all energy sources, including emerging energy sources, is critical to ensure reliable energy supplies for the future.
Study and implement solutions that reduce the environmental impacts of energy extraction and generation. Geoscientists perform life-cycle analyses of the short- and long-term impacts of energy development, use, and waste disposal that inform energy policy decisions. Geoscientists are critical to finding and developing appropriate sites for waste products from the Nation's energy production, including nuclear waste repositories, underground injection sites, and landfills, as well as potential sites for carbon capture use and storage. They evaluate and develop renewable energy sources close to markets to reduce environmental impacts from long supply chains.