UTAH OFFICE OF ENERGY DEVELOPMENT

# NUCLEAR

Nuclear power is the generation of electricity through nuclear reactions, primarily using uranium as a fuel source. In nuclear power plants, uranium-235 atoms undergo nuclear fission, where they are split apart, releasing enormous amounts of heat and energy.

## DEFINING ENERGY

### Uranium

(n) Uranium is a silvery-white radioactive metallic chemical element with atomic number 92, naturally occurring in low concentrations in rocks, soil, and water. Uranium is the heaviest naturally occurring element which can be found abundantly on earth.

Current theories suggest that earth's uranium was formed billions of years ago in various supernovas or from the collision of neutron stars.

U.S. nuclear power plants are already among the safest and most secure industrial facilities in the world due to the industry's commitment to comprehensive safety procedures, robust training programs and stringent federal regulation that keep nuclear plants and neighboring communities safe.

Currently **94** commercial nuclear reactors help to power homes and businesses in **28** states.

Nuclear power plants produce nearly **1/2** of the nation's emissions-free electricity, making it the largest source of carbon-neutral power in the United States.

The uranium needed to satisfy an average Utahns lifetime energy needs can fit in a coffee mug.

While Utah does not currently have nuclear power in its energy mix, Pacificorp has partnered with Terrapower to construct a nuclear power plant in Kemmerer, Wyoming. They have discussed replicating this power plant's design in Utah.

Radiation from nuclear fuel warrants attention, but is easily managed. All the nuclear waste currently in the United States can fit into a single football field.

## HISTORY HIGHLIGHT

*During the Uranium boom of the 1950s, 8,000 Utahns were employed by the uranium industry and Moab was known as the "Uranium Capitol of the World."*