Alliance for Innovation and Infrastructure Energy Spotlight



Nuclear energy is derived from naturally occurring uranium ore extracted from geologic formations. These elements must be mined, milled, converted, and enriched – a multistep process including a number of facilities and chemical processes – before it can be used as fuel. The process of nuclear fission – or the splitting of atoms – is used to release energy in the form of heat. This heat is then used to turn a turbine that generates electricity. In the U.S., nuclear power generates around 20 percent of electricity on the energy grid, while nuclear power is also utilized by maritime vessels, spacecraft, and military installations, in addition to applications in medicine and agriculture.





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## U.S. Nuclear Material Reserves

The United States has its own reserves of uranium and phosphate deposits. These are currently accessible through highly regulated mining activity and concentrated on federal land. Nuclear material deposits are determined in part by economics, making price an implicit factor in the available reserves. Over time, these reserves can actually increase, as new geologic formations are identified and as technology improves to recover previously unreachable reserves. Nuclear fission produces no emissions, however, the mining for fuel and the construction process to build nuclear plants is highly energy and material intensive and costly. While the U.S. imports around 90 percent of its uranium, nuclear waste is safely and securely stored on site.



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