

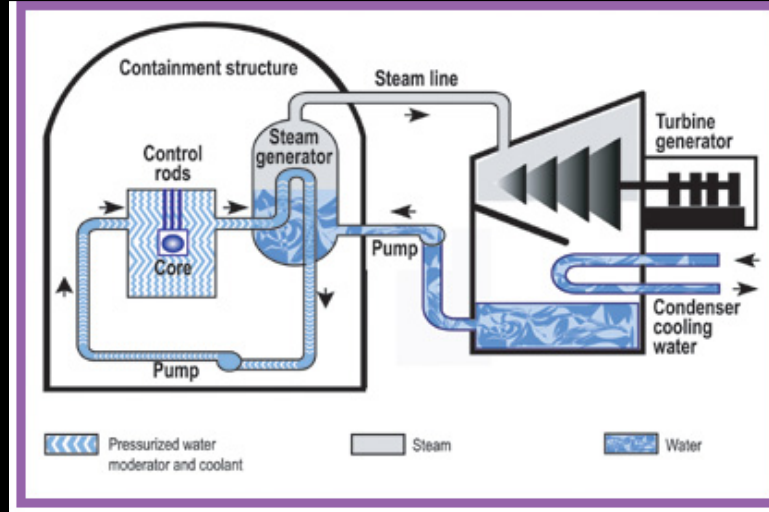
Nuclear Power Factsheet

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April 21, 2015

Key Terms:

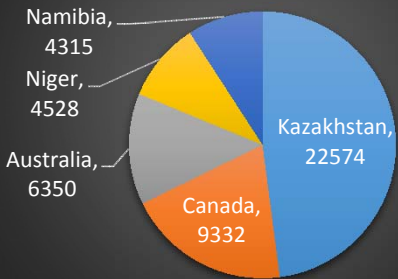
- ❖ Fission
- ❖ Uranium-235
- ❖ Reactor Core
- ❖ Control Rod
- ❖ Radioactive Byproduct
- ❖ Meltdown

Plant Diagram

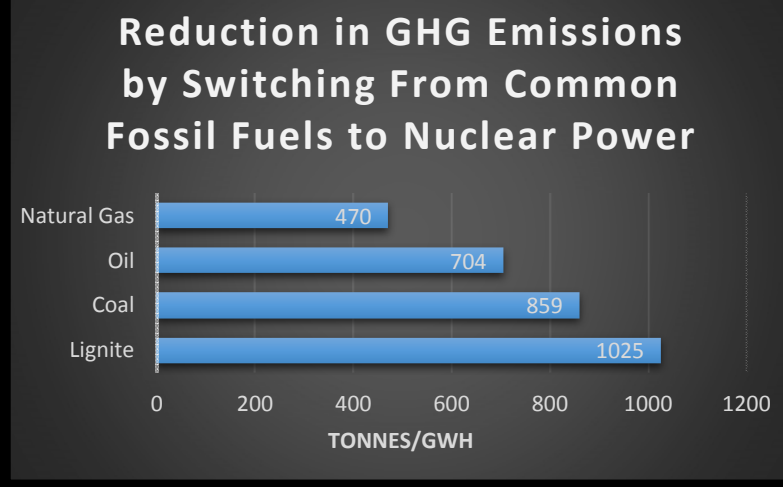
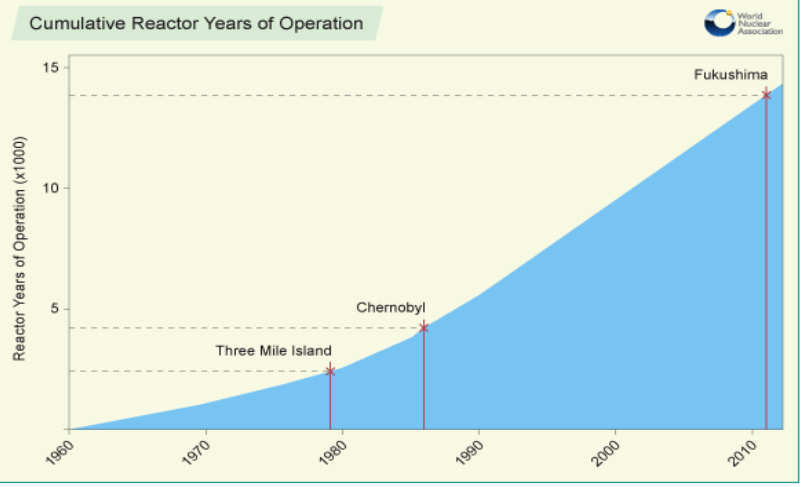


Overview: The fission of uranium atoms releases energy that can be used to power a steam turbine and generate electricity. The core of a nuclear reactor contains about 75 tonnes of enriched uranium per 1000 MWe.

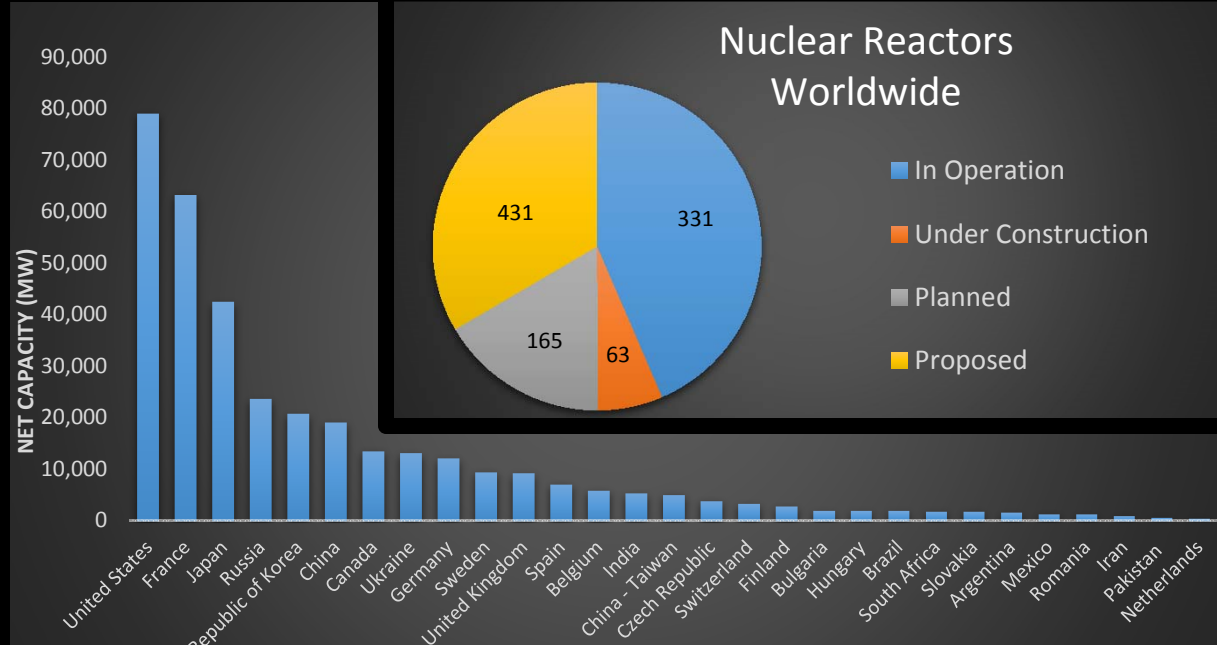
Top 5 Uranium Producing Countries (tonnes)



Reactor accidents are becoming less frequent over time although use of nuclear power is increasing steadily



- ### Risks:
- ❖ Radiation – Subatomic radioactive particles traveling at nearly the speed of light can penetrate deep inside the body where they can cause cell damage or cancer.
 - ❖ Reactor Meltdowns – Though very rare, a reactor meltdown may cause 400 deaths.
 - ❖ Disposition of Radioactive Waste and Spent Fuel



Factsheet Sources

Overview:

World Nuclear Association. "How a nuclear reactor works." 2015

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Top 5 uranium producers:

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Plant Diagram:

World Nuclear Association. "How a nuclear reactor works." 2015

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Cumulative Reactor Years of Operation vs. Nuclear Accidents:

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<http://www.world-nuclear.org/info/Safety-and-Security/Safety-of-Plants/Safety-of-Nuclear-Power-Reactors/>

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<http://www.world-nuclear.org/Nuclear-Basics/Greenhouse-gas-emissions-avoided/>

Risks:

Bernard L. Cohen. "Risks of Nuclear Power".

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Nuclear production by country:

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<http://www.nei.org/Knowledge-Center/Nuclear-Statistics/World-Statistics/World-Nuclear-Power-Plants-in-Operation>

Nuclear Plants Worldwide:

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<http://www.world-nuclear.org/info/Facts-and-Figures/World-Nuclear-Power-Reactors-and-Uranium-Requirements/>