



Uranium Mining For better or for worse?

1970s
Nuclear power expands following oil shocks.

1979
A partial meltdown at the Three Mile Island nuclear plant near Middletown, Pa., triggers cancellations of plans for new plants and tighter regulations on reactors.

1980s
An explosion at a nuclear plant in Chernobyl, Ukraine, increases concerns about nuclear power safety.

Jan. 7, 1983
Nuclear Waste Policy Act directs Department of Energy (DOE) to take charge of spent nuclear fuel by Jan. 31, 1998.

April 26, 1986
An explosion at the Chernobyl nuclear power plant kills 50 emergency workers and causes thousands of cases of radiation illness in Ukraine and surrounding countries.

1997
The U.S. and more than 150 other nations sign the Kyoto Protocol, which sets targets and timetables for cutting industrialized countries' greenhouse-gas emissions to slow global climate change.

2001
President Bush's energy policy calls for expanding nuclear power.

2002
Opposition group reveals that Iran is building a uranium-enrichment plant that could be used for civilian or military purposes. IAEA reveals Iran has carried out secret nuclear research for 18 years.

2003
New Hampshire awards economic credits to the Seabrook nuclear power plant as a non-polluting energy source. . . . North Korea withdraws from Nuclear Non-Proliferation Treaty.

2004
Nine U.S. nuclear energy companies form the NuStart consortium to seek licenses for advanced nuclear reactors at two sites by 2011.

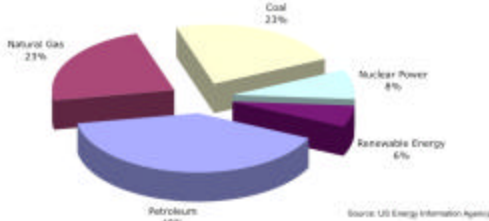
2005
Energy Policy Act of 2005 provides loan guarantees and tax credits for new, advanced nuclear reactors and extends liability protection for the nuclear industry. . . . DOE delays the opening date for the nuclear waste repository at Yucca Mountain.

2006
In his State of the Union address, President Bush calls for more reliance on nuclear power to break America's "addiction" to oil. . . . On March 2 Bush agrees to a controversial plan to end a decades-long moratorium on sales of nuclear fuel and reactor components to India, allowing it to expand its nuclear power while continuing to develop nuclear weapons.

Environmental Impact

The principal risks from uranium tailings are gamma radiation, essentially from uranium decay, windblown radioactive dust dispersal, and radon gas and its radioactive progeny, which causes lung cancer. "Uranium mill tailings are often associated with elevated concentrations of highly toxic heavy metals, which are a major source of surface and ground water contamination. Due to their high sulfate content, tailings may acidify ground water accelerating the release of radioactive and hazardous elements."

U.S. Energy Consumption



Surveys

Pros	Cons
-Alternative energy resource	-Neither milling or uranium mining plants are proven to be safe
-No greenhouse gas emissions	-Water pollution
-Growth for local economy	-Possible long term effects to surrounding animal, plant, and human life

Radioactivity

Radioactivity is the spontaneous emissions of particles of energy from an atomic nucleus as it disintegrates. Beta particles would be emitted from the uranium process. Beta particles are high energy electrons. Radiation occurs in daily life and the average American receives 360 millirems of radiation a year, which is significantly lower than the allowed amount of 5000 millirem a year.

Economic/ Social/ Human Impact

Where is the profit of mining uranium going?

Two different answers have been found to this question. The Southside Community of Concerned Citizens claims that a 4% tax will fund a foundation to be headed by Virginia Uranium Mining Inc. While the VUI claims the 4% tax will be reinvested into the surrounding counties.

Why is Pittsylvania county a legitimate location?

The average income in Pittsylvania County is 35.4% lower than the median in the state of Virginia. Furthermore, the unemployment rate was 5.4%, nearly double the overall percentage of Virginia (3%). The development of a uranium mine could potentially provide 300-500 direct jobs as well as numerous spin-off jobs. Pittsylvania County's economic position has been in a long term decline with 12.1% of the population living below the poverty threshold.

Top Left: uranium ore at 643 feet.
Top Right: uranium core drilling
Bottom Center: Worker breaking up uranium core samples.



Readings on Scintillator of Uranium Deposits on Colés Hill

Class Consensus

Every member of our class agreed to the necessity of performing the study. However, opinions differ as to whether or not to actually mine uranium in the heart of Virginia!

Pro	Con	Undecided
7	3	5

Reference List Potential uses

Why do we need to mine uranium?

The primary use of uranium is for energy source. Uranium is an emission-free alternative to fossil fuels.

Uses of fossil fuels

- Electricity
- Transportation
- Heating and Cooling

References

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