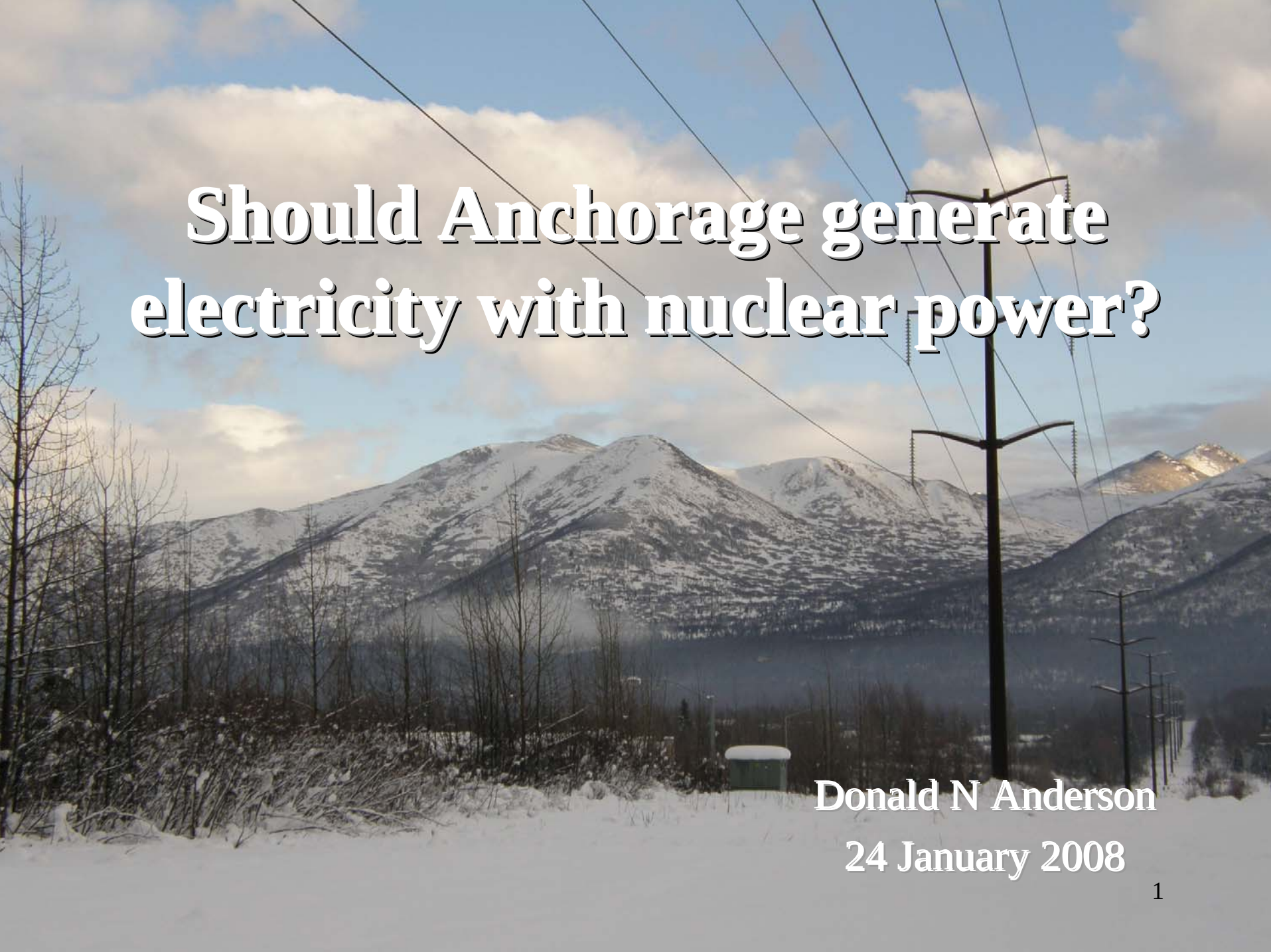
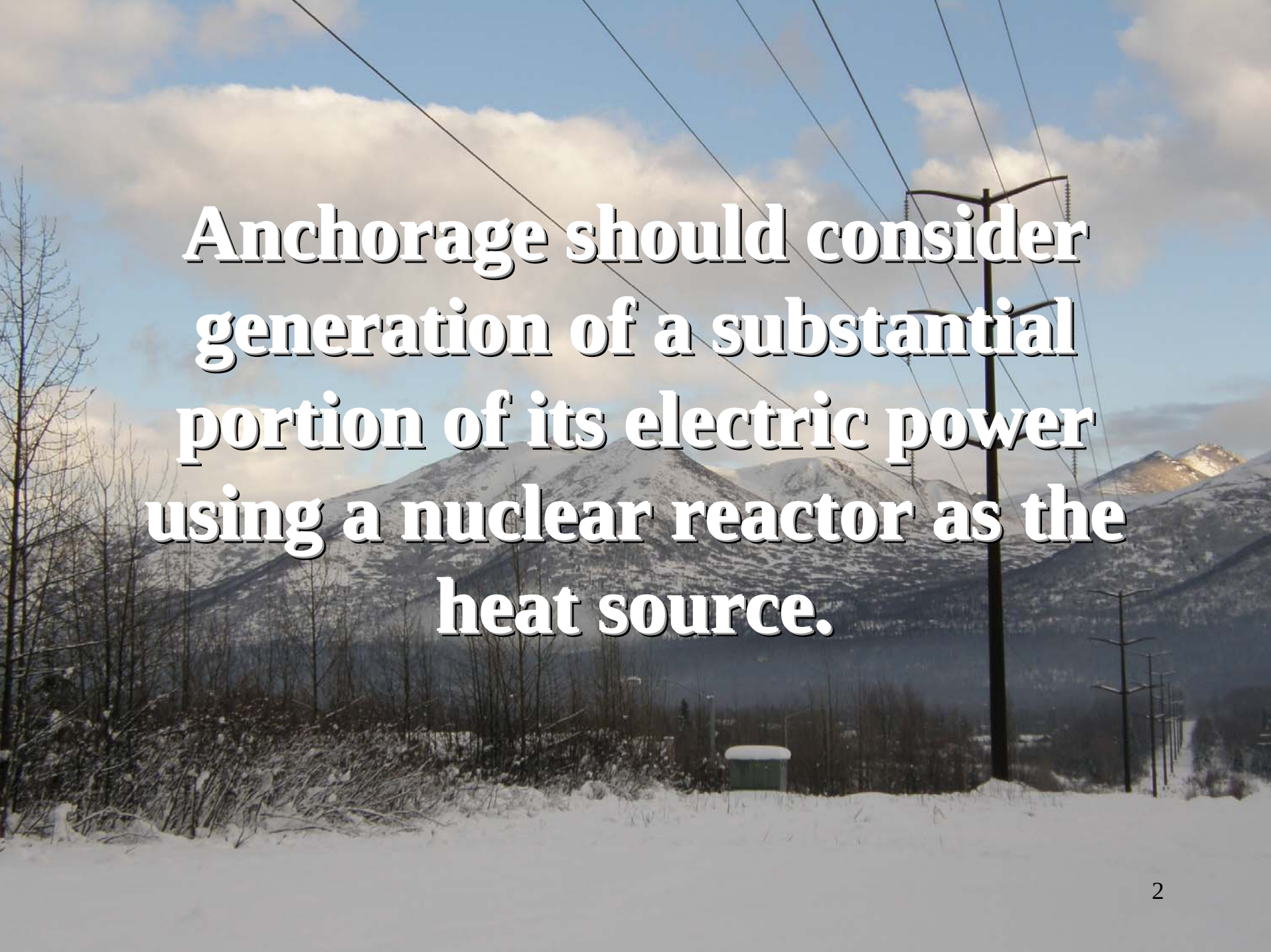


Should Anchorage generate electricity with nuclear power?

Donald N Anderson

24 January 2008


Anchorage should consider generation of a substantial portion of its electric power using a nuclear reactor as the heat source.

The 30-year shutdown in U.S. nuclear power construction.

- It was new
- Public experience with it was very limited
- Only a short track record was available to evaluate wild claims
- It was also mysterious
- It was connected to those horrendous bombs
- It invisibly caused cancer and death

Nuclear fear-mongers

"Plutonium 239, one of the most dangerous elements known to humans, is so toxic that one-millionth of a gram is carcinogenic"

– Helen Caldicott.

"[A nuclear accident would result in] up to 100,000 deaths and the destruction of an area the size of Pennsylvania"

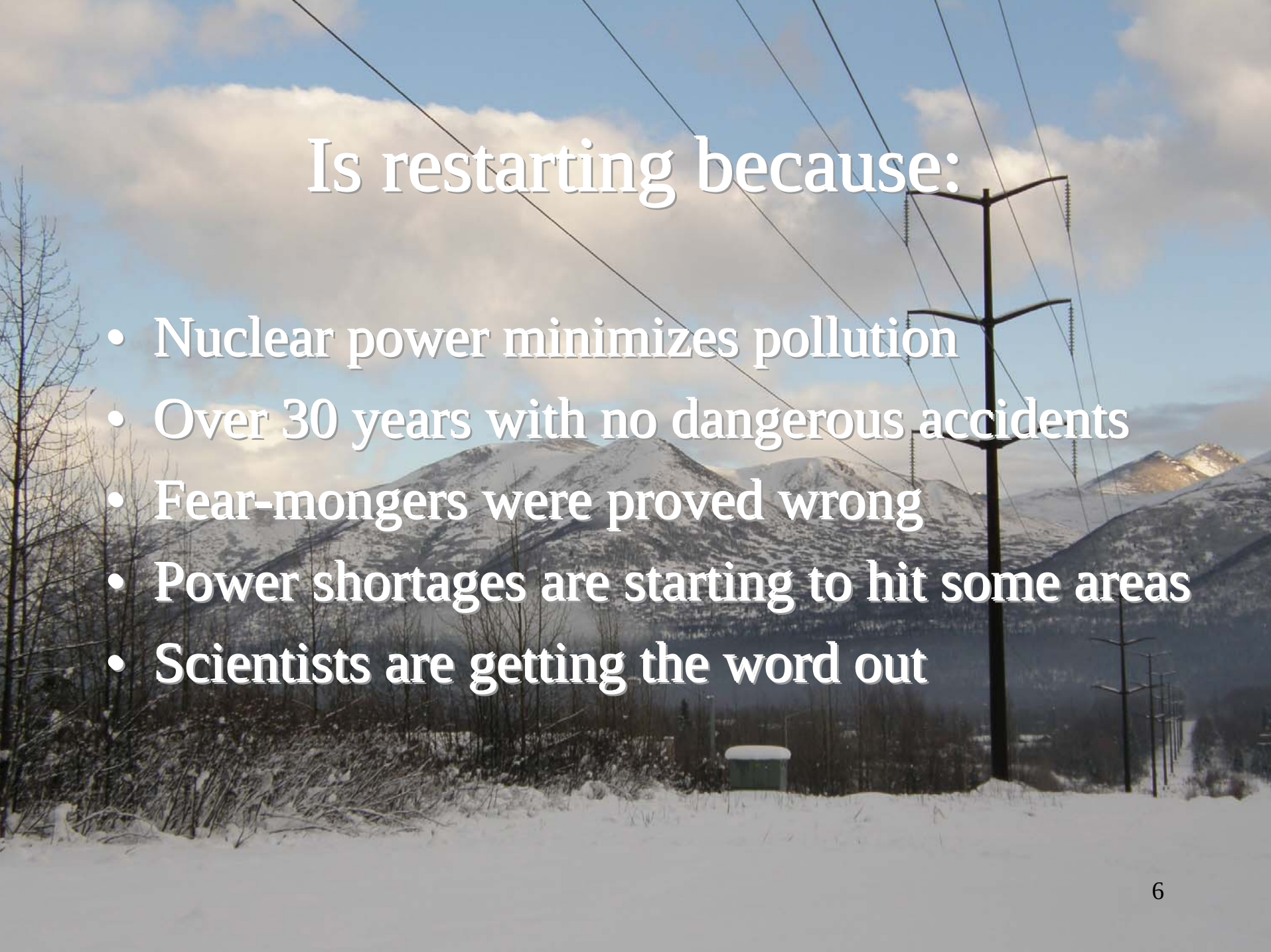
– Ralph Nader.

"When things went awry at the Enrico Fermi reactor near Detroit, four million people went about their business in happy ignorance, while technicians tinkered with the renegade's invisible interior. They knew what the public did not – a mistake could trigger a nuclear explosion"

–M.E. Gale.

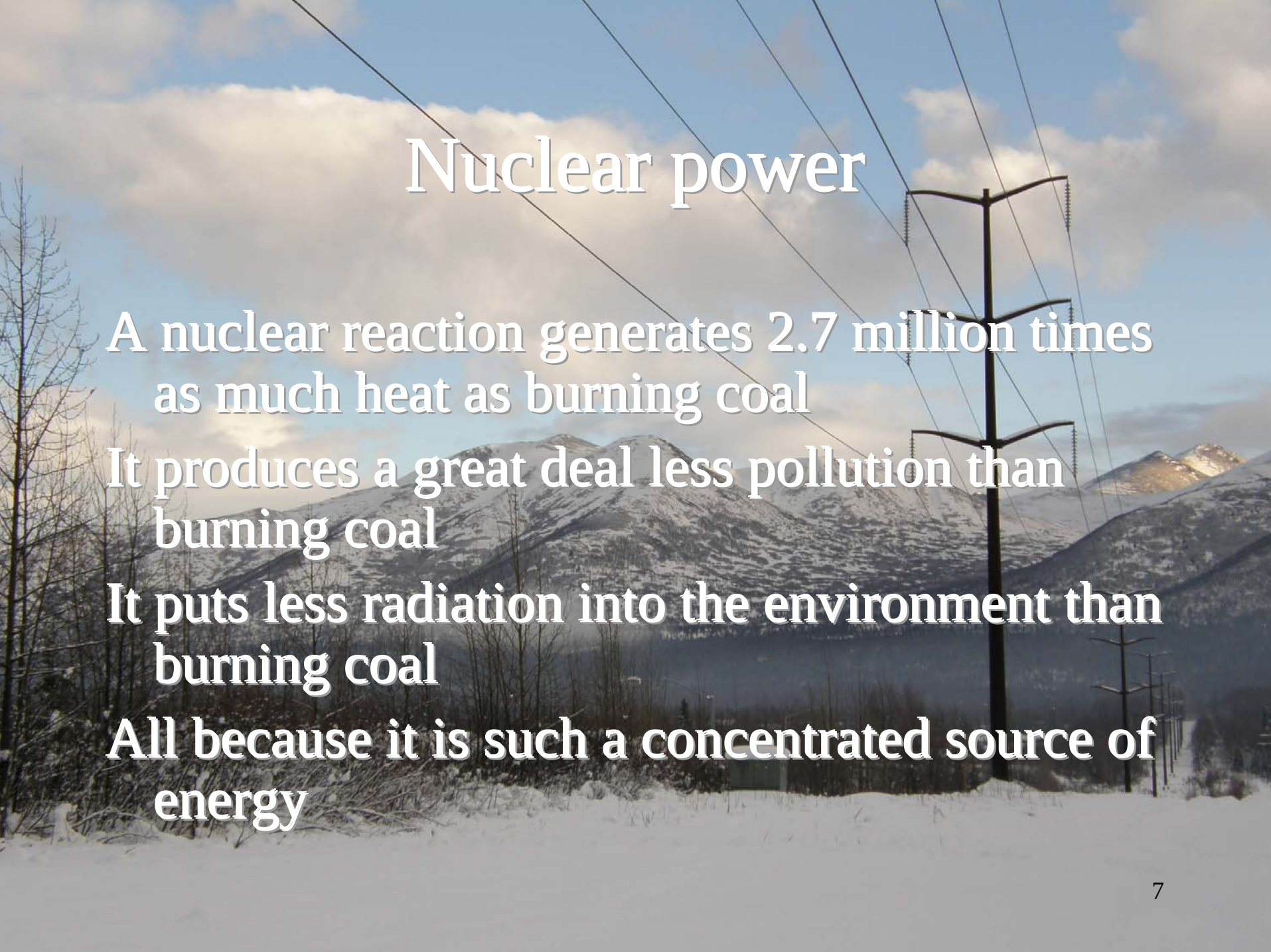
Construction was stopped by:

- Lawsuits
- Delaying injunctions
- Over-regulating
- Protests
- High interest rates
- Three Mile Island



Is restarting because:

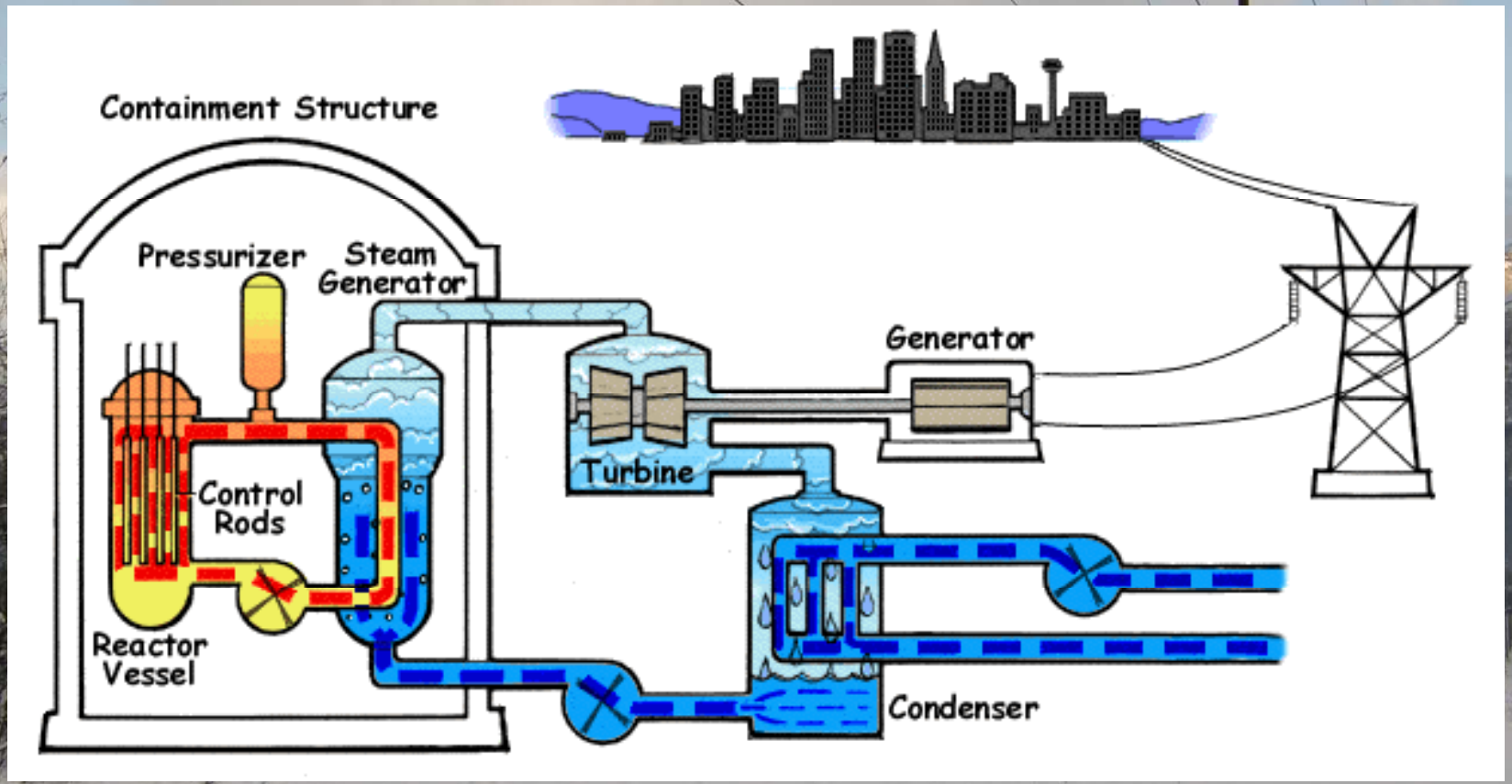
- Nuclear power minimizes pollution
- Over 30 years with no dangerous accidents
- Fear-mongers were proved wrong
- Power shortages are starting to hit some areas
- Scientists are getting the word out

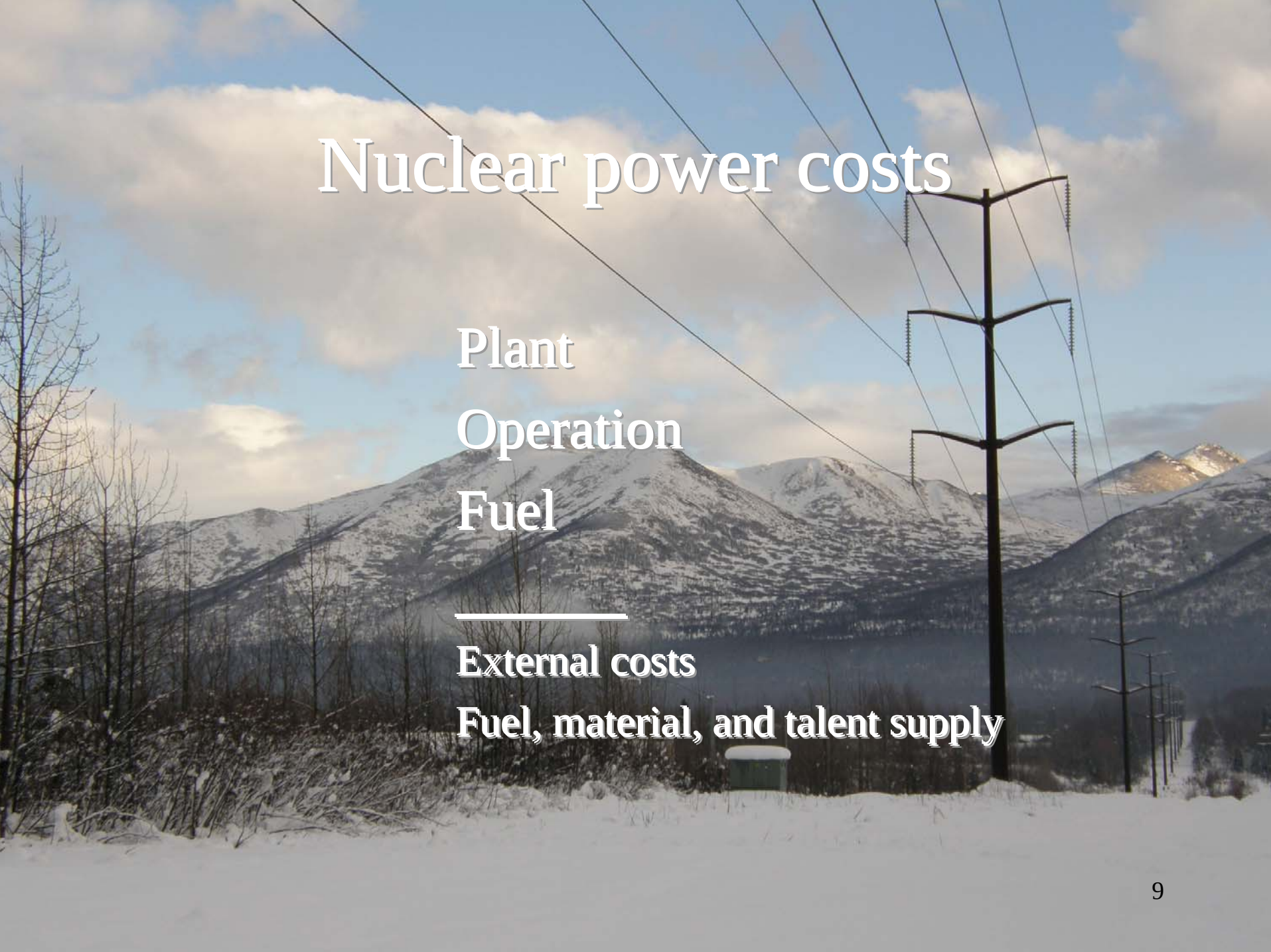


Nuclear power

- A nuclear reaction generates 2.7 million times as much heat as burning coal
- It produces a great deal less pollution than burning coal
- It puts less radiation into the environment than burning coal
- All because it is such a concentrated source of energy

A pressurized water reactor (PWR)





Nuclear power costs

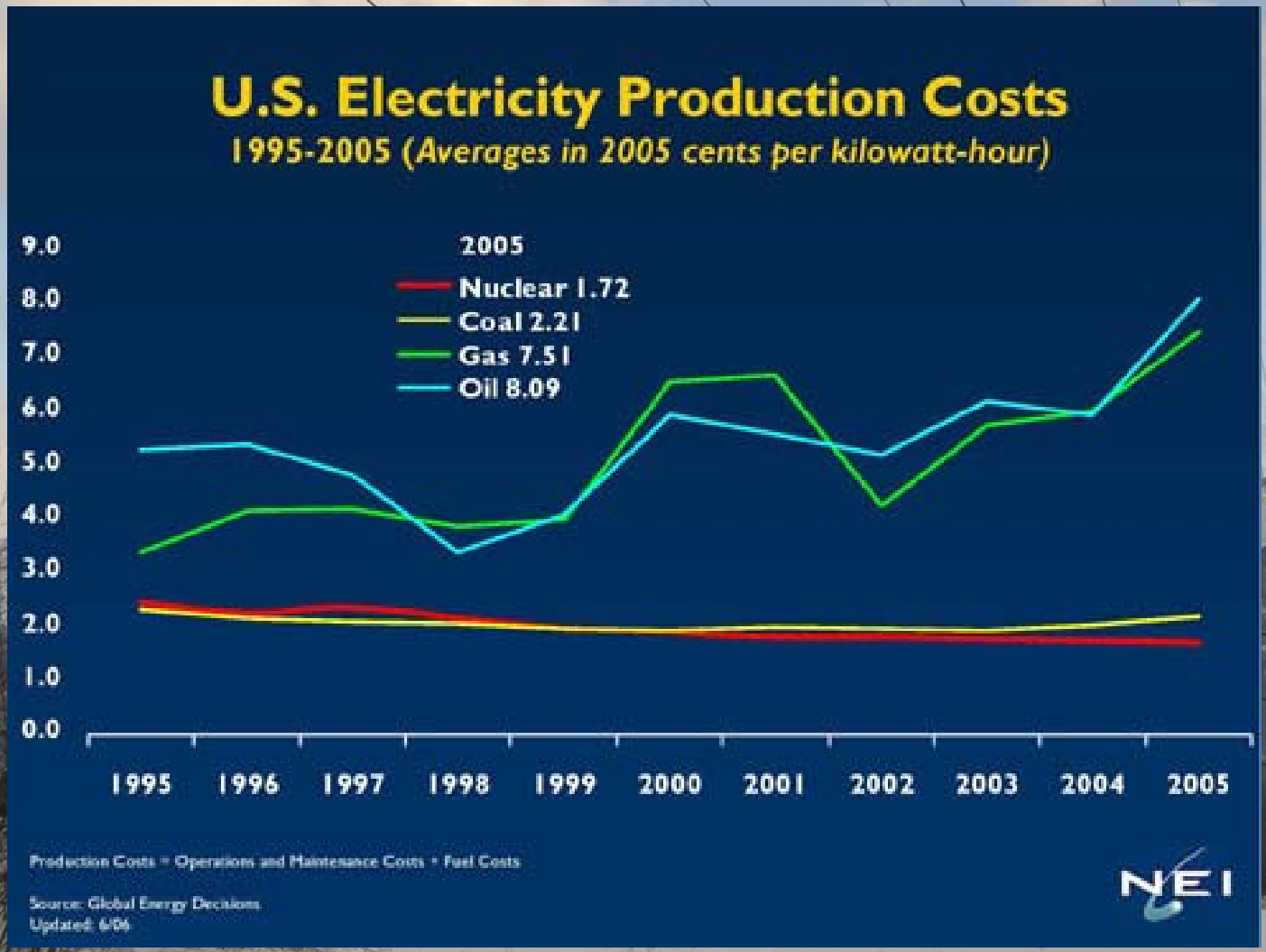
Plant

Operation

Fuel

External costs

Fuel, material, and talent supply


U.S. Electricity Production Costs
1995-2005 (Averages in 2005 cents per kilowatt-hour)
2005
Nuclear 1.72
Coal 2.21
Gas 7.51
Oil 8.09
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Production Costs = Operations and Maintenance Costs + Fuel Costs
Source: Global Energy Decisions
Updated: 6/06
NEI

Safety and health

Hydro
Coal
Natural gas
Nuclear

Recommendations

1. Engage nuclear engineer firm to study
2. Discuss with other utilities in Southcentral
3. Enlist congressional delegation
4. Investigate plants appropriate to the bush


Nuclear generation is the safest and cheapest
way to provide significant long-term power