

# LIMITATIONS TO PROGRESS IN DEVELOPING URANIUM RESOURCES

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# Historical Perspective

- United States
  - Manhattan Project
- USSR
- Britain
- France

- United States
  - Atomic Energy Act of 1954
  - Uranium Ore-buying
  - NURE Program
  - Government subsidies
  - Mining companies
  - Oil companies

# Limitations

- Price
- Known proven and/or developed reserves
- Known potential resources
- Social Attitudes
- Political policies

# Limitations

- Environmental Permitting and Licensing
- Legal Constraints
- Personnel (human resources)
- Supplies and Equipment Manufacturing
- Financing

# Price

- Most important limitation
- Below level required to incentivize production, exploration and personnel
- Substantial industry capability lost
- New companies need to be formed
- New personnel needed (production and exploration)

# Known Reserves

- Cigar Lake
- Central Asia
- Olympic Dam
- Rossing
- Jabiluka
- U.S production
- Russia
- Mongolia
- China/India
- Niger

# Exploration

- Expenditures must be increased
- Improved exploration technology
- Large companies or national organizations
- Prospective Areas
  - Athabasca Basin
  - Australia
  - Africa
  - Siberia
  - South America

# Social and Political Restraints

- Public concerns – environment
- Political opposition
  - United States
    - Marline (Virginia)
  - Australia
  - Navajo Nation

# Permitting and Licensing Constraints

- United States
  - New Mexico
- Canada
  - Athabasca Basin (McClellan Lake)
- Australia
  - Jabiluka

# Legal Constraints

- Australia
- South Africa (Anti-Apartheid)
- Non-proliferation

# Personnel

- Lack of experienced professionals / managerial capability
- Need for training
- Attractiveness of industry

# Equipment and Supplies

- Infrastructure
- Chemicals
- Drill rigs
- Technical equipment

# Financing

- Equity markets
- Internal cash generation
- Historically, supported by governments and/or large mining/oil companies
- Utilities will need to provide more direct financial support
- Biggest challenge to industry's performance