

# Uranium Mining and the Nuclear Renaissance

Trinity Section  
American Nuclear Society  
Dinner  
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Officer  
Uranium Resources, Inc



## Uranium Resources, Inc. (URI)

- Incorporated in 1977 to acquire, develop and produce uranium deposits using In-Situ Recovery (“ISR”) technology.
- Produced over 7 million pounds since 1988

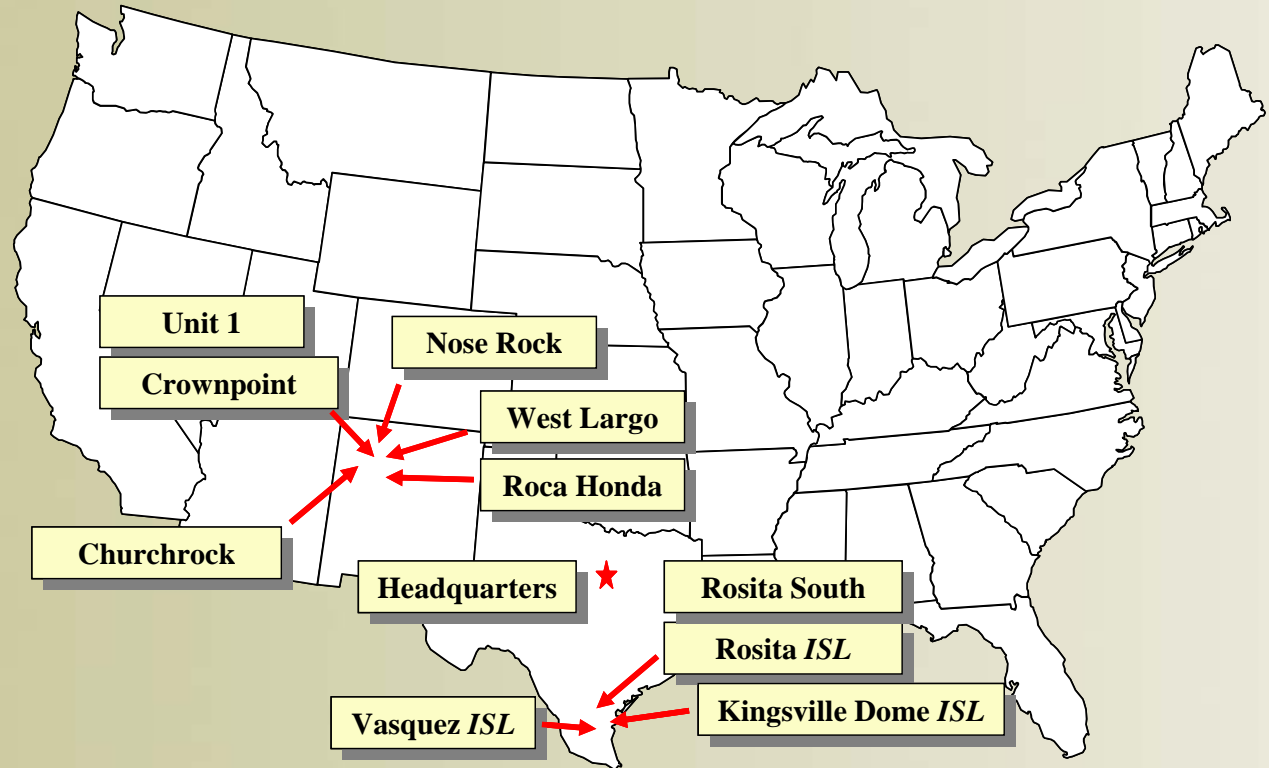


### New Mexico Properties

- 101 MM lb Reserve
- 183,000 acres
- Extensive database
- NRC License



# Operations & Properties

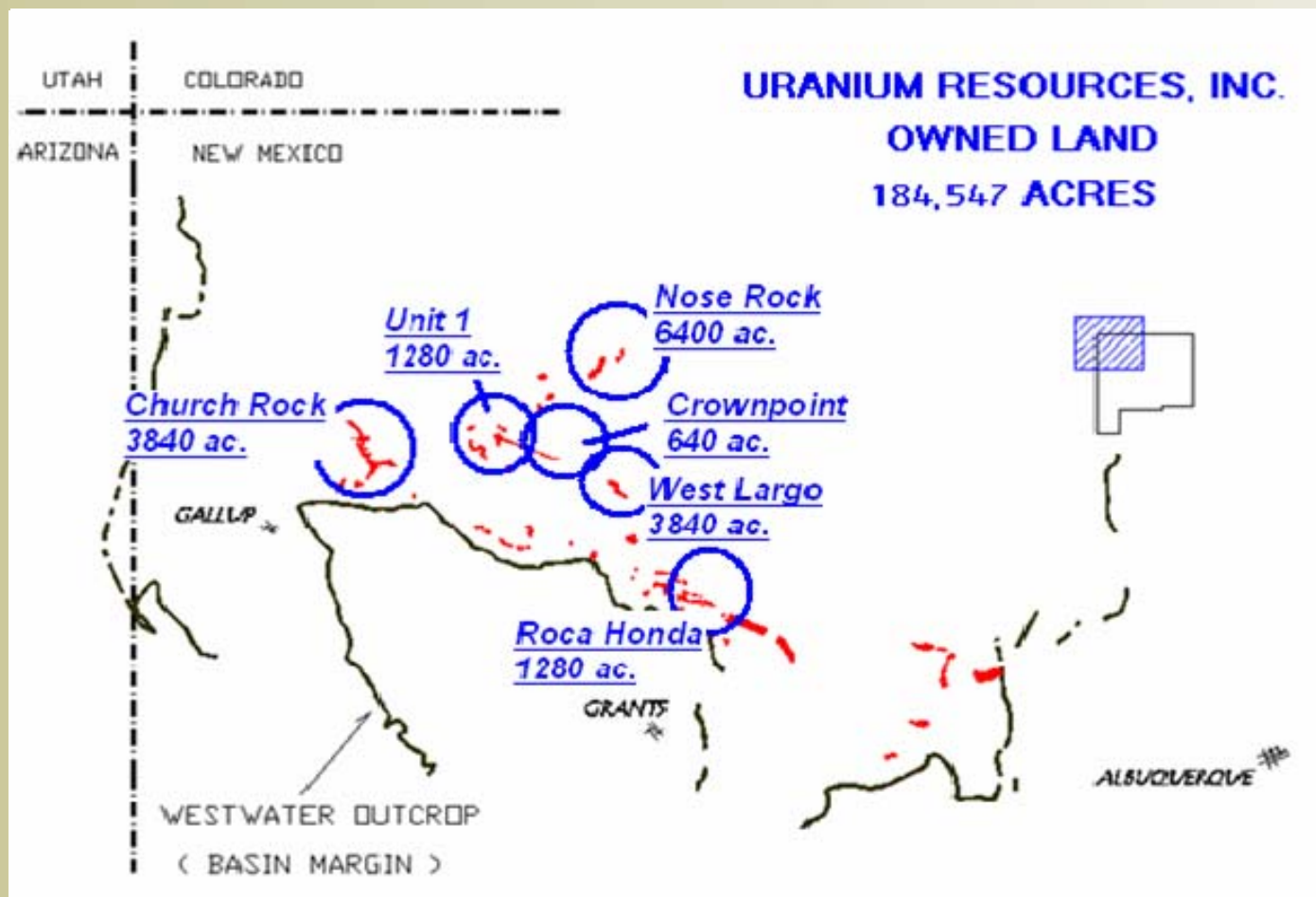


# URANIUM RESOURCES, INC.

A LEADER IN EARTH-SAFE TECHNOLOGY FOR MINERAL RECOVERY

## Uranium in New Mexico

GRANTS MINERAL BELT MOST PROLIFIC PRODUCER OF URANIUM IN U.S.



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## U.S. Forward-Cost Uranium Reserves by State (December 21, 2003)

State	\$30 per pound			\$50 per pound		
	Ore (million tons)	Avg. grade (% U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> (million lbs)	Ore (million tons)	Avg. grade (%U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> (million lbs)
Wyoming	41	0.129	106	238	0.076	363
<b>New Mexico</b>	<b>15</b>	<b>0.280</b>	<b>84</b>	<b>102</b>	<b>0.167</b>	<b>341</b>
Arizona, Colorado, Utah	8	0.281	84	102	0.138	123
Texas	4	0.077	6	18	0.063	23
Other	6	0.119	24	21	0.094	40
<b>Total</b>	<b>74</b>	<b>0.178</b>	<b>265</b>	<b>424</b>	<b>0.105</b>	<b>890</b>



Note high sensitivity of reserves to price Source: U.S. Energy Information Agency (2006)

# Global Uranium Output/Reserves

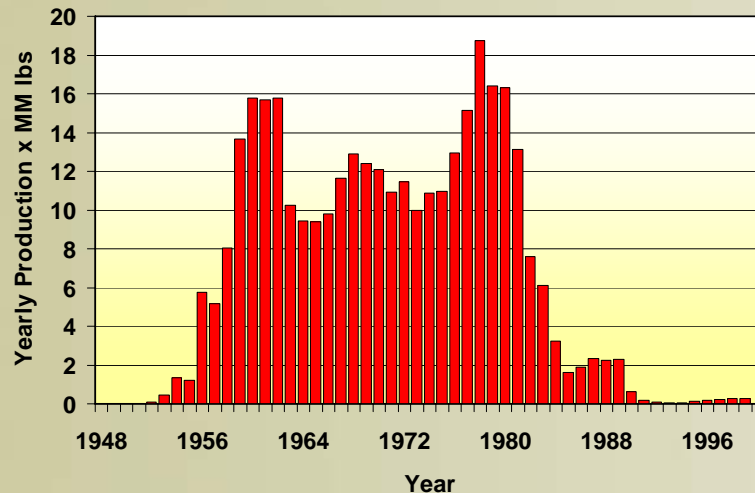
Country	2005 output	Cumm. Thru 2005	Reserves at <\$130/kg	Possible resources at <\$130/kg
Canada	11,629	397,774	345,200	700,00
Australia	9,519	131,805	747,000	ND
Kazakhstan	4,357	32,715*	513,900	500,00
Russian Fed.	3,431	38,847*	131,700	500,000
Namibia	3,147	84,980	182,600	ND
Niger	3,093	97,524	180,500	246,000
Uzbekistan	2,300	28,069*	76,900	134,700
<b>U.S.A.</b>	<b>1,039</b>	<b>358,402</b>	<b>342,000</b>	<b>1,340,000</b>
Ukraine	800	11,500	66,700	255,00
China	750	29,169	38,000	41,000
South Africa	674	159,039	255,600	1,112,900

\*1992-2005 totals  
\$130/kg=\$59/lb

Source: World Energy Council(2007)



## New Mexico's Uranium History



*The Grants region produced over 347 million pounds  $U_3O_8$  between 1948 & 2000*

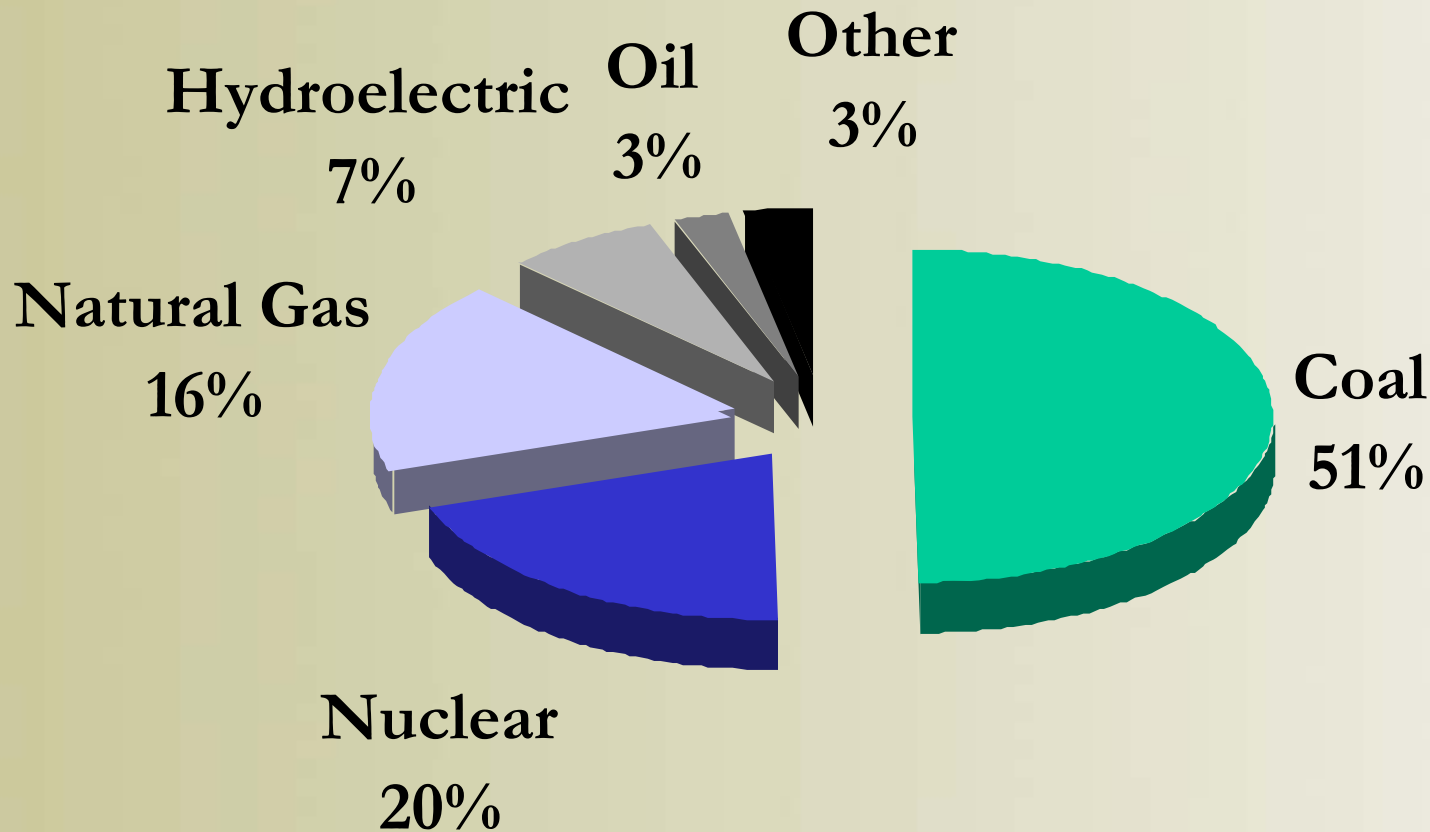
**Grants Mineral District was a U.S. and world leader in uranium production during first uranium boom**

**Estimated 300 - 350 million pounds of known uranium remaining in New Mexico today**

New Mexico's uranium reserves are among the richest in the nation – 2nd only to Wyoming



## Energy Sources in the U.S.



*Coal, oil and natural gas all impact global warming.*



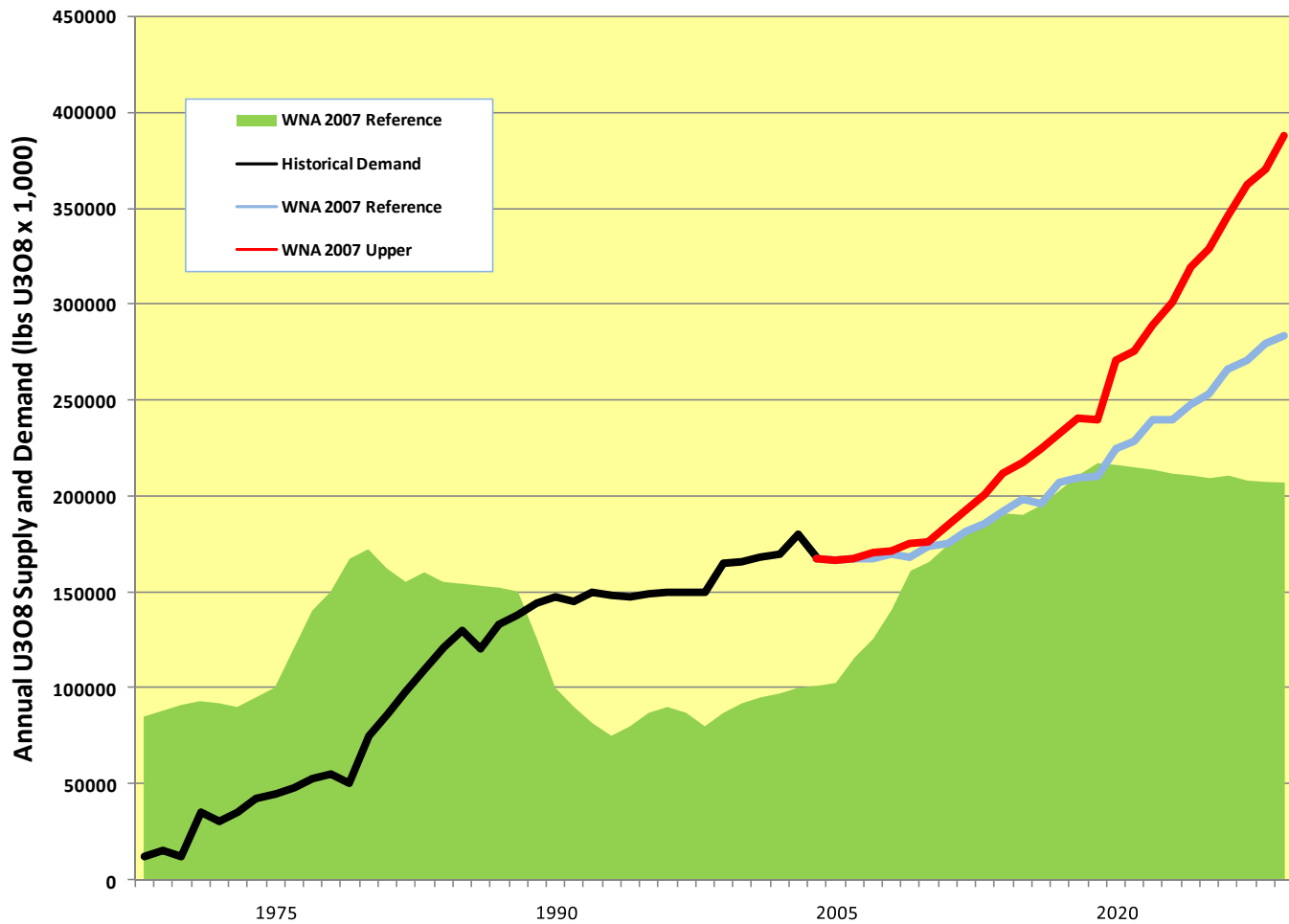


# Nuclear Power

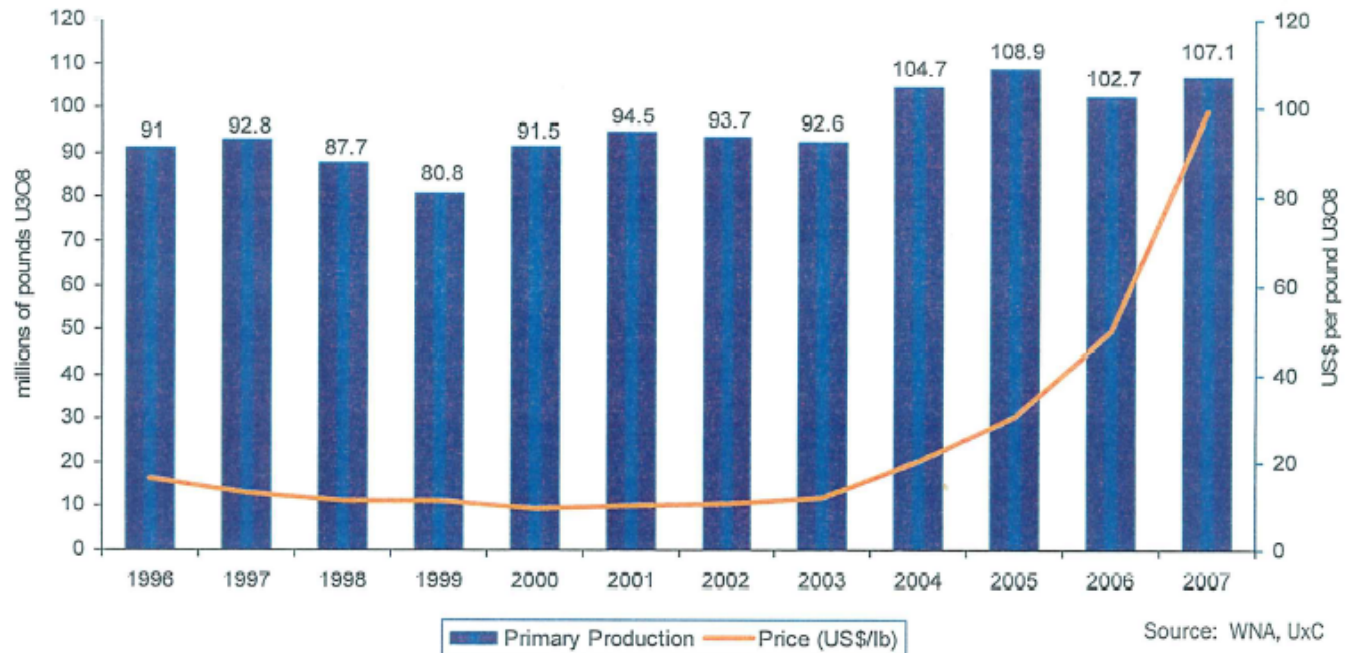
- Nuclear power plants provide 16% of the world's energy production
- 32 countries operate 440 Nuclear Power Plants worldwide
  - Requiring 152 MM lbs of Uranium for fuel
  - About 1.6 times current uranium production
- 34 new reactors under construction globally
- 93 more reactors are planned or on order
- Additional 222 proposed (roughly 30% in China)
- 104 of those plants are in the United States



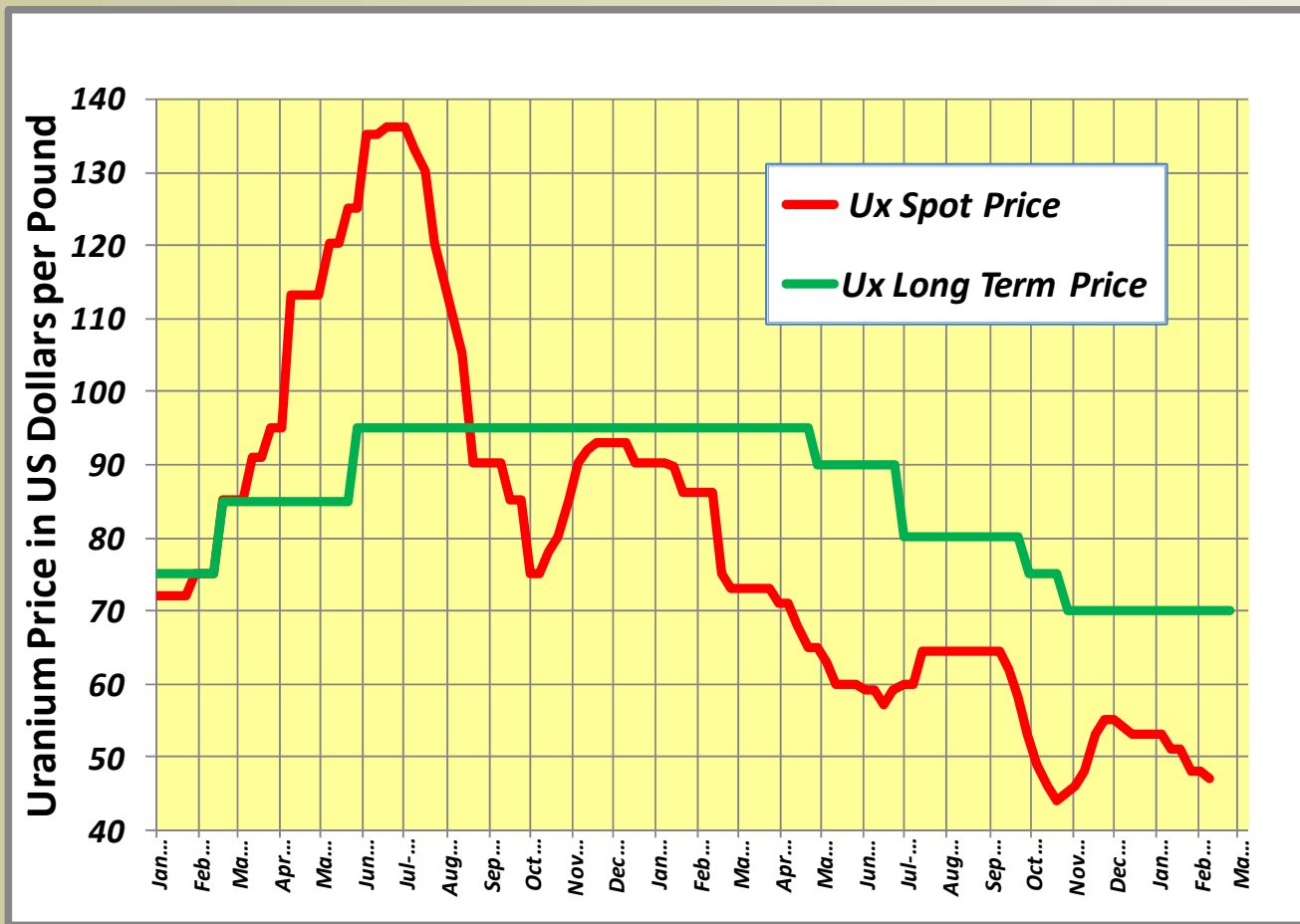
## World Demand Forecast for Uranium



# Slow Primary Supply Response to Rising Prices



## Recent Short & Long Term Uranium Prices



## Source of US Uranium in 2007

### Russian feed from HEU

- Deal over in 2013
- 33% of domestic supply
- Largest single component of US supply
- Possible supply disruption due to current saber-rattling

Source	MM lbs
US Origin	4.0
Russia	16.8
Australia	11.5
Canada	10.7
Namibia	3.1
Kazakhstan	2.4
Uzbekistan	1.3
Others	1.2
Total US Burn	51.0



## The Potential of NM Uranium Mining Resurgence

- New Mexico has significant economic uranium reserves
  - An estimated 600 mm lbs. of known reserves remain
  - Located mostly in McKinley and Cibola Counties
  - \$36 BILLION value @ \$60/lb.
- Production of NM Uranium will reduce U.S. dependence on foreign sources of energy
- NM Uranium can and will be produced safely
  - Regulatory oversight at both Federal & State levels
  - Advances in technology for environmental protection
  - Advances in industrial safety will guarantee worker protection



## Uranium Mining Regulators

- New Mexico Mining & Minerals Division-  
(NM Energy, Minerals & Natural Resources Department)
- New Mexico Environment Department
- Office of the State Engineer
- Environmental Protection Agency (EPA)
- Nuclear Regulatory Commission (NRC)
- Mine Safety and Health Administration (MSHA)



## Economics

### Capital Expenditures

**ISR Plant**

**~\$20 million**

**1 - 2 mm lbs/yr**

**Time to production: 18 months**

*(with no limiting conditions)*

**Conventional Mine**

**~\$130 - \$150 million/mine**

**5 - 8 mm lbs/yr**

*(Nose Rock, Roca Honda, West Largo)*

**Time to production: 3 - 3.5 yrs**

*(with no limiting conditions)*

**Conventional Mill**

**~\$250 - \$350 million**

**~10 - 15 mm lbs/yr**

**Time to operation: 4 - 5 years**

*(with no limiting conditions)*

**Greenfield lead time: 8 - 10 years**

### Production Costs

**ISR:**

**\$30 to \$50 per pound**

**Conventional:**

**\$45 to \$75 per pound**





## New Mexico Uranium Producers

- Uranium Resources, Inc.
- Laramide Resources, Ltd.
- Neutron Energy
- Rio Grande Resources (General Atomics)
- Uranium Energy Corp.
- Strathmore Resources, US (Ltd)
- UREX Energy Corporation
- Western Uranium Corporation
- SXR Uraniumone, inc.



## The Economic Benefits of Uranium Mining

- Create thousands of good-paying jobs
- Provide infrastructure improvements for area communities
- Provide billions in taxes to the State and local governments
- Provide sustainable development for northwest New Mexico



# Economic Impact

## Construction Phase (5-yr period)

Capital expenditures	Employment Impact (jobs)
\$2.1 billion-direct	6,921 Direct
\$0.8 Billion-Indirect	3,584 Indirect
\$0.3 Billion-induced	2,081 Induced
\$3.2 billion total	12,586 Total



## Mining & Milling Operations Average Annually over 30 years

Economic Impact*	Employment impact
\$525 Million-Direct	3,266-Direct
\$230 Million-Indirect	2,135-Indirect
\$120 Million-Induced	2,887-Induced
\$865 Million-Total Annual Average	8,288 Total Annual Average



## Projected State Tax Revenue

Direct	30-year period	Indirect	30-year period
Severance Tax	\$490 Million	Personal Income Tax	\$292 Million
Resource Excise Tax	\$200 Million	Gross Receipts Tax	\$612 Million
Conservation Tax	\$50 Million	Corporate Income Tax	\$128 Million
Total	\$740 Million	Total	\$1.03 billion



## New Mexico's Mining Resurgence

- We have experienced an unprecedented run up in the price of uranium over the past three years
  - **Not one dollar has been made from uranium production during this price cycle**
  - **Average price of uranium today is \$50**
- New Mexico again can be at the forefront of the uranium mining resurgence
- Both conventional and ISR mining methods needed to recover remaining uranium deposits
- A regional conventional uranium mill is needed to process mined ore before conventional uranium mining can re-start in New Mexico
- Need to counter the climate of fear from the green and Native American movements
- Need a business-friendly climate in the state



## New Mexico Challenges

- Legacy Issues
- Navajo Nation Ban
- Environmental Opposition
- Economics
- Industry Credibility
- Education

