

COLORADO MINING: PAST, PRESENT & FUTURE?

Stuart A. Sanderson, President



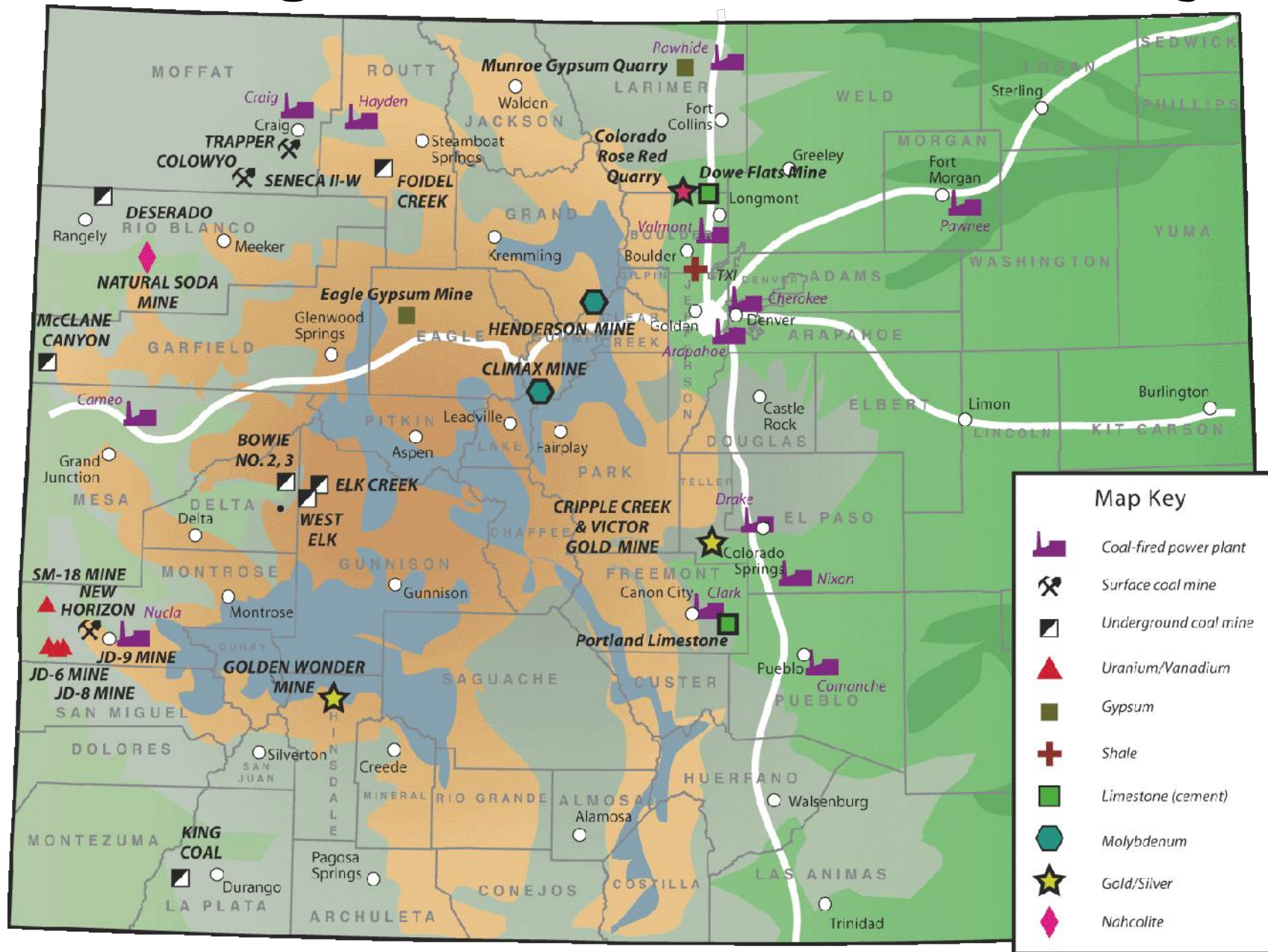


Founded in 1876 – Year Colorado became the Centennial state

900 Members representing mineral resource industry in Colorado and the west

Spokesman for the industry before the legislature, agencies, Congress, and the courts

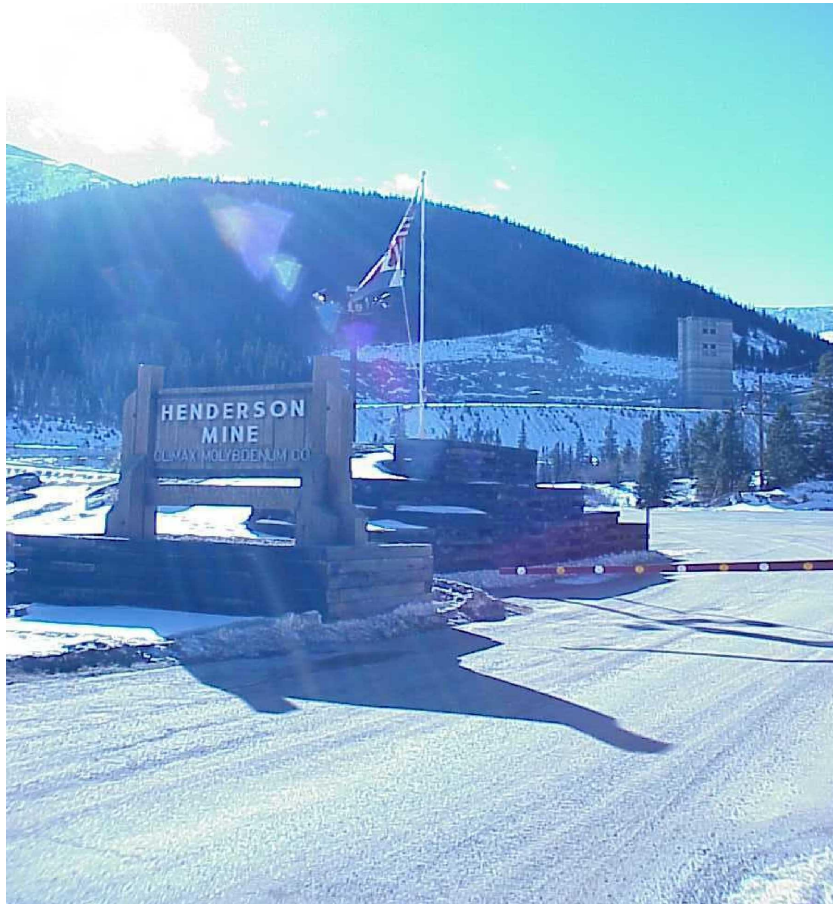
Mining: Colorado's First Industry



Overview Mining in Colorado

- Direct Sales - \$3 Billion
- Employment – 5,685 Direct employees and 12,427 more in related industries – Department of Labor
- National Mining Association study puts employment at over 34,000
- Mining Average wages and benefits - \$71,000
- Coal Wages/Benefits - \$100,000 annually

HENDERSON MINE – WORLD'S LARGEST MOLYBDENUM MINE



Henderson – A View from Underground





Molybdenum

- Added to stainless and alloy steels for anticorrosive and strength qualities
- It is used in many of the products used in households and industry:
 - Automobiles, motorcycles, bicycles, industrial, lab, and hospital equipment and parts
 - Toothpaste, WD-40, light bulbs, cooking utensils, paint, and so much more.

Mined in Colorado!



Mining Matters... when you drive a vehicle.

Molybdenum Uses – Environmental and Safety

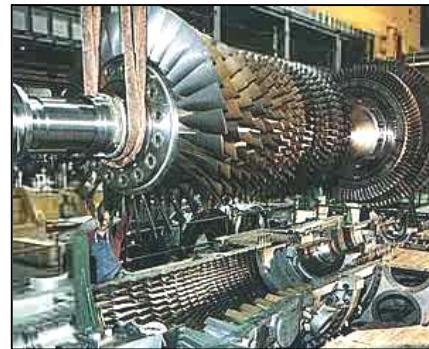
–Chemical Grade

- Environmental - Removing sulfur from petroleum
- Safety - Smoke retardant for plastics and fibers
- Safety - Carbon Monoxide Detectors
- Safety – Air Safety Bags



....and more

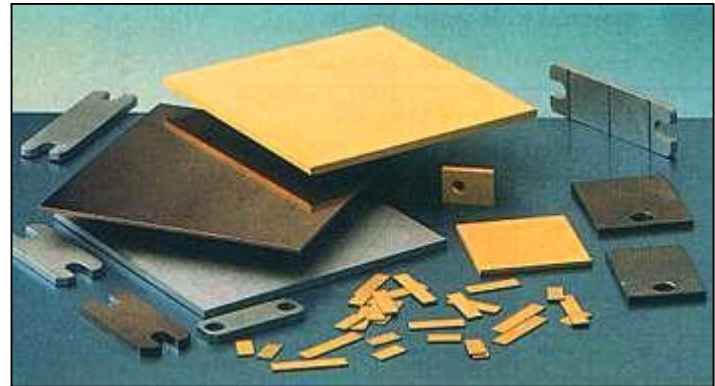
- Lubricant Grade
 - Additive to greases and oils
 - Dry Lubricants
- Metallurgical Grade
 - Steel Alloying
 - Stainless Steel
 - High-Mo Corrosion resistant steels



including...

– Pure Molybdenum metal

- Light bulbs
- Computer Heat Sinks
- Piston Rings
- Anodes for Glass Making



Cripple Creek & Victor Gold Mine



AUGUST 2007 – OVER 3 MILLION
OUNCES PRODUCED



What \$10 Million in Gold Looks Like





Gold

- Used in a variety of products and industries including:
 - Currency and Jewelry
 - Medicine and dentistry
 - Scientific research
 - Computers and satellites
 - Cell phones, MP3 players, and automobile airbag control panels

Mined in Colorado!



Mining Matters... when you work on a computer.

Nahcolite - Solution Mining



- Colorado is home to pure sodium bicarbonate reserves in the U. S.
- Common household uses – baking soda, toothpaste, food and animal nutrition industries
- Industrial applications to protect the environment – water treatment plants and flue gas desulphurization at coal fired power plants – removing sulfur from coal

Gypsum



- Wallboard construction materials in homes and businesses
- American Gypsum mine is located in western Colorado between Avon and Glenwood Springs



Gypsum

- Primarily used in wallboard and plaster products
- Also used to make Portland cement
- Used in small amounts in agricultural applications
- Pure gypsum is used in glass-making



Mined in Colorado!
Mining Matters... when you build a house.

COLORADO COAL - \$1 BILLION DIRECT SALES



**Total Employees
2,400**

**Ave. Pay & Benefits
\$100,400**

**Payroll/Taxes Royalties
\$329 MILLION**

**ROYALTIES FUND PUBLIC
EDUCATION**

Starting with Coal - Affordable Energy from Coal Mine Draglines



Helps Light Colorado Skylines



Colorado Coal

- Colorado's demonstrated coal reserves 17 billion tons – 8th largest
- Colorado's 2008 production 33 million tons – 8th largest, 4th among underground coal producing states
- Underground mines account for 66% of production

Coal and Affordable Energy Go Hand in Hand

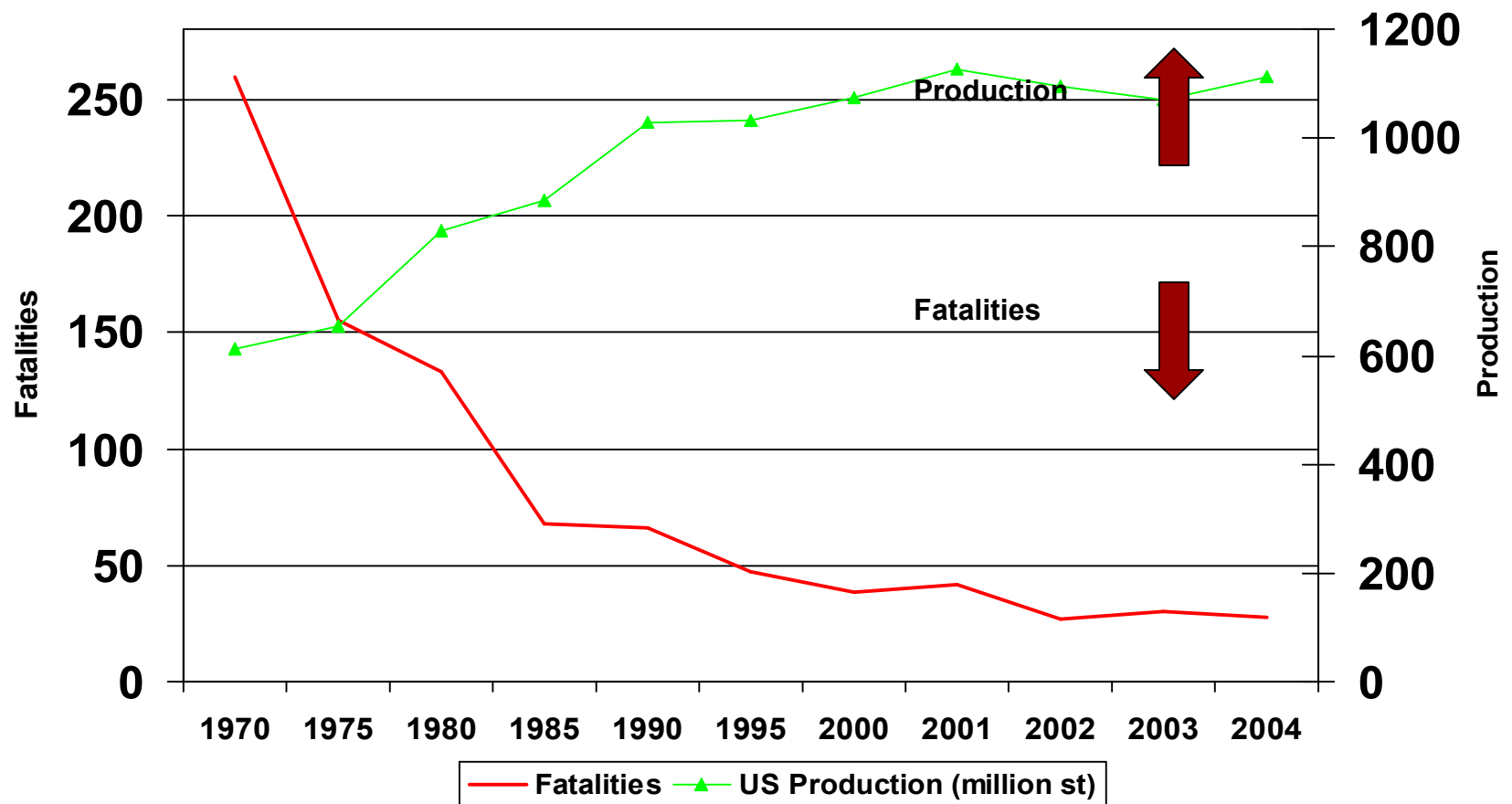
- Coal accounts for 72% of Colorado's electricity
- According to Xcel Energy recent statement, "coal fired generation reliably meets our customer's constant need for electricity and plays a significant role in keeping electricity prices low"
- Colorado coal is clean, low in sulfur and high BTU, deemed super compliance under Energy Act

Colorado Leads the Way in Mining, Reclamation and Wildlife Protection

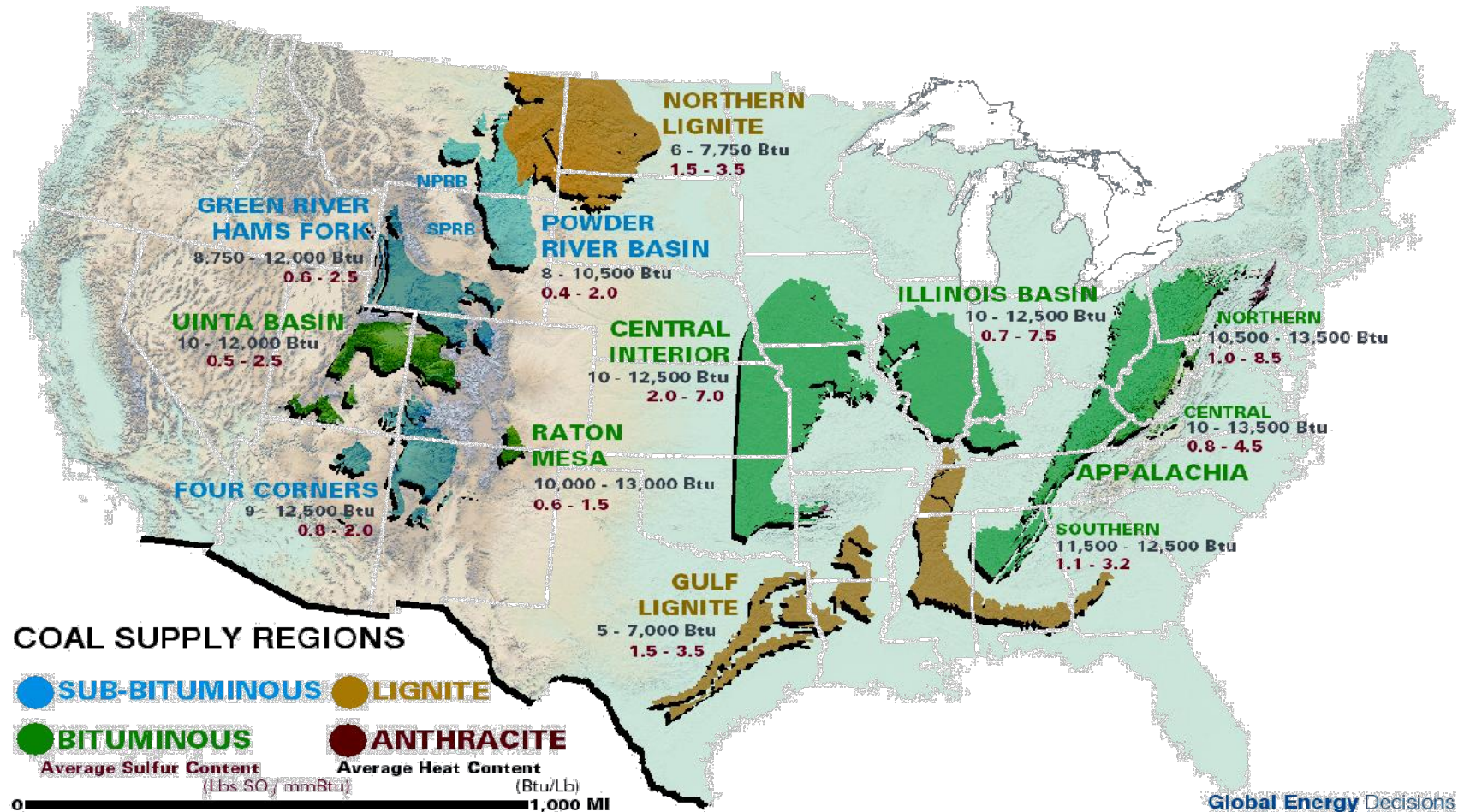
- Reclaimed Lands at Trapper Mine in NW Colorado



Coal Mine Safety and Production Trends



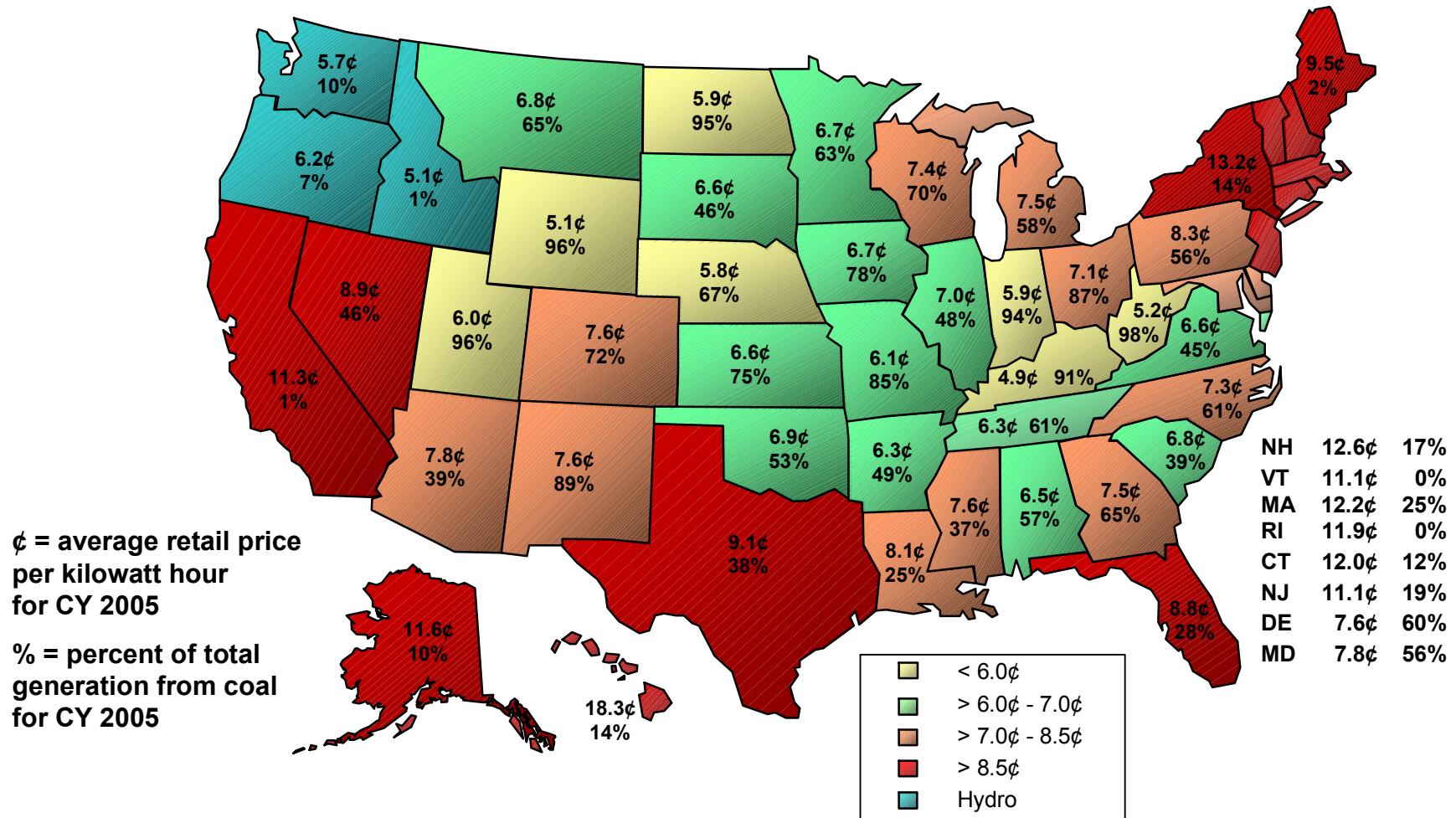
Why Coal? 27% of the World's Coal is in the United States – Coal is our most abundant energy fuel



Coal is Affordable – Consumers in States

Who Use More Coal Pay Lower Rates

Retail Cost Per kWh & Percent of Coal Generation

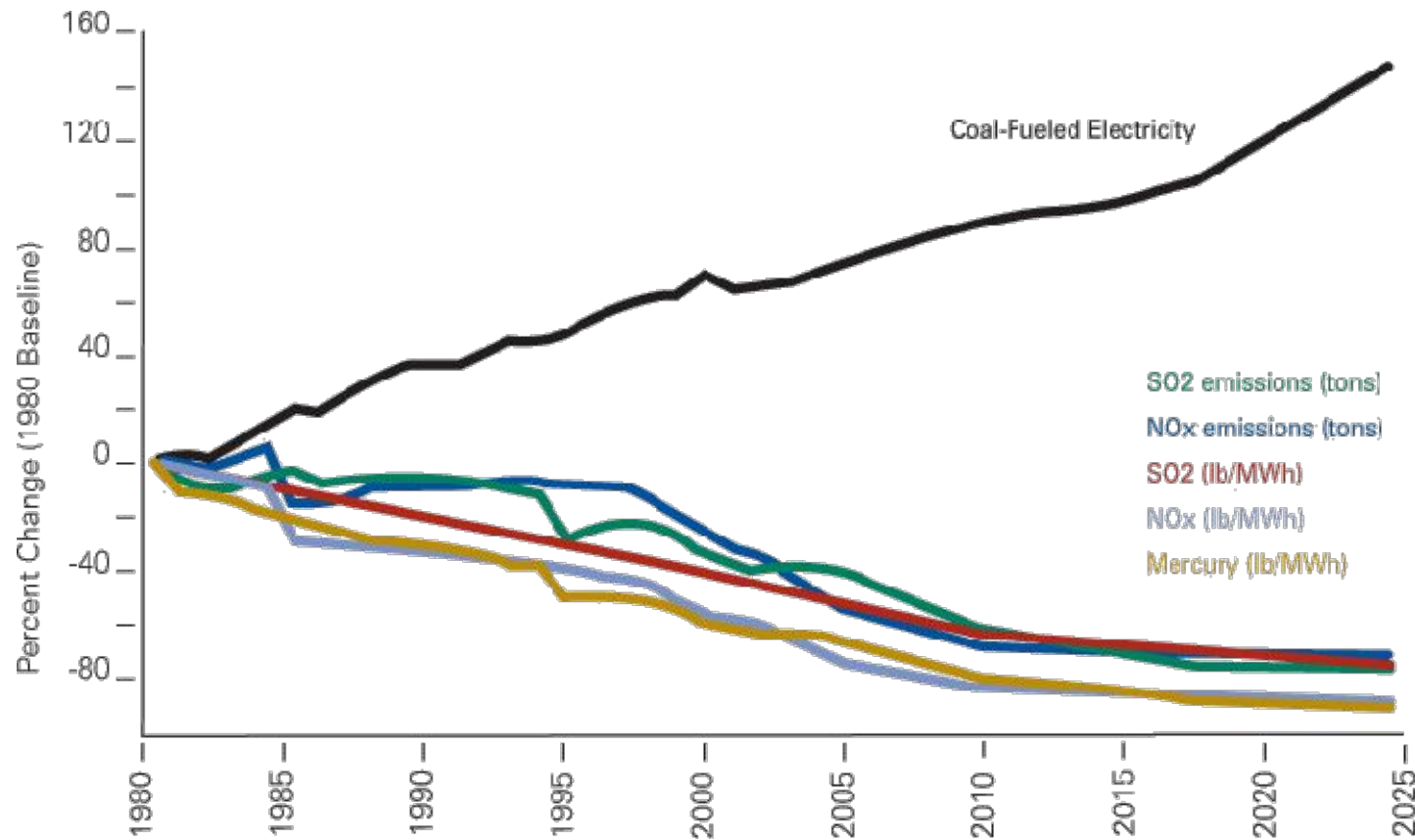


Source: Energy Information Administration, March 2006.

Coal Use Grows

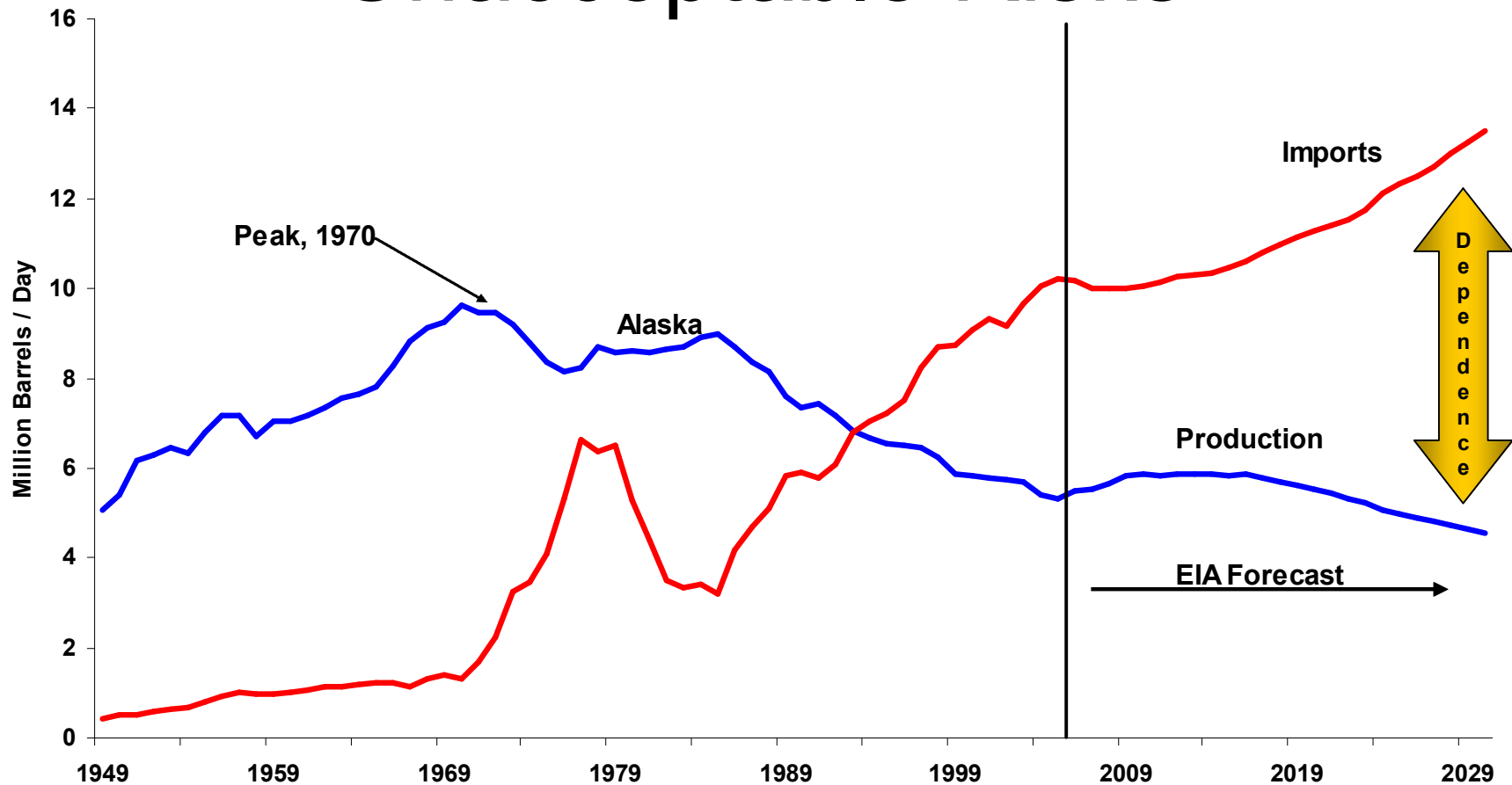
While the Environment Improves

U.S. coal used for electricity has tripled since 1970 while emissions have been significantly improved



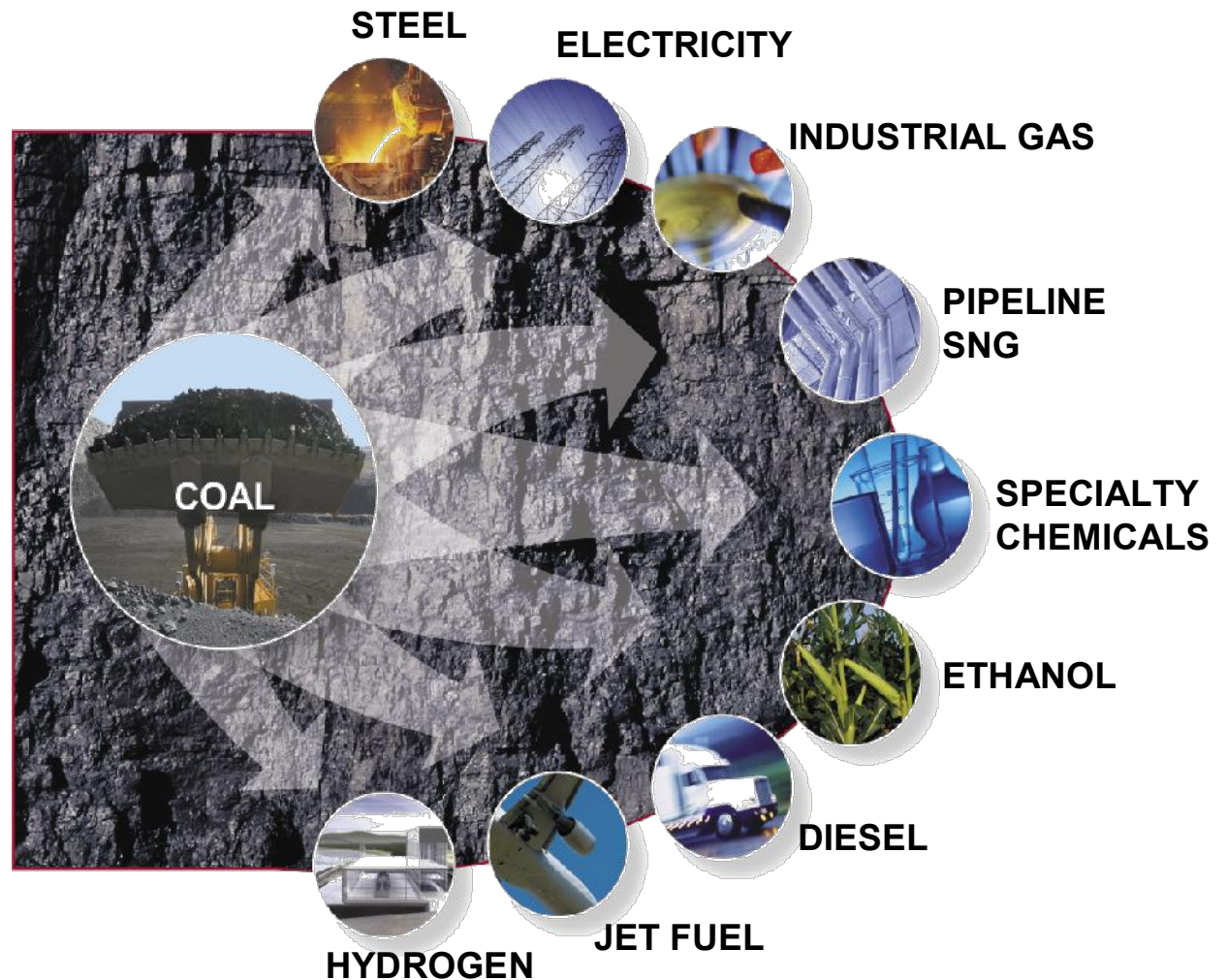
Source: U.S. Environmental Protection Agency, IEA Annual Energy Outlook 2005.

Our Growing Dependence on Foreign Oil Creates Long-Term Unacceptable Risks



CTL and CTG Technologies Mean a Broader Use for Coal

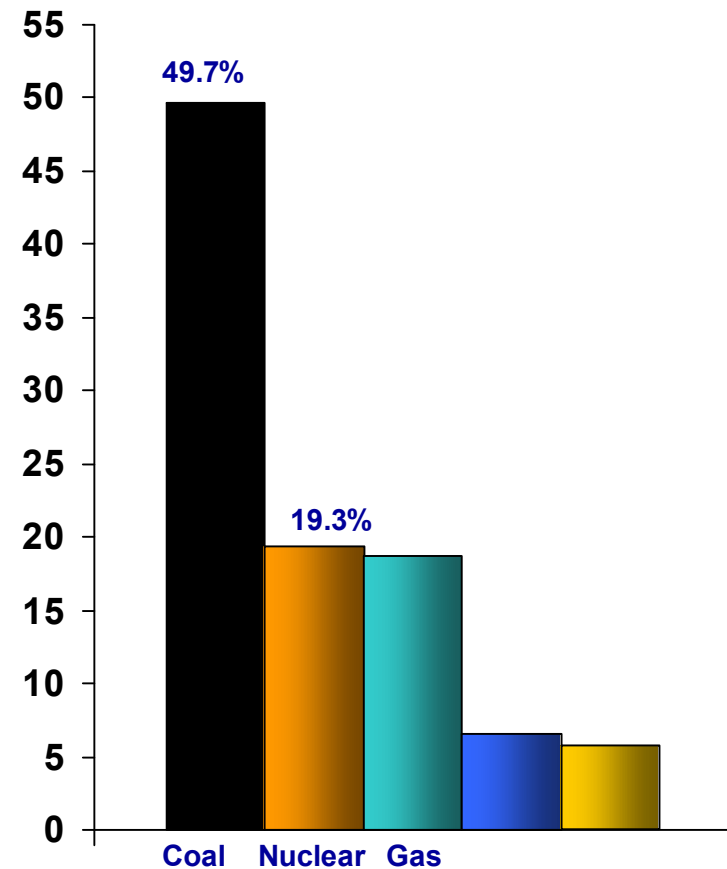
- China developing 27 new CTL plants
- Successful B-52 test flight using Fischer-Tropsch fuels
- Air Force sees half of Defense needs from CTL by 2020
- U.S. Congress considers bills for offtake agreements and incentives



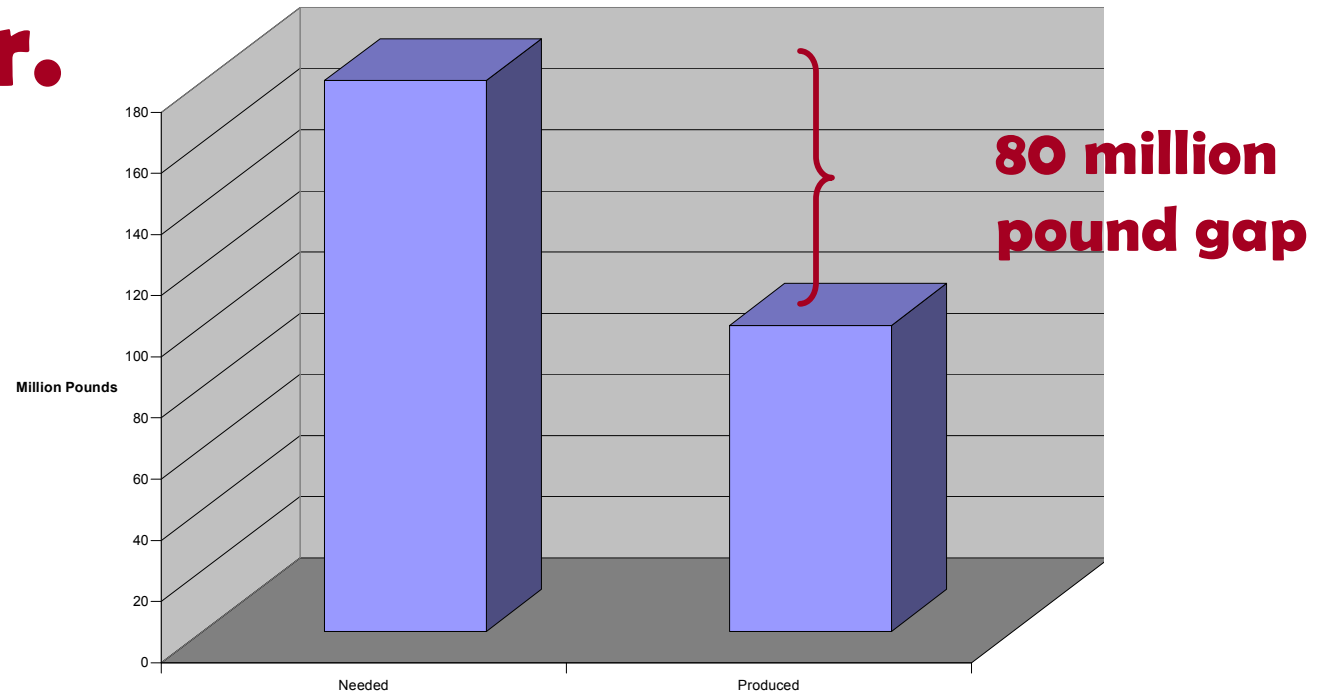
Uranium – Who Needs It?

Answer – We do

- Nuclear energy accounts for nearly 20% of U. S. electricity, second only to coal
- Nuclear reactors produce emission free electricity
- Nuclear reactors and uranium mining operations are subject to strict regulation
- Uranium – essential in nuclear medicine



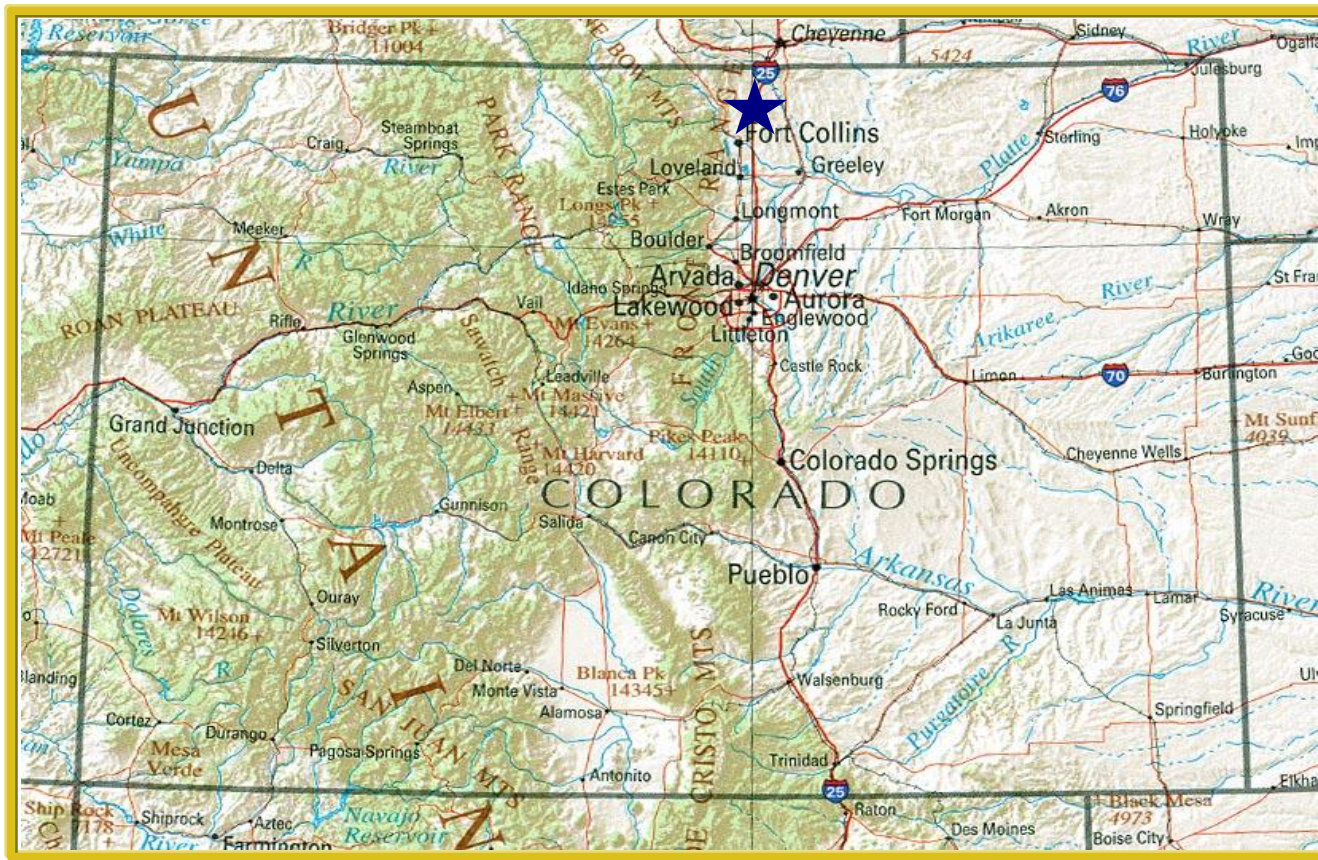
**The world's existing 435
nuclear reactors currently need
180 million pounds of uranium
each year.**



**The United States
generates as much nuclear energy
as France, Germany, Spain,
Sweden, and the United Kingdom
combined! The U. S. consumes
over 51 million pounds annually,
but produces only 3 million pounds
And demand will only increase.**

Centennial Project Location Map

Slides Courtesy of PowerTech USA

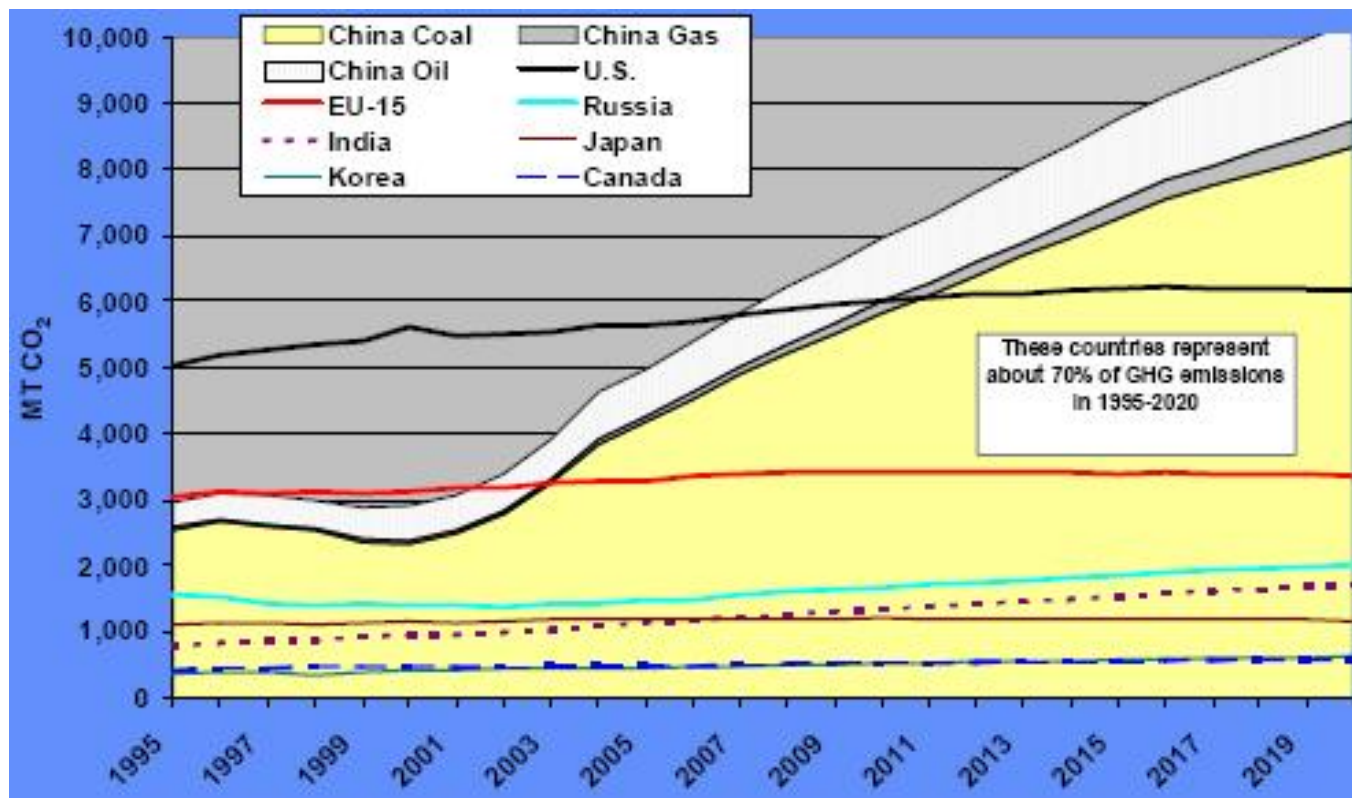


Challenges to Mining

- Increasing public knowledge of mining – CMA Outreach Program
- Avoiding preemptive bans on mining - Local and statewide efforts to ban heap/vat leach mining for gold and in situ/surface mining for uranium
- Climate Change – how to cut carbon without economic catastrophe
- Limitations on coal use - PUC has already ordered the closure of two power stations

Worldwide CO₂ Trends

***China has Overtaken the U.S. as the Largest CO₂ Emitter
in 2007 and Will Equal the U.S. Plus EU15 by 2020
Colorado's contribution – 1.7% of U. S. total***



Our Concerns

- Recent Holy Cross Energy study – A 20% emissions reduction in greenhouse gases, means that Colorado's coal use would need to fall from the current 70% level to only 30% of the power supply in little more than a decade.
- This would be the largest, and most costly, change in the history of the Colorado electric industry.
- Impact would fall hard on Colorado and especially hard on low income consumers, as the inability to pay utility bills, according to Energy Outreach Colorado, is one of the principal causes of homelessness
- Impacts on Colorado coal production

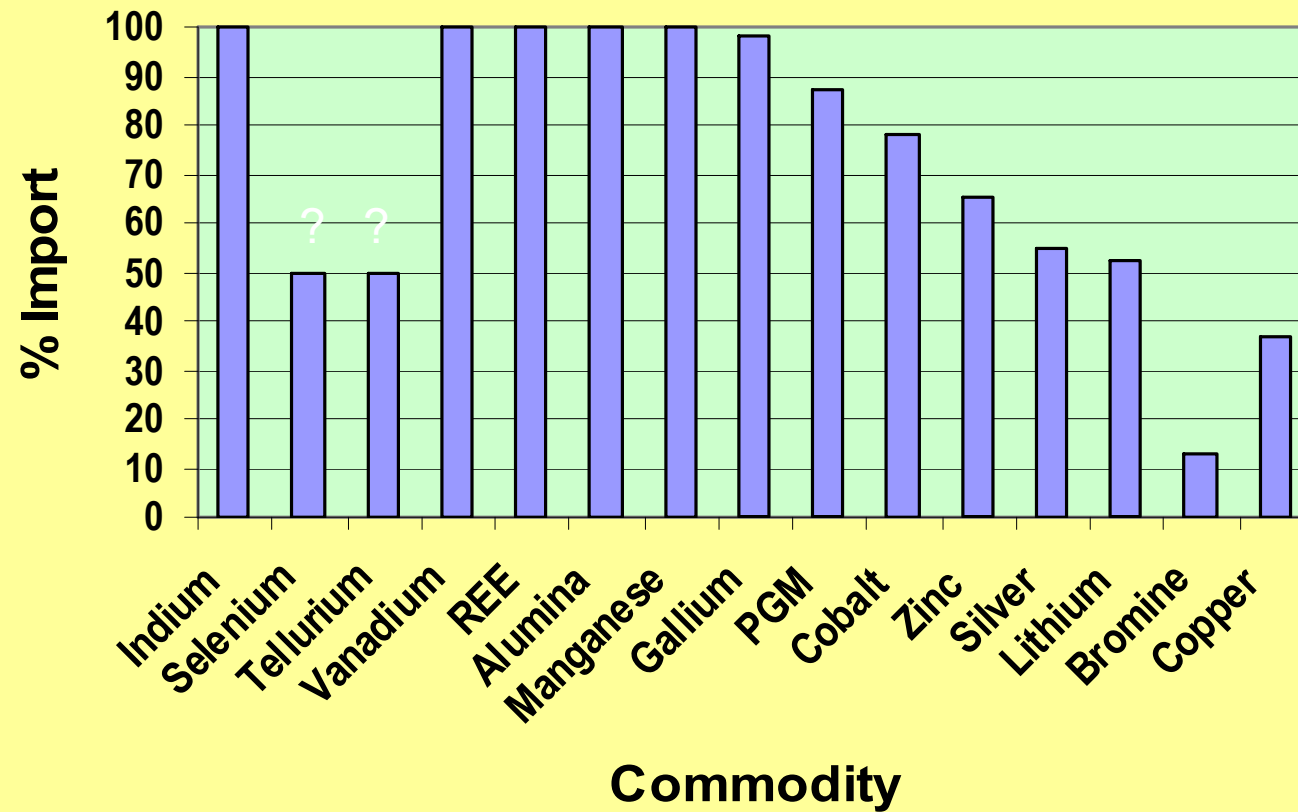
New Energy Economy – Relies on Minerals - Solar Power



Reflector material is Aluminum or Silver

Wind Towers and turbines need copper, molybdenum, and others

New Energy Economy – Import Dependency



RAISING PUBLIC AWARENESS CMA'S WEBSITE



COMMUNITY PROJECTS

- Taste of Colorado, NSTA Convention, Presentations to communities across Colorado



ROCKS ON YOUR FACE

- CMA has developed a visual display of minerals and how they are in products used in your everyday life



Music to Colorado's Economy

18,000 jobs

5,600 industry over 12,400 in supporting services

\$8 Billion

with millions in tax revenues
for the State and Colorado Public Schools

Award winning
environmental and safety practices



For more information about modern, environmentally responsible and safe mining, click on
www.coloradomining.org

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