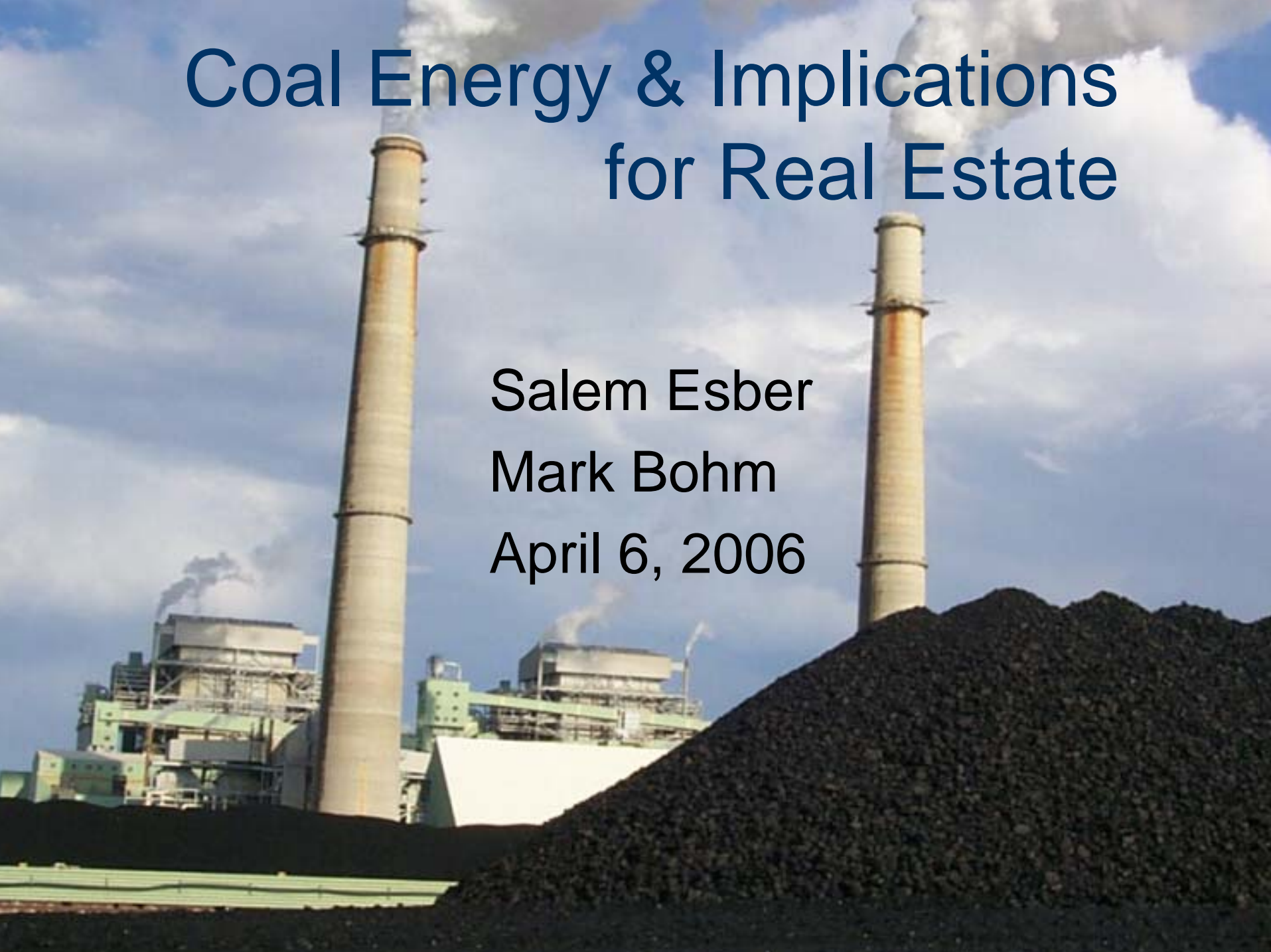


Coal Energy & Implications for Real Estate

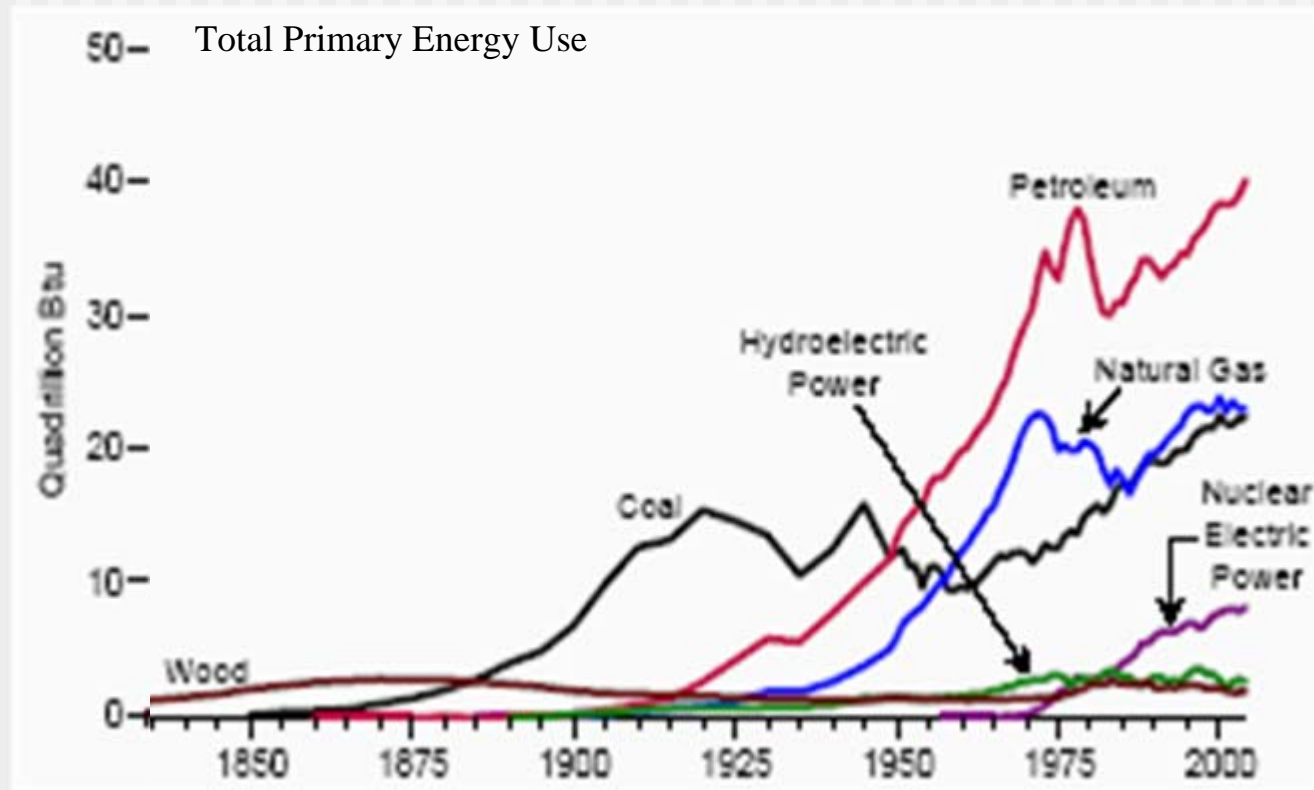
Salem Esber

Mark Bohm

April 6, 2006



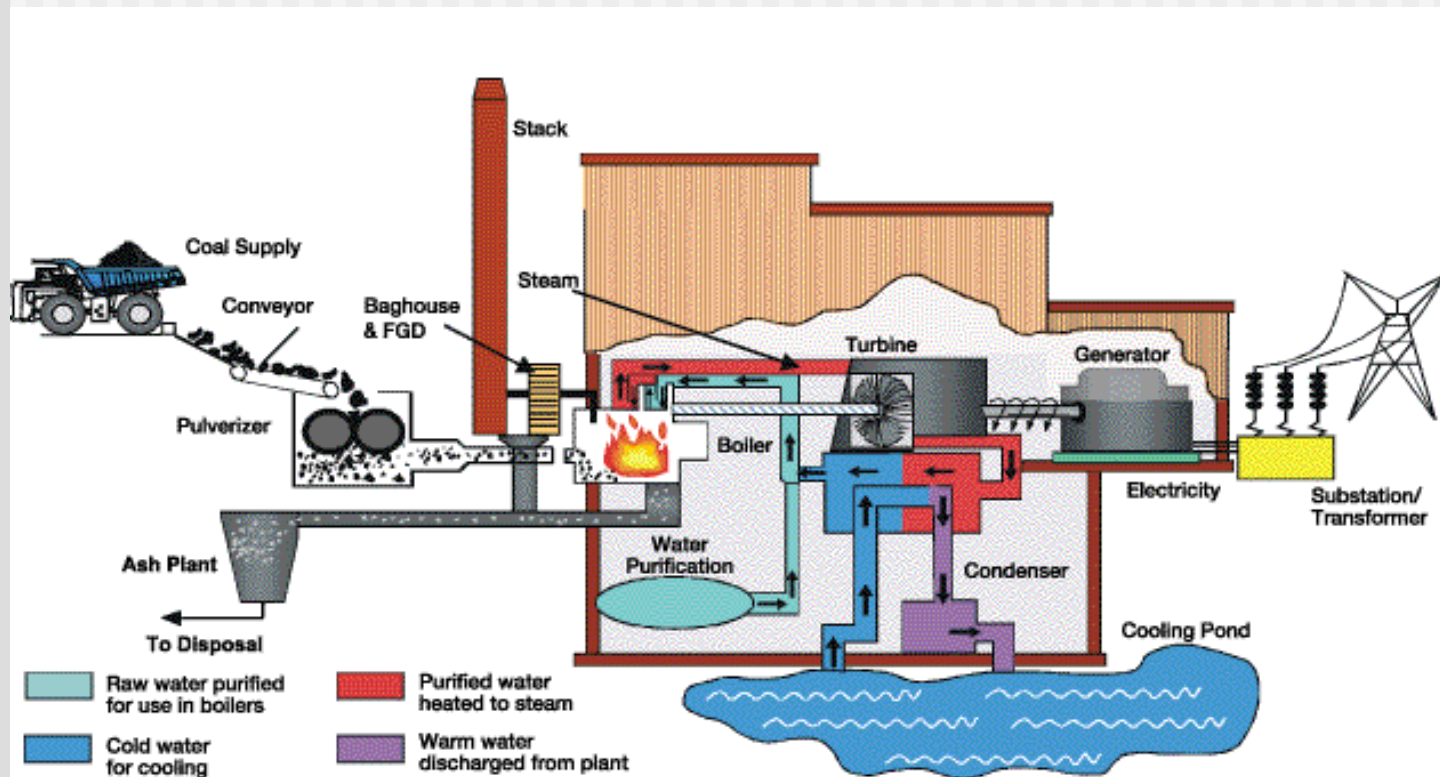
What has been the historical role of coal?



Adapted from the Energy Information Administration

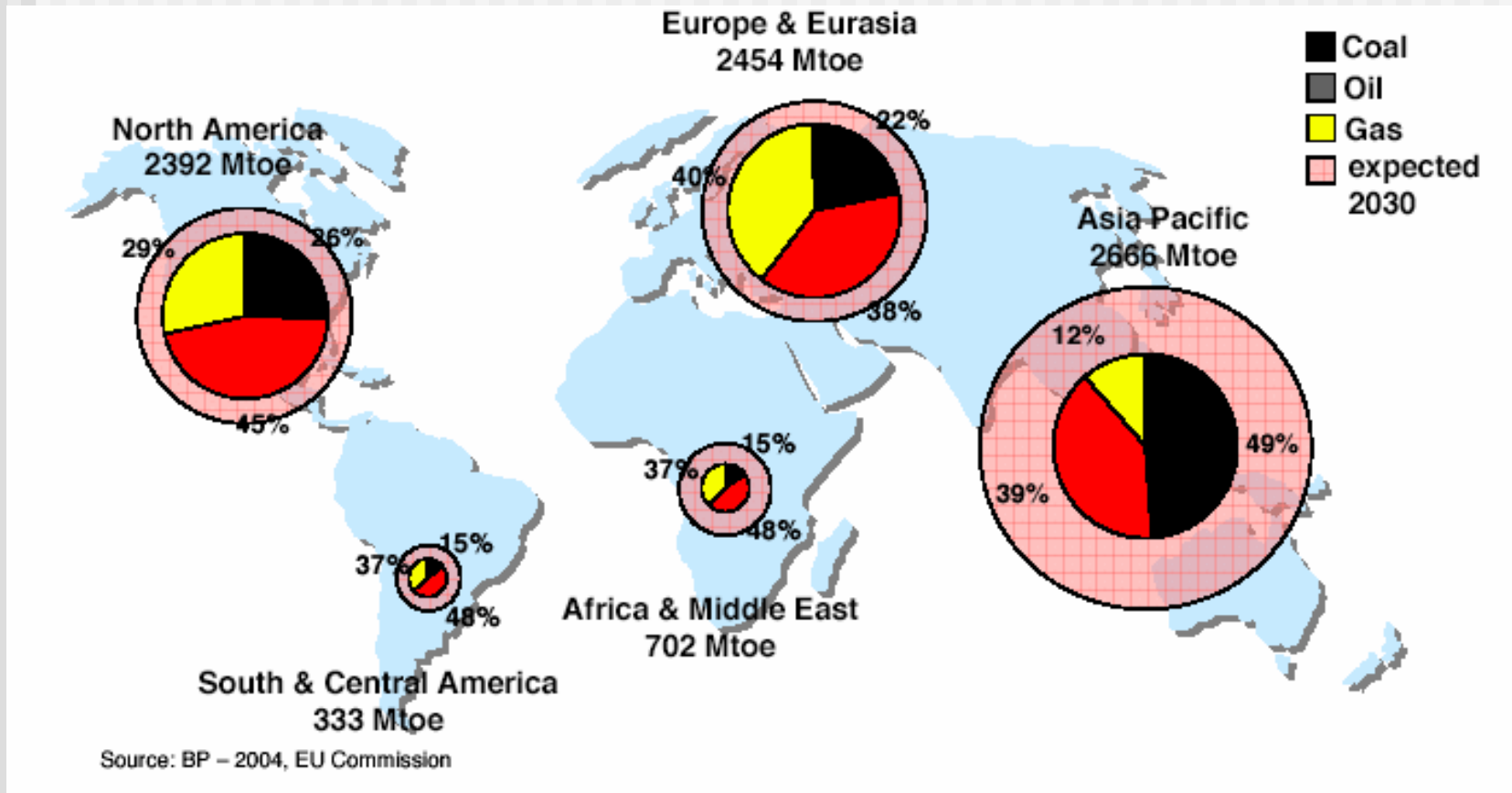
How is coal used?

- Power production
- Cement, steel production



Adapted from Radar Acquisition Corp. Website

What role does coal play in the world?



What role does coal play today in the U.S.?

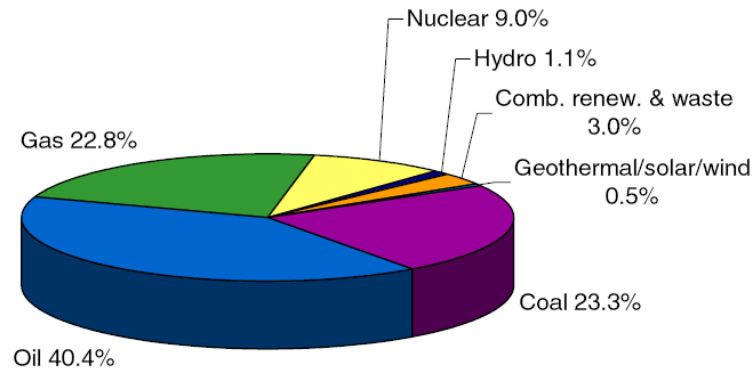
IEA Energy Statistics

Statistics on the Web: <http://www.iea.org/statist/index.htm>



Share of Total Primary Energy Supply* in 2003

United States



2 281 Mtoe

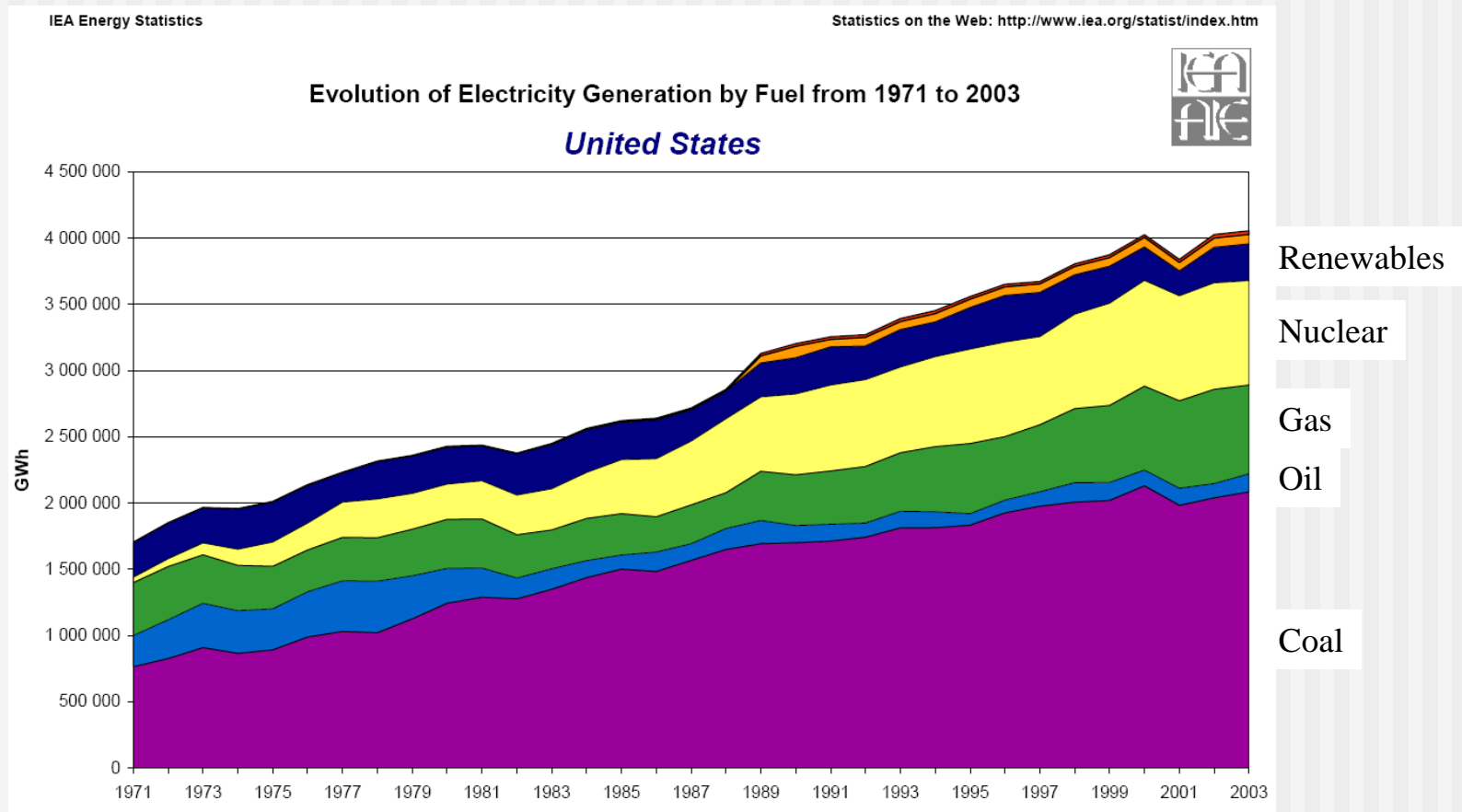
* Share of TPES excludes electricity trade.

Note: For presentational purposes, shares of under 0.1% are not included and consequently the total may not add up to 100%.

Adapted from International Energy Agency, 2006



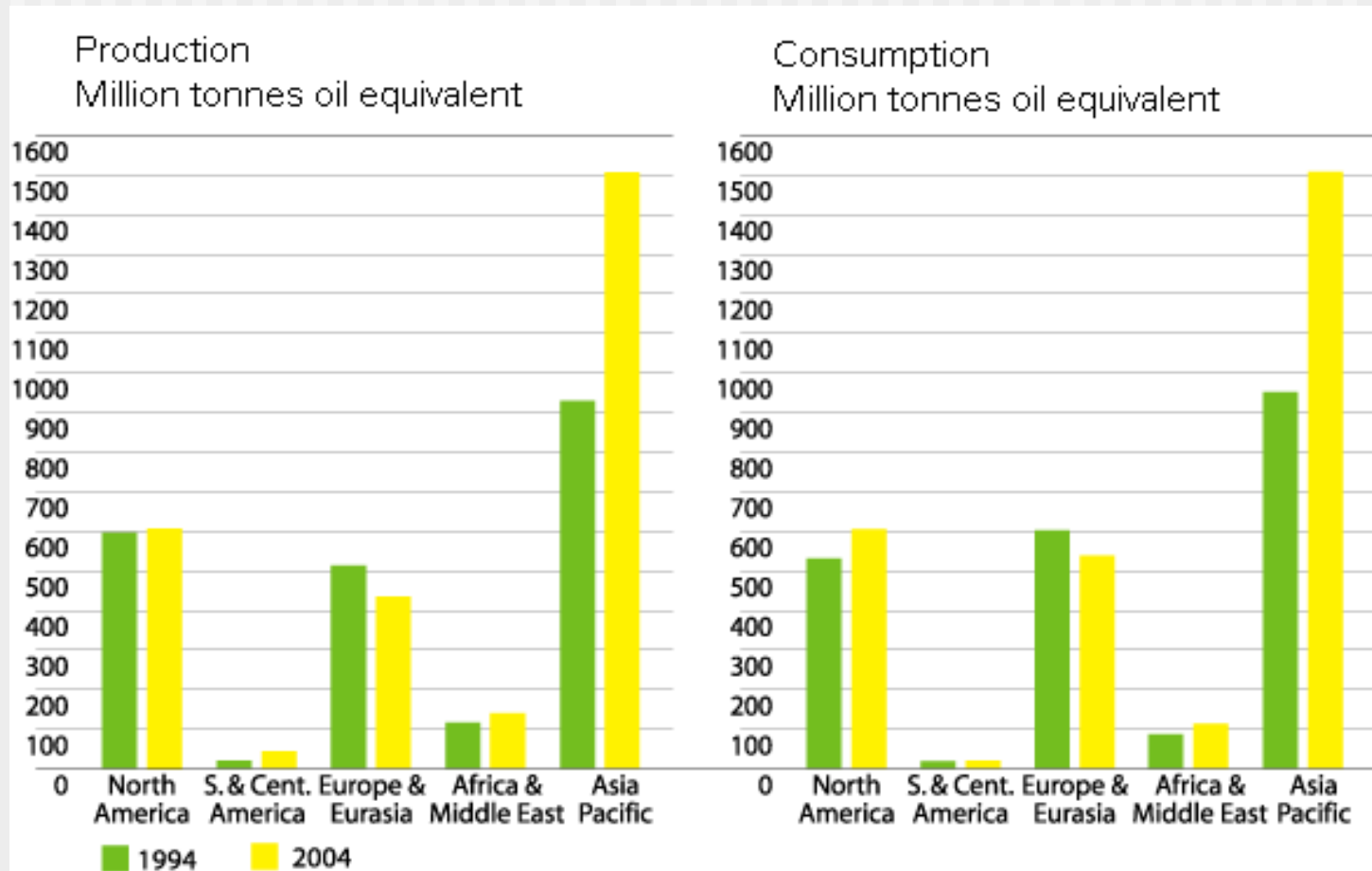
What role does coal play today in the U.S.?



Adapted from International Energy Agency, 2006



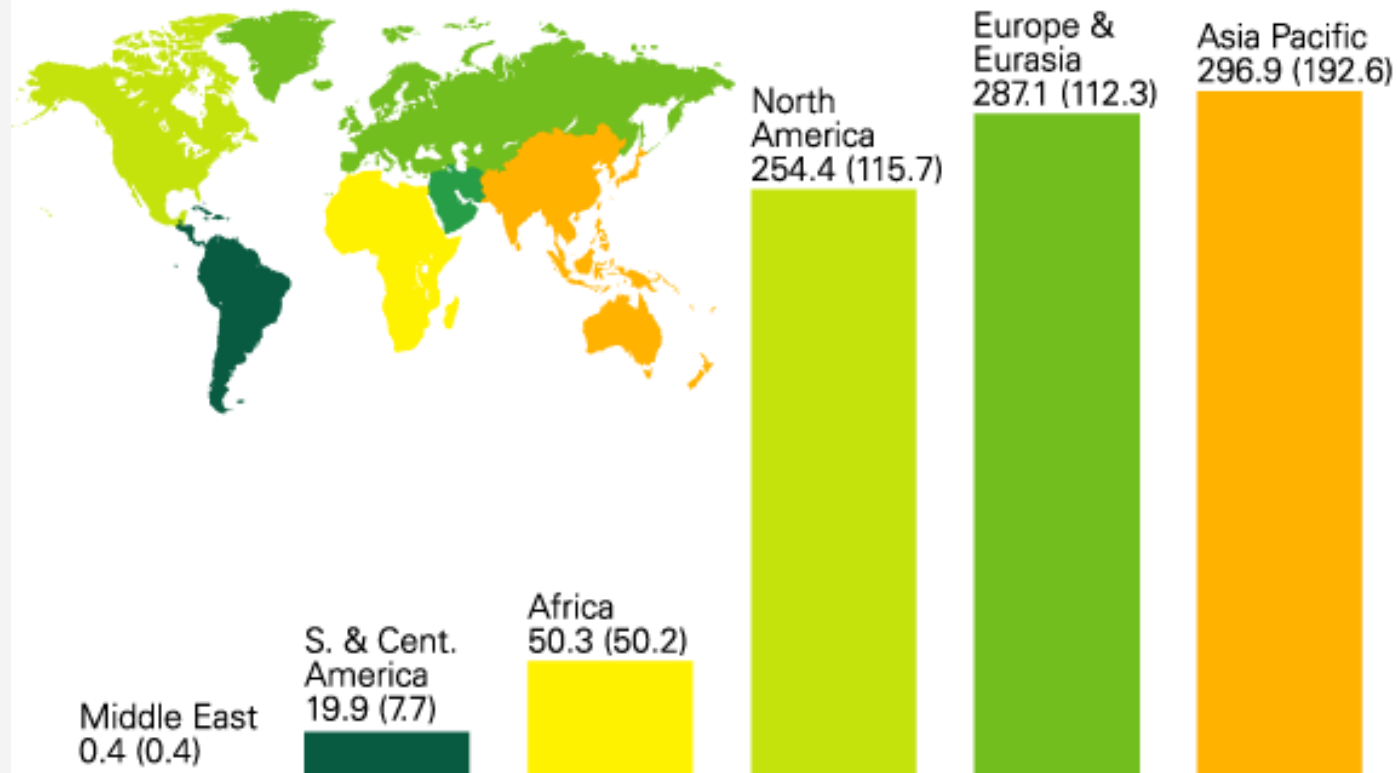
Globally, where is coal mined and used?



Adapted from BP Statistical Review of Energy, 2005

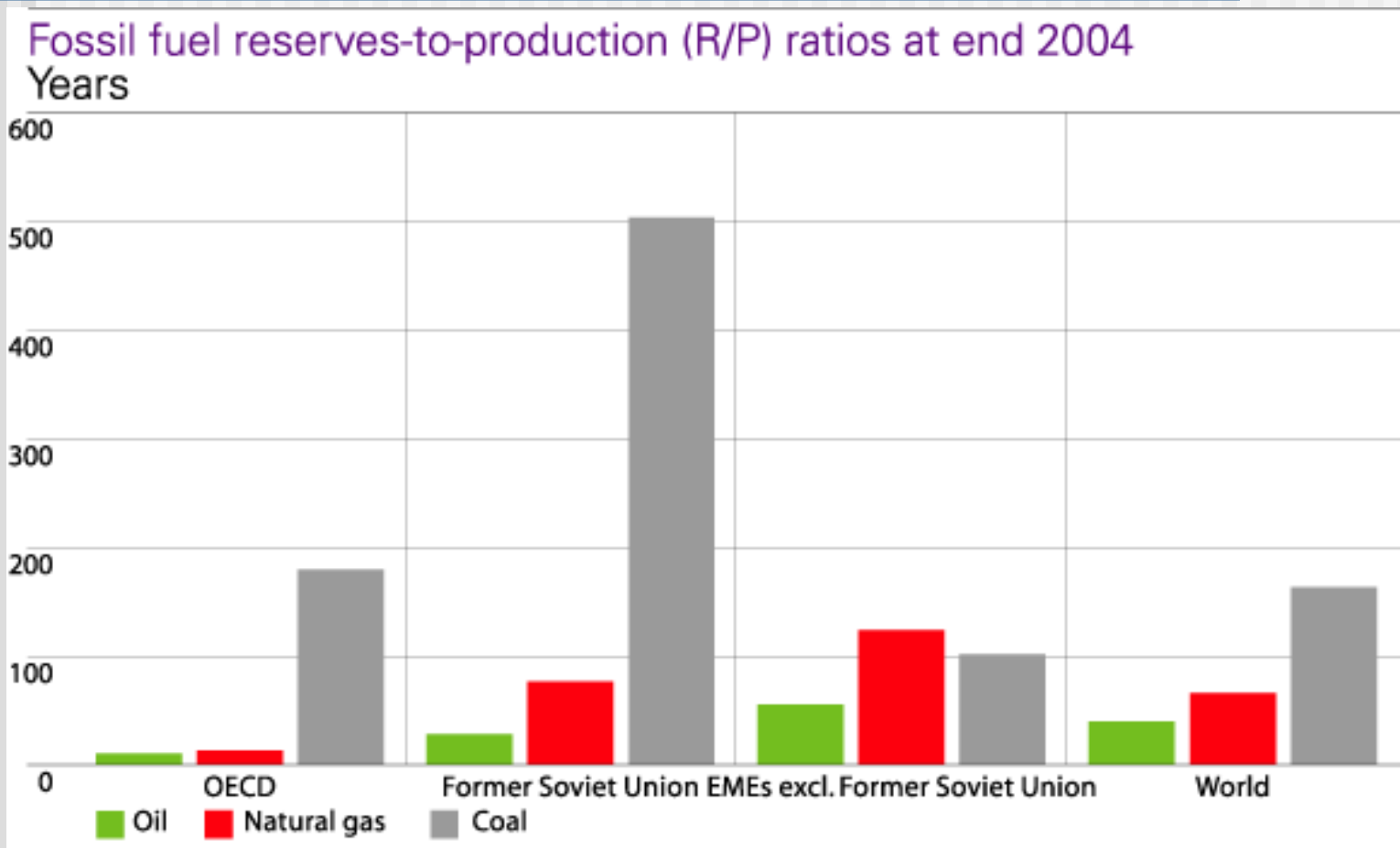
Are we going to run out of coal?

Thousand million tonnes (share of anthracite and bituminous coal is shown in brackets)



Adapted from BP Statistical Review of Energy, 2005

Are we going to run out of coal?



Adapted from BP Statistical Review of Energy, 2005

What are the benefits and downsides of using coal?



Economist, July 4, 2002

Benefits

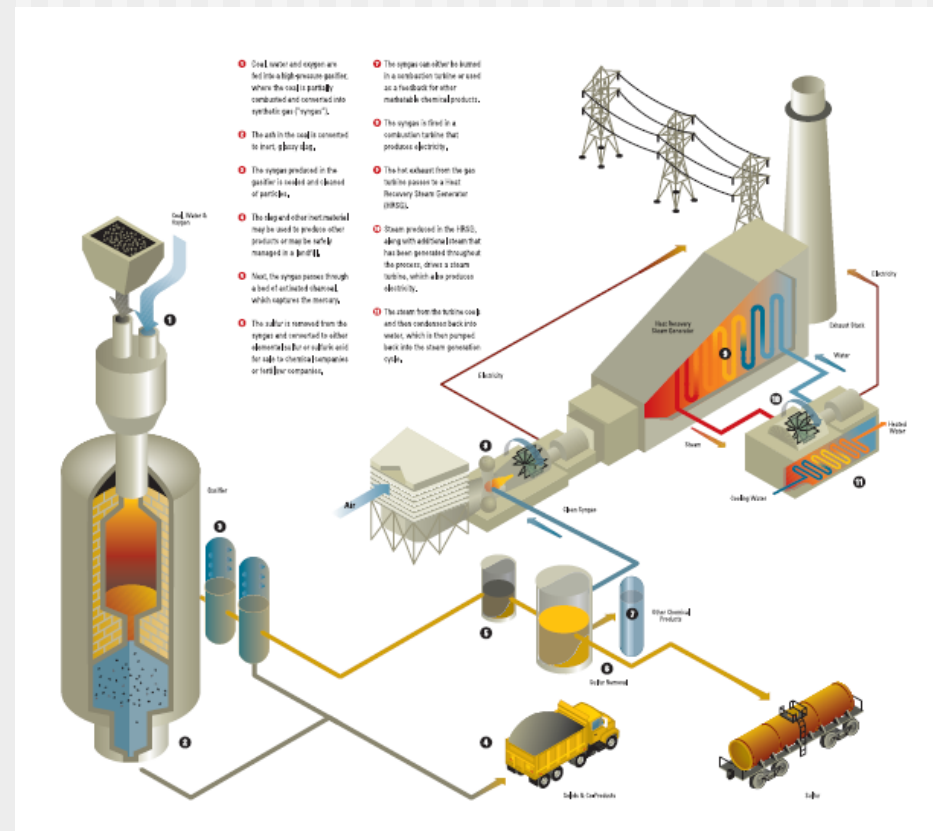
- Cheap and available
- Sourced where it is being used
- Proven technologies to use

Downsides

- Pollution (air, water)
- CO₂ intensity
- Mining issues (safety, environmental)

What about the future?

- Electricity
 - Cleaner, more efficient plants
 - Integrated gasification/combined cycle (IGCC)
 - Carbon capture and sequestration



Adapted from American Electric Power, 2006

Other uses of coal?

- Fuels
 - Synthetic natural gas
 - Liquid fuels
 - Hydrogen



What is the interplay between coal and real estate?

■ Electricity

- + Provides stable, reliable electricity prices
- + Plentiful, domestic supply of fuel
- Can be difficult to build new plants because of air pollution, greenhouse gas concerns

What is the interplay between coal and real estate?

■ Fuels

- + Coal can be a substitute for oil, natural gas
- Would be more expensive than conventional sources
- Significant increases in greenhouse gases if CO₂ sequestration not employed



Any
Questions?