



PENNSYLVANIA COAL ALLIANCE

JOHN PIPPY, CEO

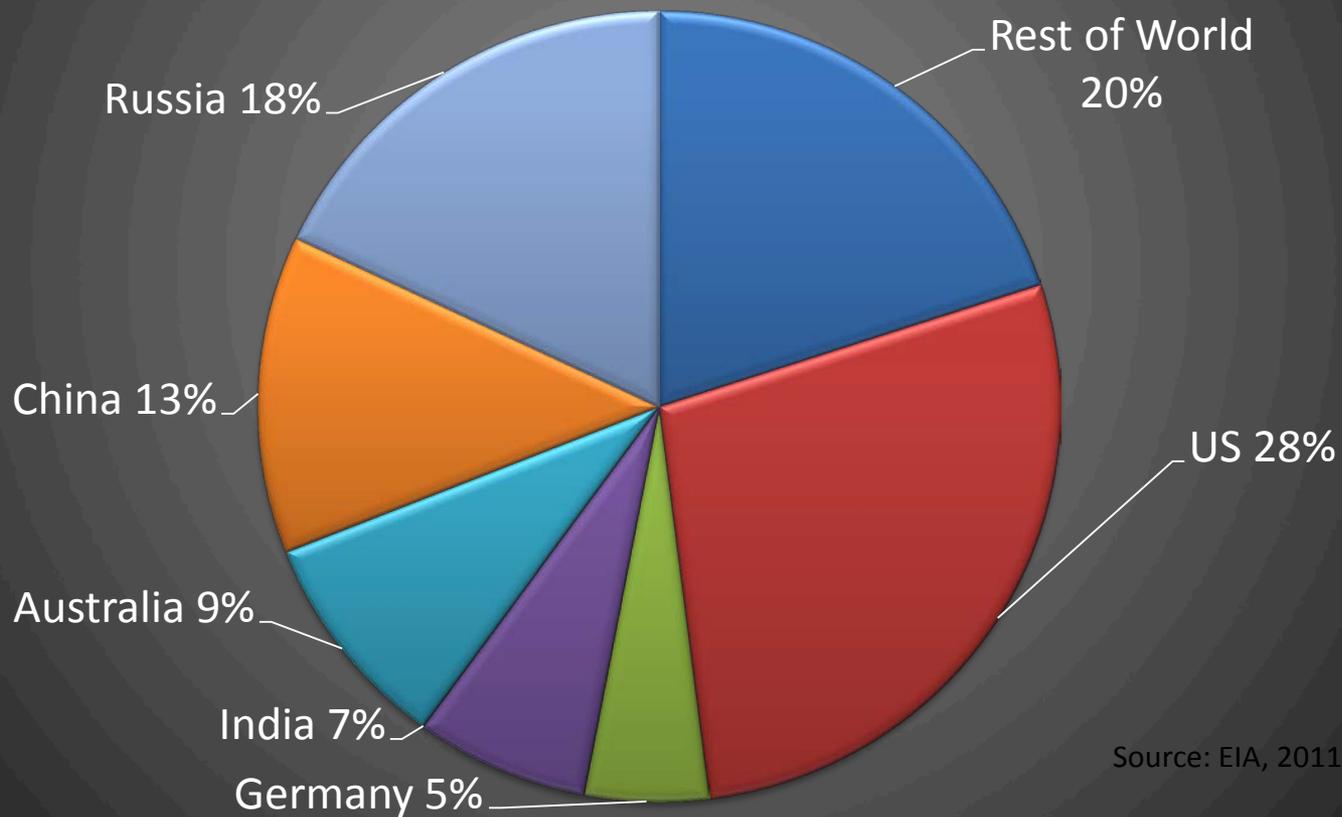
October 8, 2015

Pittsburgh, Pennsylvania



SNAPSHOT OF TODAY'S COAL RESERVES

Global Share of Recoverable Coal Reserves

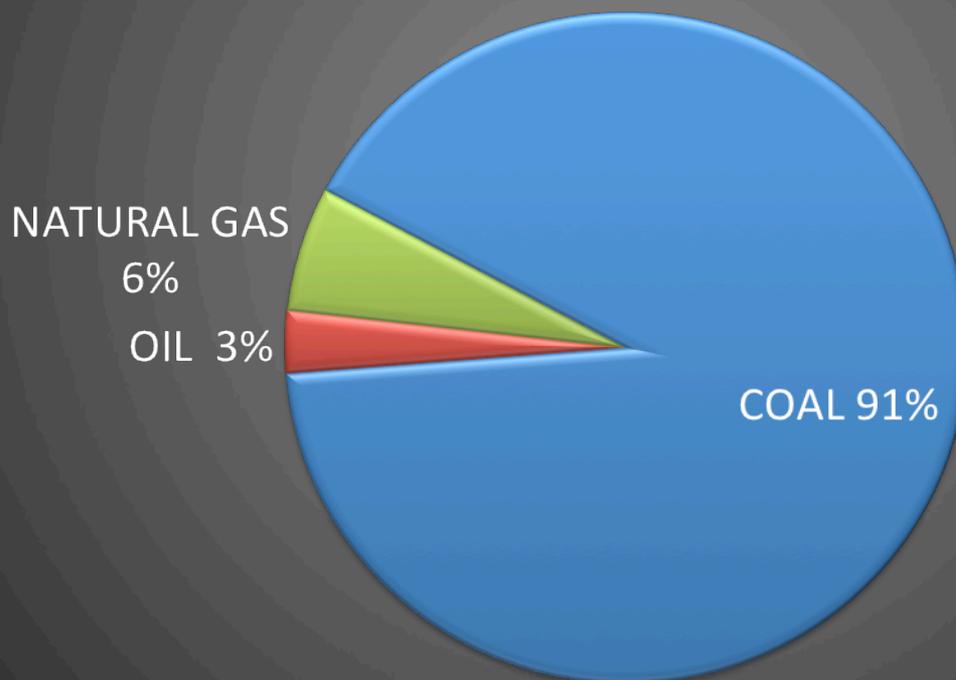


Source: EIA, 2011



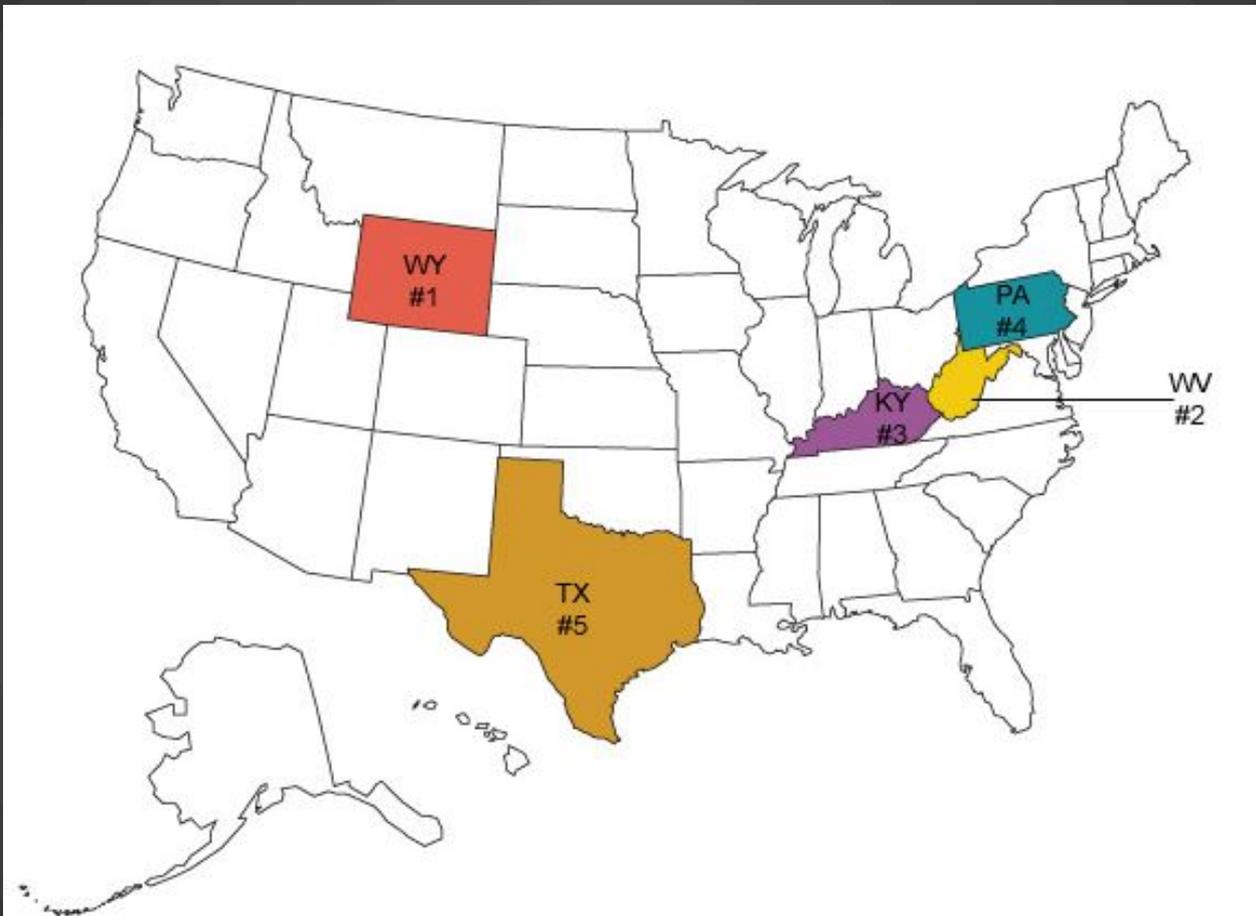
U.S. HAS ABUNDANT FOSSIL ENERGY RESERVES

U.S. Fossil Energy Reserves





TOP COAL PRODUCING STATES



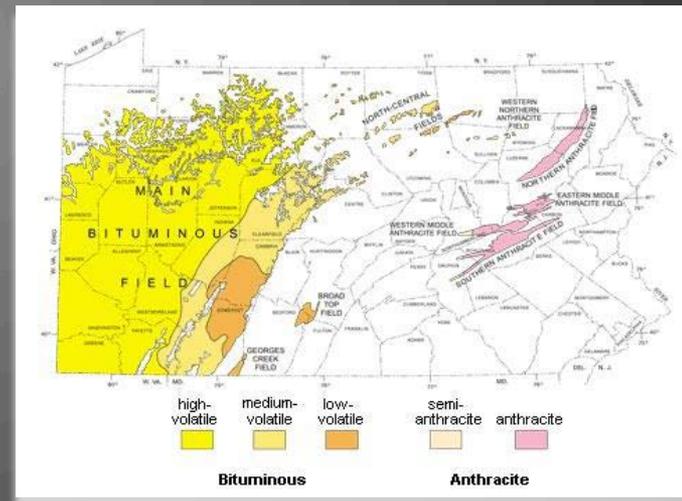
Source: U.S. Energy Information Administration, *Quarterly Coal Report* (June 2012).



STATE OF THE INDUSTRY IN PA

(1 of 2)

- Total Production: 67,161,030 tons
 - Pennsylvania is the 4th largest coal-producing state nationally and the only state producing anthracite coal
- 80% of Pennsylvania's coal goes to creating electricity
- In 2013, 40% of Pennsylvania's electricity came from coal





STATE OF THE INDUSTRY IN PA

(2 of 2)

- The coal industry contributes over \$4.1 billion annually to Pennsylvania's economy
- The industry supports 8,100 direct jobs and 36,000 mine-related jobs, with a payroll totaling over \$2.2 billion
 - Taxes on these wages alone netted more than \$700 million to federal, state & local governments
- Pennsylvania has the largest mining and equipment manufacturing industry in the country, accounting for 27% of that sector's national employment



THE COAL INDUSTRY ACCOUNTS FOR ONE IN FIVE RAILROAD JOBS

*62% of Pennsylvania's coal is
transported by rail*



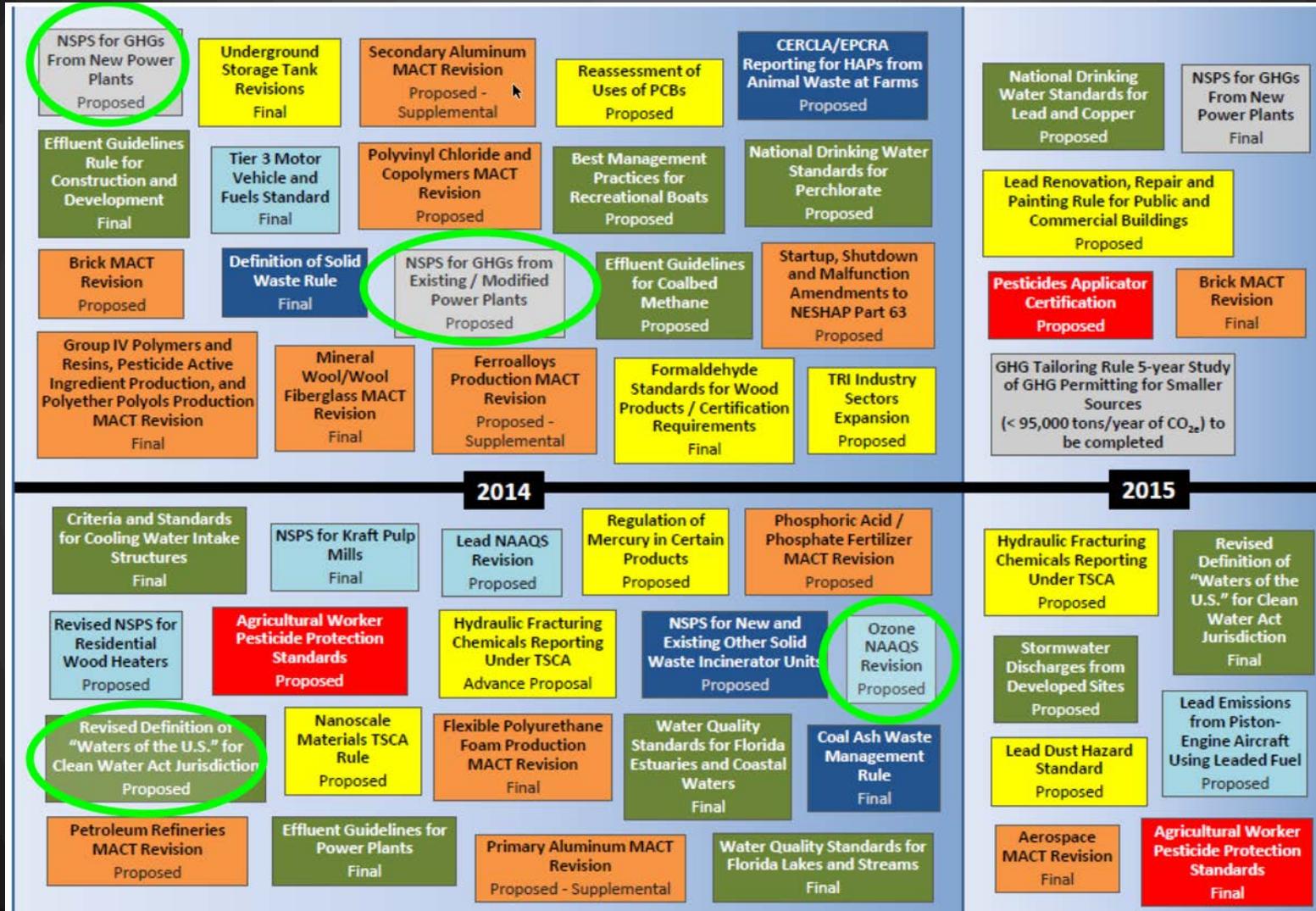
COAL EXPORTS

**PENNSYLVANIA EXPORTED
14,497,000 TONS OF COAL IN
2011**



EPA REGULATIONS

OVERSIGHT IS GOOD → OVERREACH IS BAD





ANNOUNCED DEACTIVATIONS OR RETIREMENTS



5,760 TOTAL MW CLOSING

PENNSYLVANIA

April 2015

New Castle
(330 MW)



Armstrong Power
Station (356 MW)

April 2015

Shawville (597 MW)



Hunlock Power
Station (45 MW)

June 2014

Portland
(401 MW)

April 2015

Elrama
(460 MW)



Mitchell
(376 MW)



Hatfield's Ferry
(1,728 MW)

Titus (243 MW)



Cromby (345 MW)

Eddystone
(279 MW)



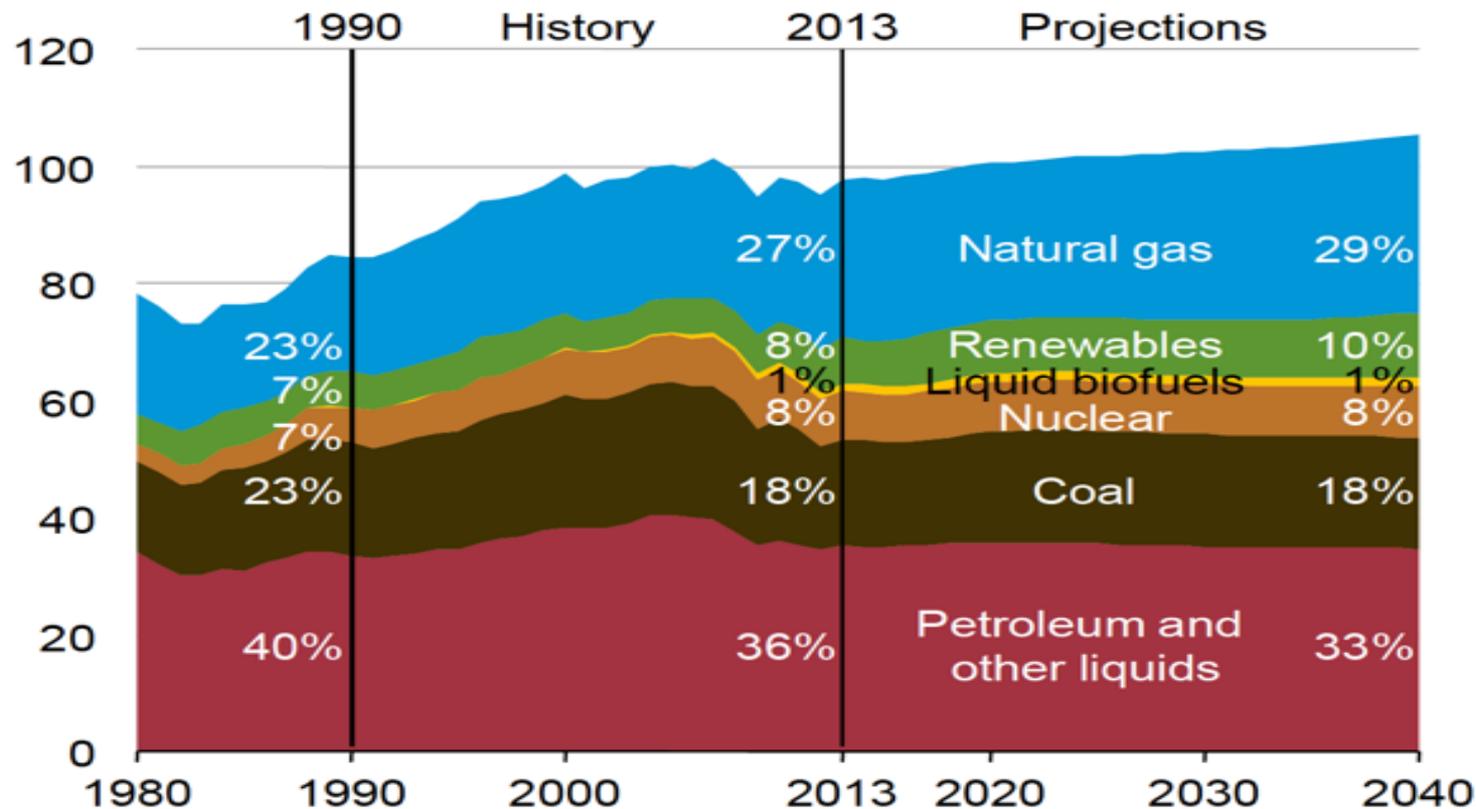
NEW
JERSEY



U.S. ELECTRICITY GENERATION: 1980-2040

(trillion kilowatt-hours)

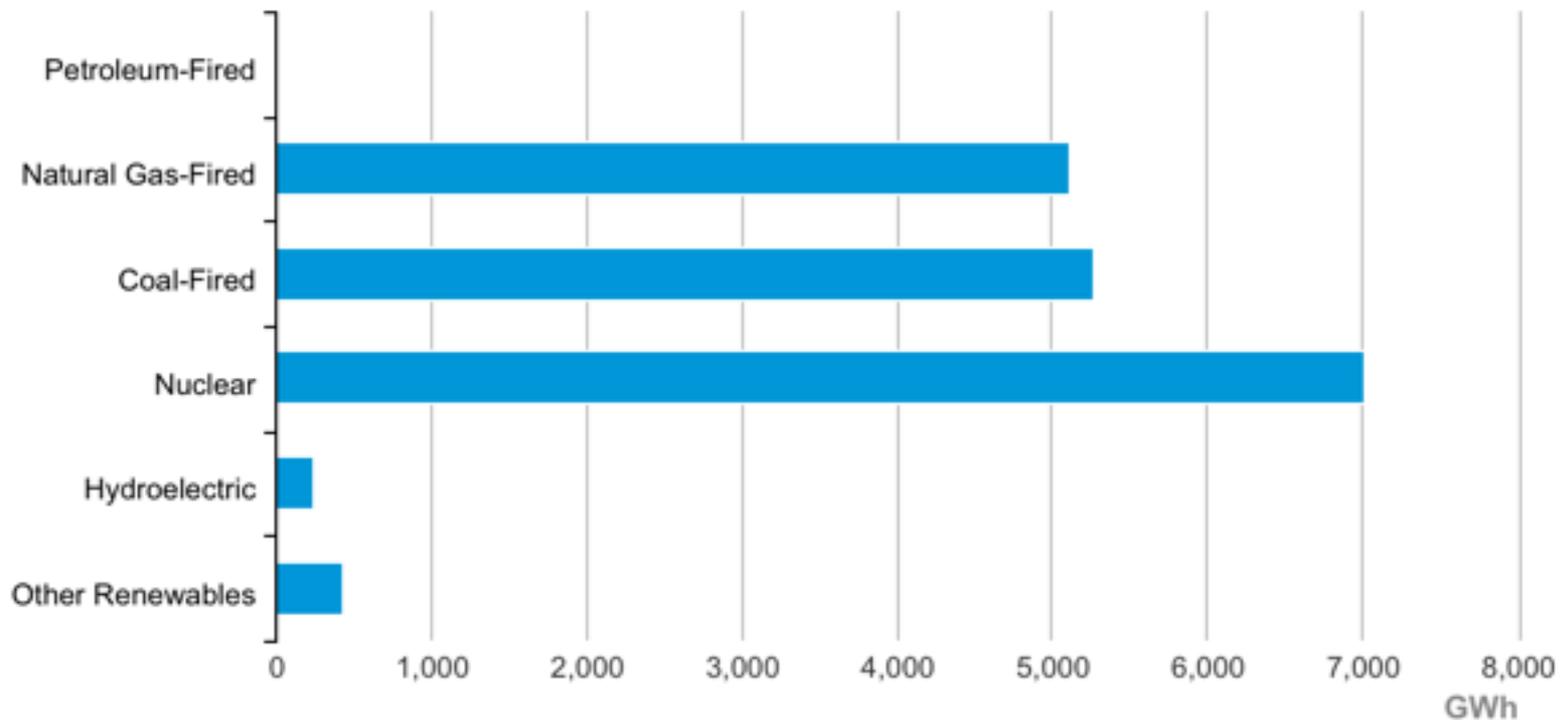
Figure 18. Primary energy consumption by fuel in the Reference case, 1980-2040 (quadrillion Btu)





ELECTRICITY PROFILE IN PA

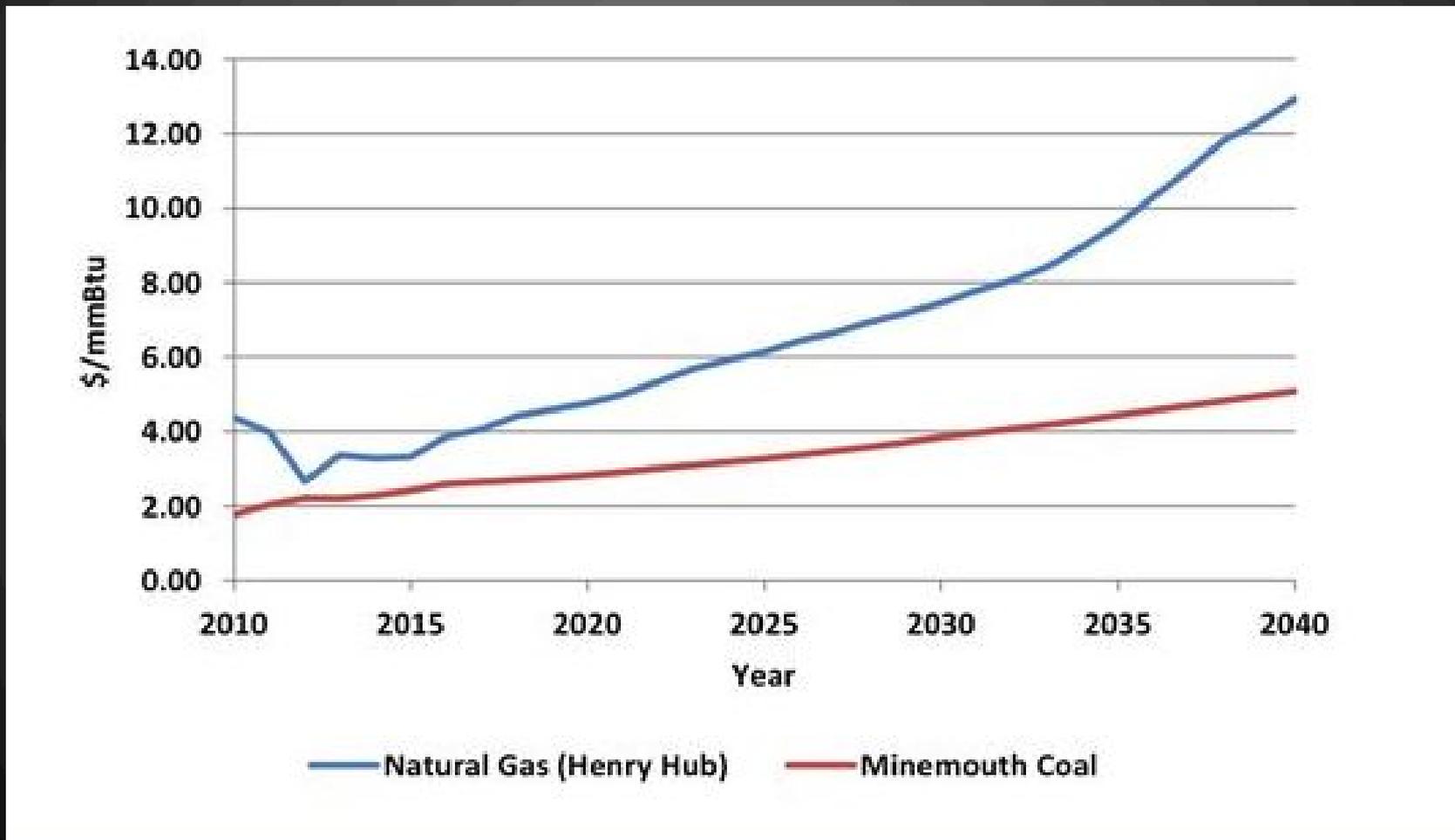
Pennsylvania Net Electricity Generation by Source, Jun. 2015 [DOWNLOAD](#)



Source: Energy Information Administration, Electric Power Monthly



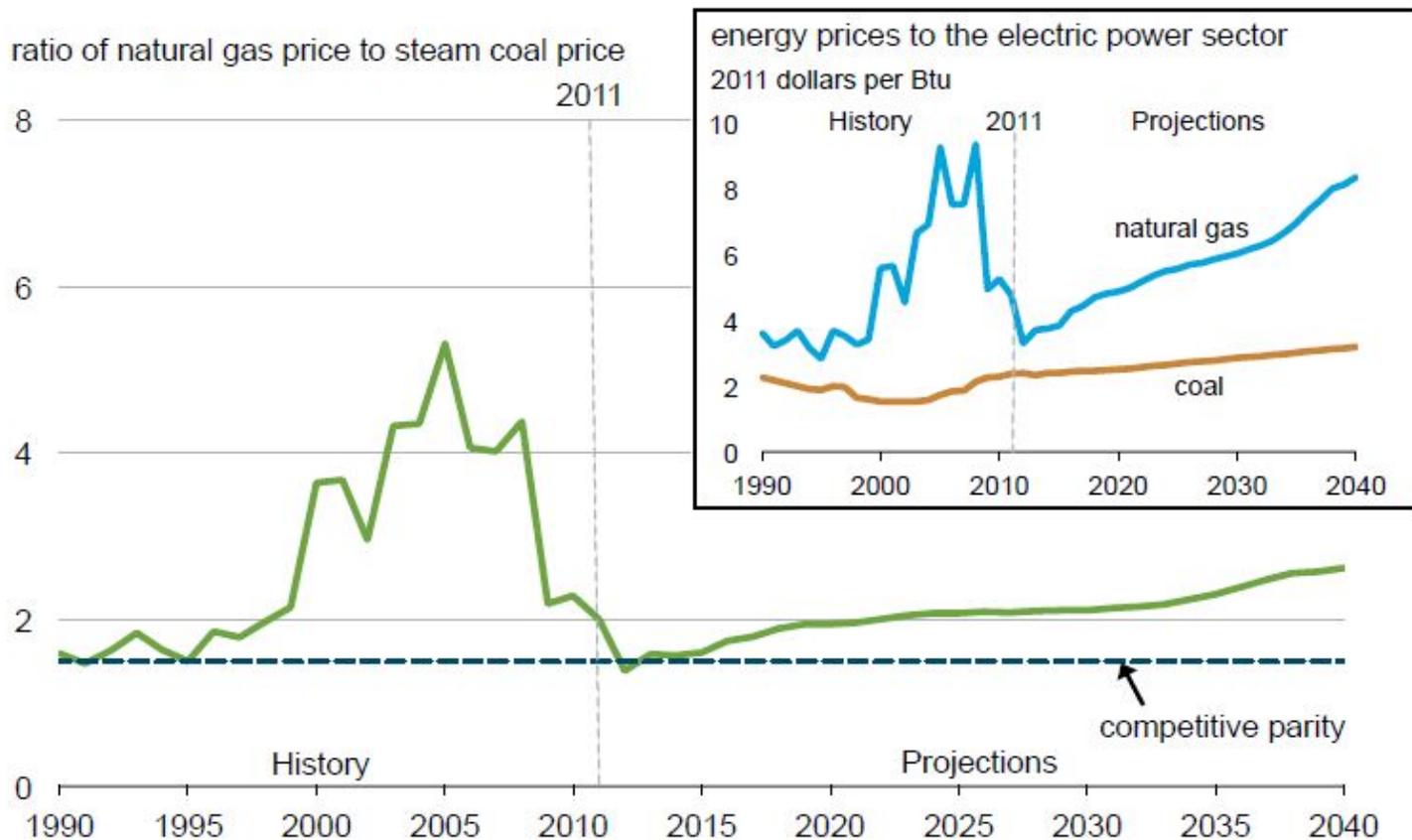
NOMINAL NATURAL GAS & COAL PRICE PROJECTIONS: 2010-2040





COAL vs. NATURAL GAS

Coal regains some competitive advantage relative to natural gas over time on a national average basis



Source: EIA, Annual Energy Outlook 2013



RELIABILITY CONCERNS

- Largest wave of Utility MACT shutdowns still to come (2015-2016). MISO^I projecting a 2.3 GW reserve margin shortfall in 2016.
- EPA Utility MACT retirement projections illustrate need for independent analyses. (EPA projected 4.7 GW of retirements in December 2011; in February 2014 DOE estimated actual retirements at 54 GW.
- Reliability analyses by RTOs, NERC Councils, PUCs underway and forthcoming
- FERC Commissioner Philip Moeller: *“Just as the Commission does not have expertise in regulating air emissions, I would not expect the EPA to have expertise on the reliability implications of transforming the electric generation sector. Hence I reiterate my call for a forum to publicly discuss the extent of reliability challenges under the proposal and potential solutions to these challenges.”*



NATIONAL IMPACT

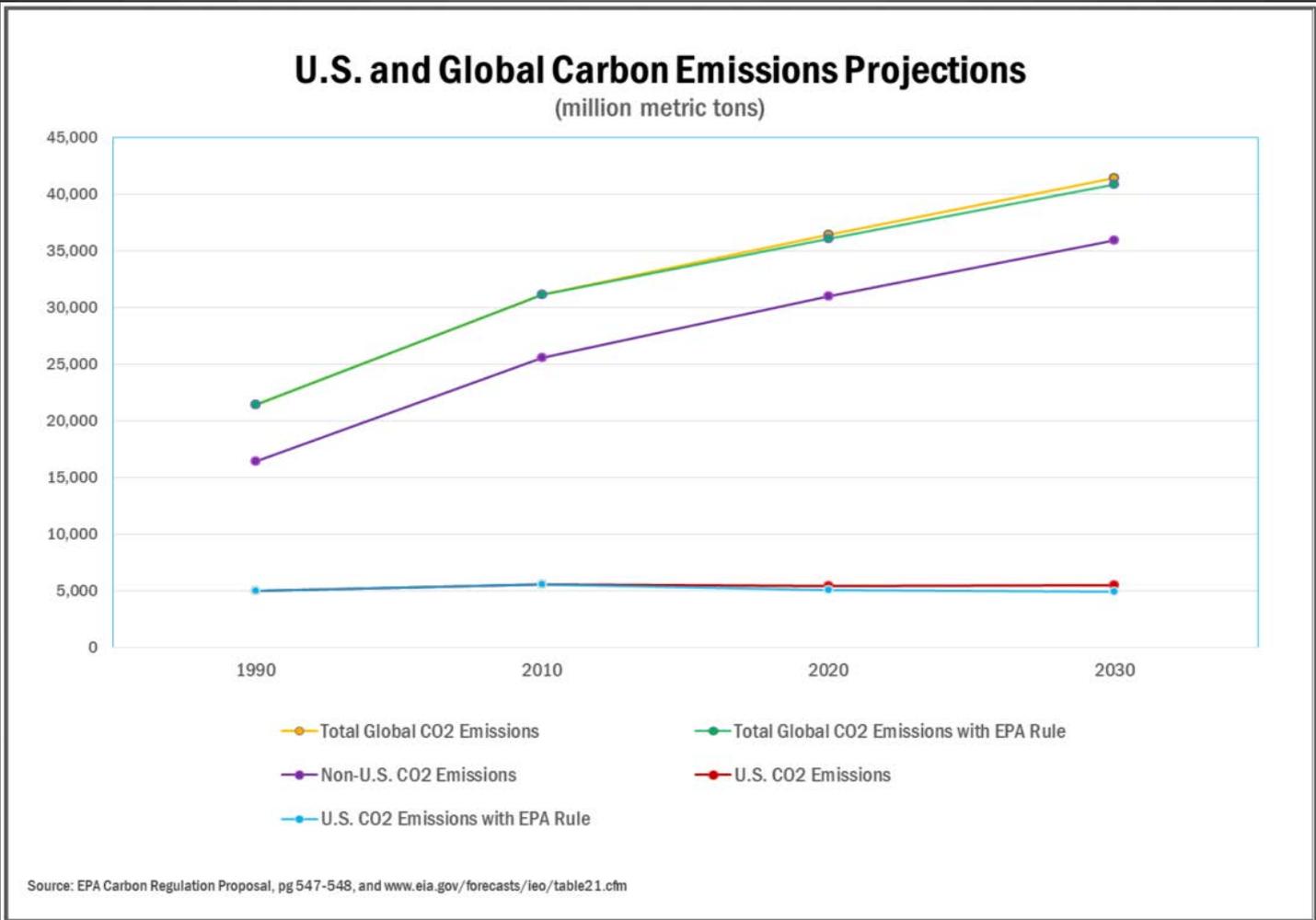
Assessment of the Impact of Potential New Carbon Regulations in the United States

COMPLIANCE IMPACT PROJECTIONS:

- Cost \$366 billion - \$479 billion over 15 years
- Lower U.S. Gross Domestic Product (GDP) by \$51 billion on average every year through 2030
- Lead to 224,000 fewer U.S. jobs on average every year through 2030
- Force U.S. consumers to pay \$289 billion more for electricity through 2030
 - 43 states are projected to have double digit electricity price increases
- Lower total disposable income for U.S. households by \$586 billion through 2030
- Coal generation will decline 29% - 71% and additional coal retirements range from 45GW - 169GW



EPA's Projected Carbon Emissions



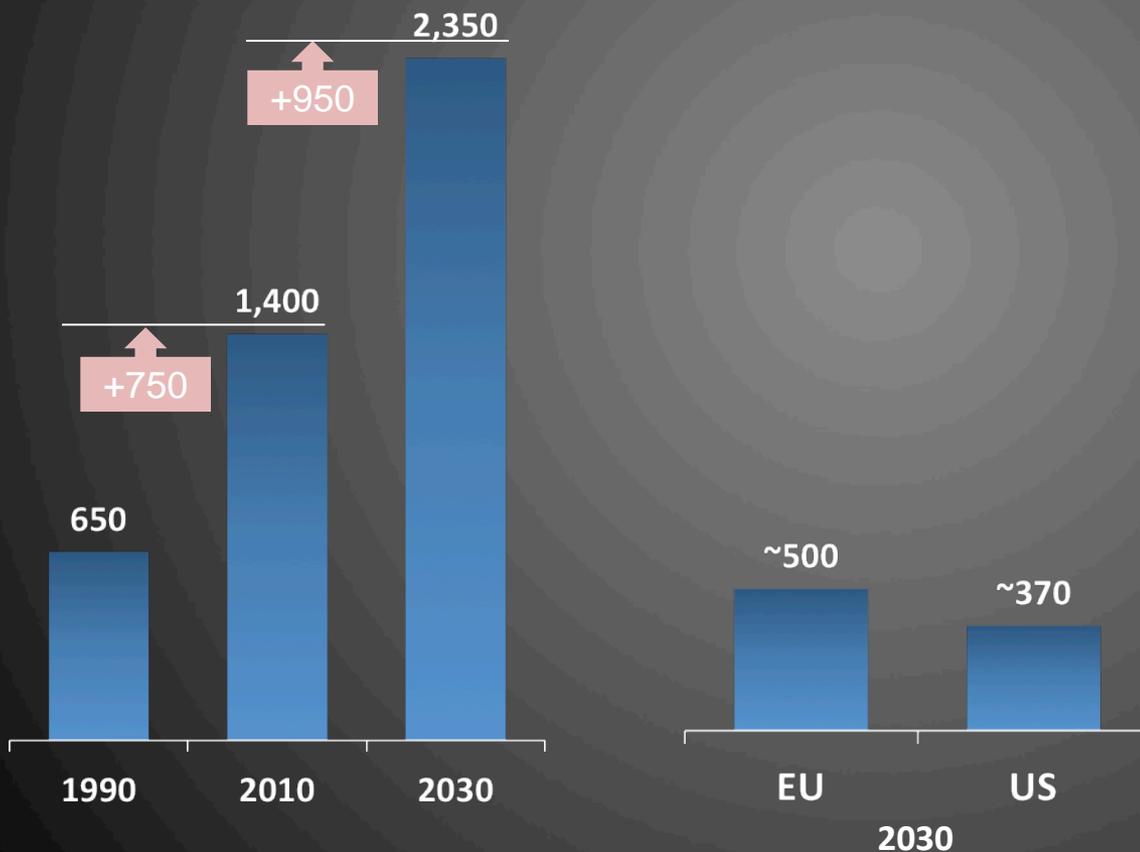


ENERGY HUNGRY WORLD

Scale and Pace of Developing World Urbanization

Total Urban Population in China, India and Africa (million)

Total Population in Developed Countries (million)



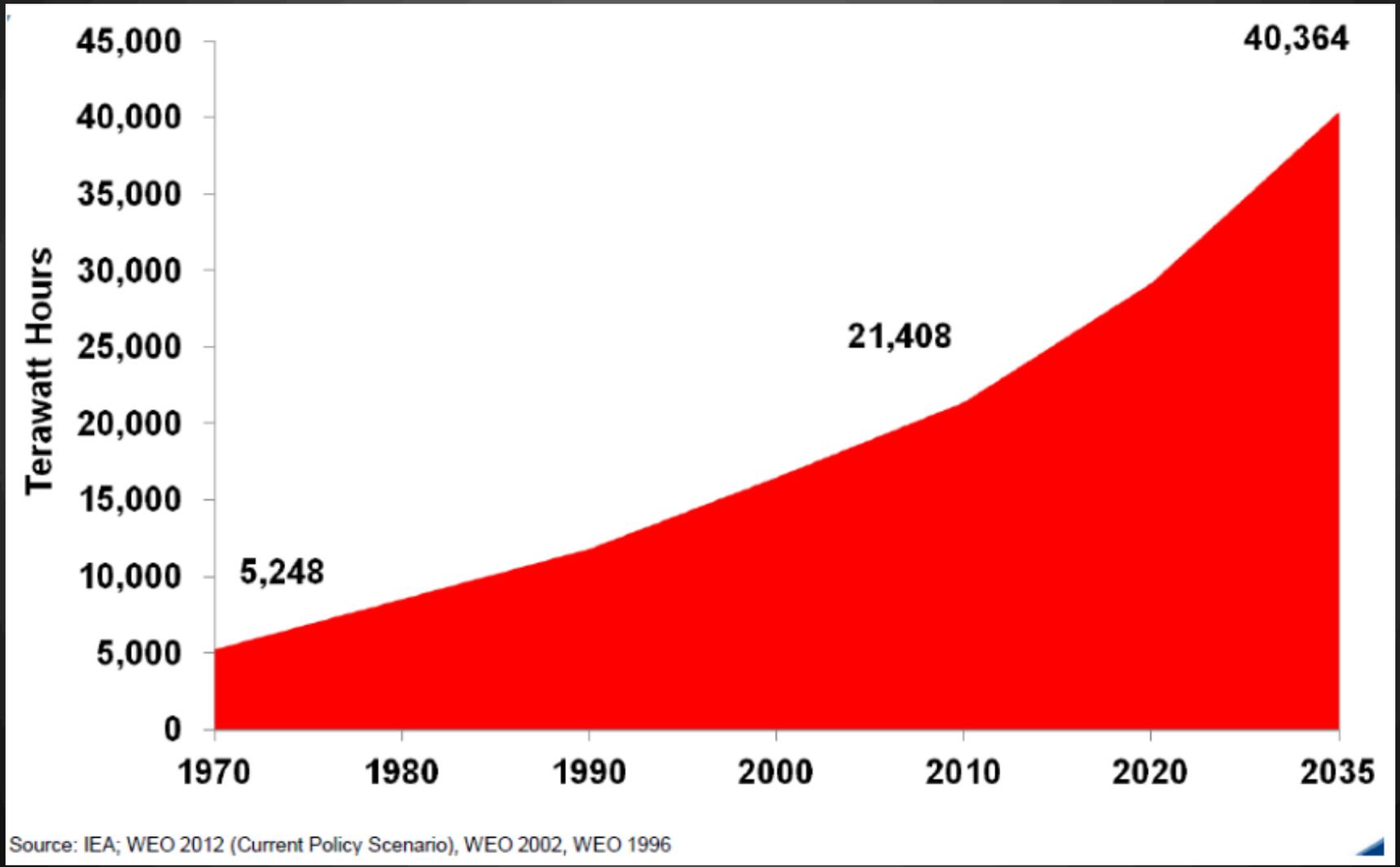
- By 2020, developing countries will account for almost 80% of the world's total urban population

- The global growth is equal to adding the population of Mumbai every second month or Shanghai every third

Source: McKinsey & Company

GLOBAL CONTEXT

Electricity demand to increase by 670% in just two generations

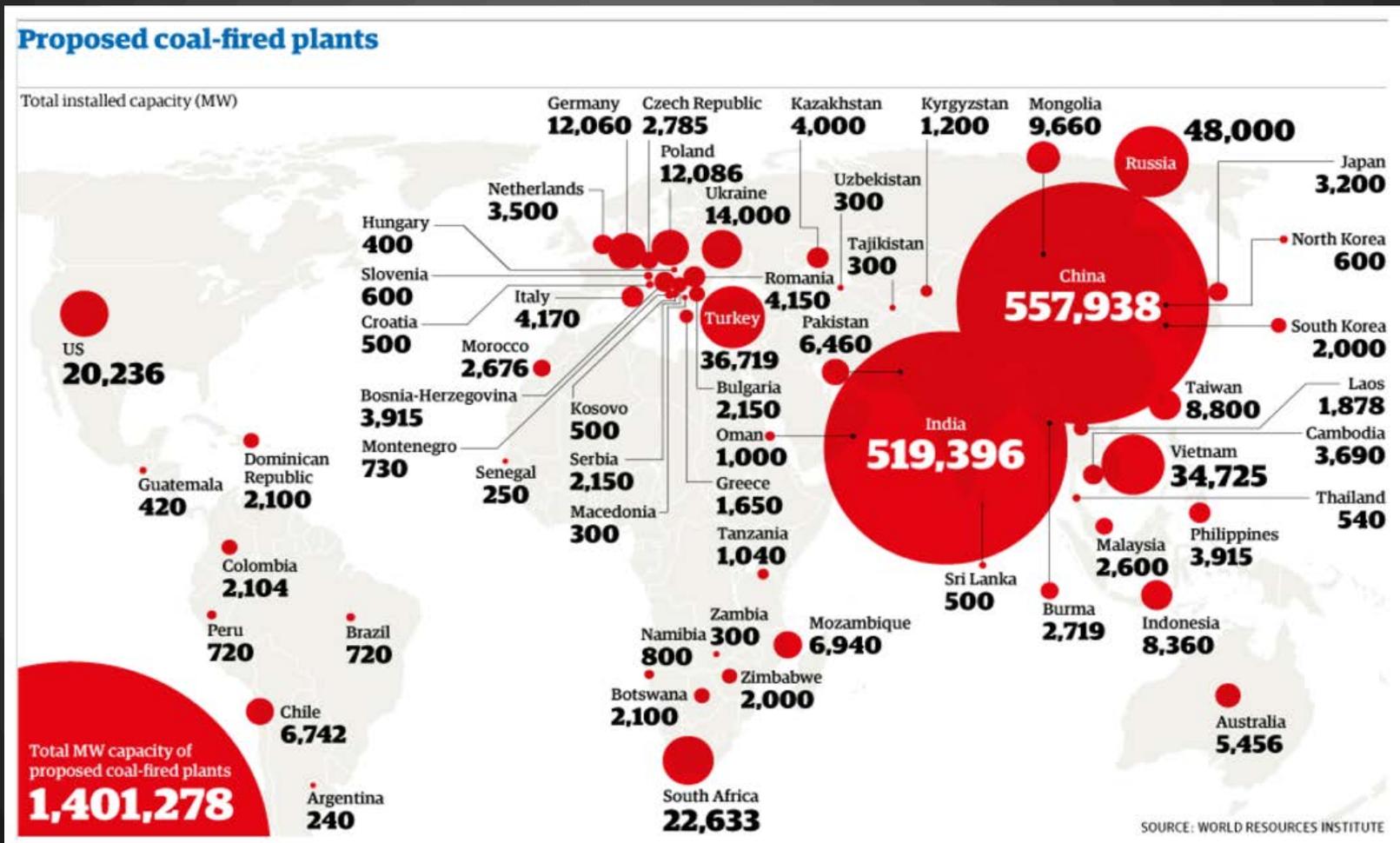


Source: IEA; WEO 2012 (Current Policy Scenario), WEO 2002, WEO 1996



GLOBAL CONTEXT

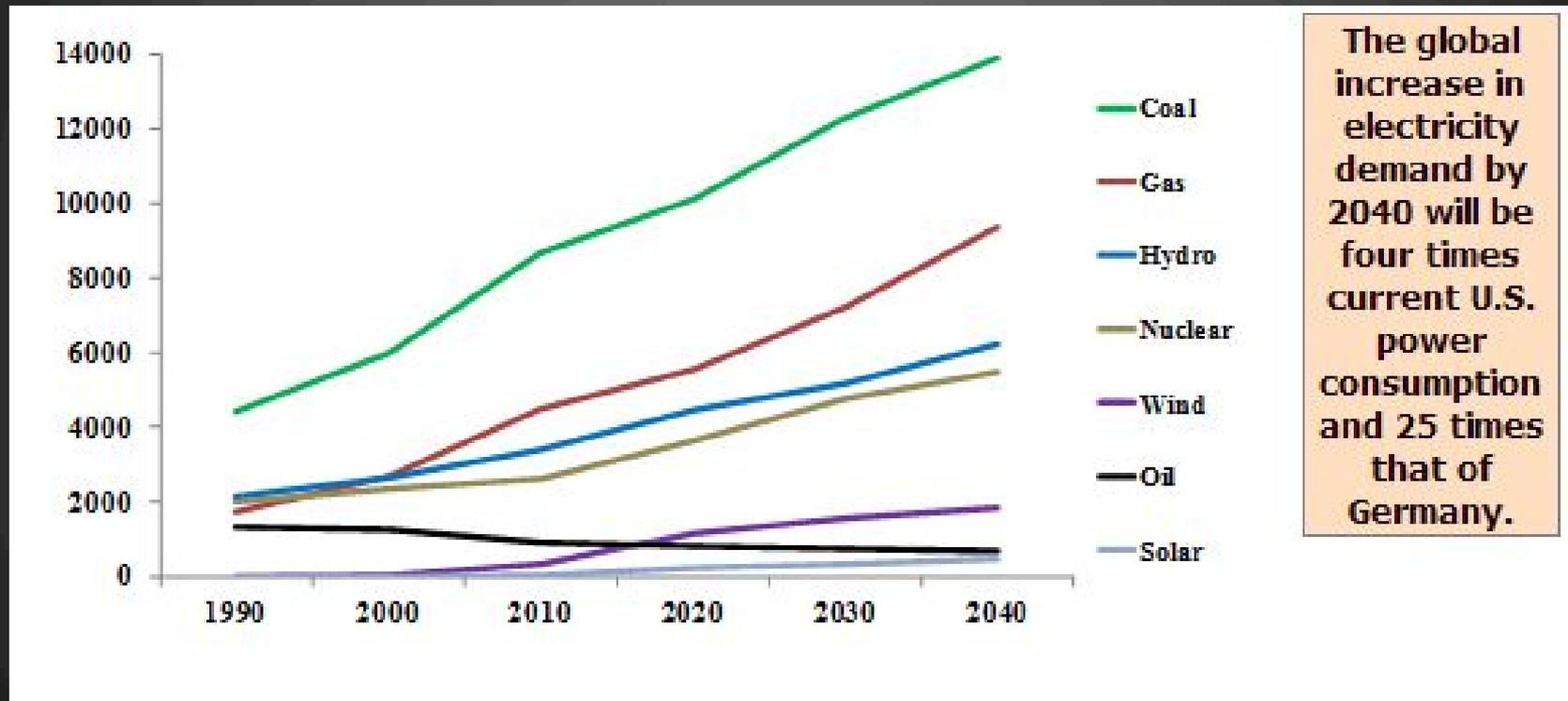
Rest of the World Aggressively Building New Plants



Data Source: World Resources Institute; Image developed by Tim Channon



COAL = FOUNDATION OF THE WORLD'S ELECTRIC POWER SYSTEM





COAL: A WORLD'S PARTNER ENERGY SOURCE

- Maximize efficiency
- Increase domestic oil & gas production
- Recognize role for clean coal
- Allow investment in innovation & technology
- Increase energy security

“Stricter clean air regulations and competition from cheap natural gas won’t slow the world’s appetite for coal, set to grow 2.3 percent in 2015, according to the International Energy Agency. Much of the demand will come from India, which burns coal for 60 percent of its electricity.”

- Bloomberg Businessweek
(November 2014)

“Coal is more popular than ever as the cheapest fuel for generating electricity in the developing world, despite efforts by the Obama administration and environmentalists to limit its use.”

- Washington Times
(October 2014)



ENERGY FUTURE IS IN INNOVATION NOT REGULATION

Longview Power proves that electricity can be generated with coal

- A low cost producer, competitive with natural gas generation
- Environmentally friendly and sustainable





We do not need to choose between our country's economic health and environmental quality. We can address both – if we work collaboratively to continue to reduce coal emissions and support production so that coal and Pennsylvania will remain strong for our future.

www.BetterWithCoal.com

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