CHANGING THE NARRATIVE

JASON HAYES
AMERICAN COAL COUNCIL

NCCI 2014 SUMMER TRADE SEMINAR
MYRTLE BEACH, SC
THE AMERICAN COUNCIL

We’re proud to represent the interests of 170 companies across the coal chain.

Coal Suppliers
Coal Consumers
Transportation
Energy Traders
Coal Support Services
Contributing Supporters

From the hole in the ground to the plug in the wall
AMERICAN COAL COUNCIL

OUR VISION
Advancing the power, promise & pride of America’s coal industry.

OUR INTEREST
The industry as a whole. Emphasizing members’ commercial and professional development interests.

OUR MISSION
To provide relevant educational programs, market intelligence, advocacy support and peer-to-peer networking forums.

OUR ACTIVITIES
We support activities and objectives that advance coal supply, consumption, transportation and trading for industry, policy makers and public interest groups.

JASON HAYES  COAL INDUSTRY UPDATE: CHANGING THE NARRATIVE
MARKETS

REGULATION

TECHNOLOGY
MARKETS
PROFILE OF EXISTING FLEET – 310GW

U.S. Electricity Generation by Energy Source
(Source: USDOE/EIA Electric Power Monthly, March 2014)

Electricity Generation, Billion KWh/year

Coal
Oil
Gas
Nuclear
Hydro
Solar
Wind
W-W-G = Wood, Waste Fuel, & Geothermal
Other
PROJECTED 2020 ENERGY CAPACITY

Source: NCC

Sources:
2020: AEO-2014, USDOE/EIA.
FOSSIL ENERGY RESOURCES

- **Coal**
  - Total remaining recoverable resources: 3,050 years
  - Proven reserves: 142 years
  - Cumulative production to date: 233 years

- **Natural Gas**
  - Total remaining recoverable resources: 233 years
  - Proven reserves: 61 years
  - Cumulative production to date: 178 years

- **Oil**
  - Total remaining recoverable resources: 178 years
  - Proven reserves: 54 years
  - Cumulative production to date: 54 years

*Source: IEA World Energy Outlook 2013 & World Coal Association*
FEDERAL ELECTRIC SUBSIDIES

Source: IER / EIA
COAL STATES PAY ~33% LESS FOR ELECTRICITY

“Coal States”
9.4¢ / kWh
45% Coal

Northeast
14.5¢ / kWh
1% Coal

California
13.8¢ / kWh
1% Coal

Source: Peabody U.S. EIA, 2012 data, Feb. 2013, average retail electricity prices per kWh. Weighted average of CA and NE states equals 14.2 cents per kWh. ID, OR, WA excluded due to hydropower.
WITHOUT COAL

Compare - U.S.A.
- ~40% energy from coal
- 12.5 cents/KWh

Germany
- 40 cents/KWh
  - Wind & solar subsidies
  - Opposition to nuclear
- Building 10 coal plants in 2 years.

Source: Jo Ann Emerson, CEO NRECA
“British Pensioners burn old books to keep warm because it is cheaper than coal; they ride on heated buses all day, and a third leave part of their homes cold.” – Bjorn Lomborg
GENERATION RETIREMENTS

- 51.3 GW / 338 coal-fueled EGU closures linked to EPA regs | 62.5 GW / 421 total closures (As of May 2014)
  - >$200 billion in compliance costs / at least 544,000 jobs
- First Energy – Hatfield’s Ferry & Mitchell closed due to MATS costs & low power prices
  - $700 million in 2009 on scrubber
- TVA – Widow’s Creek, Colbert, Paradise also closed due to MATS & GHG regs
- AEP targeting closures 6586 MW of coal closures “to comply with new environmental regulations”
“This country did not just dodge a bullet – we dodged a cannonball.”
Nick Akins, CEO, American Electric Power
REGULATIONS
ALL but one of the ABOVE

President Obama’s approach to energy independence
IMPENDING REGULATIONS

- Carbon/GHG
- Clean Air Act S. 111
- Waters of the U.S.
- MATS
- CAIR/CSAPR
- MSHA’s Coal Dust Rule
- Coal Combustion Residuals
“Behold my display of the 2013 Federal Register. It contains over 80,000 pages of new rules, regulations, and notices all written and passed by unelected bureaucrats. The small stack of papers on top of the display are the laws passed by elected members of Congress and signed into law by the president.”

Sen. Mike Lee, R-UT - @SenMikeLee
IMPENDING REGULATIONS

• Heritage Foundation estimate costs of EPA regs. aimed at phasing out coal
  – By 2023, 600,000 jobs lost
  – 270,000 lost manufacturing jobs
  – Family of 4 annual income drops by $1,200/yr
  – Aggregate GDP decrease by $2.23 trillion over period of analysis
  – Increase cost of natural gas by 28% (by 2030)

• “...proposed (NSPS GHG) rule will result in negligible CO₂ emission changes, quantified benefits, and costs by 2022.” --EPA
IMPENDING REGULATIONS

• ACCCE/NERA study critiques NRDC “CO₂ Standard” report
  – $116 to $151 billion in costs from 2018 to 2033
  – Up to 2.85 million lost job years
  – Electricity rates “increase by double digits in 29 states.”
  – Coal retirements up to 83GW / up to 124GW when other regs are included
  – Nat gas prices increase by up to 16%

• Removal of all U.S. coal – “reduce average global temp increase by 0.05 deg. F by 2050”
EPA & ENVIRONMENTAL GROUPS

• FOIA’d emails reveal “uncomfortably close working relationship” between EPA and environmental groups
  – Groups listed coal plants they want blocked by EPA standards
  – Undisclosed meetings held with high-level EPA and Sierra Club execs
  – Many other groups and meetings to discuss developing public support for NSPS GHG rule

Source: Energy & Environment Legal Institute
EPA’s “Secret Science”

“The studies used to support the 1997 PM2.5 standard have never been independently reproduced or validated, and EPA has successfully resisted all attempts – including a 2000 Freedom of Information Act request from the U.S. Chamber – to obtain the data underlying the studies upon which EPA based its standards.”

Source: US Chamber of Commerce
TECHNOLOGY
“Approximately $118 billion (was) invested through 2013 to achieve these emission reductions.”

Clean Coal Technologies Improve Air Quality

Source: USDA 2013, EIA 2013
CCS has not been adequately demonstrated. It's not met the standard EPA has used for the last 40 years that requires new technology also be cost-effective.

Jeffery Holmstead, former EPA Asst. Administrator
USA Today Sept. 20, 2013
NSPS rule for new plants is anti-technology

“Under EPA’s proposal, industry (can’t) even... build the most state-of-the-art clean coal-fired plant, because the technology required ... is not commercially feasible.”

OurEnergyPolicy.org
REduced RD&D FUNDING

DOE RD&D Budget for Coal Use Technologies

Source: NCC

Funding excludes $3.4B for demonstrations in ARRA, FY09.
TECHNOLOGY – TX CLEAN ENERGY PROJECT

- 400 MW gross polygen IGCC near Odessa (Penwell)
  - 195 MW electricity, 705K tons urea/yr, CO₂, & other products

- NOₓ, SOₓ, PM below permitted limits

- CO₂ – 90% captured & sold for EOR

- Zero liquid discharge/reduced water consumption
TECHNOLOGY – NRG WA PARISH RETROFIT

• 250 MW, SW of Houston, TX
• $167 m DOE grant – retrofit existing plant
• Use or capture 90% of post-combustion CO$_2$ (1.65m tons/yr)
• Pipeline CO$_2$ to mature Gulf-Coast oil fields for EOR
• Commercial-scale CCS demo – Operational in 2016

Source: NRG
• Southern Co. / Mississippi Power
• IGCC – gasifier = reduced emissions
  – Capture 65% of CO₂ emissions = similar sized NGCC plant
  – CO₂ for EOR – increase oil output by 2 million barrels / yr
• Fuel diversity – Mississippi lignite (mine mouth operation)
NEXT STEPS?
EDUCATE & ADVOCATE
“Fossil fuels don’t make a safe climate dangerous for humanity, they make a dangerous climate safe for humanity.”

Alex Epstein, Center for Industrial Progress
THE FACTS ARE ON OUR SIDE

Refuse definition by negatives

“The electric power industry has come to be defined by its discharge, rather than its product (electricity) and the benefits of electricity.”

Jason Makansi, Pearl Street
THE GREEN INDUSTRY

"They render industries uncompetitive and unable to hire. They mire increasing millions in fuel poverty. They doom energy costs to remain artificially high – and all for no discernible environmental benefit."

--Peter C. Glover and Michael J. Economides
WHAT DO YOU VALUE?

“How much do you value human life? ... The amount of carbon you use is directly proportional to the length and quality of human life. ... When energy is affordable and available your people will live longer and better lives.”

Climate Scientist John Christy, April 18, 2014 interview comments
“(CO2) benefits clearly outweigh any hypothesized costs by ... orders of magnitude: ... from 50-to-1 to 500-to-1. ... The benefits of CO2 overwhelmingly outweigh the estimated CO2 costs no matter which ... discount rates are used.”

All forms of energy have impacts

Source: The Commentator
A ‘transmission line’ for much of the world

Source: Frank Clemente
Reality is that the world needs coal.

Humanity needs cheap, abundant, & reliable energy!

Source: Globe & Mail
Margie & Alvin Tso, Navajo Nation

Electricity in their home on April 7th, 2014

15,000 homes on reservation do not have electricity

Source: AP
TAKE AWAYS

COAL is:

• The backbone of our reliable electric system
• Affordable, stably-priced electricity for American families and businesses
• 800,000 direct & indirect jobs

Message to policymakers and regulators:

• Retain & update our existing coal fleet
• RD&D – new technologies & build new plants
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