

USEA 15th Annual State of the Energy Industry Forum



Betsy Monseu, CEO
January 24, 2019





ACC VISION

To advance the power, the promise, and the pride of America's coal industry

1982 | 2019

37 years of service

Mission –

- Represent the collective interests of the American coal industry, from the hole-in-the-ground to the plug-in-the-wall.
- Provide education programs, market information, professional development and networking forums, and advocacy support.
- Serve as a resource for industry, policy makers, and public interest groups.

Membership – 140 companies

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

PRIORITIES

Policy

- Retain existing coal power plants and value reliability-resilience attributes
- Increase coal exports
- Advance and deploy coal technology
- Develop new uses/markets for coal

Federal Regulation

- Expedite reform initiatives in progress
 - Department of the Interior – coal mining
 - Environmental Protection Agency – power sector coal use
- Continue cross-cutting efforts to streamline permitting, coordinate reviews, reduce duplication and overlap, and create regulatory certainty



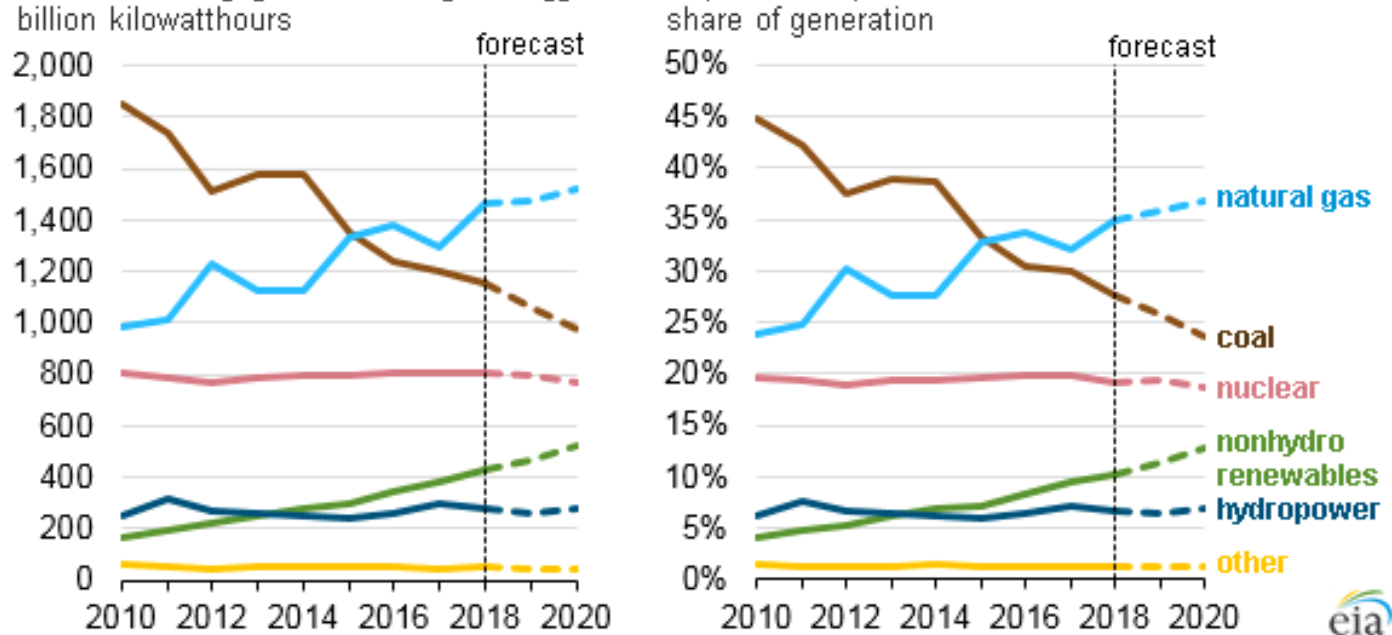
MARKET DYNAMICS

- U.S. coal exports reached 5 year high in 2018
- Exports were 15% of 2018 U.S. coal production, a historically high percentage
- 2018 U.S. domestic power sector coal consumption declined 3.7%
- Flat to low U.S. electricity demand growth means continuing fuel source competition for market share
- Threat of new federal coal regulations has diminished, but past policies resulted in significant loss of market demand made permanent due to power plant closures



TRENDS IN ELECTRIC GENERATION BY RESOURCE TYPE

U.S. electricity generation by energy source (2010-2020)

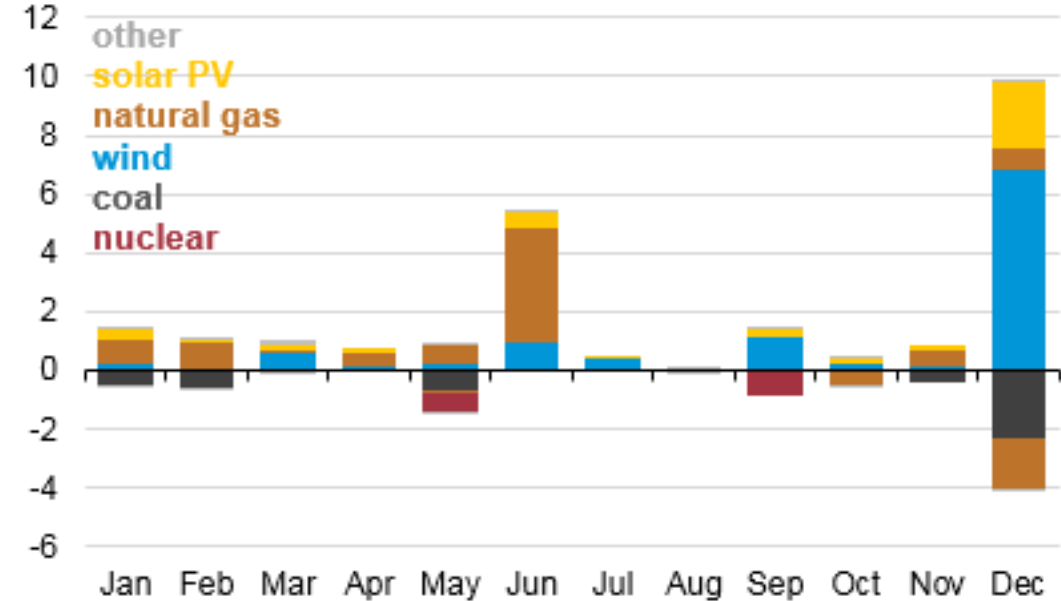


- Coal's share decreased from 45% in 2010 to 28% in 2018
- EIA projects continued coal decline to 24% share by 2020

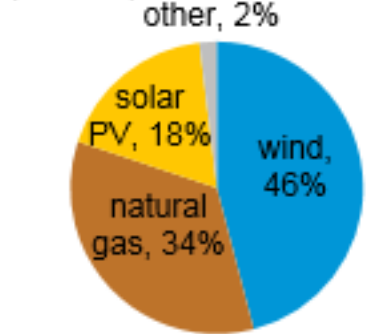
Source: EIA Today in Energy January 18, 2019

2019 GENERATING CAPACITY ADDITIONS AND RETIREMENTS

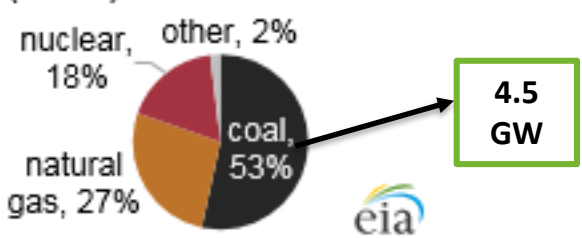
U.S. electric capacity additions and retirements, 2019
gigawatts (GW)



planned additions
(24 GW)



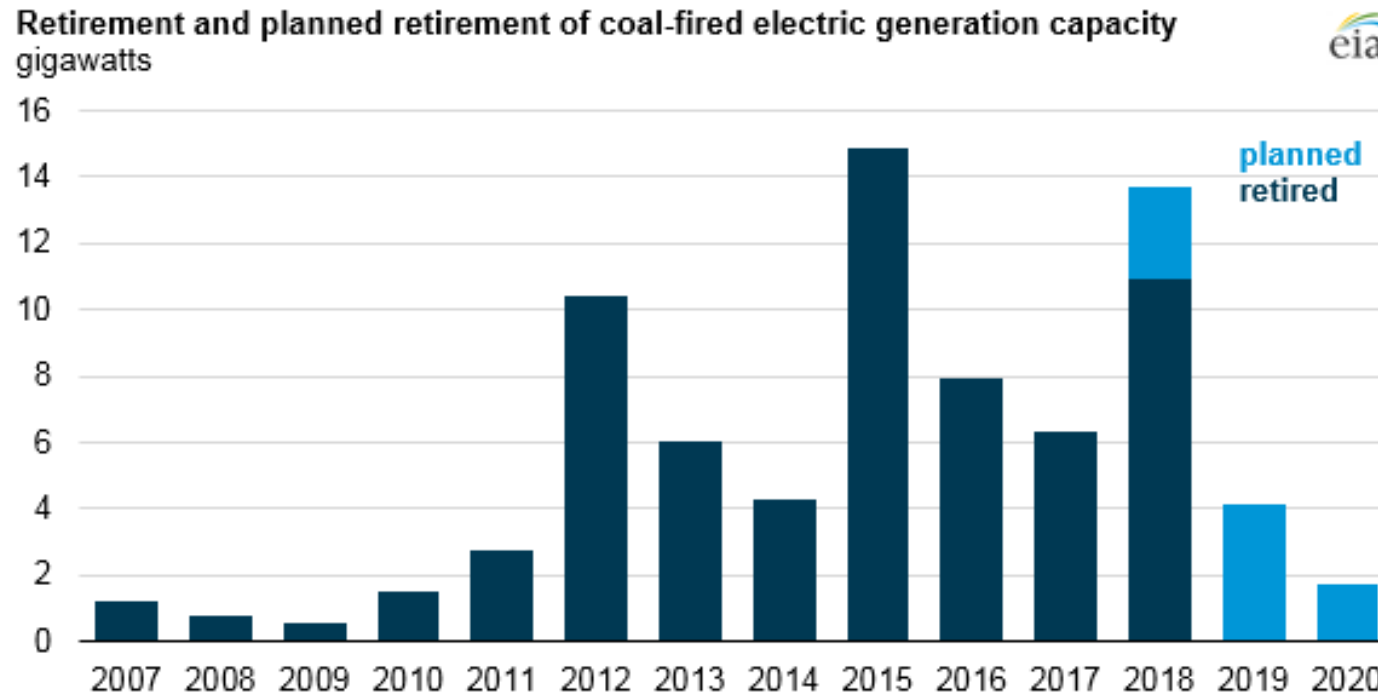
planned retirements
(8 GW)



Coal will be 53% of planned retirements and 0% of planned additions in 2019

Source: EIA Today in Energy January 10, 2019

COAL RETIREMENTS AND CONSUMPTION DECLINES

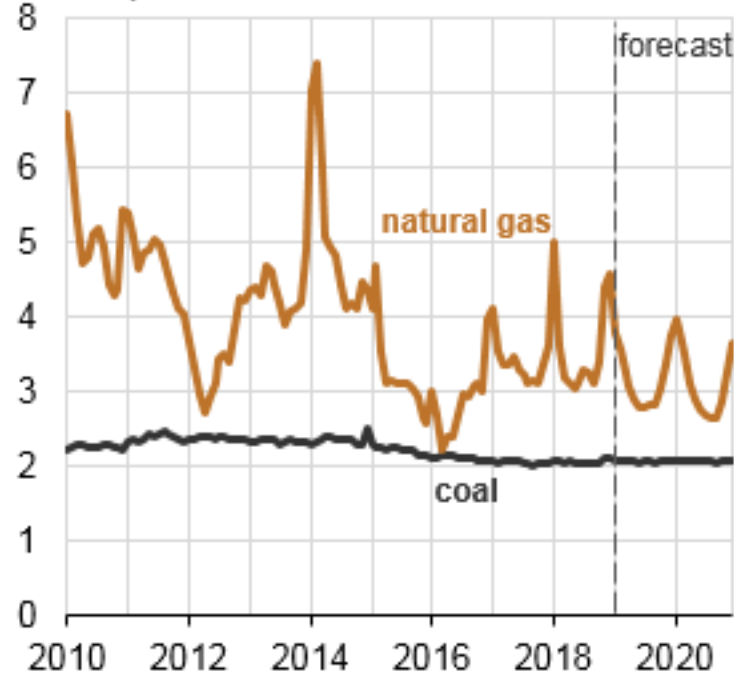


- Per EIA data, power sector coal consumption has declined from a high of more than 1 billion tons in 2007 to about 640 mn tons in 2018, a **decline of almost 40%**
- Per ACCCE, **about 40%** of the 2010 coal fleet has retired/announced retirement
 - 637 generating units in 43 states – about 120 GW
 - 2/3 of closures due to past EPA policies and regulations

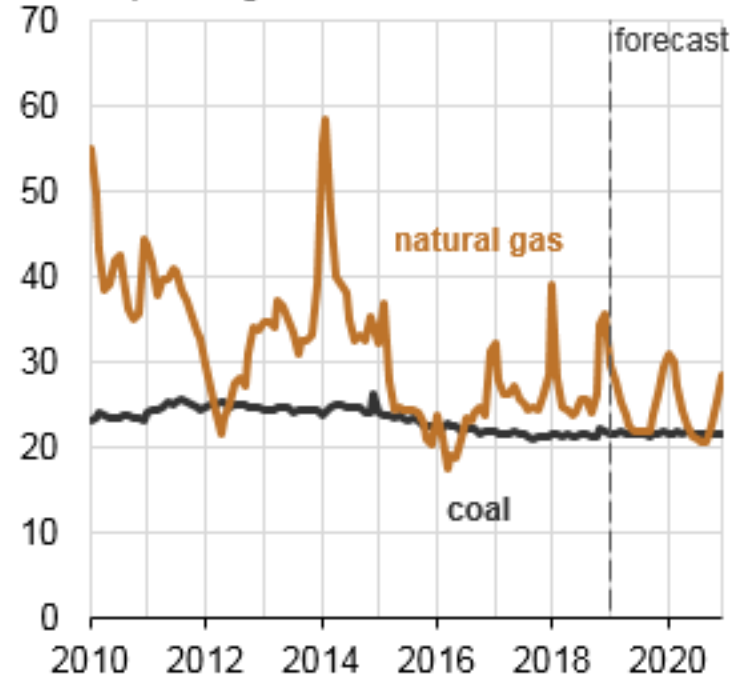
Sources: EIA Today in Energy December 28, 2018; EIA STEO January 2019; ACCCE

FUEL COST COMPARISONS

U.S. average fuel cost of natural gas and coal delivered to electric generators (2010-2020)
dollars per million British thermal unit



dollars per megawatt-hour



Coal is characterized by both low cost and cost stability over time

Source: Internal, EIA Today in Energy January 18, 2019

EPA REGULATORY REFORMS IMPACTING COAL PLANTS

- **MATS** revised Supplemental Cost Finding and Risk and Technology Review
- **New Source Performance Standards** for greenhouse gases from new, modified, and reconstructed power plants
- **Affordable Clean Energy Rule (ACE)** for greenhouse gases from existing power plants proposed to replace Clean Power Plan:
 - more appropriate Clean Air Act interpretation for emissions regulation – point source
 - targets emissions reductions via efficiency improvements at coal power plants
 - better from cost, feasibility, and legal standpoint
- **New Source Review** pre-construction permitting program reform
- **Effluent Limitation Guidelines** for power plant wastewater streams under review, and extended compliance deadlines
- **Coal Combustion Residuals** – finalized Phase One revisions to the 2015 regulation; further revisions planned

IMPORTANT ATTRIBUTES OF COAL PLANTS

- **Fuel security** – coal inventory stored onsite and available when needed
- **Dispatchability** – ability to dispatch power when needed 24/7
- **Resource availability** – abundant, accessible domestic coal reserves to meet supply needs
- **Price & price stability** – protects against price volatility of other fuels and helps keep electricity costs stable and affordable for consumers



2018 BOMB CYCLONE – CASE STUDY IN GRID RESILIENCE

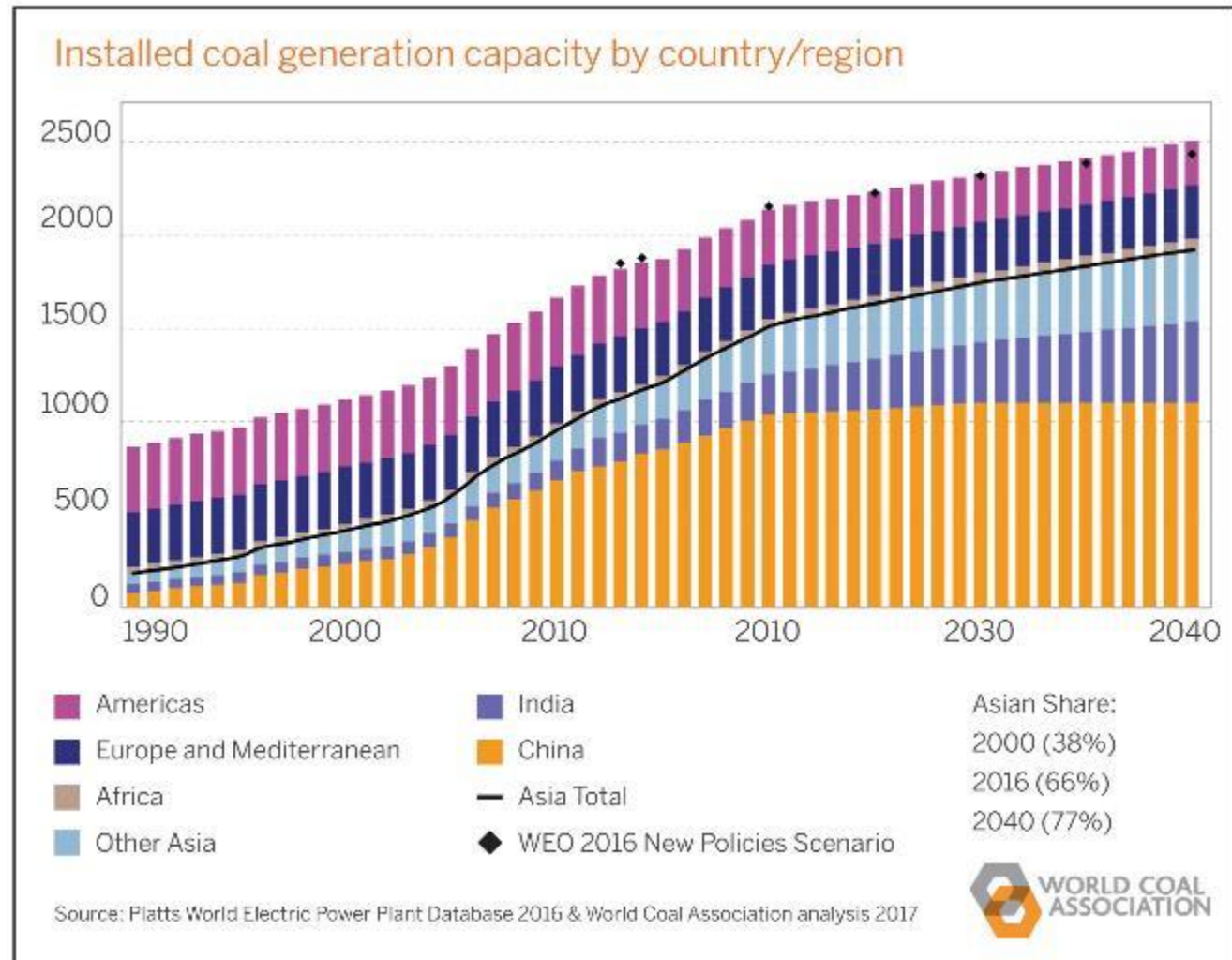
- Coal met more than 55% of the incremental daily generation needed across six ISO electricity market regions per NETL.
- Coal plants and onsite fuel inventory were key to this response.
- For the PJM region, with 65 million people, the value of resilience was calculated at \$3.5 billion by NETL.
- Obstacles to increased use of non-coal generation assets in some regions included gas supply and price issues, depletion of oil inventories and challenges to replenish, available nuclear already operating at limits, and decreased wind availability.
- Bomb cyclone is a compelling case for fleet diversity, and the need to value and compensate resilience attributes in electricity markets.



Sources: Internal; National Energy Technology Laboratory

COAL'S IMPORTANT GLOBAL ELECTRICITY ROLE

- Coal fuels 38% of global electricity generation, the same share it fueled 20 years ago.
- More than 700 GW of coal plants are in development or under construction around the world.
- Asia is the main driver of new coal generation capacity.



Sources: BP Statistical Review of World Energy 2018; World Coal Association

POLICY IMPERATIVES

- **Align U.S. energy policy with U.S. energy abundance**, and support a diverse mix of power generation assets.
- **Accelerate resilience proceedings and analysis.** The significant and ongoing loss of fuel secure power plants and greater reliance on intermittent sources is elevating concerns about energy security.
- **Expedite EPA environmental regulatory reforms** for power plants, appropriately addressing the emission being targeted and appropriately considering costs-benefits and technology objectives.
- **Counter impacts of earlier policies/regulations** resulting in coal plant closures and permanent loss of market. Measures might include:
 - tax credit for a portion of coal plant O&M expenses
 - R&D support to advance:
 - coal technology such as DOE's initiative on small modular coal power plants of the future
 - new markets and uses for coal such as in carbon fiber, building products, and resins





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Thank you

Betsy B. Monseu
Chief Executive Officer

E: bmonseu@americancoalcouncil.org

P: 202.756.4540