



# Surface Transportation Board – RETAC Coal Producer Update

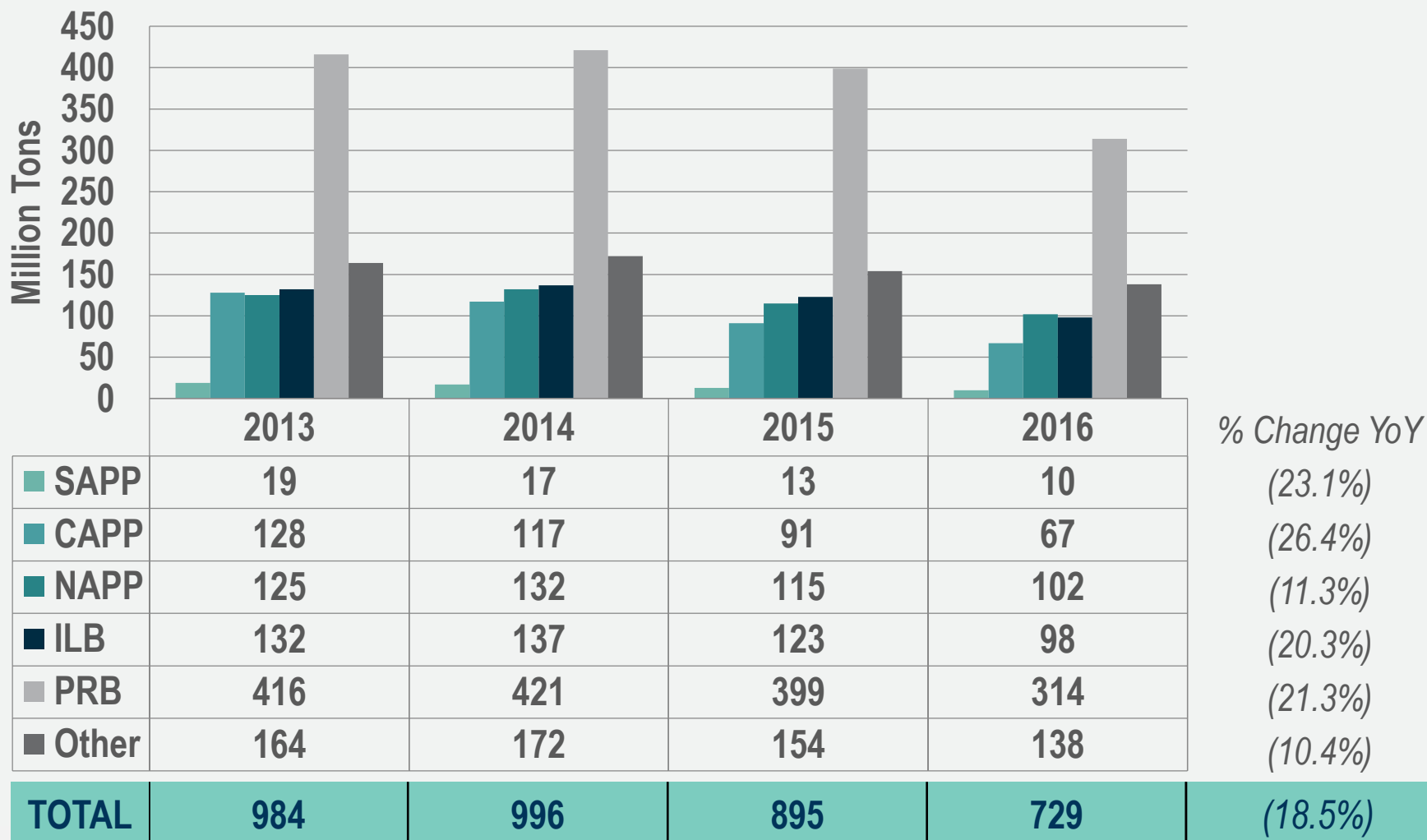
**Jill Harrison, SVP & Deputy General Counsel**

**April 6, 2017**

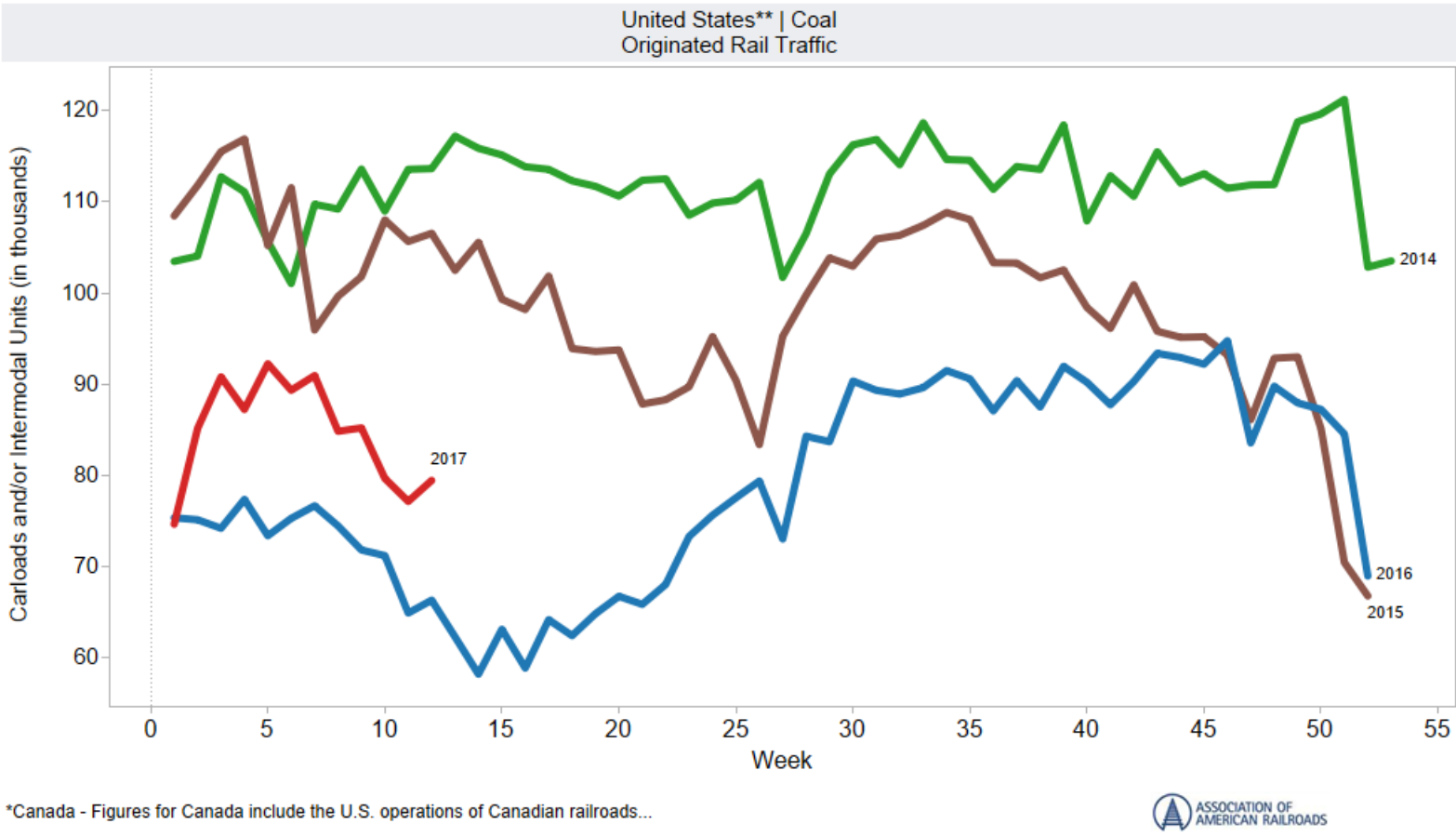
# Domestic Coal

## Statistics and Commentary

# U.S. Coal Production by Basin (million tons)



# U.S. Coal Car Loadings by Year

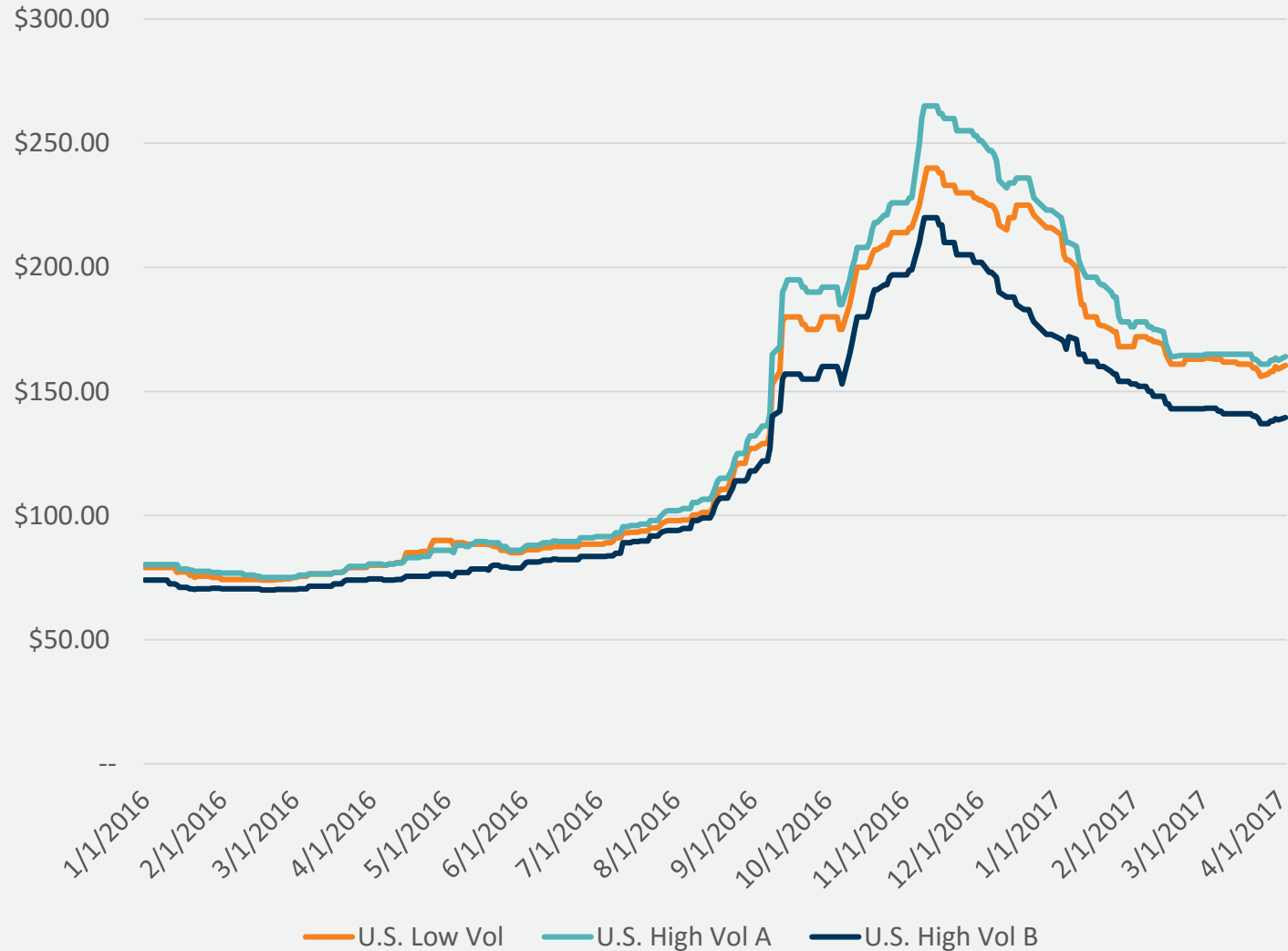


# Projected Domestic Thermal Pricing

| OTC Index                         | 2017 Projections |         |         |         |         | Calendar Year Projections |         |         |
|-----------------------------------|------------------|---------|---------|---------|---------|---------------------------|---------|---------|
|                                   | April            | May     | Q3      | Q4      | Q1 18   | 2018                      | 2019    | 2020    |
| <b>Powder River Basin (PRB)</b>   |                  |         |         |         |         |                           |         |         |
| <b>8800 0.8</b>                   | \$11.80          | \$11.75 | \$11.55 | \$11.70 | \$11.80 | \$11.95                   | \$12.50 | \$13.15 |
| <b>8400 0.8</b>                   | \$9.20           | \$9.20  | \$9.20  | \$9.35  | \$9.45  | \$9.60                    | \$10.15 | \$10.80 |
| <b>Central Appalachia (CAPP)</b>  |                  |         |         |         |         |                           |         |         |
| <b>Nymex<br/>12000 1.7</b>        | \$55.25          | \$55.25 | \$55.15 | \$55.00 | \$53.10 | \$53.51                   | \$54.46 | \$55.46 |
| <b>CSX<br/>12500 1.6</b>          | \$52.00          | \$51.25 | \$53.00 | \$52.90 | \$53.10 | \$53.51                   | \$54.46 | \$55.46 |
| <b>NS<br/>12500 1.6</b>           | \$56.00          | \$56.00 | \$55.50 | \$55.00 | \$54.15 | \$54.15                   | \$55.31 | \$56.31 |
| <b>Northern Appalachia (NAPP)</b> |                  |         |         |         |         |                           |         |         |
| <b>MGA Rail<br/>13000 4.0/4.5</b> | \$48.50          | \$48.50 | \$47.25 | \$47.25 | \$47.00 | \$47.00                   | \$48.00 | \$49.00 |
| <b>Mon Rvr<br/>13000 4.8</b>      | \$42.25          | \$42.25 | \$41.50 | \$41.50 | \$42.00 | \$42.00                   | \$41.50 | \$42.50 |

SOURCE: Per CoalDesk publication as of 3/31/2017

# Historical Metallurgical Coal Pricing



SOURCE: Platts as of April 4, 2017

# 2017: Year of Evolving Energy Policy

*Announced coal-related action  
that has already begun*



**REPEAL**  
Stream  
Protection  
Rule



**RESCIND**      **REVOKE**  
Clean              Coal  
Power              Leasing  
Plan                Moratorium

*Pledged action  
yet to come*



**RESCIND**      **ADDRESS**  
Waters of        U.S. Involvement  
the U.S.            in Paris Climate  
                         Agreement

# Policy Impacts to Coal Industry

## REPEALING STREAM PROTECTION RULE

Annual value of coal lost to the rule's restrictions would have been between **\$14-29 Billion**



Under the final rule, the **recovery** of demonstrated coal reserves (both surface and underground) was estimated to **decrease**

by up to **64%**

## RESCINDING CLEAN POWER PLAN

Rescinding the Clean Power Plan preserves **240 million tons** of annual coal production.

If implemented, the CPP could have prematurely forced an additional **25%** of coal generation capacity off the grid, enough to power **24 million homes**



## REVOKING COAL LEASING MORATORIUM

In fiscal year 2012 alone, the current federal coal leasing program generated

**\$1.2 billion**

in revenue to federal and state governments.

Potential impacts from the coal leasing moratorium and associated PEIS process included **increased royalty rates and delayed permitting decisions, thereby increasing costs of producing coal on federal lands** despite federal royalty rates being **30 - 65% higher** than prevailing rates for private coal.



# #ThrowbackThursday... to April 2015

9

## Technology Continues to Advance... Slowly

- Conceptual design for Mississippi Power's Kemper County Energy Facility began in 2008, with earthwork beginning in 2010.
- A number of delays have postponed the plant's scheduled operation and production dates (now expected in the first half of 2016) and added significant cost to the project.
- Initial 2004 forecasts estimated the project would cost \$2.2 billion, but ten years later, Mississippi Power's October 2014 public filing estimates the total project cost at \$6.1 billion, nearly triple original estimates.



SOURCE: Mississippi Power

**UPDATE**

**Very Slowly**

## Technology Continues to Advance... ~~Slowly~~

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**now expected April 30, 2017**

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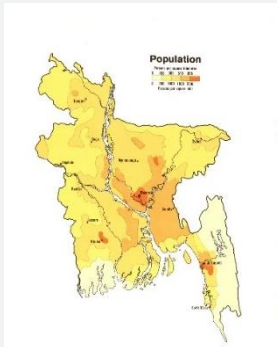


SOURCE: Mississippi Power

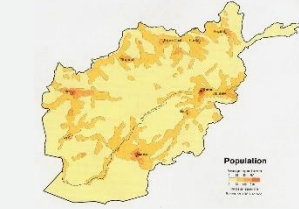
**estimated  
total cost now  
\$8.19 billion**

# Where We're Headed: Technological Advances

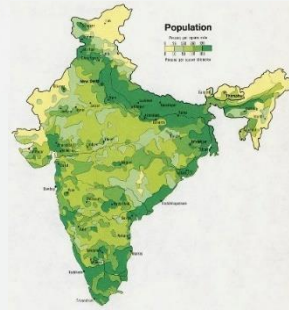
Commitment to high-efficiency, low-emissions coal technology has become a priority for several countries and a critical part of their pledges made for the Paris Climate Agreement.



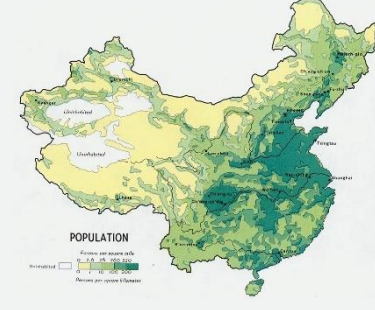
**Bangladesh**



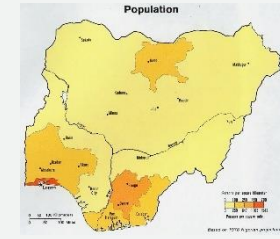
**Afghanistan**



**India**



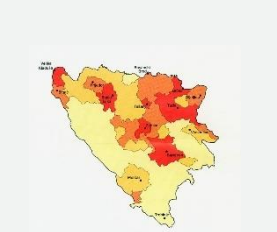
**China**



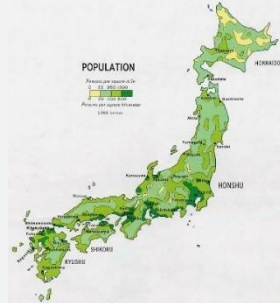
**Nigeria**



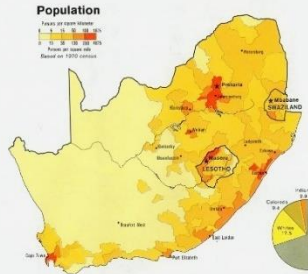
**Philippines**



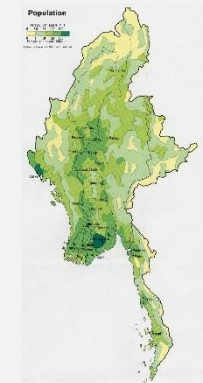
**Bosnia and Herzegovina**



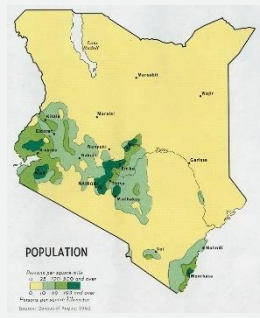
**Japan**



**South Africa**



**Myanmar**



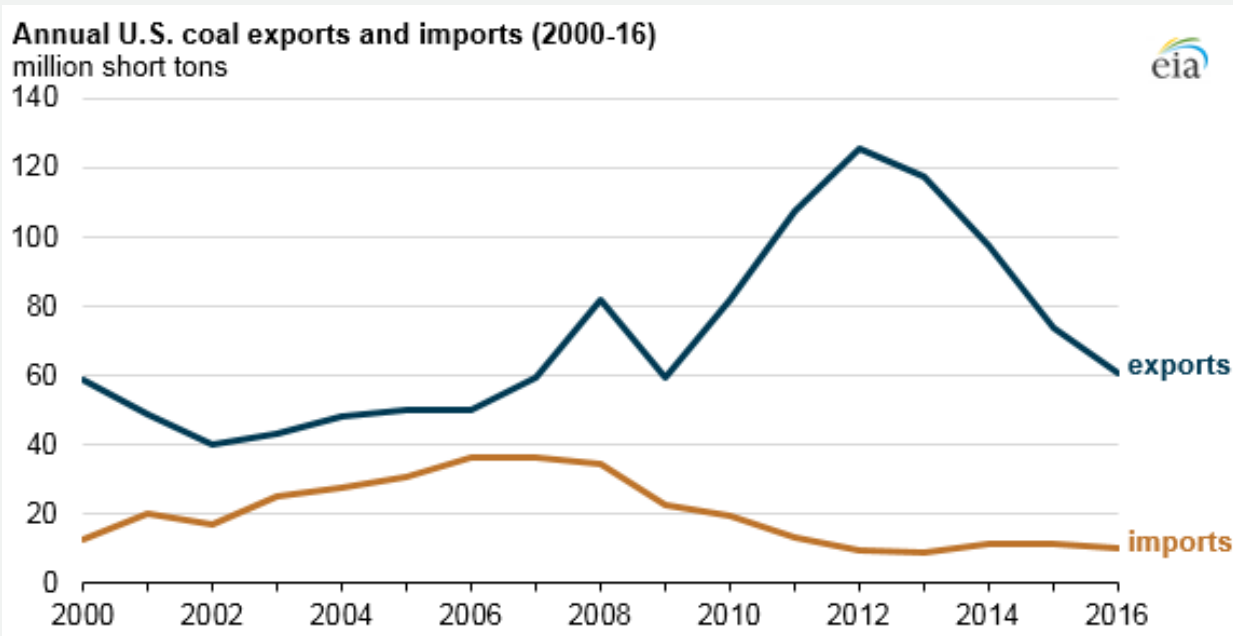
**Kenya**



# Global Coal

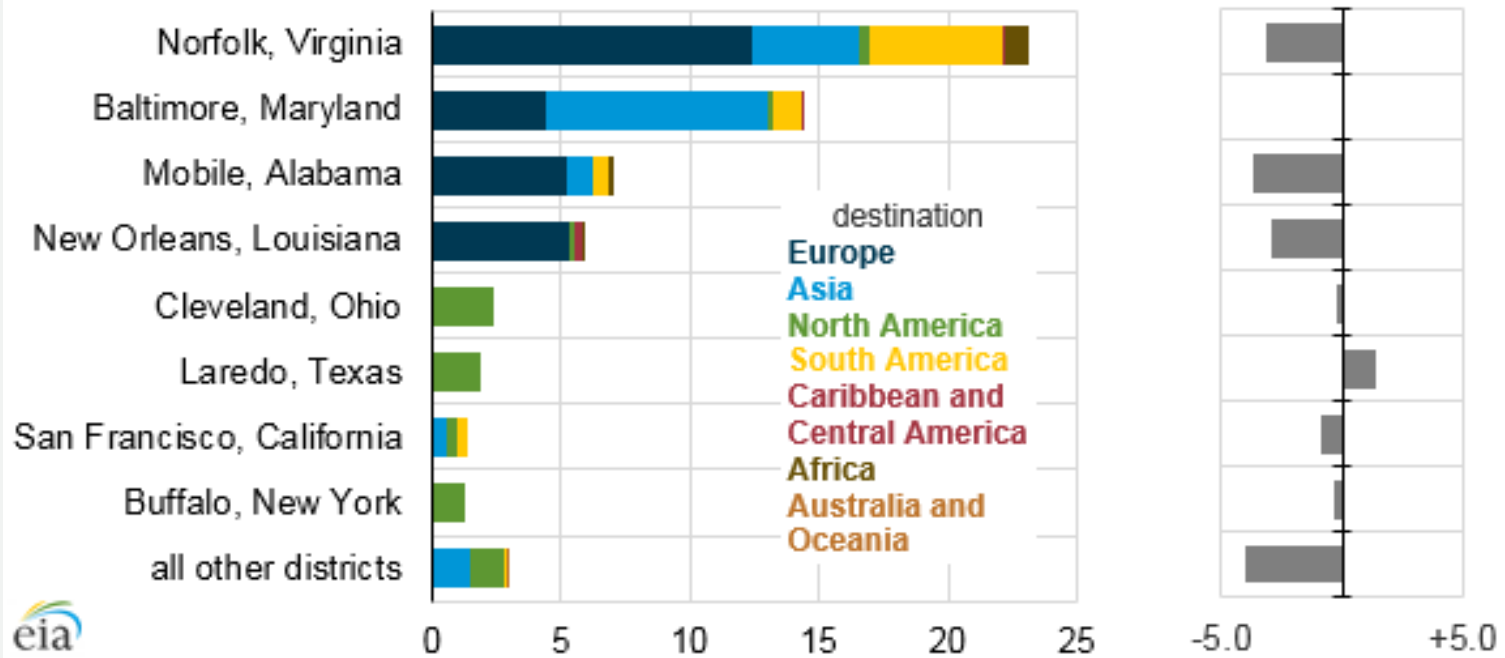
**Statistics and Commentary**

# U.S. Coal Exports and Imports Timeline

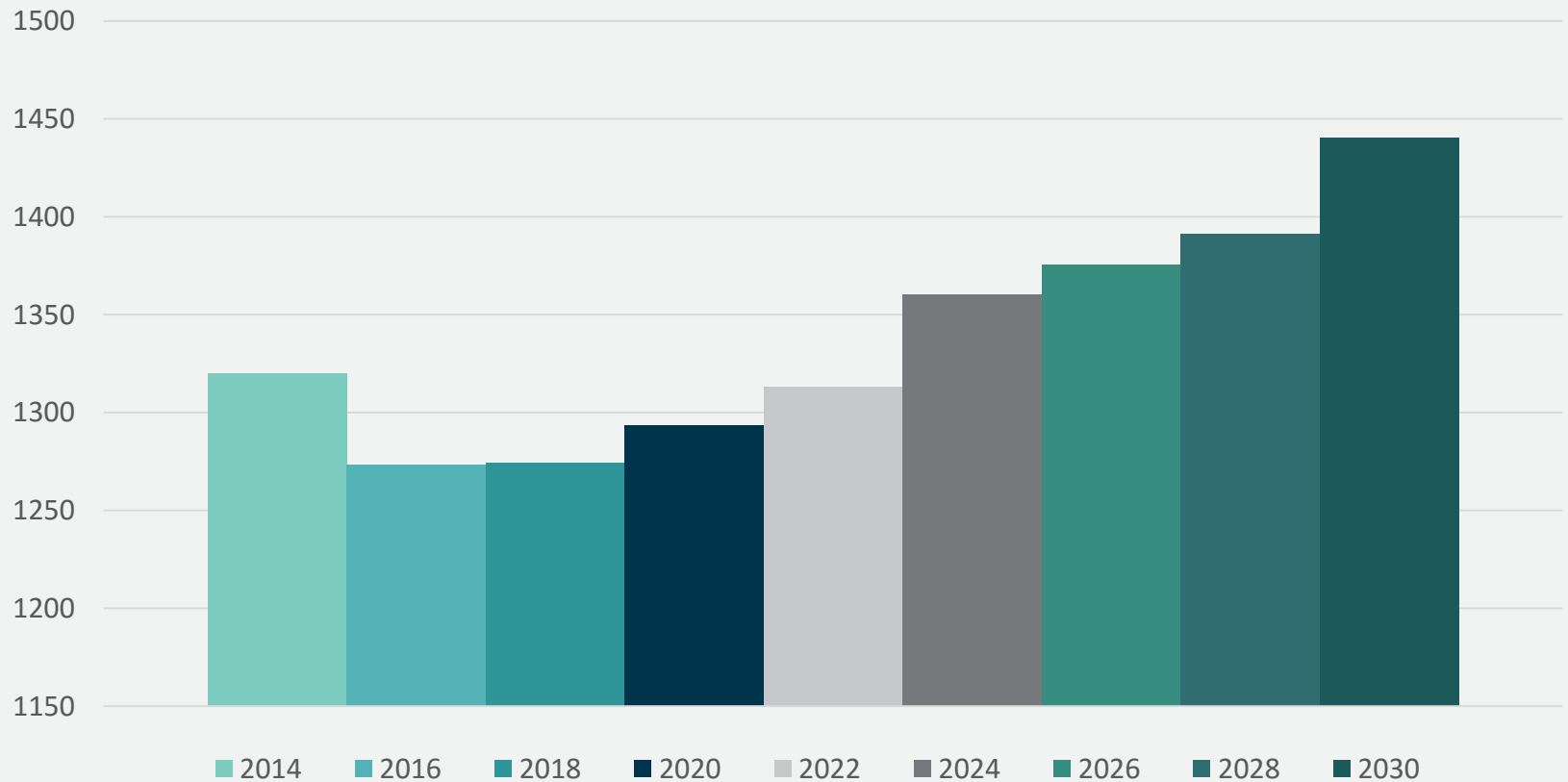


# U.S. Coal Export Districts and Destinations

**U.S. coal exports from selected customs districts, 2016**  
million short tons



# Projected Global Coal Demand (million tonnes)



# Influences on the Global Coal Market

China's  
Workday  
Rules



Cyclone  
Debbie in  
Australia



Climate  
Change  
Policies



Inelasticity of  
U.S. Supply





# Weather Update: Cyclone Debbie

