

**The Fuels Story
at
Santee Cooper**

The Coal Institute – July 2018

The Fuel Story at Santee Cooper



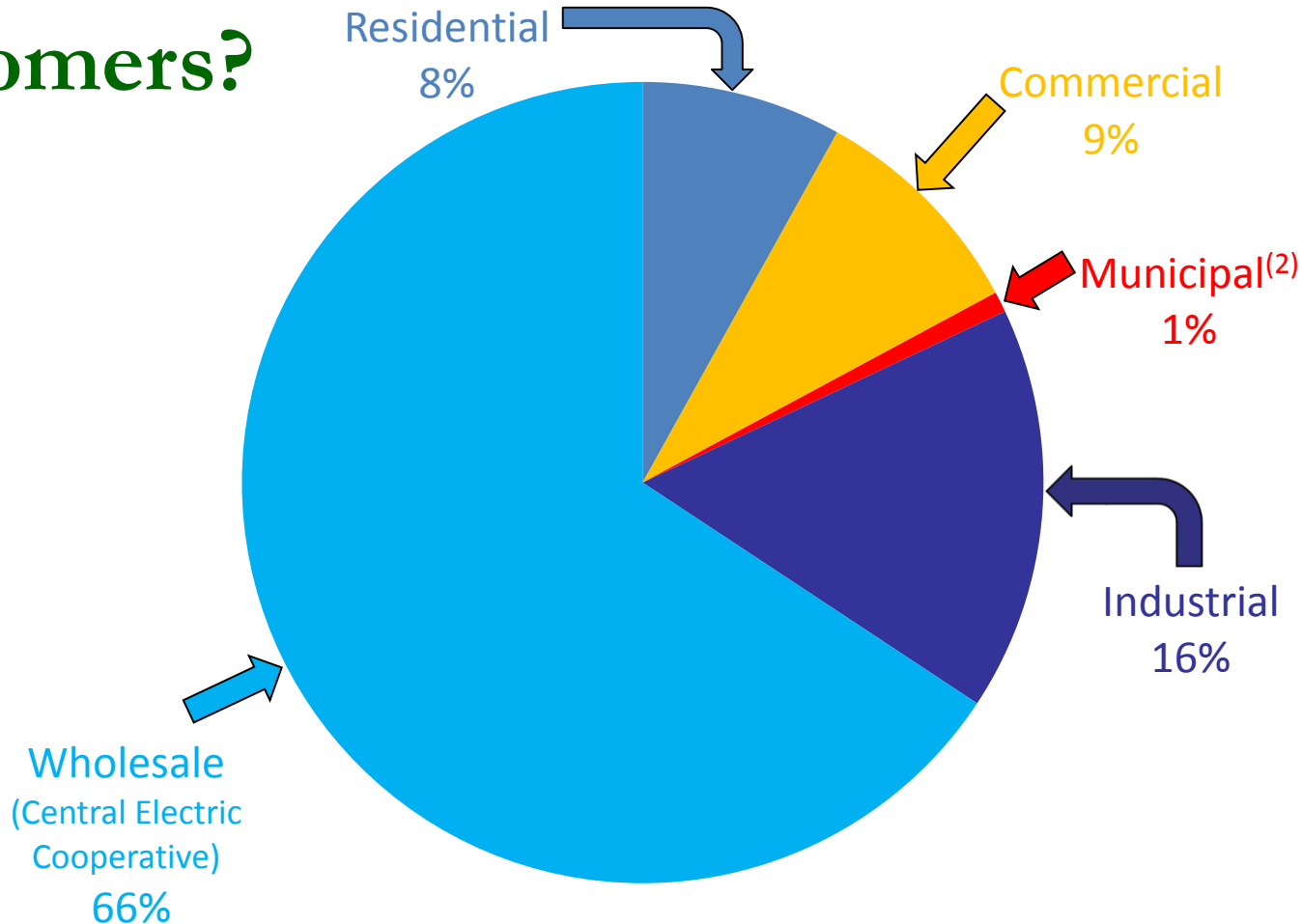
- Santee Cooper Overview
- Fuels Overview
- Fuel Supply
 - Coal
 - Natural Gas
- Going Forward

Santee Cooper - Overview

- First started generating power in February 1942.
- Mission- To be the state's leading resource for improving the quality of life for the people of South Carolina.
- Public Power Provider and primary source of electricity for approximately 2 million South Carolinians. In addition we provide wholesale water through our Santee Cooper and Lake Marion Regional Water System.



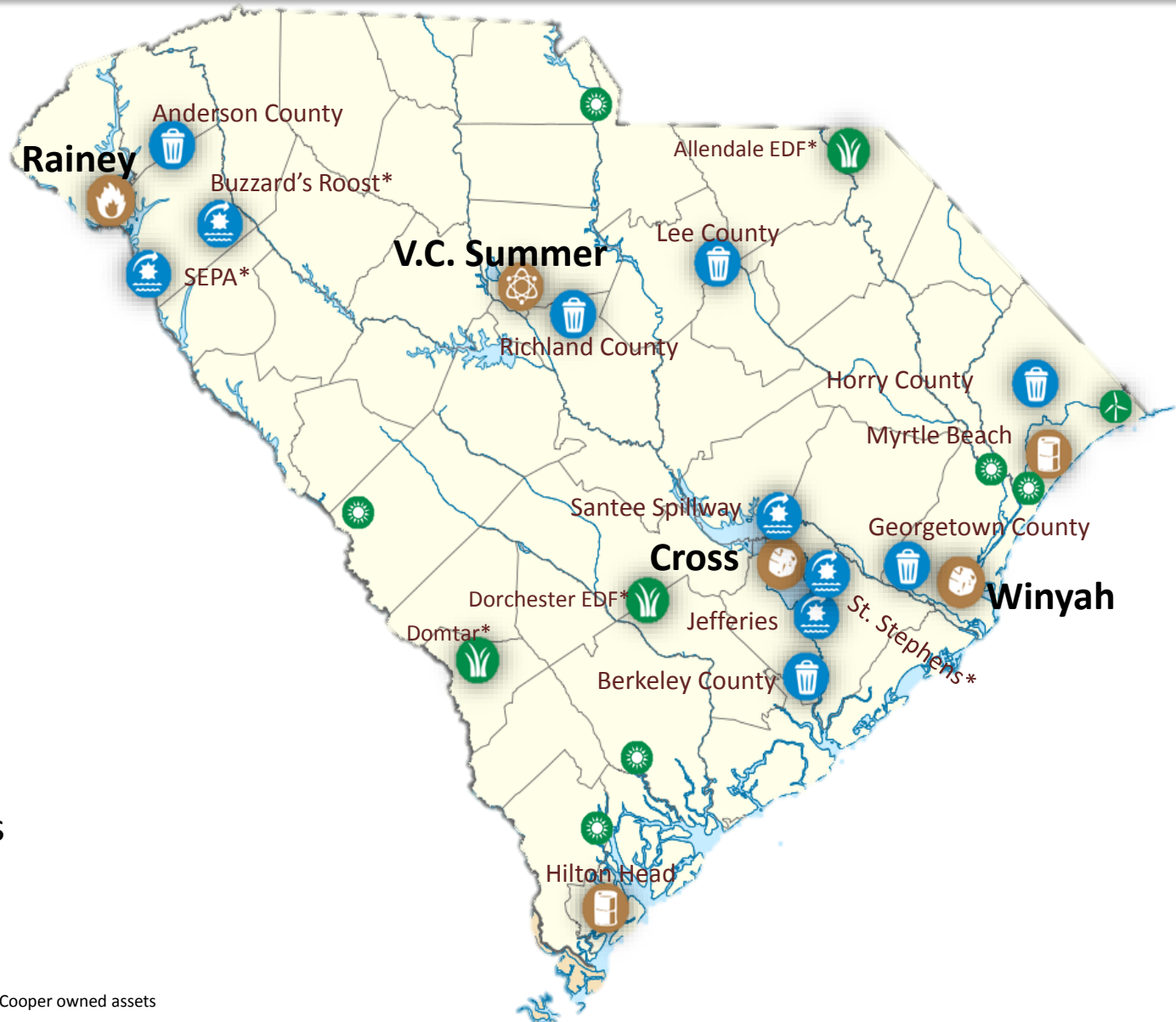
Who are our Customers?












(1) Percentages based on energy for 2016

(2) Cities of Georgetown and Bamberg

Santee Cooper – Generation Sites



-  Biomass
-  Wind
-  Solar
-  Oil
-  Coal
-  Nuclear
-  Natural Gas
-  Hydro
-  Landfill

* Represents non Santee Cooper owned assets

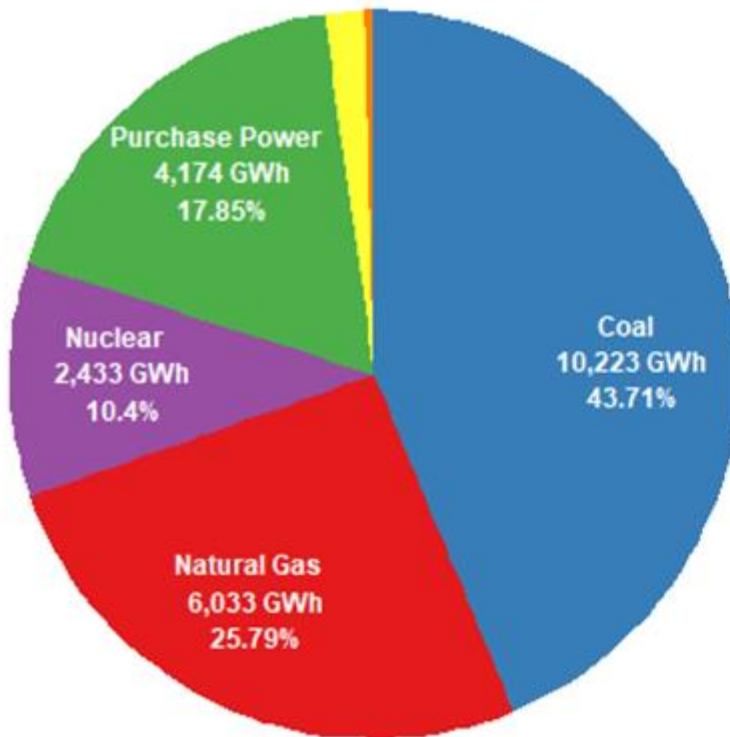
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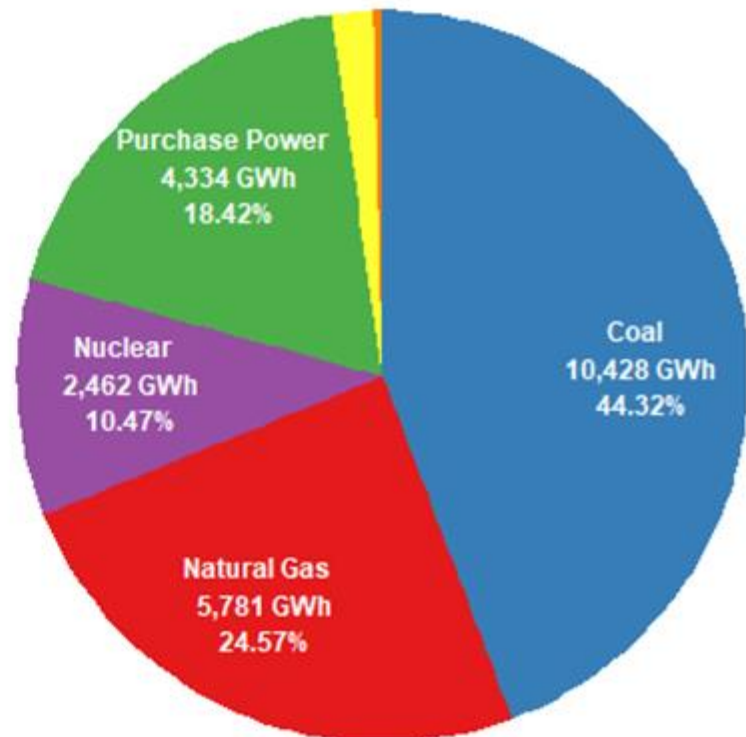
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Coal as part of 2018 Generation

Total Generation Fuel & Purchased Energy Cost: \$700M



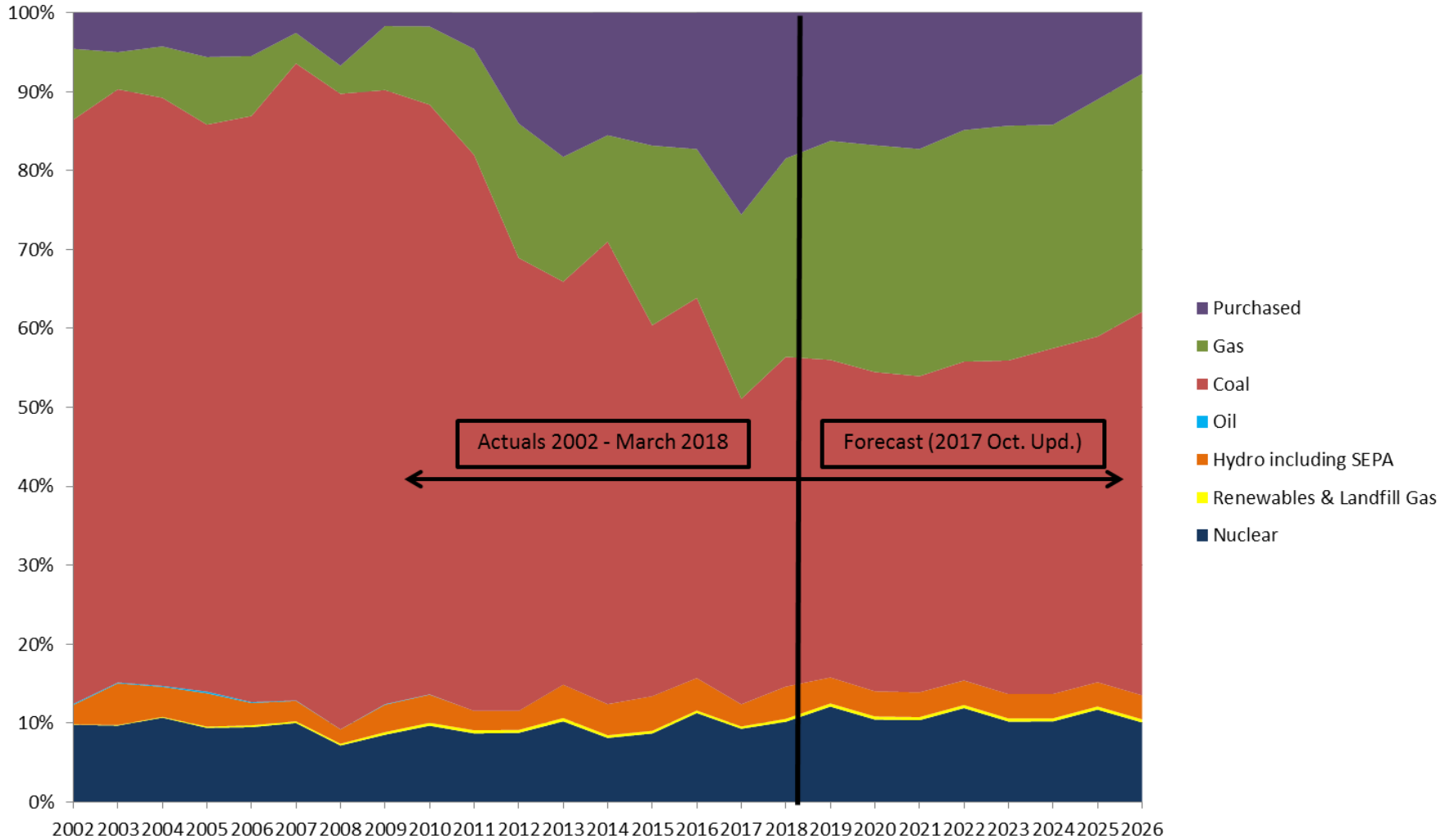
Santee- Budget Forecast 2018



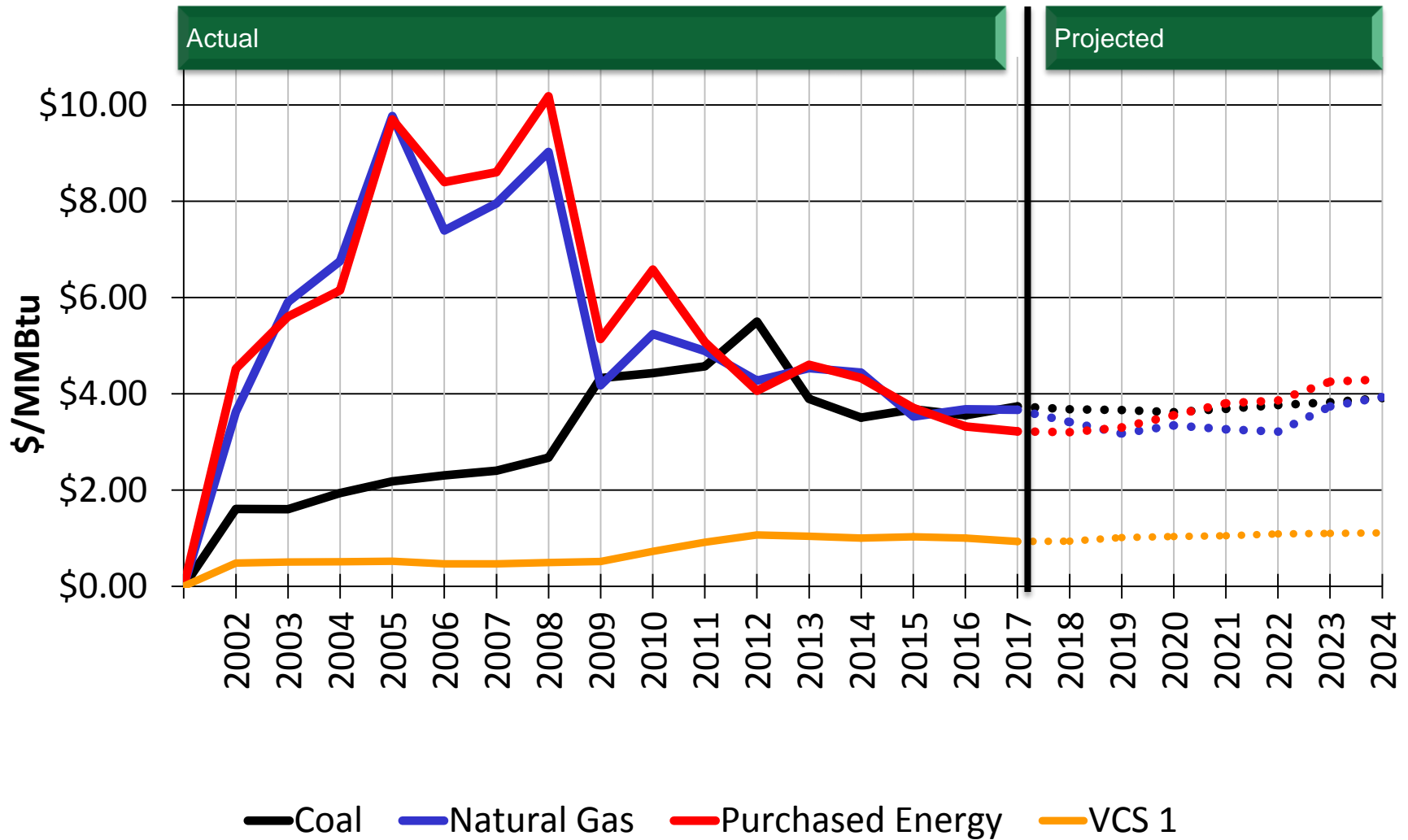
June- Budget 2018 Update

Total MWh by Fuel Type

Annual Total MWh by Fuel Type



Burn Cost \$/MMBtu



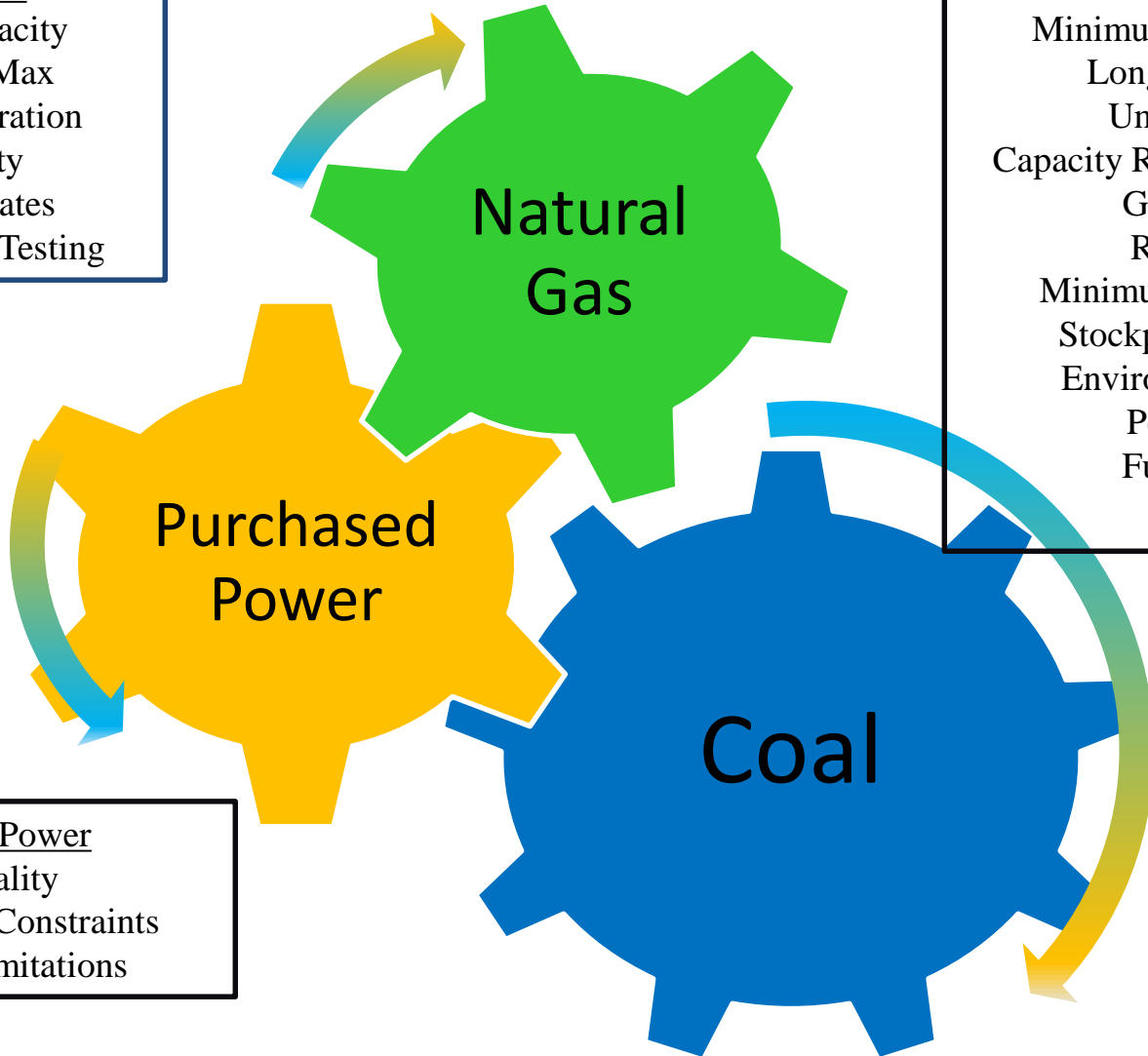
System Overview

Fuel Switching Decisions...not just price driven.

Natural Gas
Pipeline Capacity
Starts/Min/Max
Limited Generation
Seasonality
Unit Heat Rates
Environmental Testing

Coal
Minimum Up / Down time
Longer Start Times
Unit Turndowns
Capacity Reserve Requirements
Gypsum Sales
Refined Coal
Minimum Rail Quantities
Stockpile Management
Environmental Testing
Permit Limits
Fuel Handling

Purchase Power
Seasonality
Transmission Constraints
Interface Limitations



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Cross Generating Station

3 Coal Fired Steam Units

Unit 1	580 MWs
Unit 3	600 MWs
Unit 4	600 MWs
Unit 2- Idled 3/2017	570 MWs



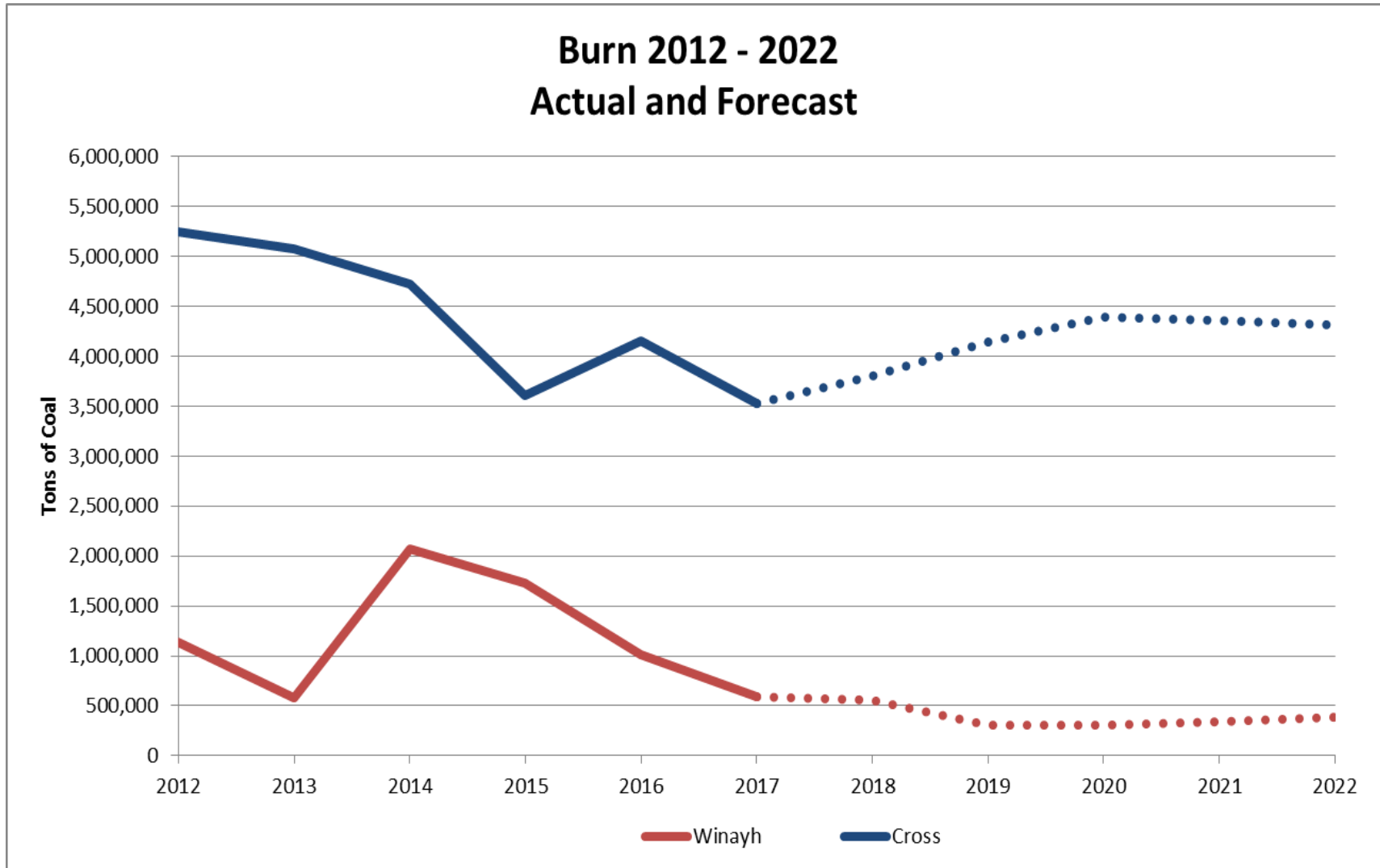
Winyah Generating Station

4 Coal Fired Steam Units

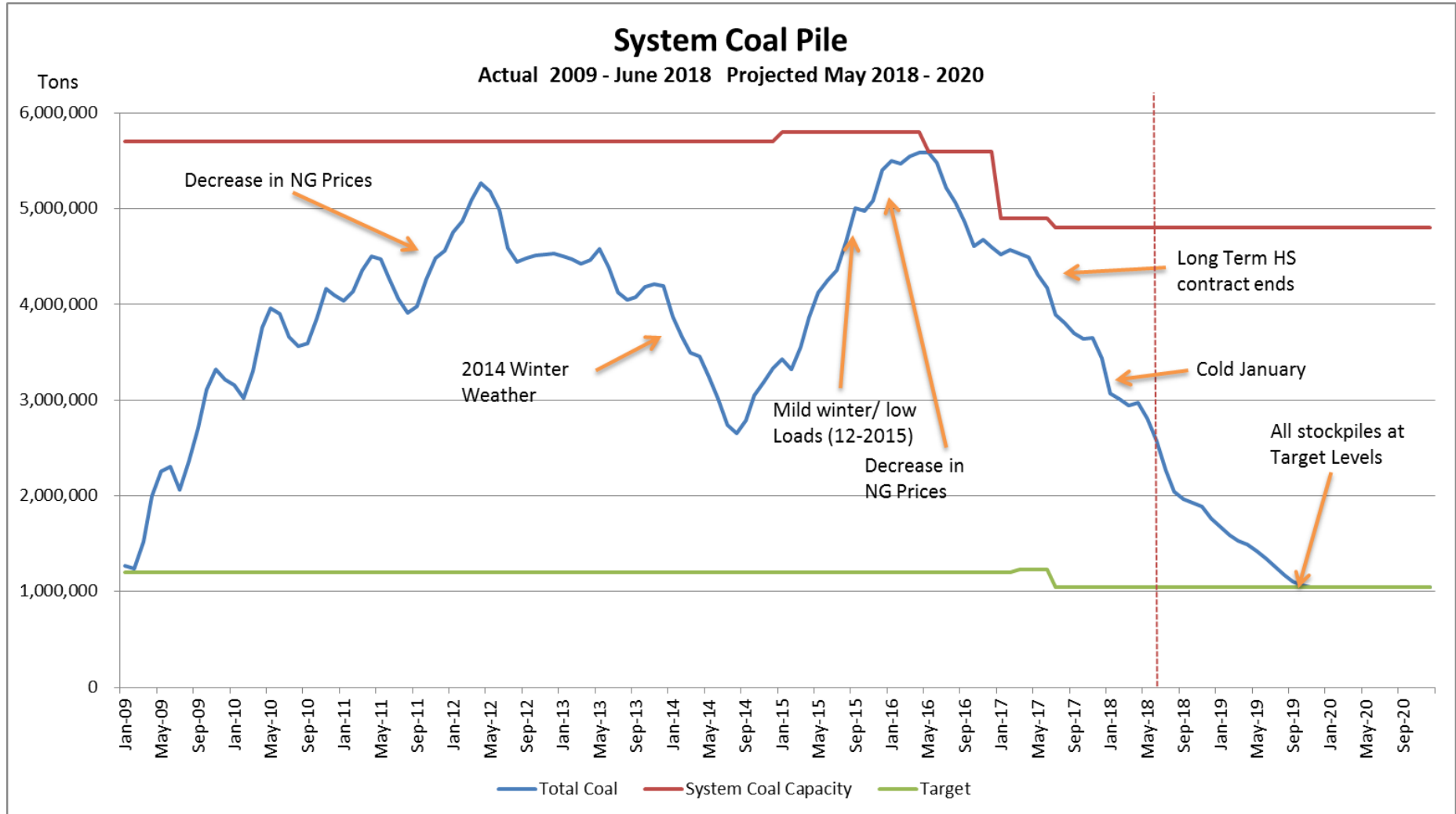
Unit 1	275 MWs
Unit 2	285 MWs
Unit 3	285 MWs
Unit 4	285 MWs



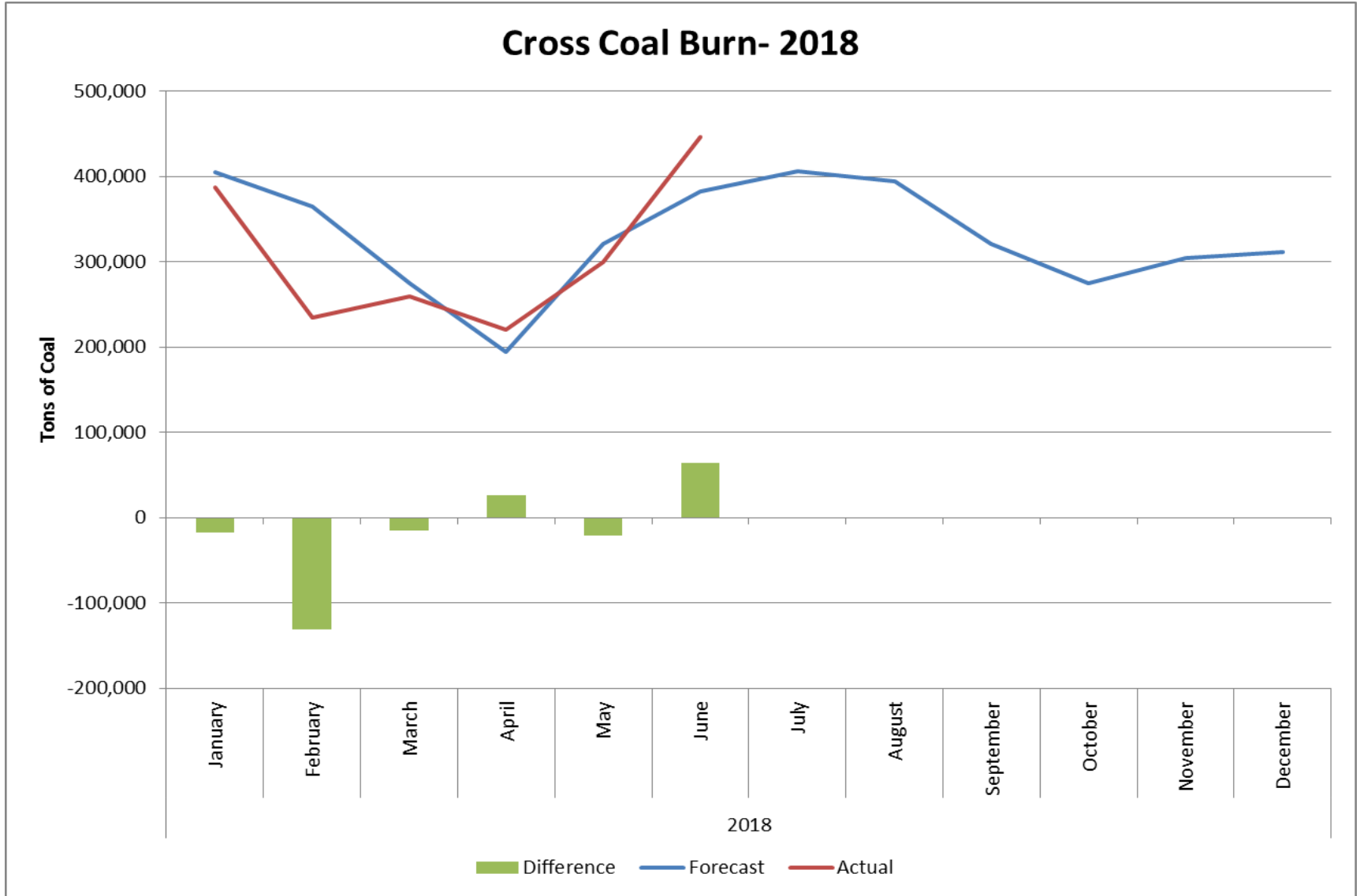
Burn History and Projections



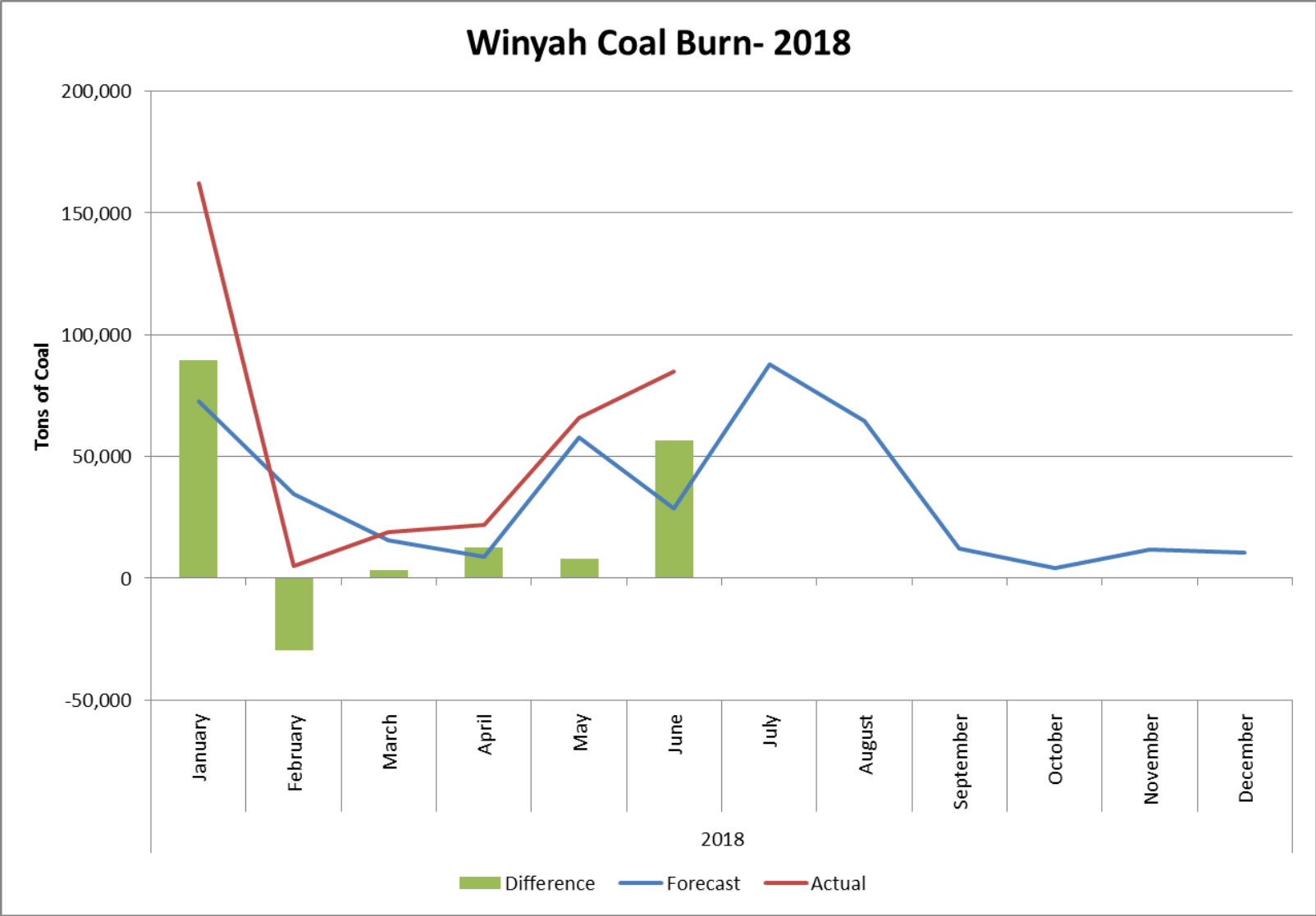
Coal Stockpile History



2018 Coal Burn Tons



2018 Coal Burn Tons



Types of Coal Burned

Central Appalachia:

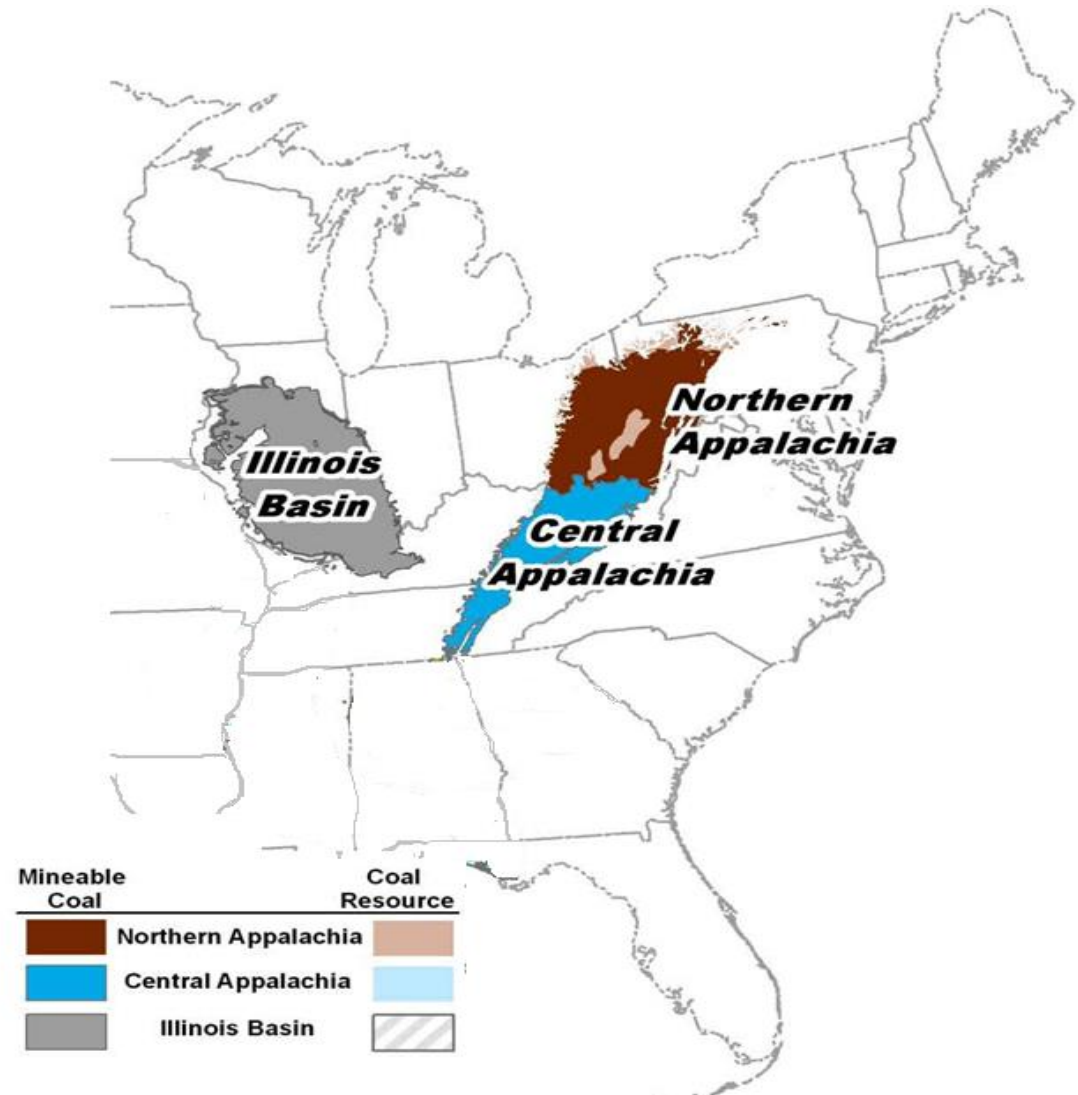
- Burned at Cross & Winyah
- Average BTU: 12,500
- Average Sulfur: 1.5%
- One contracts through 2018

Illinois Basin:

- Burned at Cross
- Average BTU: 11,800
- Average Sulfur: 2.6%
- One contract through 2019

Northern Appalachia:

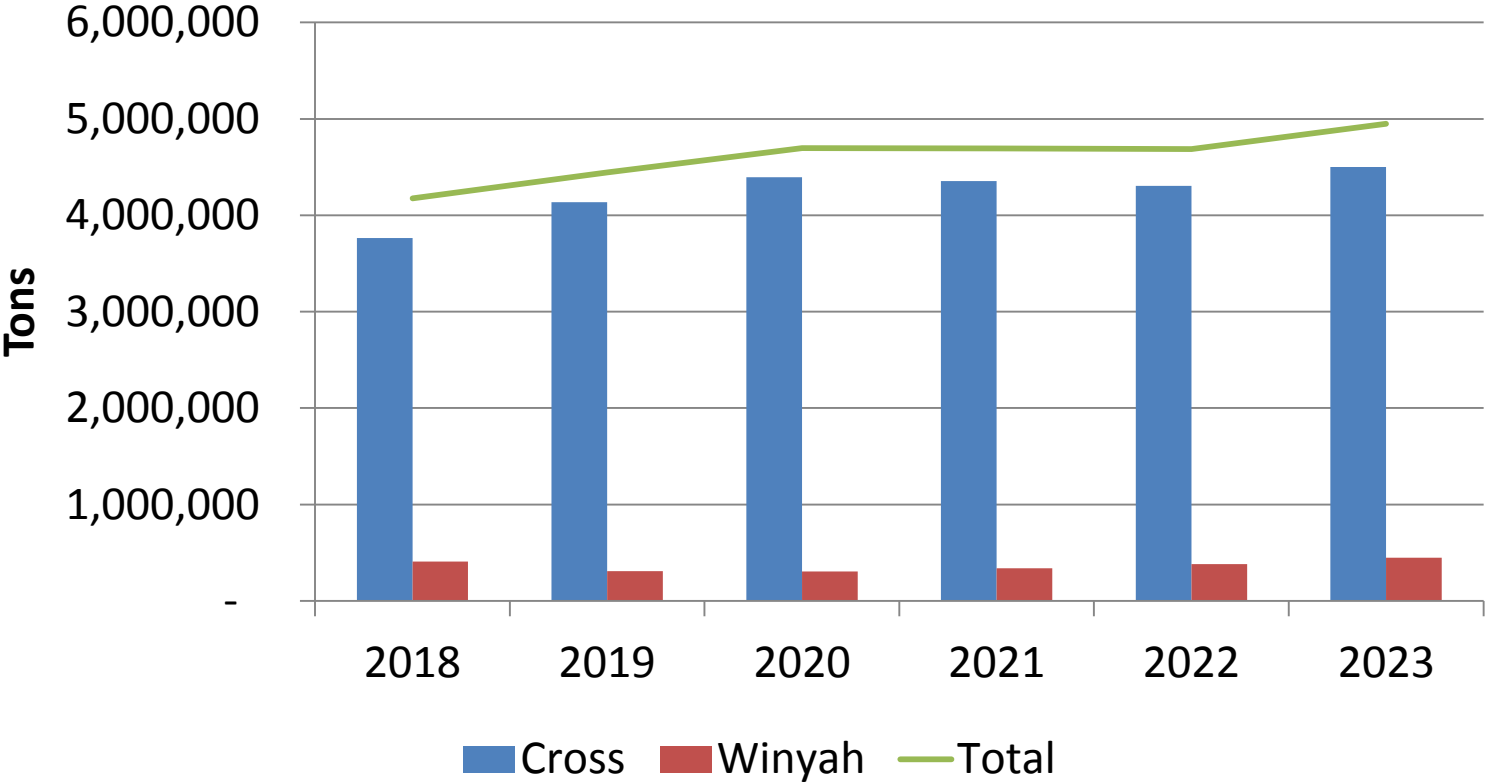
- Burned at Cross
- Average BTU: 12,900
- Average Sulfur: 2.2%
- No contracts at this time



Projected Coal Burn



Tons Burn / Year



Coal Combustion Products

- Agriculture -

- Farmers use to fertilize peanuts



- Construction Industry

- Cement Additive - Grind with Cement
- Clinker to make Cement

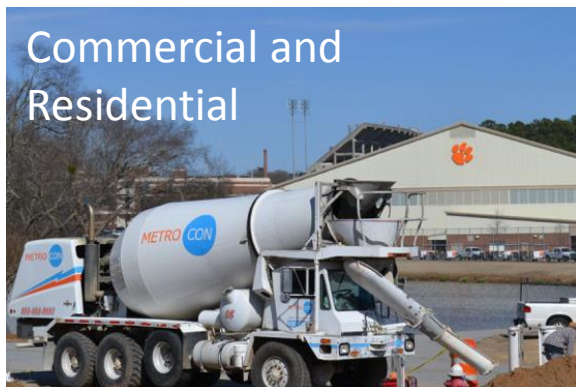
- Wallboard Production (Drywall)

- Requires extremely large quantities of gypsum to support capital investment
- Santee Cooper gypsum is currently used for drywall



Coal Combustion Products

- Fly Ash Uses:



Bagged
Concrete
Products



Blocks



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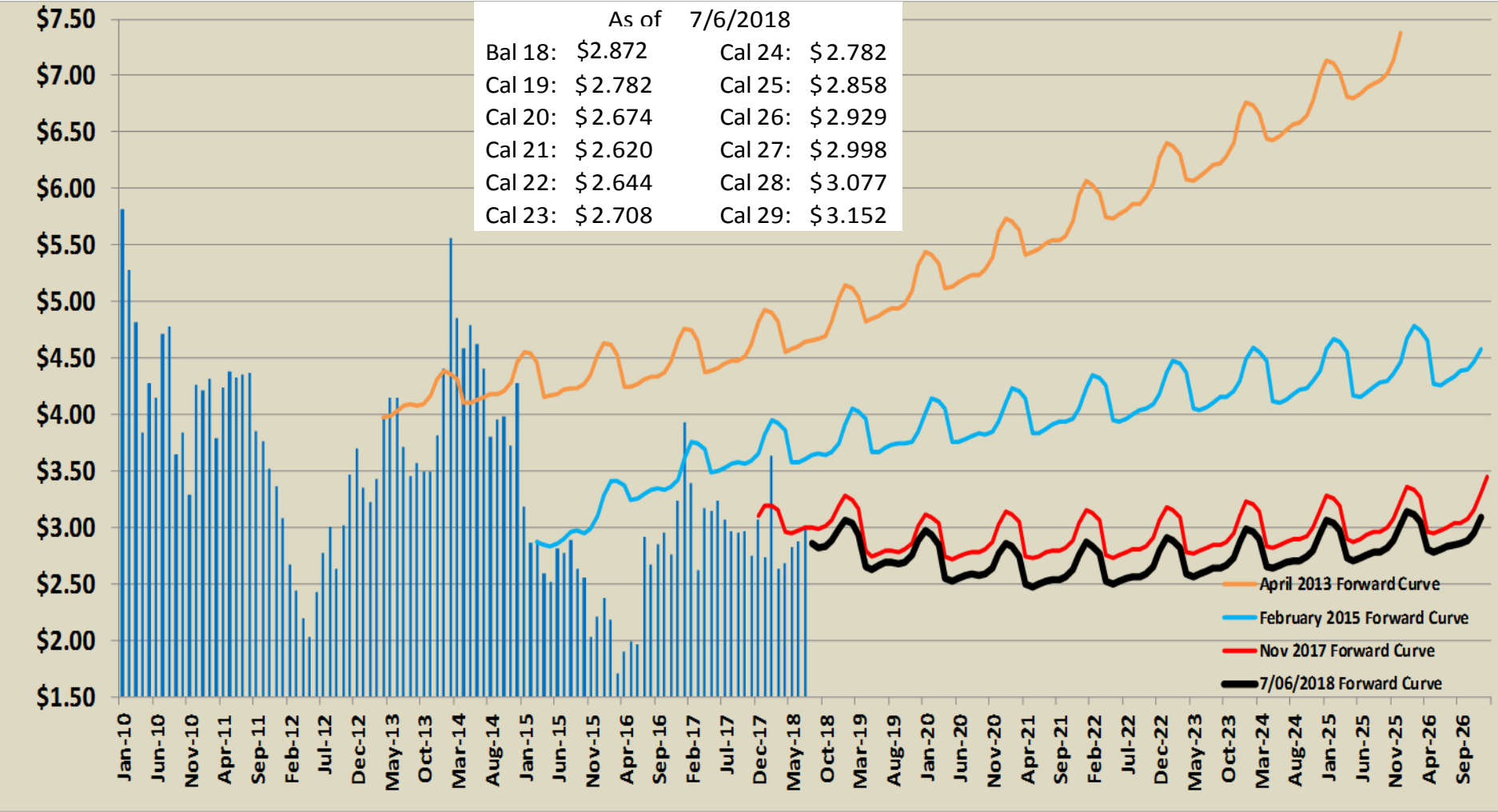
Rainey Generating Station

7 Natural Gas Fired Units and 1 Steam Unit (~977MW)

CT 1A and 1B and Steam Unit (Combined Cycle)	460 MWs
CT 2A	146 MWs
CT 2B	146 MWs
CT 3	75 MWs
CT 4	75 MWs
CT 5	75 MWs



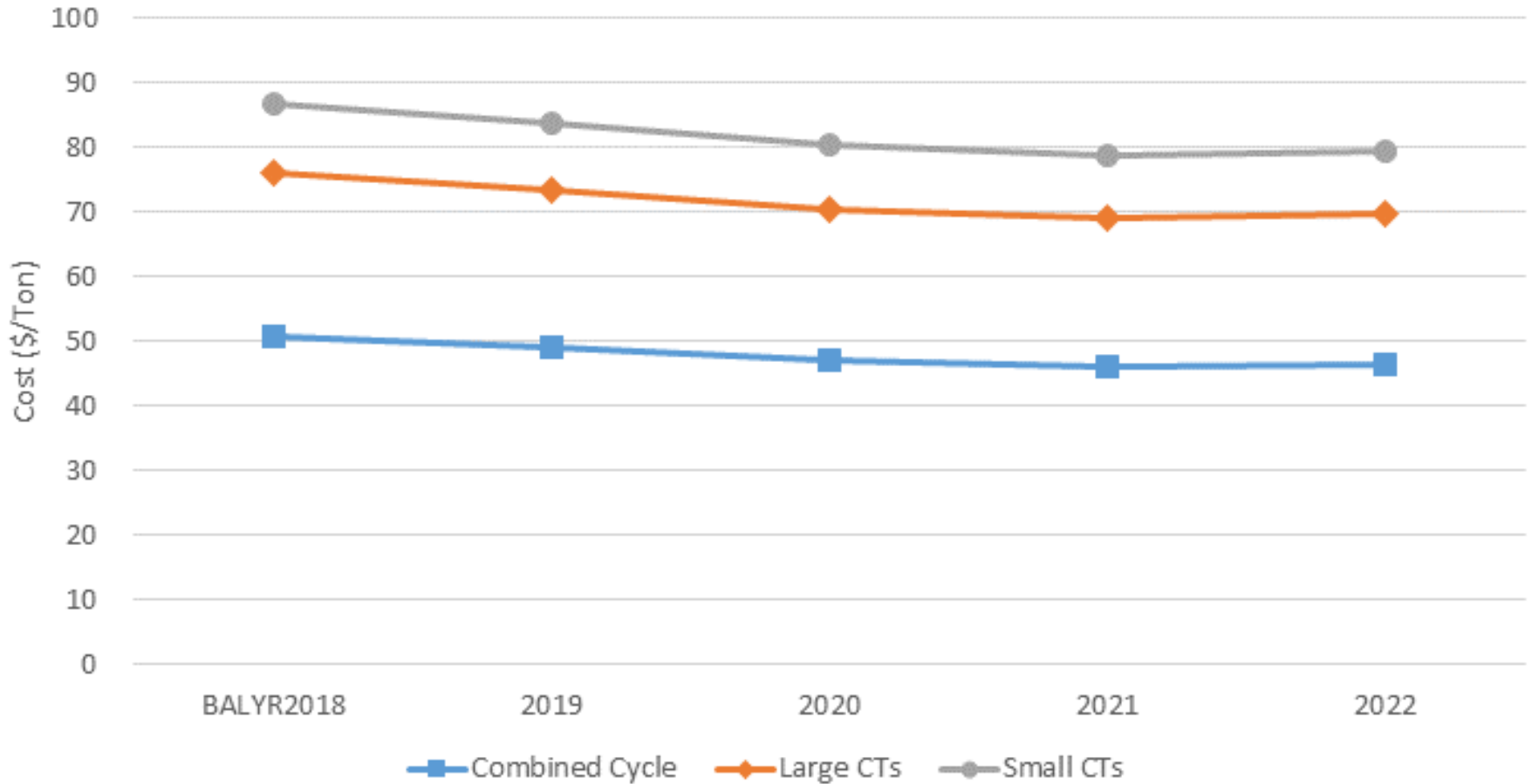
Natural Gas Price Volatility



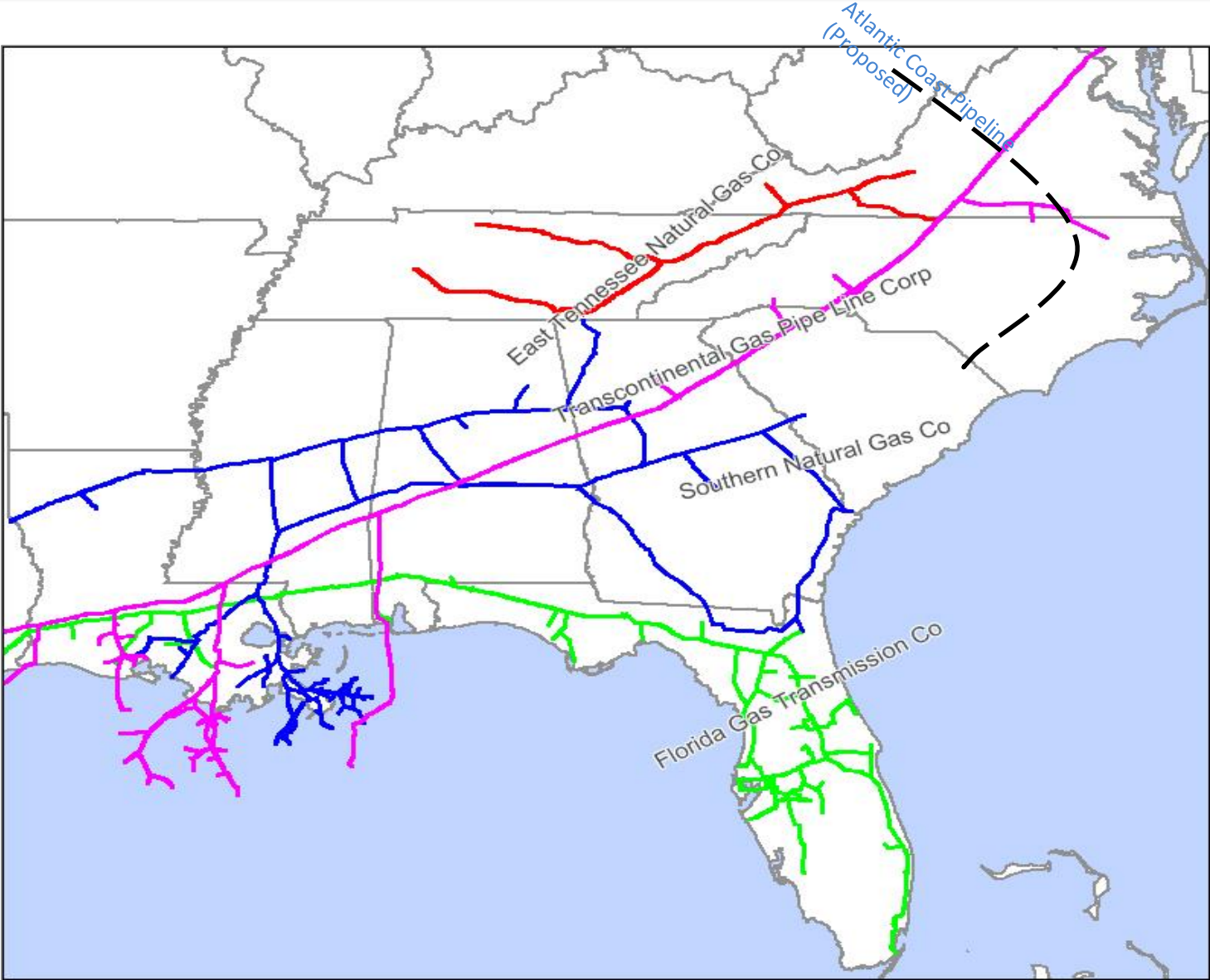
Updated July 2018

NG Pricing and Coal Breakeven

Equivalent Stock Pile Coal Cost Compared to Natural Gas Units



Transporting Natural Gas – Pipelines in Southeast

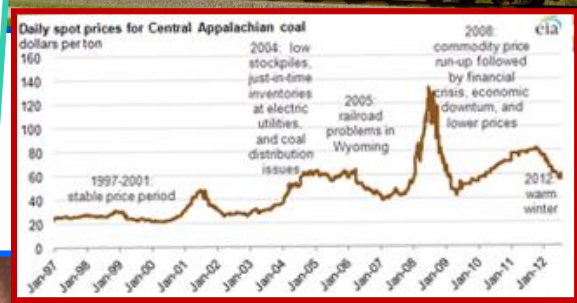
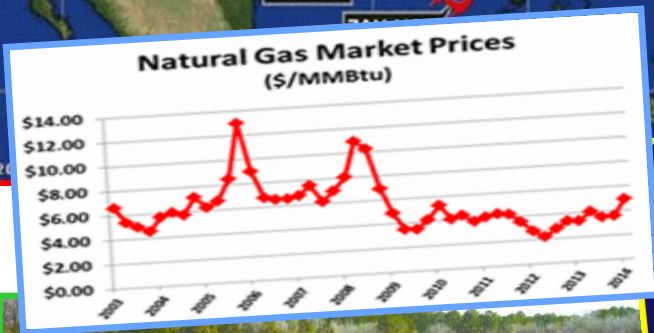


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Questions / Discussion