

# Welcome to the Large Customer Seminar



# Before We Get Started...

## Due to the large number of attendees today:

- ✓ Your audio is muted, and we ask that it remains muted throughout the discussion.
- ✓ If you are not an active discussion participant, please turn off your camera to ensure a quality connection for all.
- ✓ If you have any technical issues, please send a private message to Larki Robinson via the CHAT feature.
- ✓ If you are using your computer for audio only and experience trouble hearing clearly, try joining the audio using the call-in option instead (415-655-0002; Access code – 2336 804 3982#, Press # to join)
- ✓ Questions can be submitted via the Q & A feature or emailed to [marilyn.townsend@dominionenergy.com](mailto:marilyn.townsend@dominionenergy.com). As time permits, we will answer questions that have been submitted.

THANK YOU FOR  
JOINING.

THE PROGRAM WILL  
BEGIN SHORTLY AND  
**WILL BE RECORDED.**

PLEASE TAKE A  
MOMENT TO REVIEW  
ETIQUETTE FOR  
TODAY'S PROGRAM.



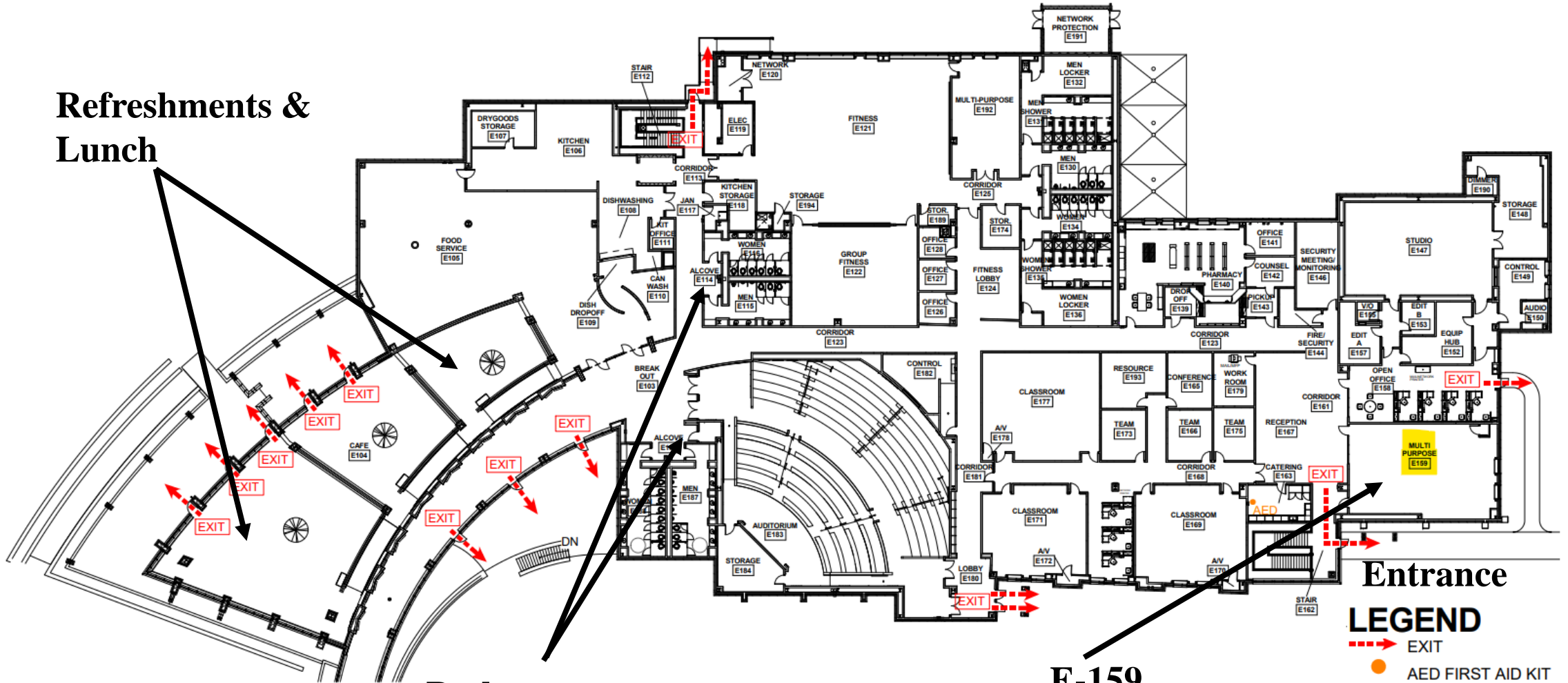
**Dominion  
Energy®**

Customer Service &  
Strategic Partnerships

# Meeting Agenda

9:00 – 9:10 am	Welcome & Introductions	Shaun Randall, Vice President, Transmission & Delivery
9:10 – 9:20 am	Safety / Housekeeping	Larki Robinson, Key Account Manager
9:30 – 10:15 am	Integrated Resource Plan/Retirement Study	Eric Bell, Manager Electric Market Operations
10:15 – 10:30 am	BREAK	
10:30 – 11:15 am	New Business/Customer Solutions Transportation Electrification in SC	Danny Kassis, Gen Mgr., New Business & Customer Solutions Westy Westmoreland, Director, Electrification
11:15 – 12:00 pm	Regulatory Update	John Raftery, Director, Regulatory
12:00 noon	Closing Remarks	Therese Griffin, Director Strategic Partnerships & Energy Conservation
	LUNCH FOLLOWING	

Refreshments & Lunch



Bathrooms

E-159

Entrance

**LEGEND**

- > EXIT
- AED FIRST AID KIT

Designated Smoking Area



**DESC  
Large Customer Seminar  
May 19, 2022**

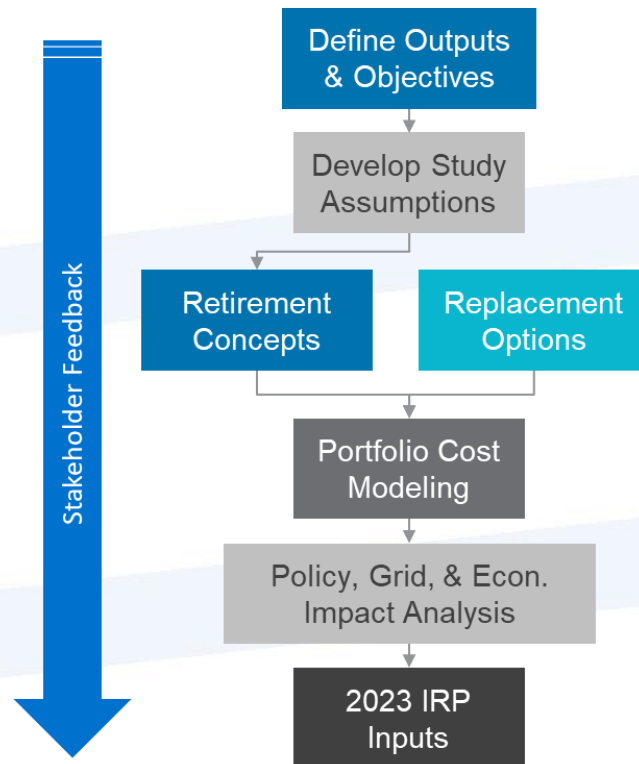
**Resource Planning**



# Agenda

- 1. Retirement Study**
- 2. Integrated Resource Plan**
- 3. Utility-Scale Solar Generation**

# Coal Retirement Study – Wateree/Williams Retirement Study Process Overview



# Coal Plant Retirement Study

## Example of PLEXOS build plan

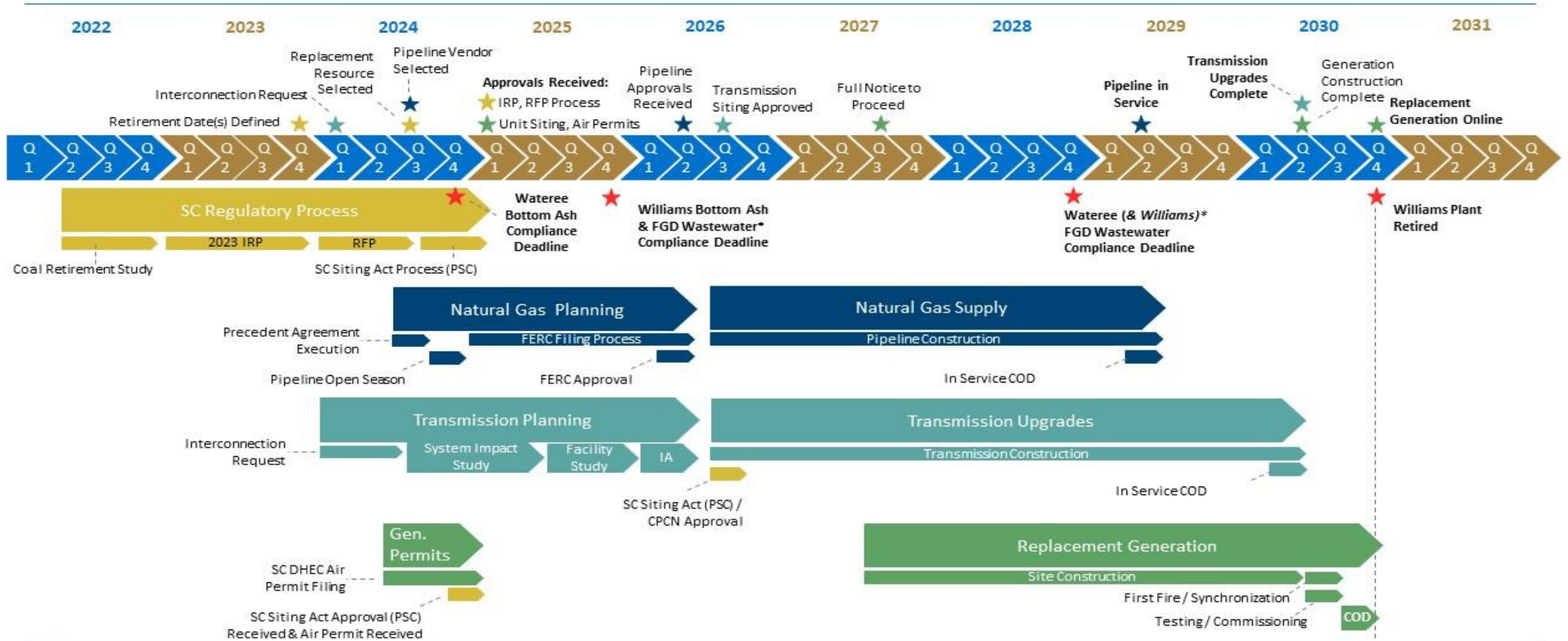
	Reference Case										
	Purchase Base	New 1x1 CC	New ICT Aero 1x	New ICT Aero 2x	New ICT Frame	New Solar	New Battery	WAT01_ST	WAT02_ST	WIL01_ST	Reserve Margin
Total	23	-	-	2	1	75	35	1	1	1	
MW	250	-	-	468	523	5,625	1,313	(342)	(342)	(610)	
2022	-	-	-	-	-	-	-	-	-	-	27.6
2023	-	-	-	-	-	-	-	-	-	-	26.5
2024	-	-	-	-	-	-	-	-	-	-	30.3
2025	-	-	-	-	-	-	-	-	-	-	29.9
2026	-	-	-	-	-	-	-	-	-	-	29.4
2027	-	-	-	-	-	-	-	-	-	-	29.1
2028	-	-	-	-	-	-	-	-	-	-	28.8
2029	-	-	-	1	-	1	2	1	1	-	21.0
2030	-	-	-	-	-	2	2	-	-	-	21.4
2031	-	-	-	1	1	-	-	-	-	1	23.1
2032	-	-	-	-	-	4	1	-	-	-	22.7
2033	-	-	-	-	-	4	3	-	-	-	23.1
2034	-	-	-	-	-	4	2	-	-	-	23.4
2035	-	-	-	-	-	4	1	-	-	-	23.0
2036	-	-	-	-	-	4	-	-	-	-	21.9
2037	-	-	-	-	-	4	1	-	-	-	21.8
2038	-	-	-	-	-	4	1	-	-	-	21.7
2039	-	-	-	-	-	4	1	-	-	-	21.4
2040	-	-	-	-	-	4	2	-	-	-	21.5
2041	-	-	-	-	-	4	3	-	-	-	21.3
2042	-	-	-	-	-	4	4	-	-	-	21.8
2043	-	-	-	-	-	4	3	-	-	-	22.0
2044	-	-	-	-	-	4	2	-	-	-	22.2
2045	-	-	-	-	-	4	-	-	-	-	21.3
2046	1	-	-	-	-	4	-	-	-	-	21.4
2047	3	-	-	-	-	4	-	-	-	-	22.2
2048	4	-	-	-	-	4	-	-	-	-	22.3
2049	5	-	-	-	-	4	3	-	-	-	22.5
2050	5	-	-	-	-	-	2	-	-	-	20.1
2051	5	-	-	-	-	-	2	-	-	-	21.8



# Coal Plant Retirement Study

## Example of a Timeline to Replacement

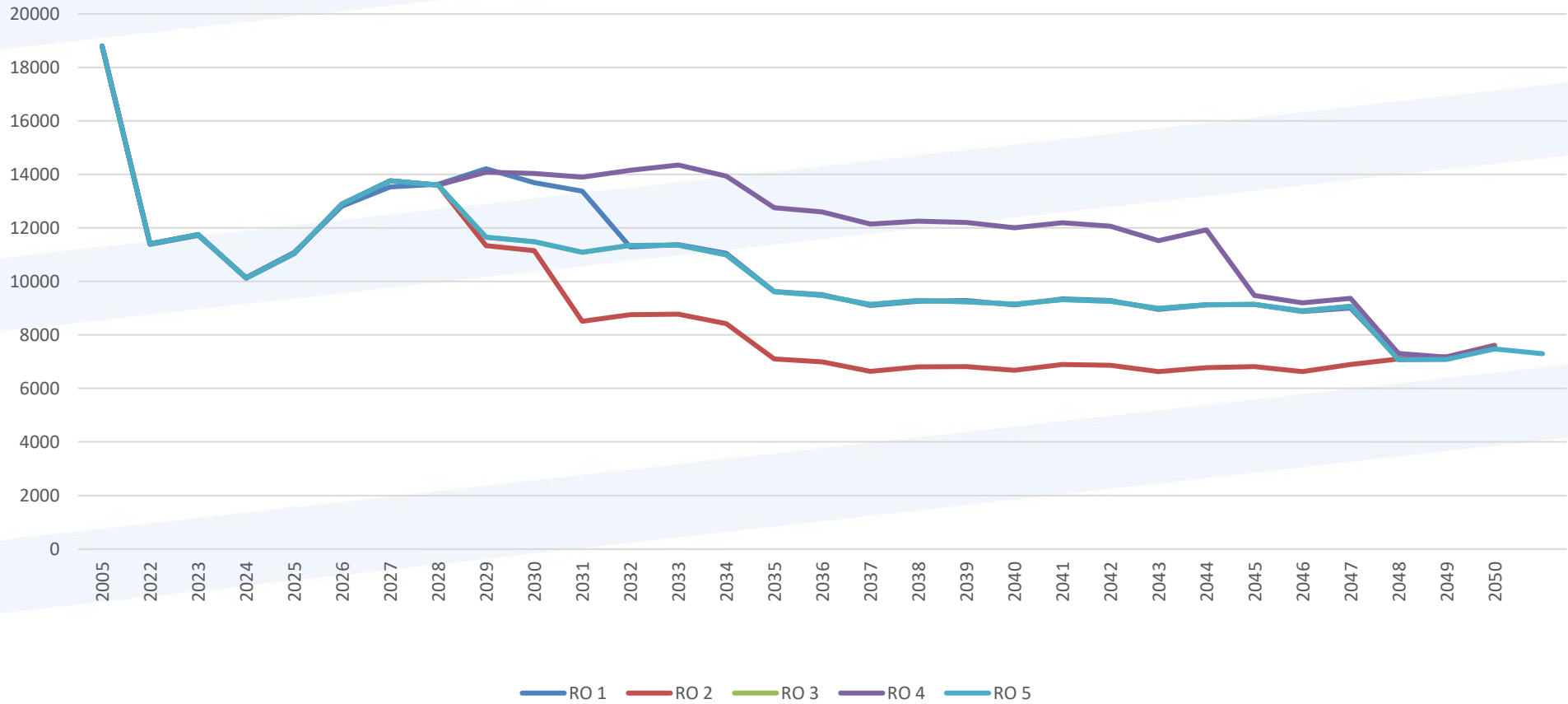
Figure 1: Williams and Wateree Permanent Capacity Replacement Schedule



# Coal Plant Retirement Study

## Cumulative Carbon Impact by Build Plan

Annual CO<sub>2</sub> (ktons) - Limited Gas Market Scenario



# Coal Plant Retirement Study

## Energy Load Forecast

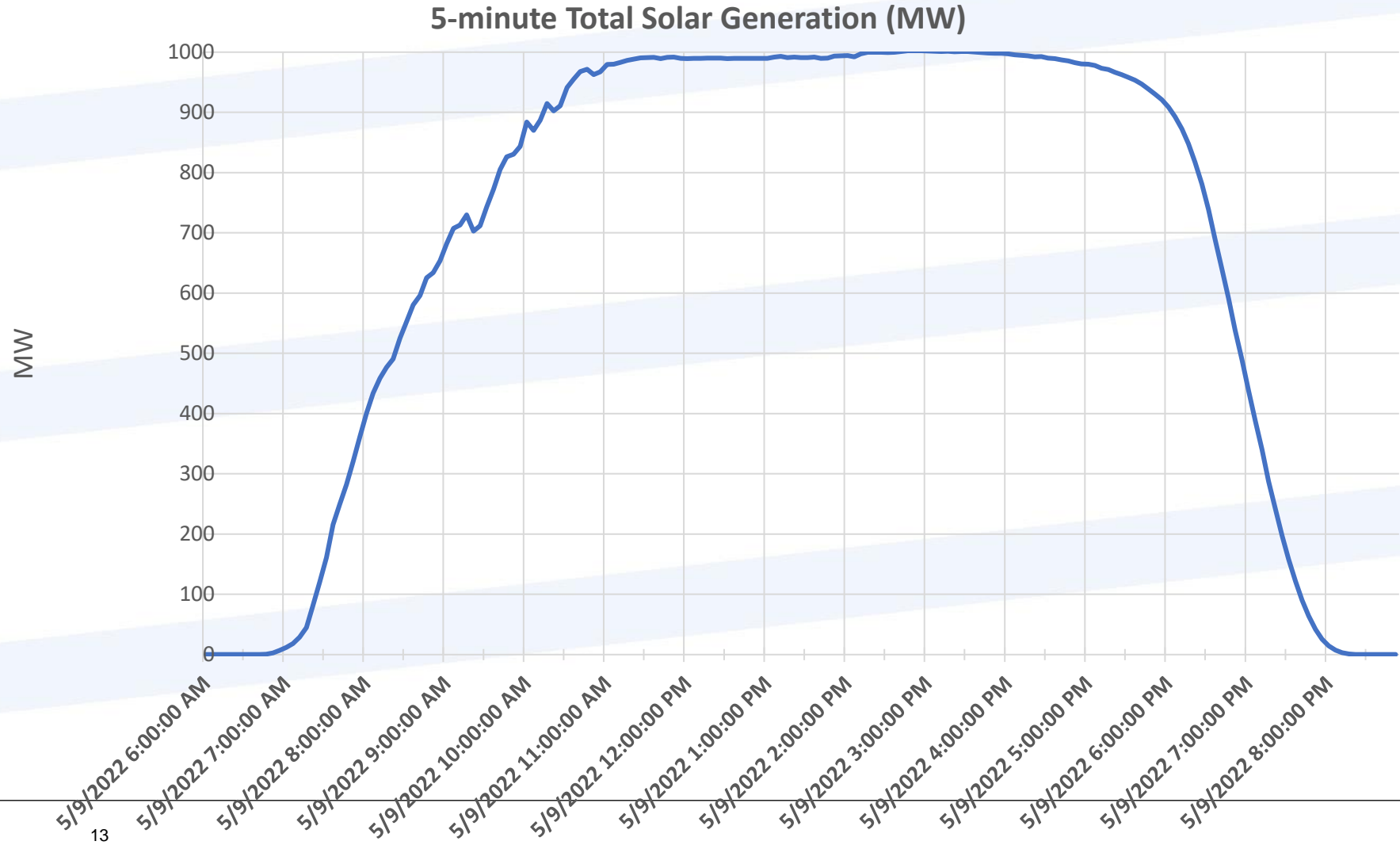


# **Integrated Resource Planning per South Carolina Act No. 62**

- 1. Awaiting PSC Order concerning DESC 2021 IRP Update submitted on August 17, 2021**
- 2. DESC will file the 2022 IRP Update as directed by a PSC Order**
- 3. The DESC 2023 IRP will be filed in February 2023**

# Experience with Solar on DESC

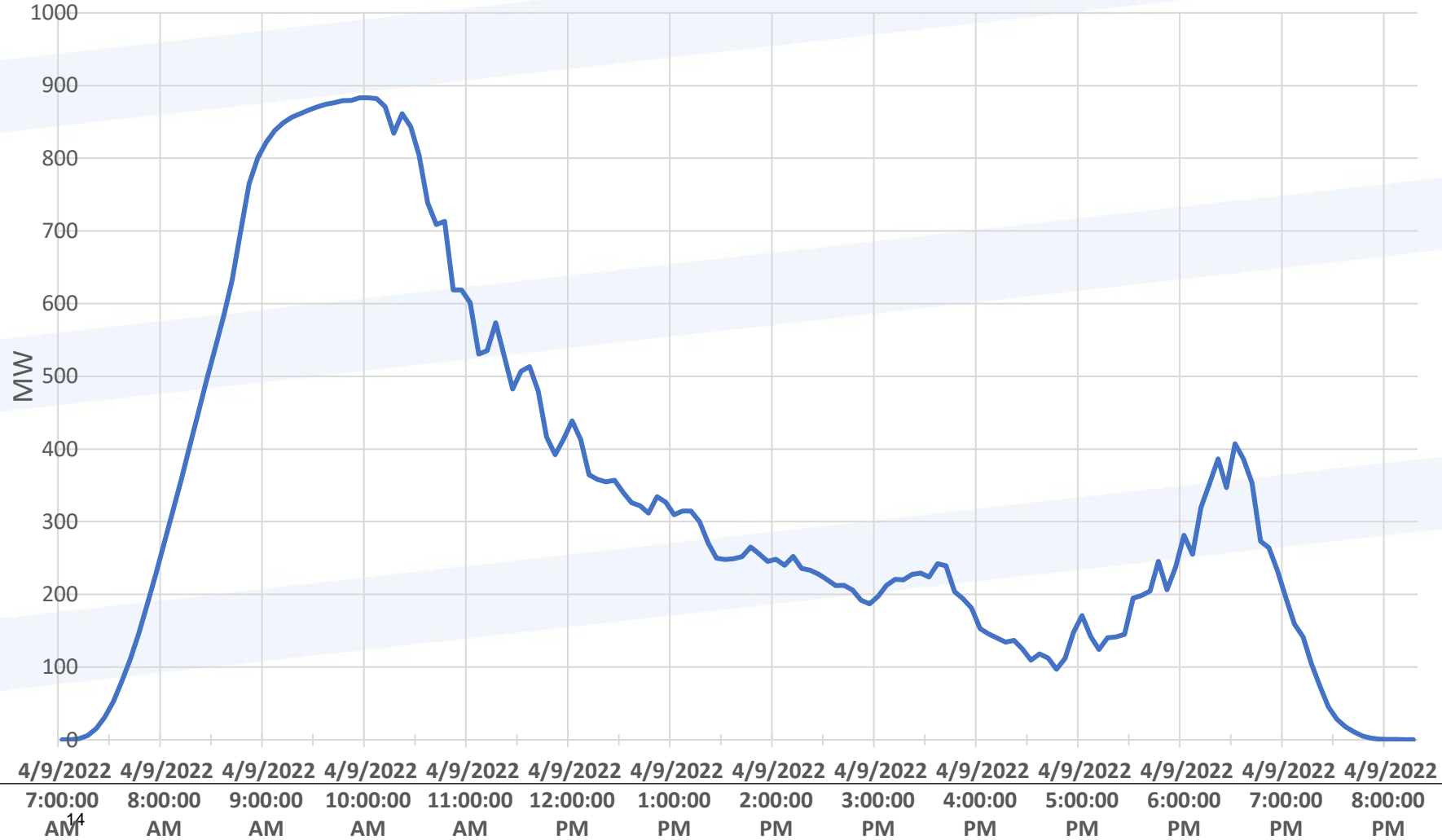
## Clear and Sunny Day – May 9, 2022



# Experience with Solar on DESC

## Clouds Roll In – April 9, 2022

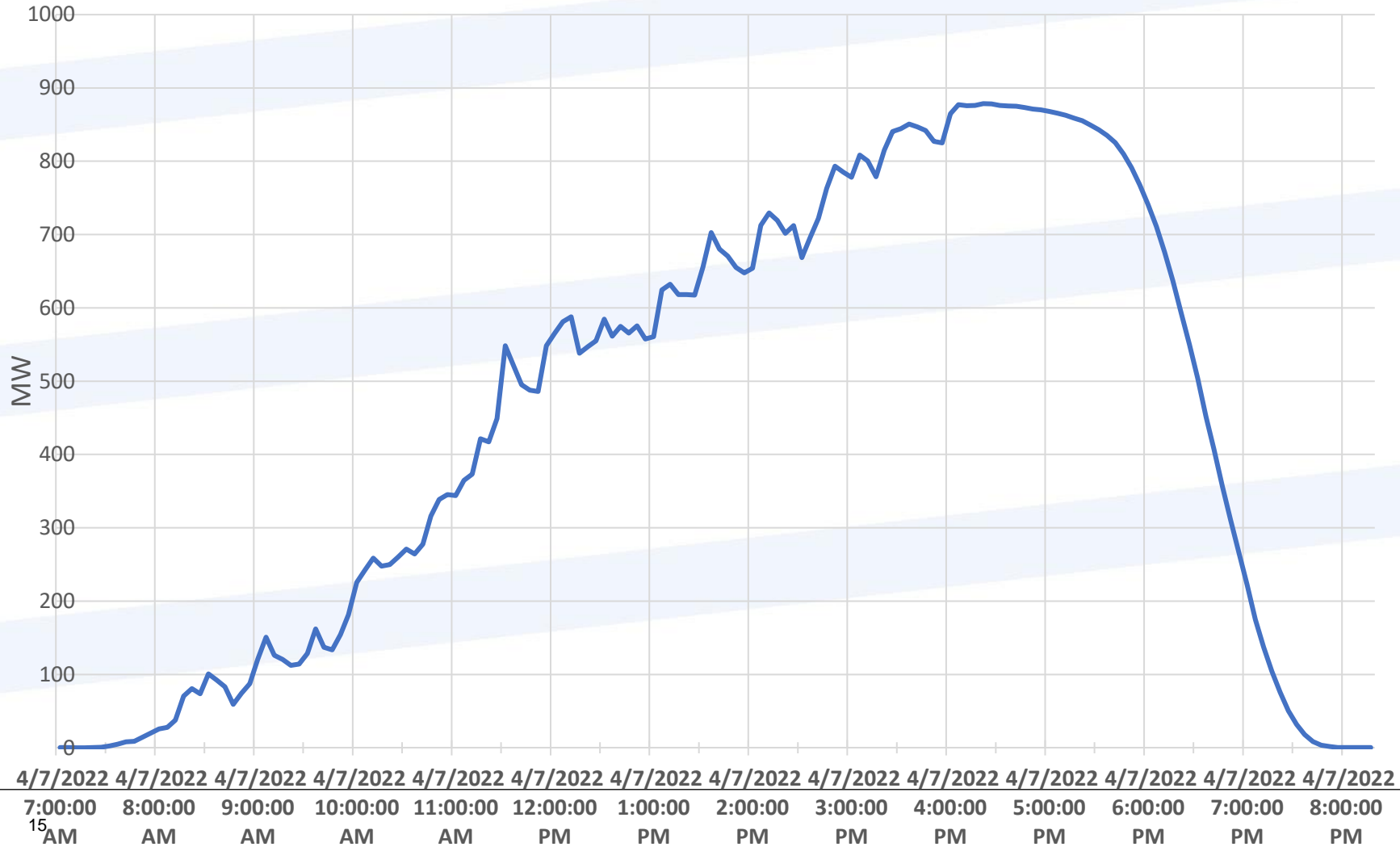
5-minute Total Solar Generation (MW)



# Experience with Solar on DESC

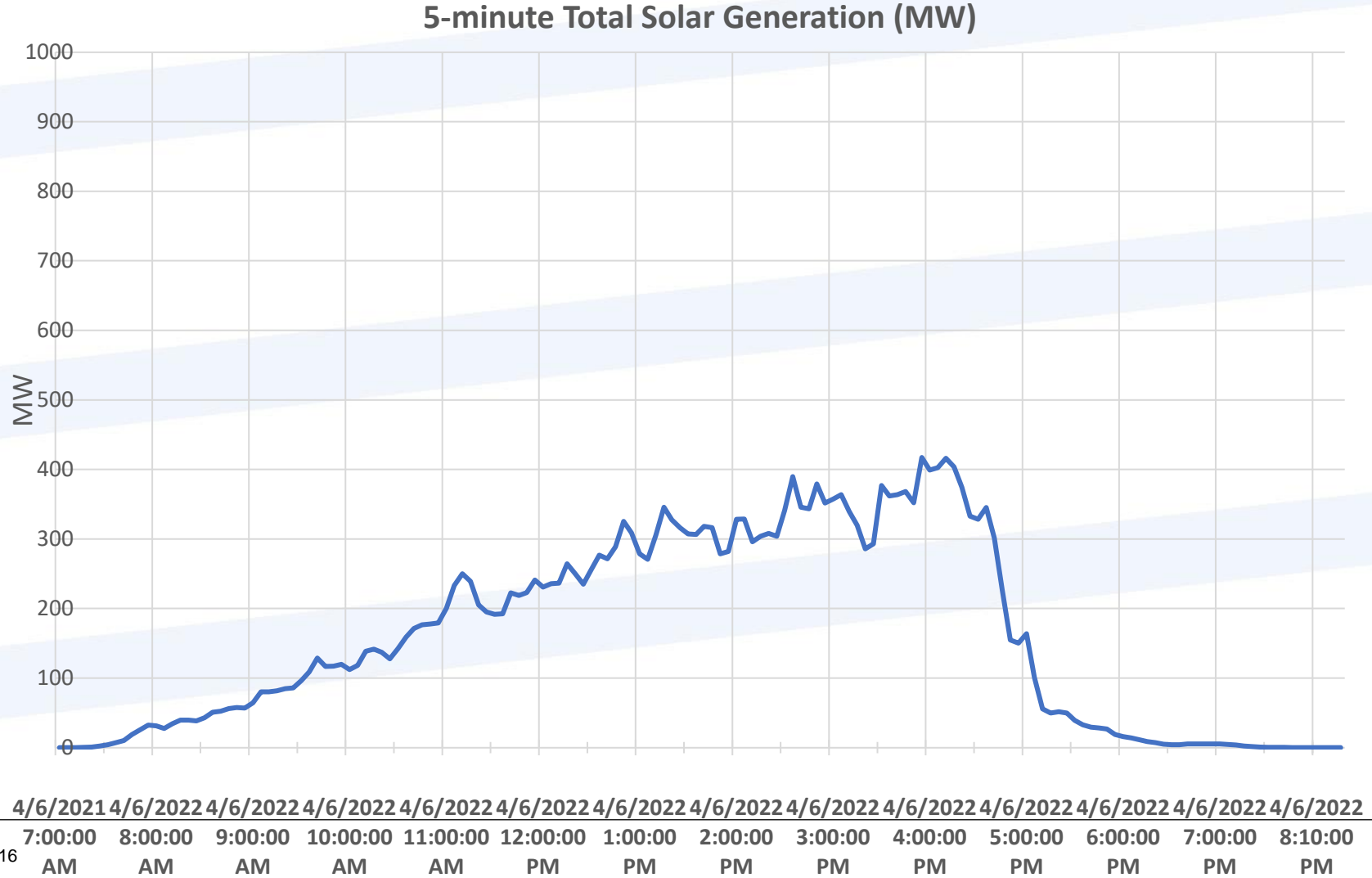
## Clouds Roll Out – April 7, 2022

5-minute Total Solar Generation (MW)



# Experience with Solar on DESC

## Cloudy but Possibly Clearing? – April 6, 2022

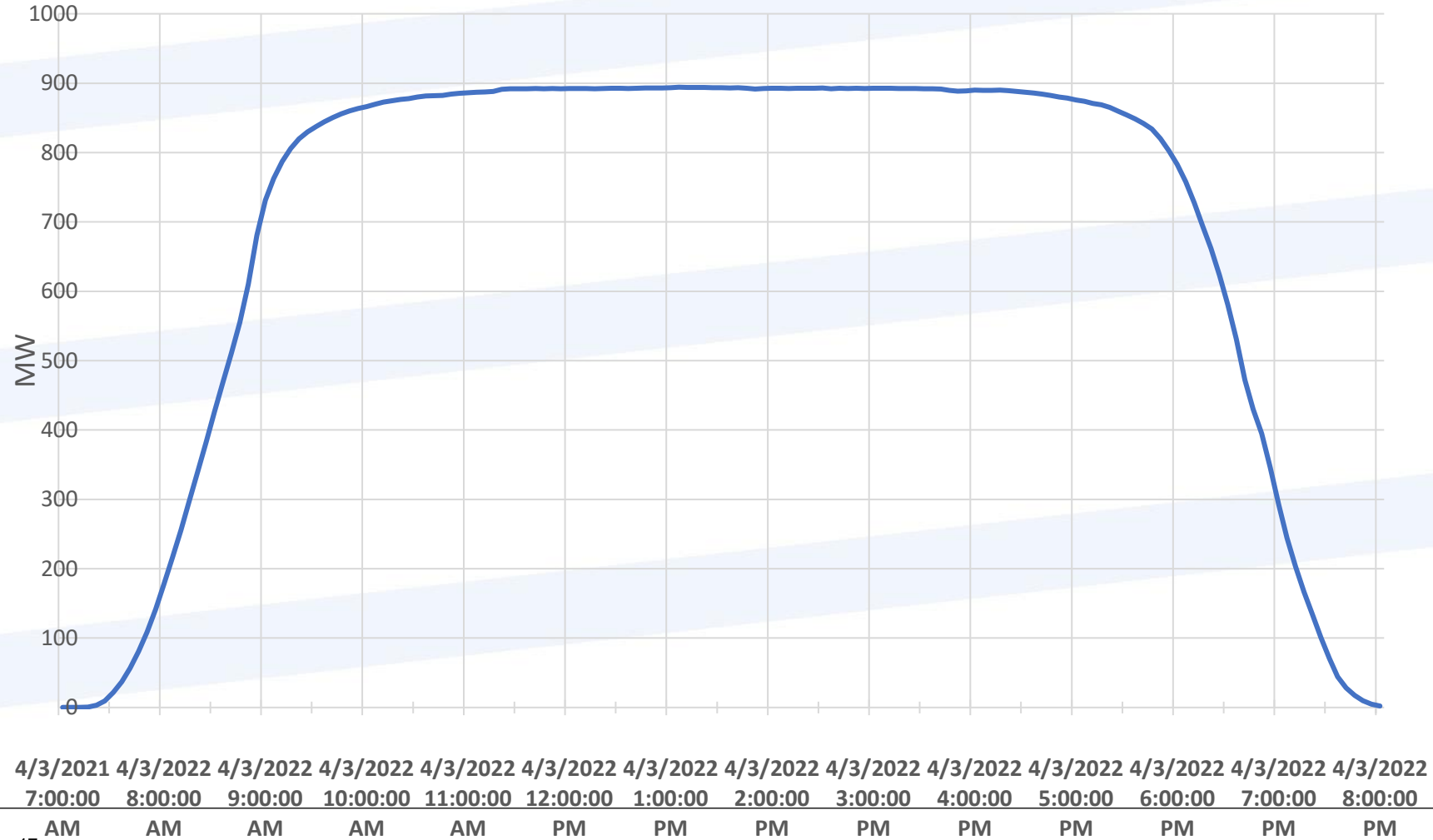




# Experience with Solar on DESC

## Clear as a Bell – April 3, 2022

5-minute Total Solar Generation (MW)



# Experience with Solar on DESC

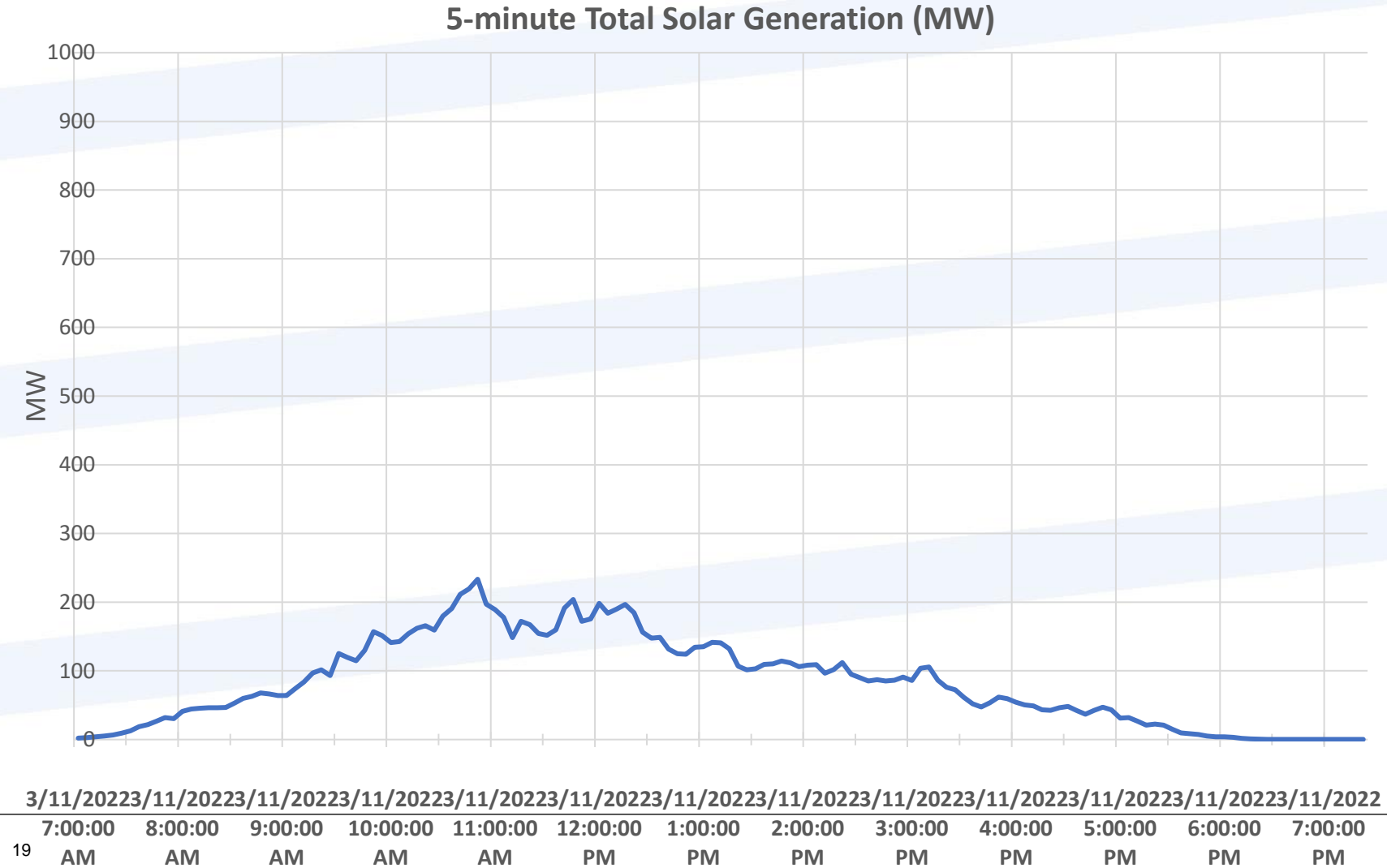
## Highly Variable – March 19, 2022

5-minute Total Solar Generation (MW)



# Experience with Solar on DESC

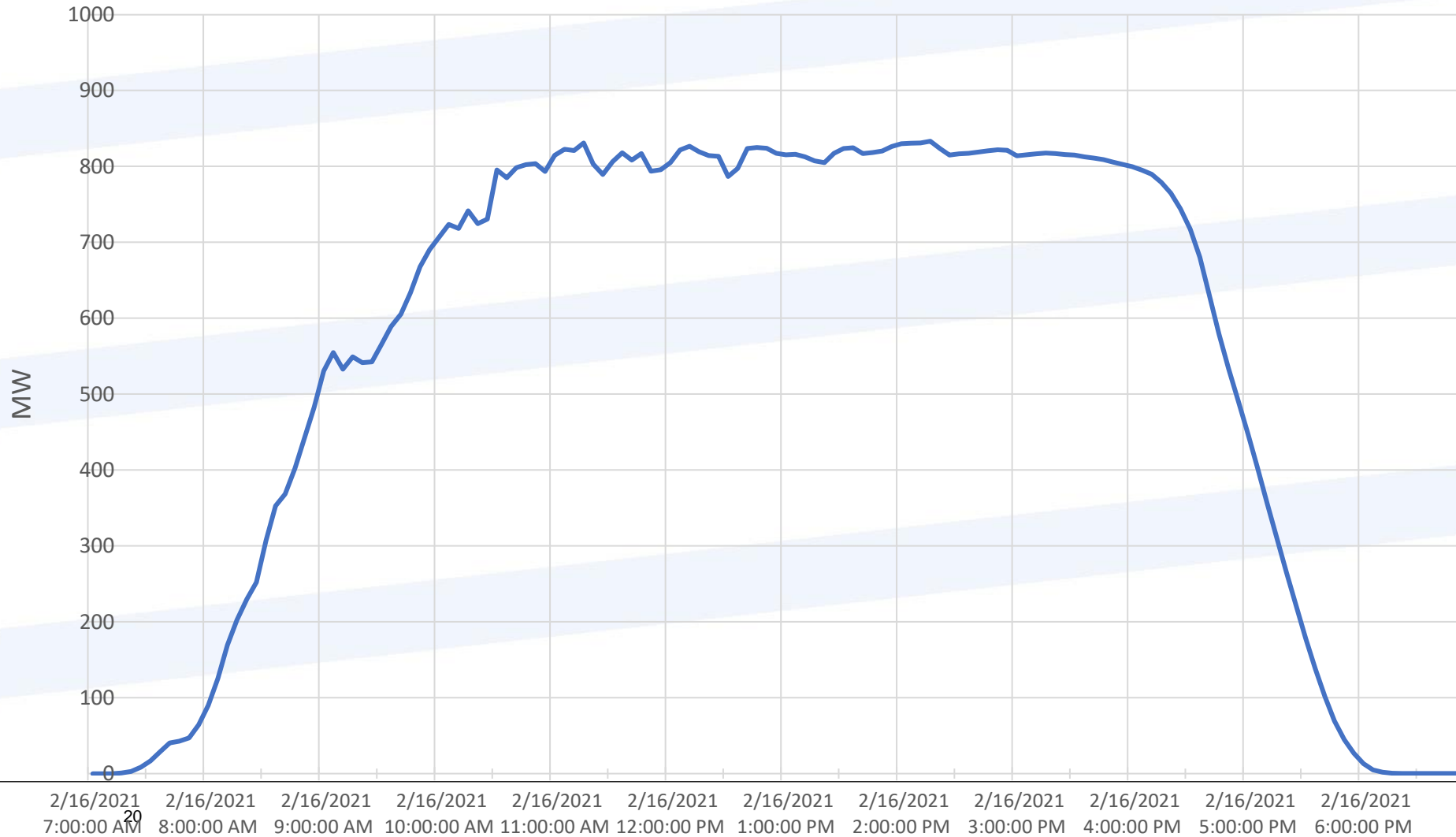
## Cloudy – March 19, 2022



# Experience with Solar on DESC

## Sunny – FEB Max – 33.2% CF - February 16, 2022

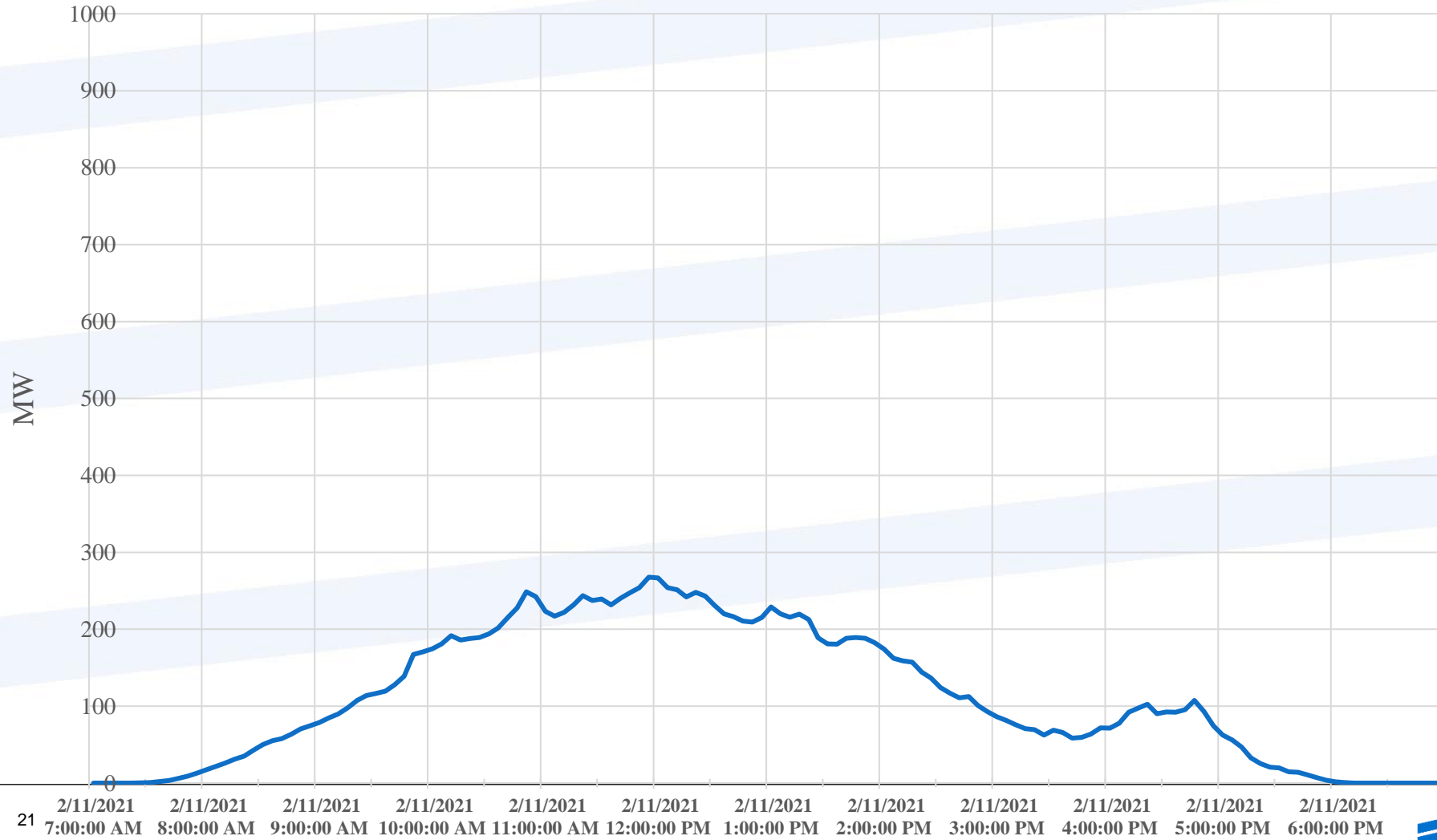
5-minute Total Solar Generation (MW)



# Very Low Solar Generation – 5 Straight Days

## February 11 – Capacity Factor 6.8% 1,360MWH

Total Solar Generation (MW)

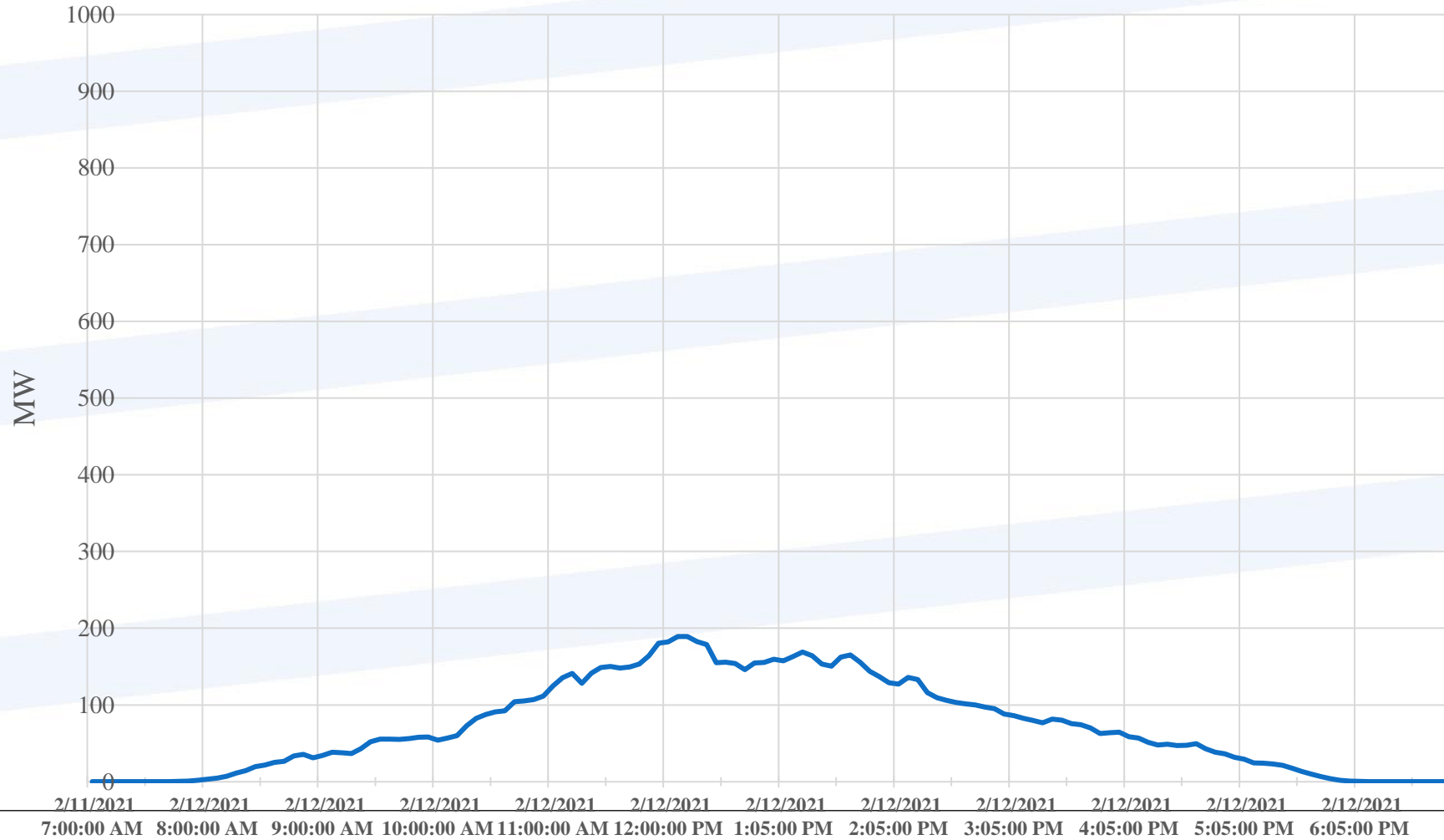


21

# Very Low Solar Generation – 5 Straight Days

## February 12 – Capacity Factor 4.3% 866 MWH

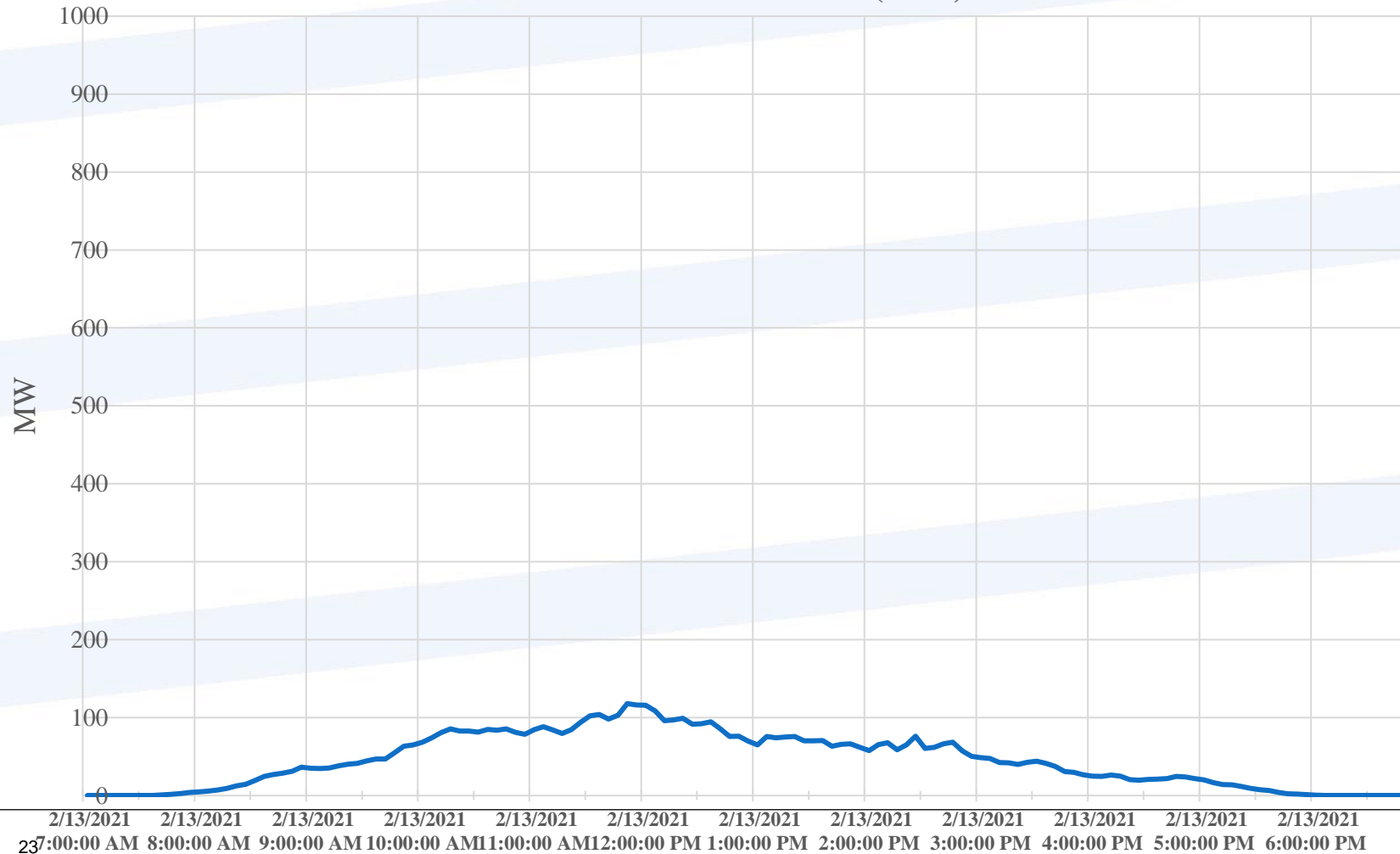
Total Solar Generation (MW)



# Very Low Solar Generation – 5 Straight Days

## February 13 – Capacity Factor 2.7% 536 MWH

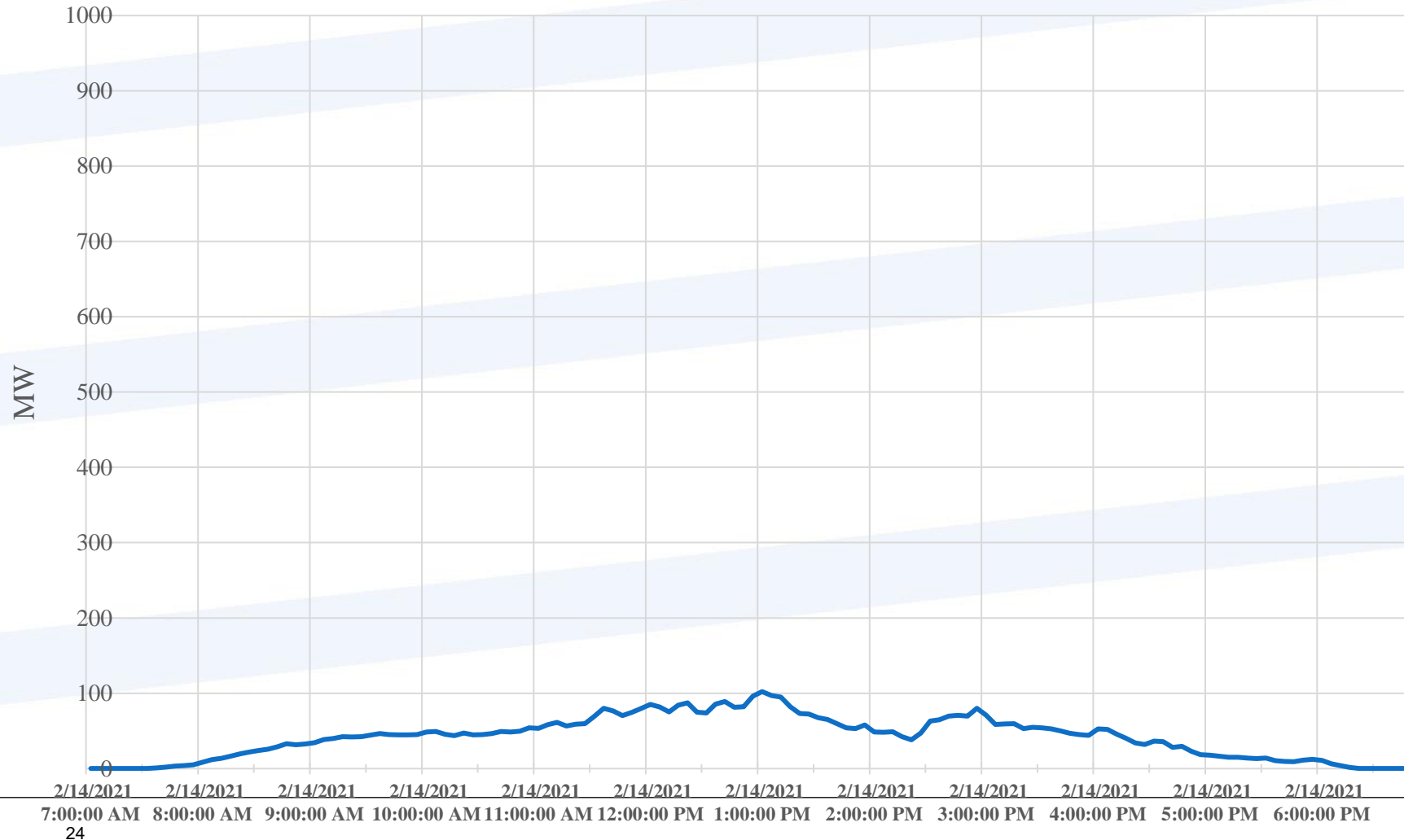
Total Solar Generation (MW)



# Very Low Solar Generation – 5 Straight Days

## February 14 – Capacity Factor 2.5% 498 MWH

Total Solar Generation (MW)

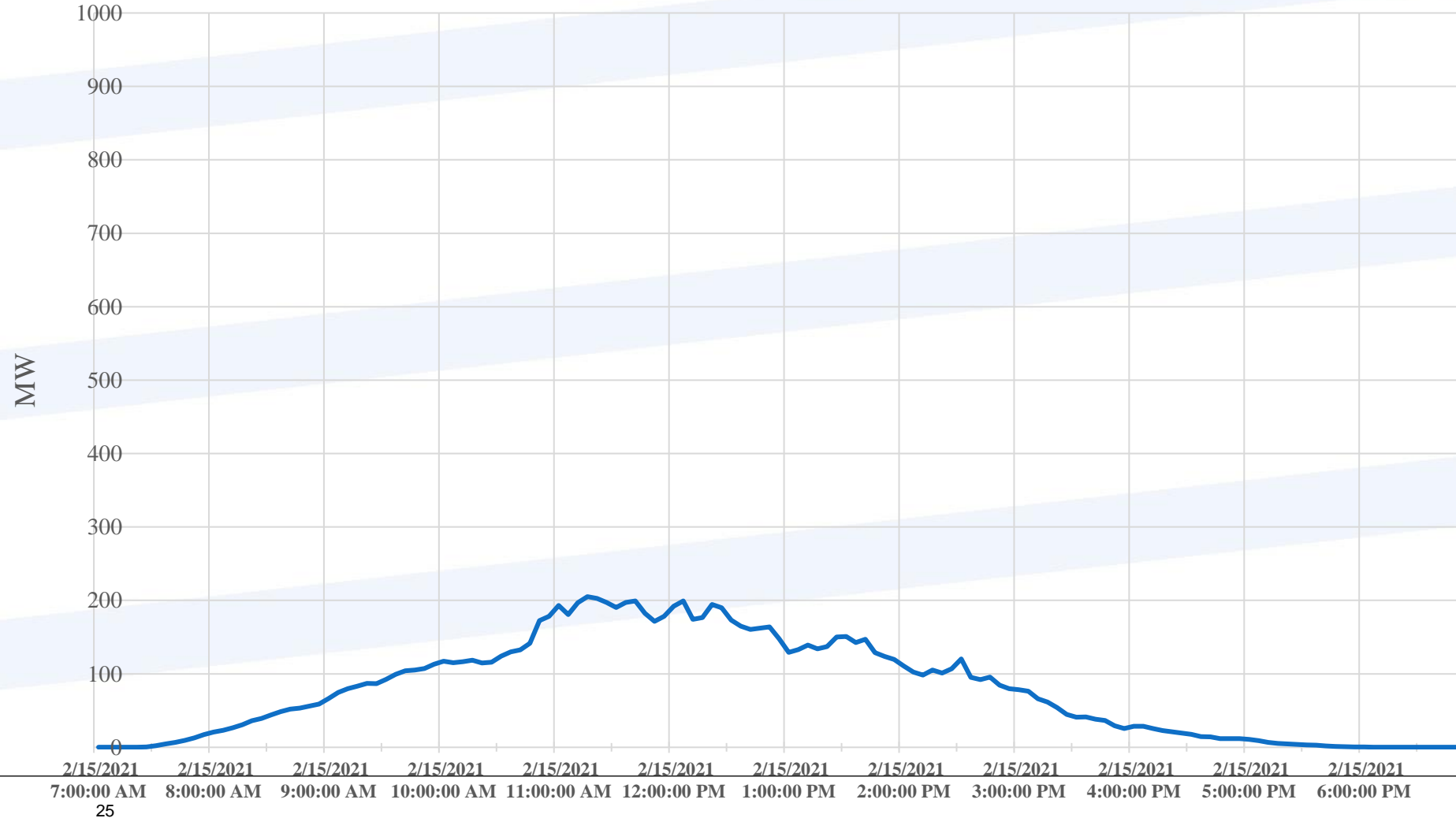




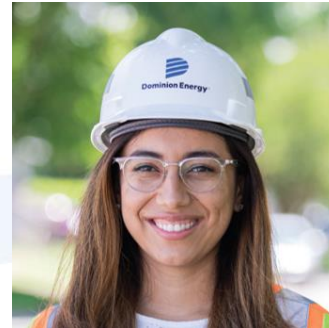
# Very Low Solar Generation – 5 Straight Days

## February 15 – Capacity Factor 4.7% 942 MWH

Total Solar Generation (MW)



# Thank you.



# Questions



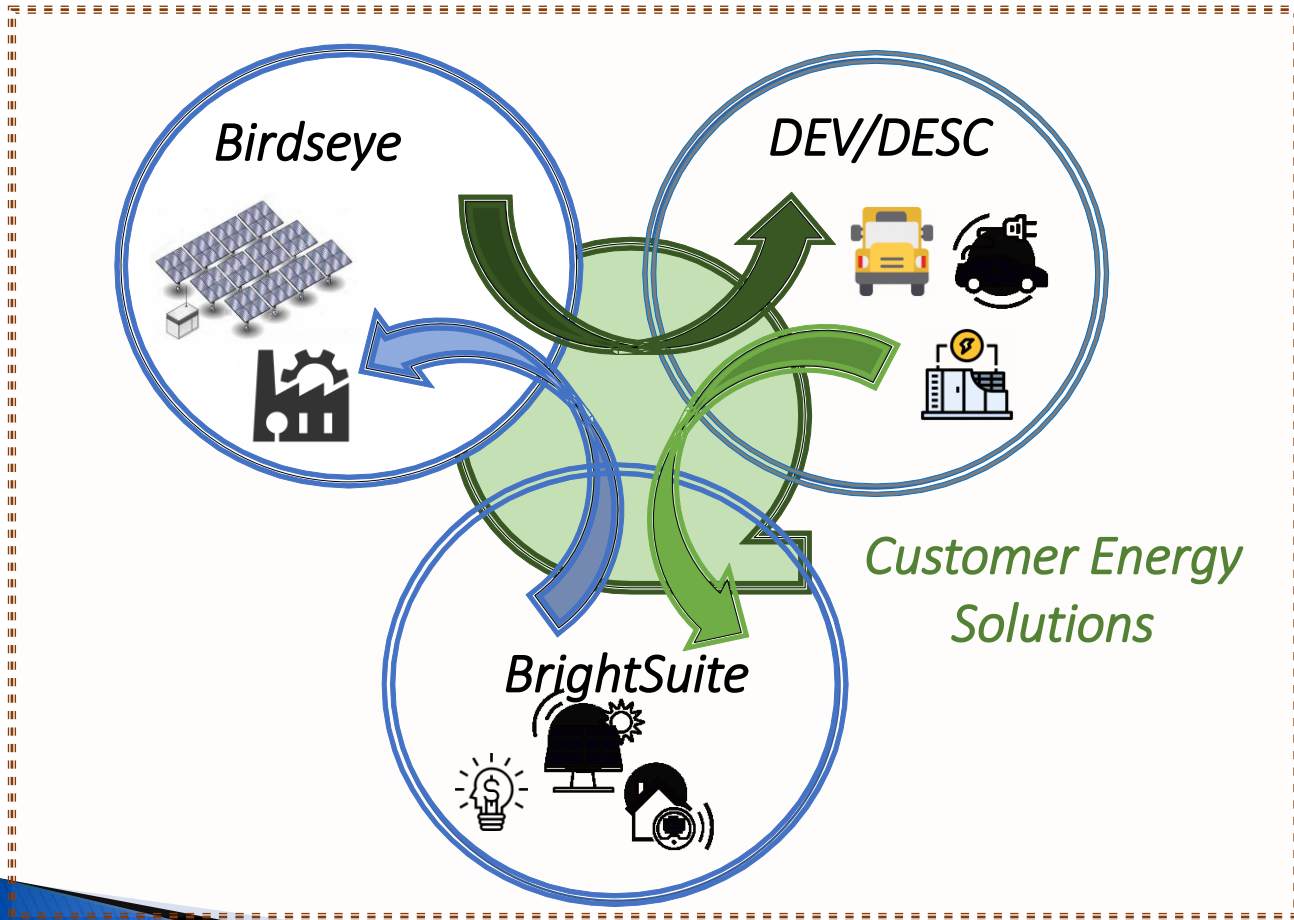




# **Dominion Energy South Carolina: New Business and Customer Solutions**

# New Business & Customer Solutions

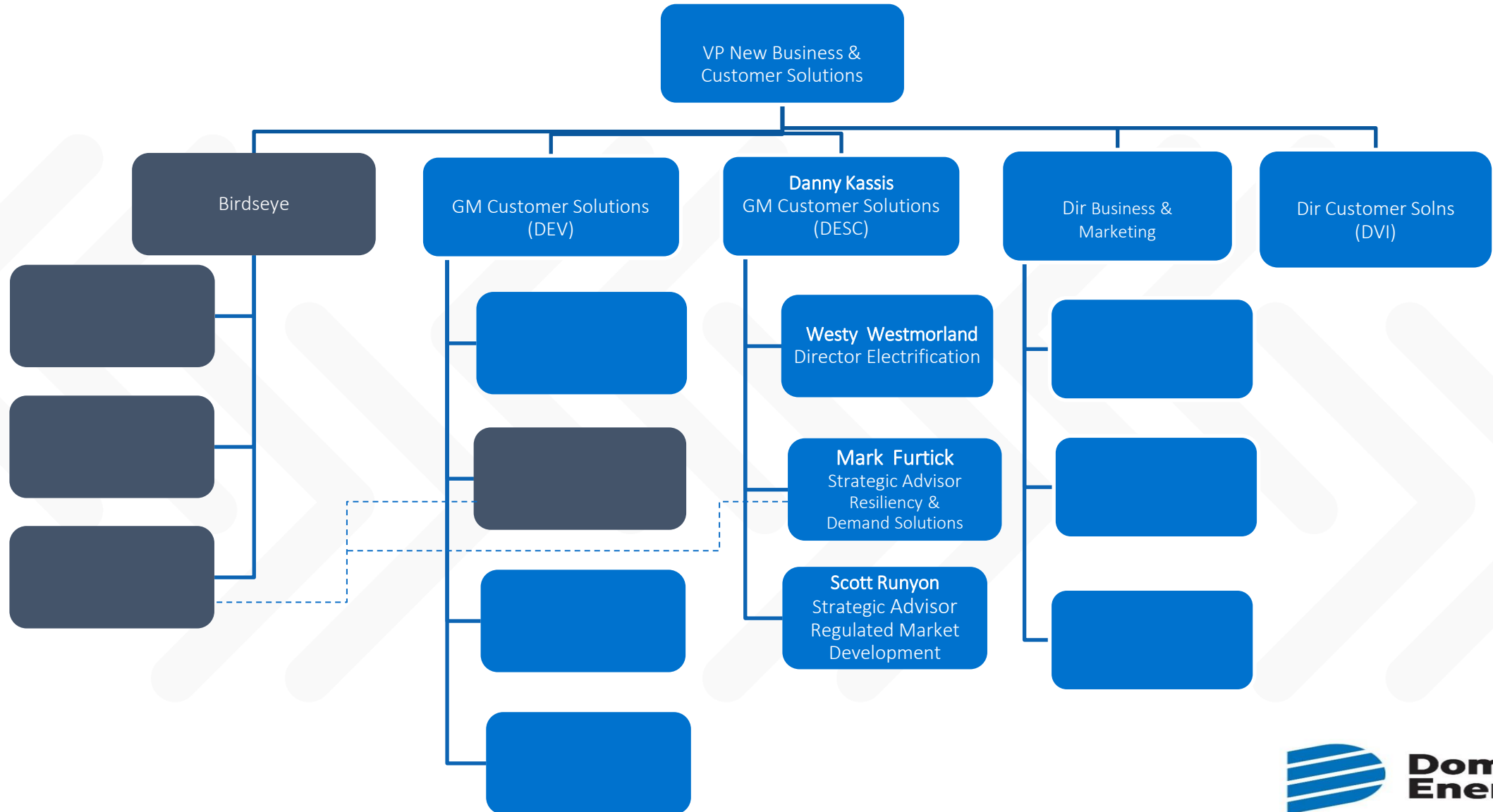
Organize, Assess, Develop, Market, Deploy



- **Electrification**
- **BrightSuite**
- **Resiliency Solutions**
- **Birdseye Solutions**
- **DVI**

# New Business and Customer Solutions

## Regional Electric Focus



# New Business and Customer Solutions Focal Areas

- Electrification
  - ✓ Electric School Bus (eSB) expansion
  - ✓ Charging as a Service (CaaS)
  - ✓ IIJA (eSB, Transit and Charging Network)
- Birdseye Solutions
  - ✓ Renewable Development
  - ✓ Sustainability “Suite” of solutions for dominant industrial verticals
  - ✓ ITC Targets
  - ✓ M&A on Early and Mid-Stage development
- BrightSuite
  - ✓ Residential Rooftop
  - ✓ Shared Solar
  - ✓ Localized Renewables for Jurisdictions/C&I
- Resiliency & Demand Solutions
  - ✓ C&I Energy Storage
  - ✓ Nano Grid
  - ✓ Rooftop alternative program



# WESTY WESTMORELAND

WESTY.WESTMORELAND@DOMINIONENERGY.COM

Director – Electrification

31 Years – Dominion Energy South Carolina and SCE&G



Clemson University  
Mechanical Engineering '90



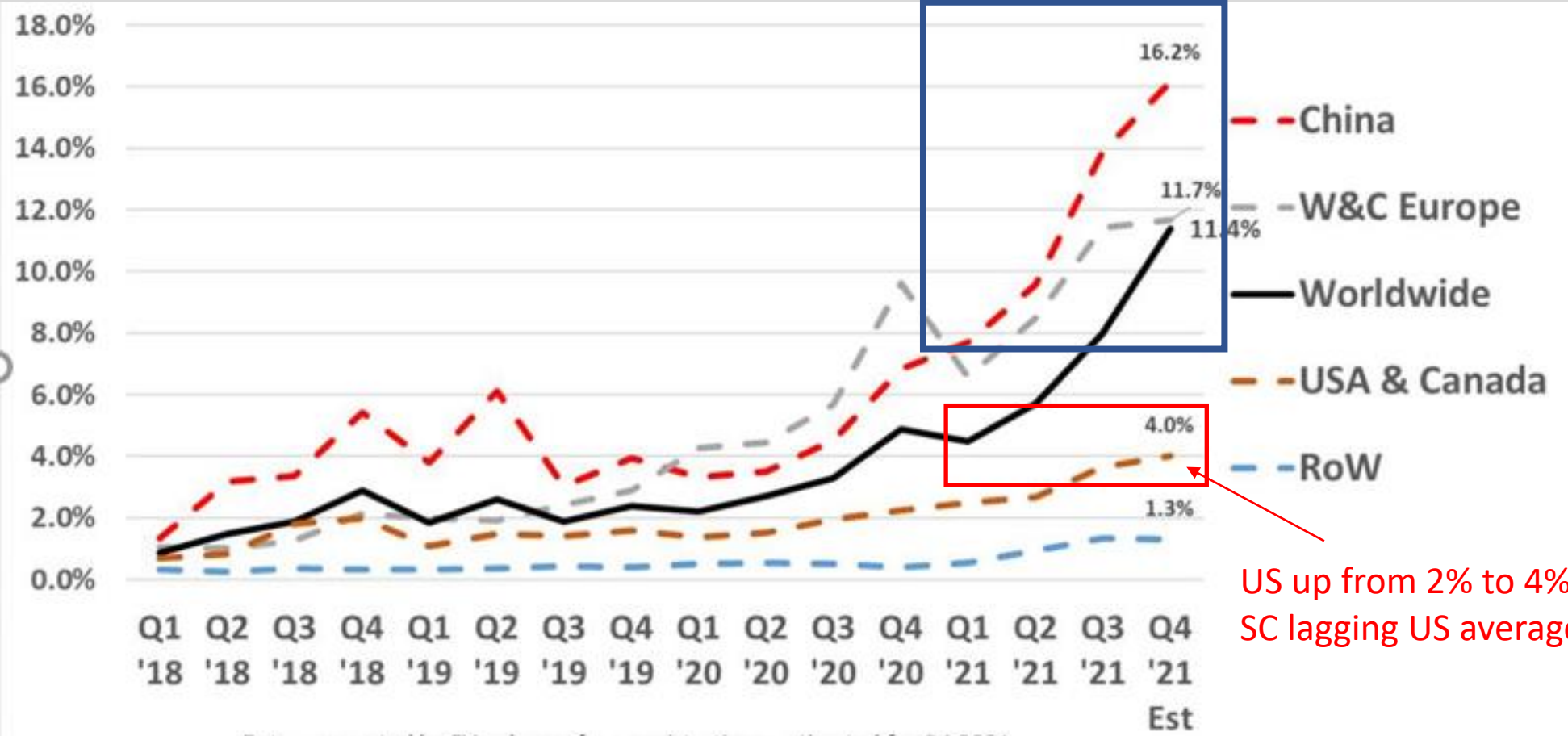
Soccer Mom SUV



Are Electric Vehicles glorified Golf Carts? Not so much.

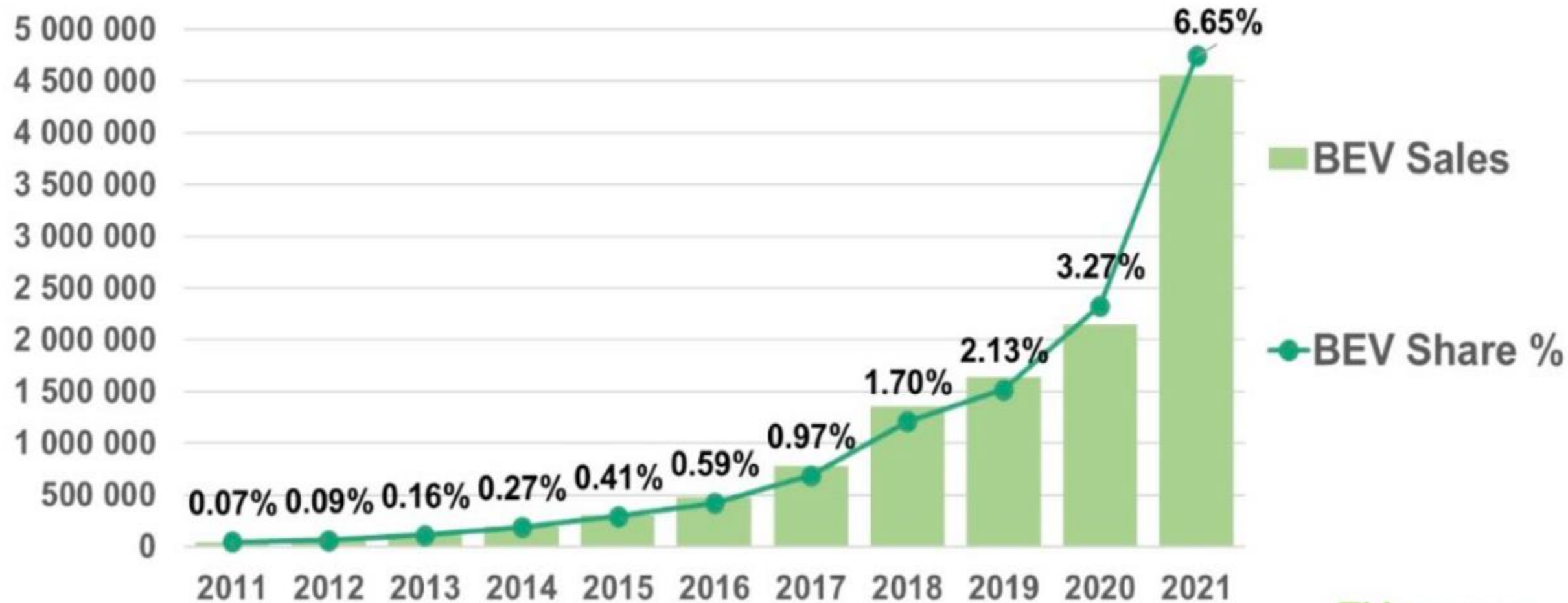
# EV Share of Passenger Vehicle Market

Major worldwide shift to EVs in 2021, especially China and Europe

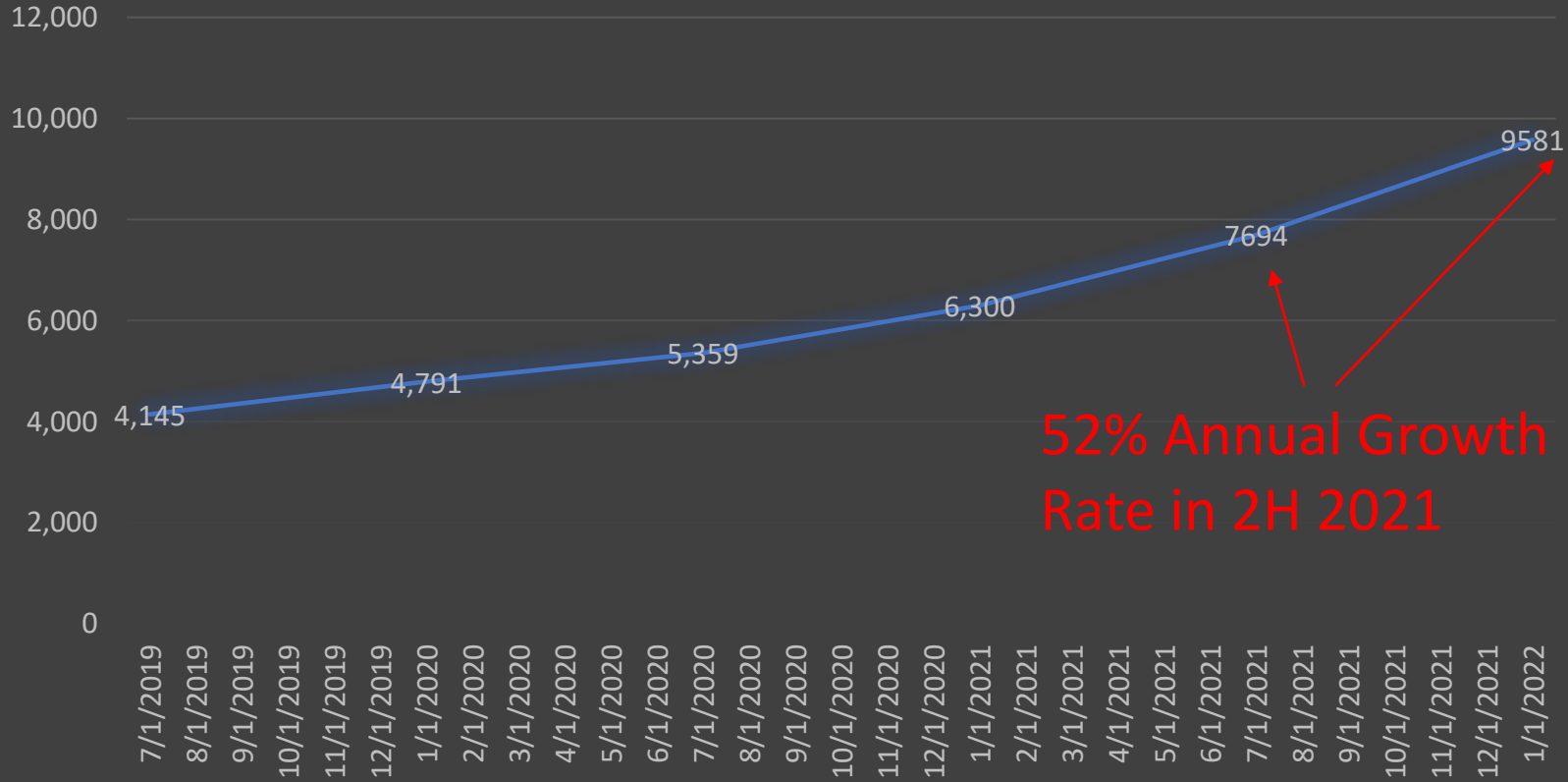


US up from 2% to 4% in 2021  
 SC lagging US average @ ~2%

## Global Annual BEV % of Passenger Vehicles



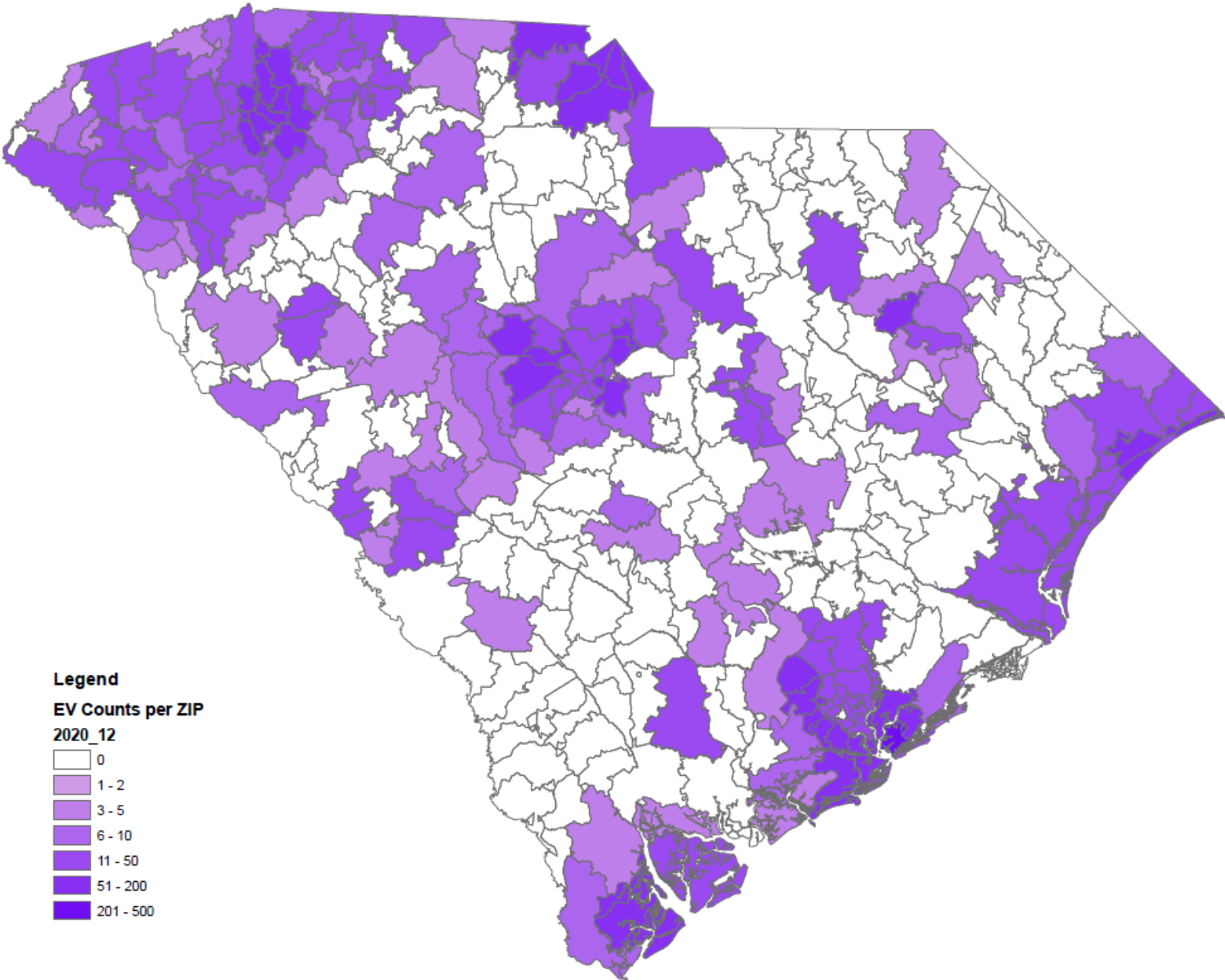
### EV's in SC



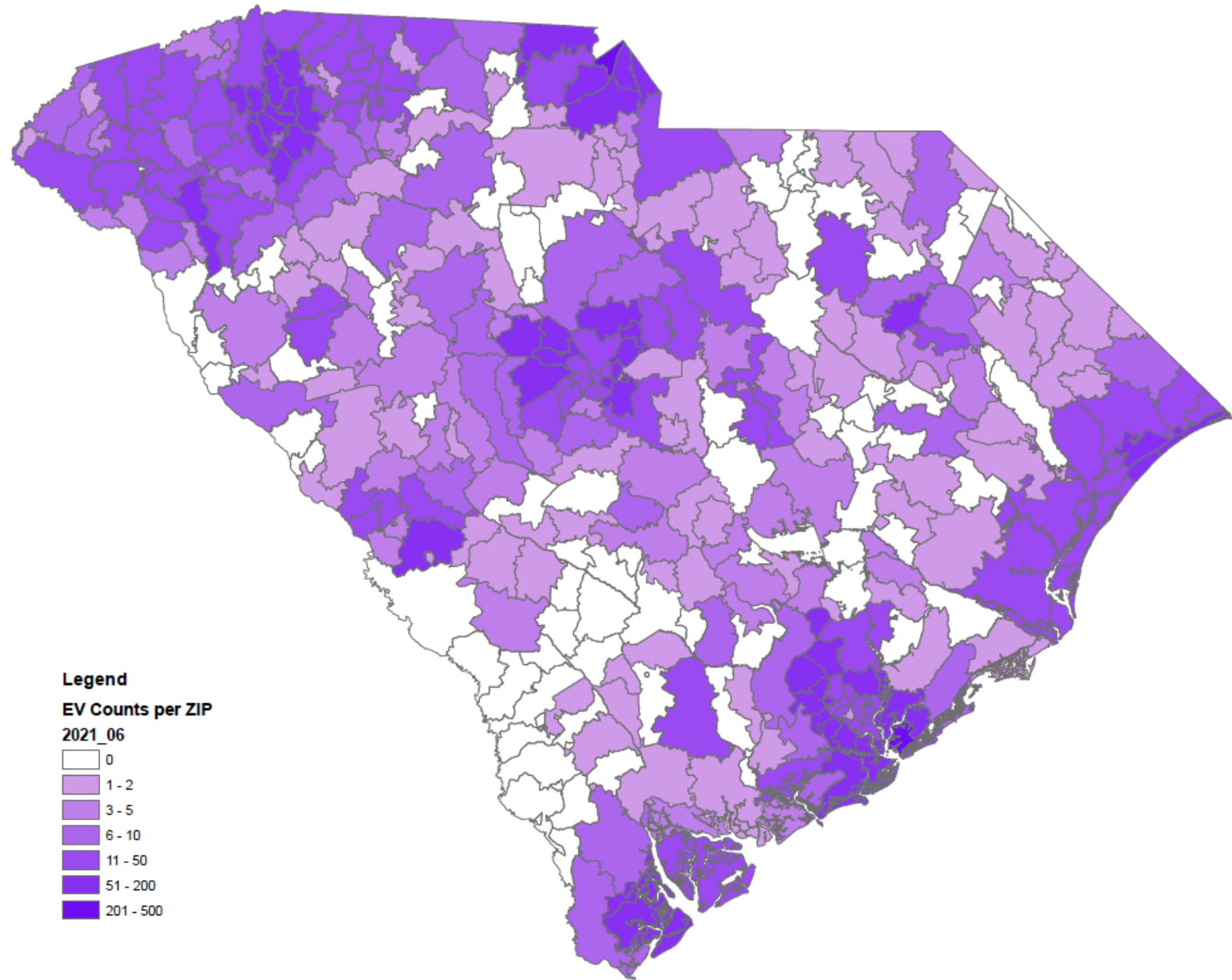
**52% Annual Growth Rate in 2H 2021**

South Carolina	
Total registered vehicles: 5.5M	
Statewide EVs	DESC EVs
9,581	3,455
(52% YoY increase)	(36% of state total)
Top Model: Tesla (5,090)	
2nd Model: Chevrolet (1,280)	

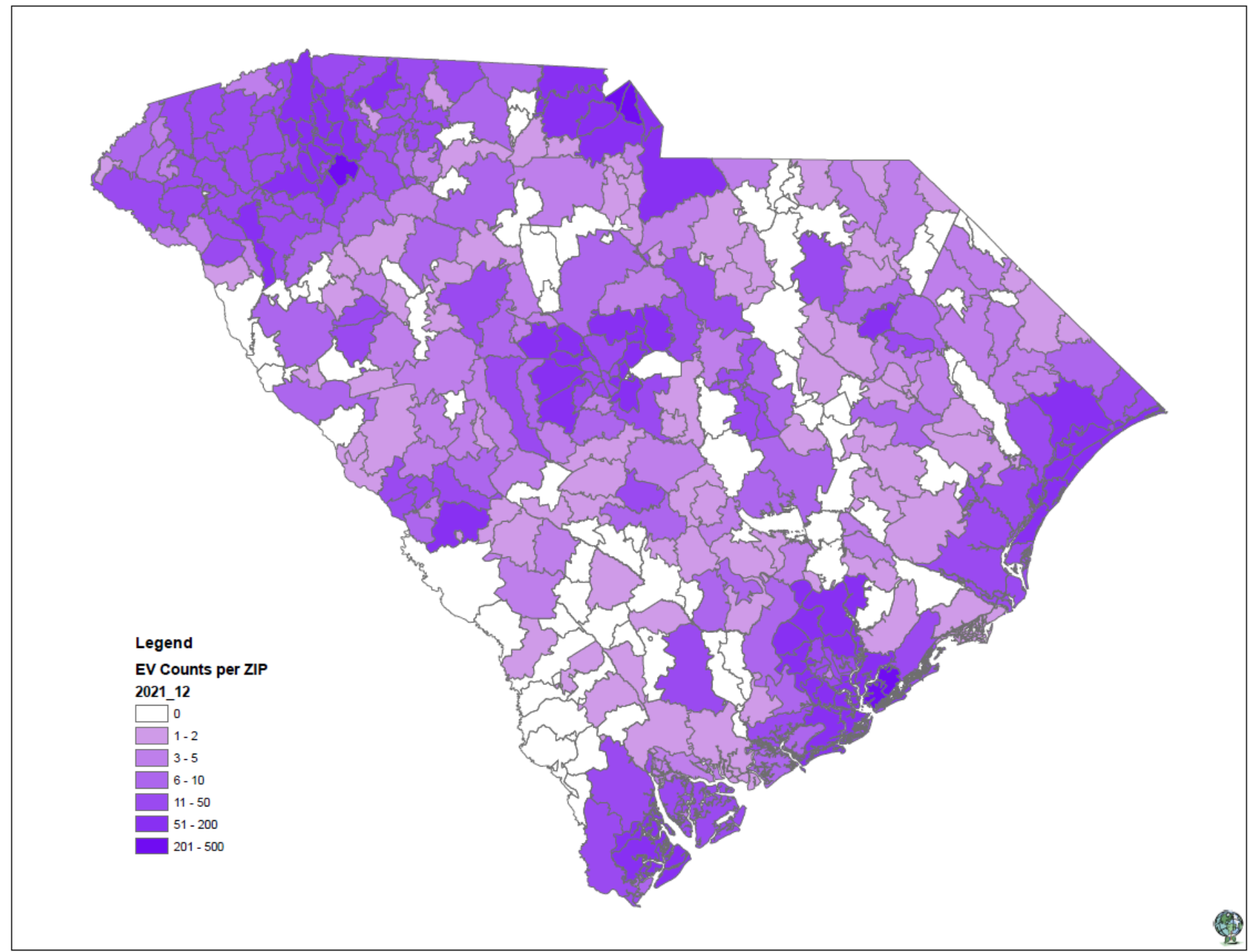
EV volumes  
by area  
YE 2020



# EV volumes by area MY 2021



# EV volumes by area YE 2021





## ***Fuel Costs***

ICE passenger vehicle 30 mpg \$3.50 per gallon = \$0.14 per mile

EV passenger 4 miles per kwh \$0.12/kwh = \$.03 per mile

**79% Fuel Savings**

## ***Maintenance Costs***

EV maintenance 50% savings as compared to ICE vehicles – CATBus Director (Clemson)

Regenerative Brakes so at least 50% savings on Brake Pads

90% less moving parts

No fluids to change except Windshield wiper

## ***Environmental***

BEV has no exhaust so Zero tailpipe emissions and greater air quality

Carbon emission crosser point of EV compared to ICE is 6,500 miles

DESC generation mix is Nuclear, Hydro, Natural Gas, Solar, and Coal

Idling not an issue with EV's

# EV Charging Options

## Level 1



**VOLTAGE:**  
120V 1-Phase AC

**AMPS:**  
12-16 Amps

**CHARGING LOAD:**  
1.4-1.9 kW

**CHARGING TIME:**  
3-5 Miles per Hour

## Level 2



**VOLTAGE:**  
208V or 240 V 1-Phase AC

**AMPS:**  
12-80 Amps (Typ. 32 Amps)

**CHARGING LOAD:**  
2.5-19.2 kW (Typ. 6.6 kW)

**CHARGING TIME:**  
12-60 Miles per Hour

## DC Fast Charge



**VOLTAGE:**  
208V or 480V 3-Phase AC

**AMPS:**  
>100 Amps

**CHARGING LOAD:**  
50-350 kW

**CHARGING TIME:**  
65-300 miles in 20 minutes

# EV Charging

**Level 2:** 30 miles added/hour

240 V – 1 $\phi$  7.6 KW AC



**Level 3: (Fast)**

480 V – 3 $\phi$  DC



Speed	Range Added in 15 Min Charge
50-75kW	42 Miles
150-175kW	125 Miles
250kW	210 Miles
350kW	290 Miles
500kW	415 Miles

# What We Are Doing Now

Provide Infrastructure Service, Support and Education for Customers



## DCFC: Level 3 Fast Charging

### 15 Station locations (78 Ports)

- 8 Tesla (4 more by YE '22)
- 2 Electrify America
- 2 EVGo
- 1 Sphinx
- 1 SC State Park

### Charging Power Range:

50 KW to 350 KW per port

## Heavy Duty (Transit)

### Charleston Area Rapid Transit Authority (CARTA)

#### *In Service*

- 6 Proterra buses
- 7 New Flyer buses

#### *On site and in service June 2022*

- 20 Proterra buses

Current total: 33 buses

#### *Power Output Range:*

Up to 125 KW per port (power sharing)

3 MW Connected Capacity

## Commercial and Residential

- Created EV charging as service agreement to provide turn-key charging solution for customers with greatest need (multi-family and workplace)
- Dedicated Account Representative to assist customers with Level 2 & 3 EVSE deployments and address SF residential questions



## **What we know so far on**

### **Federal Infrastructure Jobs Act IIJA Bill (EV Charging)**

\$70 Million for State of SC Charging Infrastructure (SCDOT)

Opportunity to submit for part of \$2.5 Billion additional dollars

Funding available to Transit and School Bus Agencies for electrification

SC funding will be coordinated through SCDOT

Additional Details on Infrastructure Funding will be provided by

Federal Government in Mid February for each state

Must engage with the utility sector from the beginning

Michael Berube, Deputy Assistant Secretary for Sustainable Transportation in DOE's Office of Energy Efficiency and Renewable Energy

- Infrastructure (EVSE)
  - ❖ Utility and Non-Utility deployment of L2 & L3 EVSE
  - ❖ Efficient use of Federal Infrastructure Bill Funding
- Infrastructure (Grid Modernization)
  - ❖ Affordable, reliable and renewable electricity for transportation
- Incentives and Education
- SC EV Stakeholder Initiative/Joint Committee/PSC Docket



# Infrastructure (EVSE)

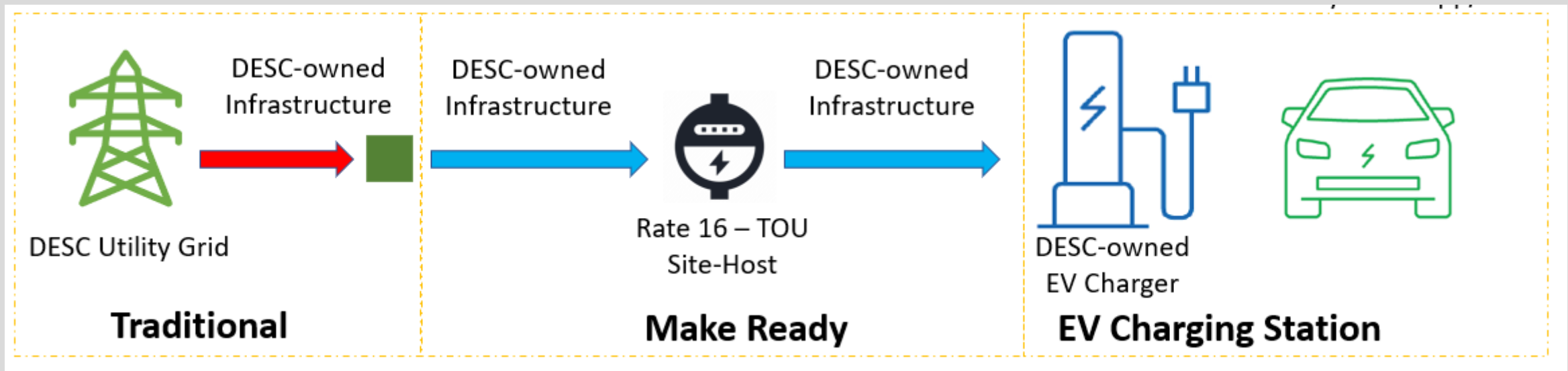
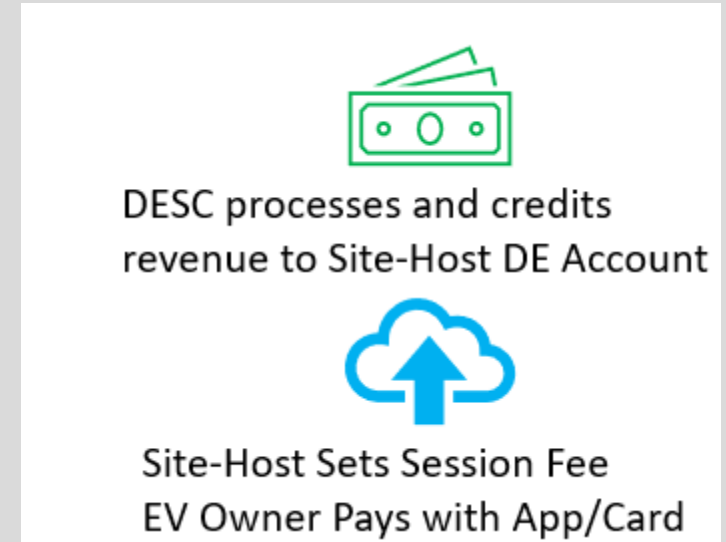


## Charging as a Service

DESC makes providing EV charging at your site hassle-free  
A customer *option to* owning/installing/maintaining charging stations at multi-unit dwellings, workplace and public places

DESC Charging as a Service program features:

- Design . Install . Operate . Maintain .
- Flat Monthly Facility and Metered Energy Charge



*Currently in review*



Charging  
Workplace  
MUD  
Retail  
Public





# Commercial



Will be made in North Charleston in 2023



Arrival  
Rock Hill, SC

NYC orders nearly 200 Mustang Mach-Es for police and first responders



NYC Refuse Truck

Ford Mustang Mach-E passes Mich. State Police test — the 1st all-electric vehicle to do so



Westport, Conn

First electric police car in W.Va. begins patrols

[Cary debuts electric Tesla Model Y patrol cars](#)



Fremont Police Department Expands Electric Fleet by Deploying Tesla Model Y Patrol Vehicle



Electric Fire Truck (Los Angeles)



# Electric Off-Road Vehicles



17,500 lb  
lifting  
capacity

Kion (Linde) Summerville, SC



Aircraft: Beta Technologies



Ferry Boats



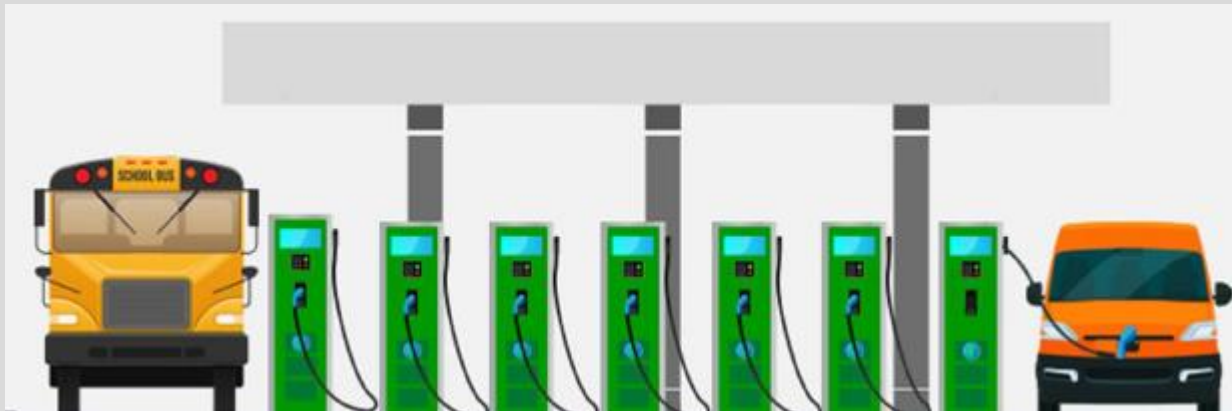
E-Tug boat

Electric Locomotive



## Smart (Managed) Charging and Advisory Services

- Smart chargers encourage off-peak charging through price signals. Utilities can encourage cheaper off-peak charging by enrolling customers who receive rebates on smart chargers into time-varying rate schedules
- Medium and large fleets need an advisory service and software company to manage to manage performance, optimize rate tariff cost efficiency and minimize grid impacts. There are many companies offering these services
- Utilities are equipped to calculate the energy needs and costs associated with EVs and have an understanding of potential grid impacts and tariffs. They can play a significant role in advising fleet customers and working with advisory service companies on customer's electrification options.



Thank You



# Questions



# Large Customer Group Seminar May 19, 2022

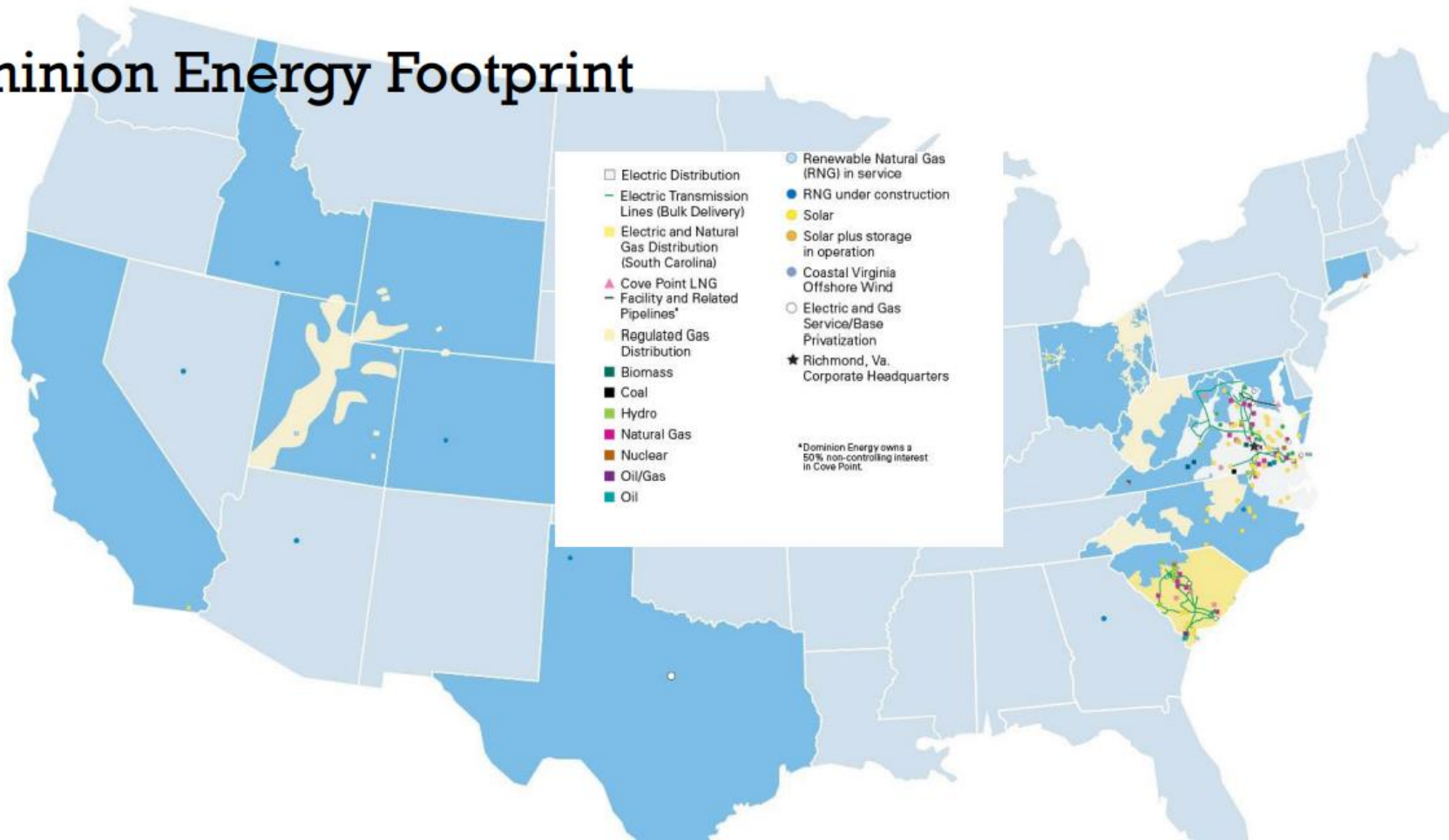


# Agenda

- 1. Company Overview Information**
- 2. Electric Generation Fuel**
- 3. Purchased Gas Adjustment**



# Dominion Energy Footprint



13

States of Operation

~17,000

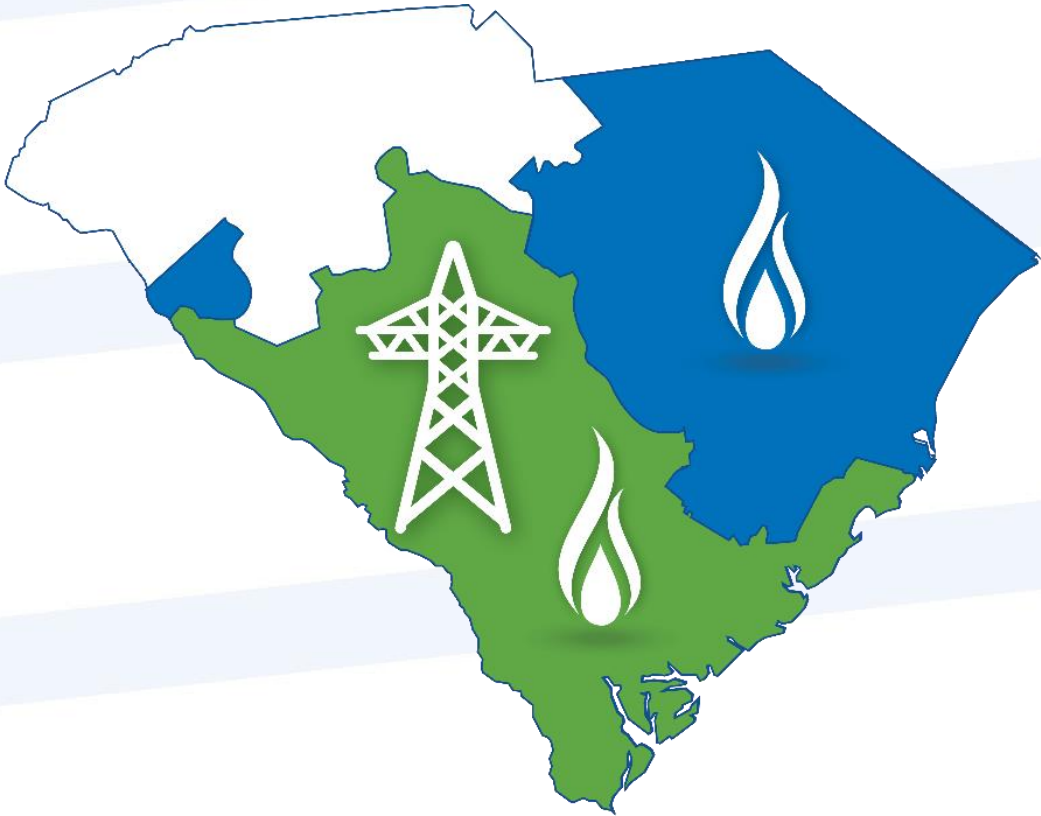
Employees

~7M

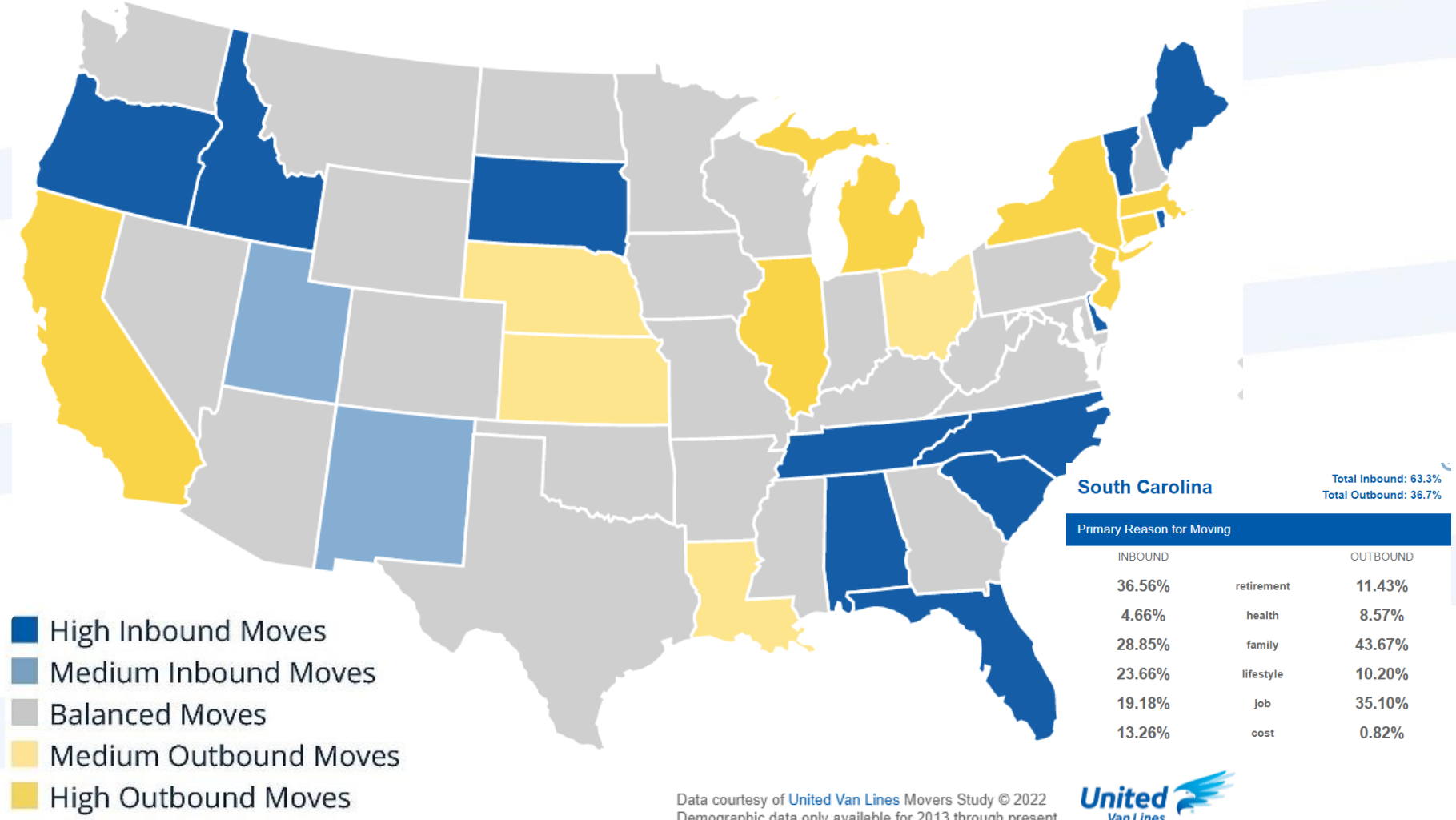
Utility Customers

# Dominion Energy South Carolina

<b>~3,700</b>	Employees
<b>~415k</b>	Gas Customers
<b>~780k</b>	Electric Customers



# 2021 United Van Lines' National Movers Study

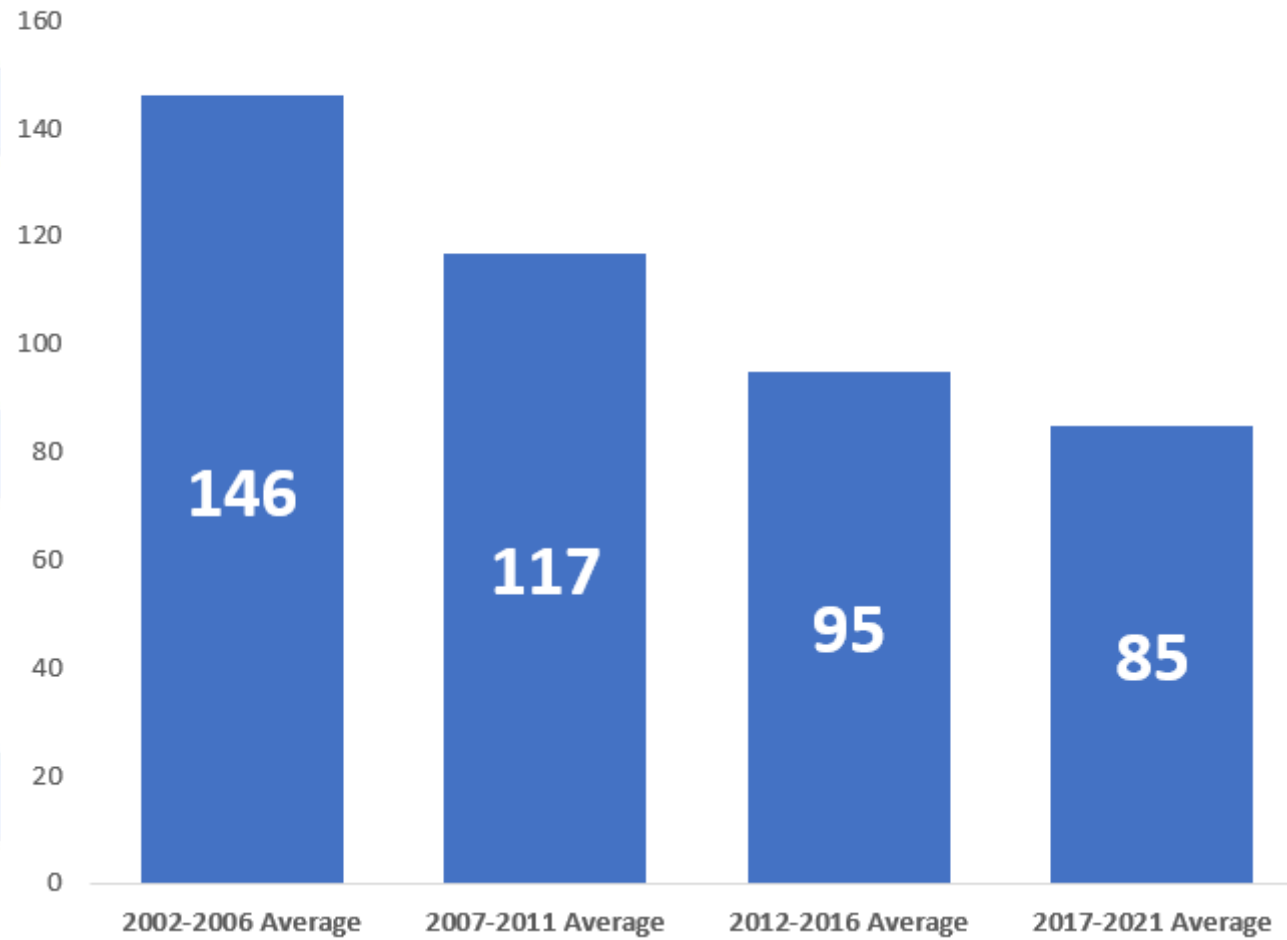


Data courtesy of United Van Lines Movers Study © 2022  
 Demographic data only available for 2013 through present.

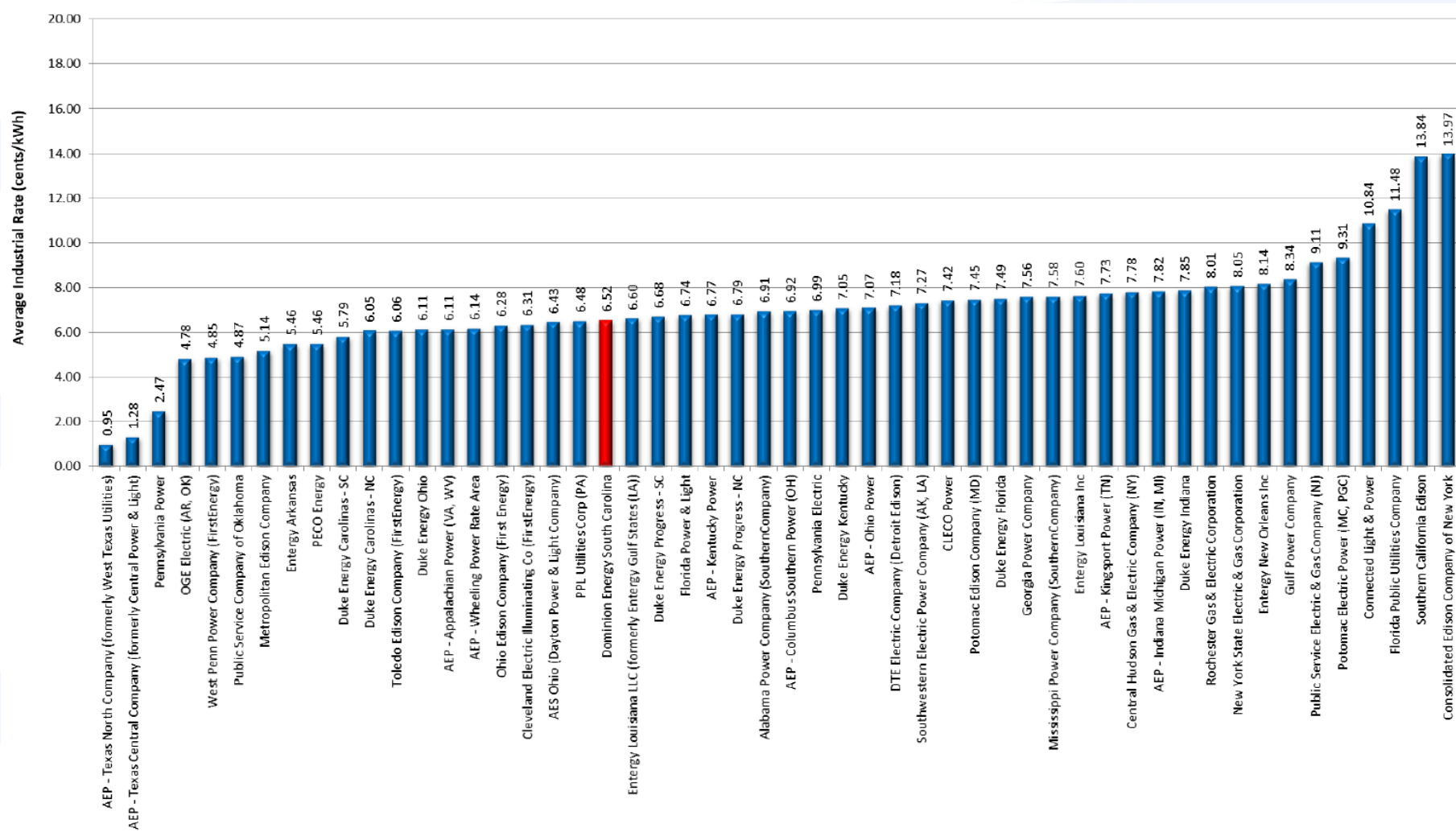


# DESC Outage Statistics

System Average Interruption Duration Index (SAIDI)



# Edison Electric Institute – Summer 2021



# Electric Generation Fuel

# Fuel Hearing Mechanics

- Annual proceeding in April to review Purchase and Transportation costs of fuel to produce electricity.
- Both a Lookback for Over/Under Recovery as well as a Forecast of Future Expenses.
- Costs are Direct Pass-Throughs to customers, Without Mark-up or Profit.
- Diverse Generation Fleet helps Mitigate fuel commodity swings and Ensure reliability year-round.
- New rates effective each May.

# Typical Fuel Factor Drivers

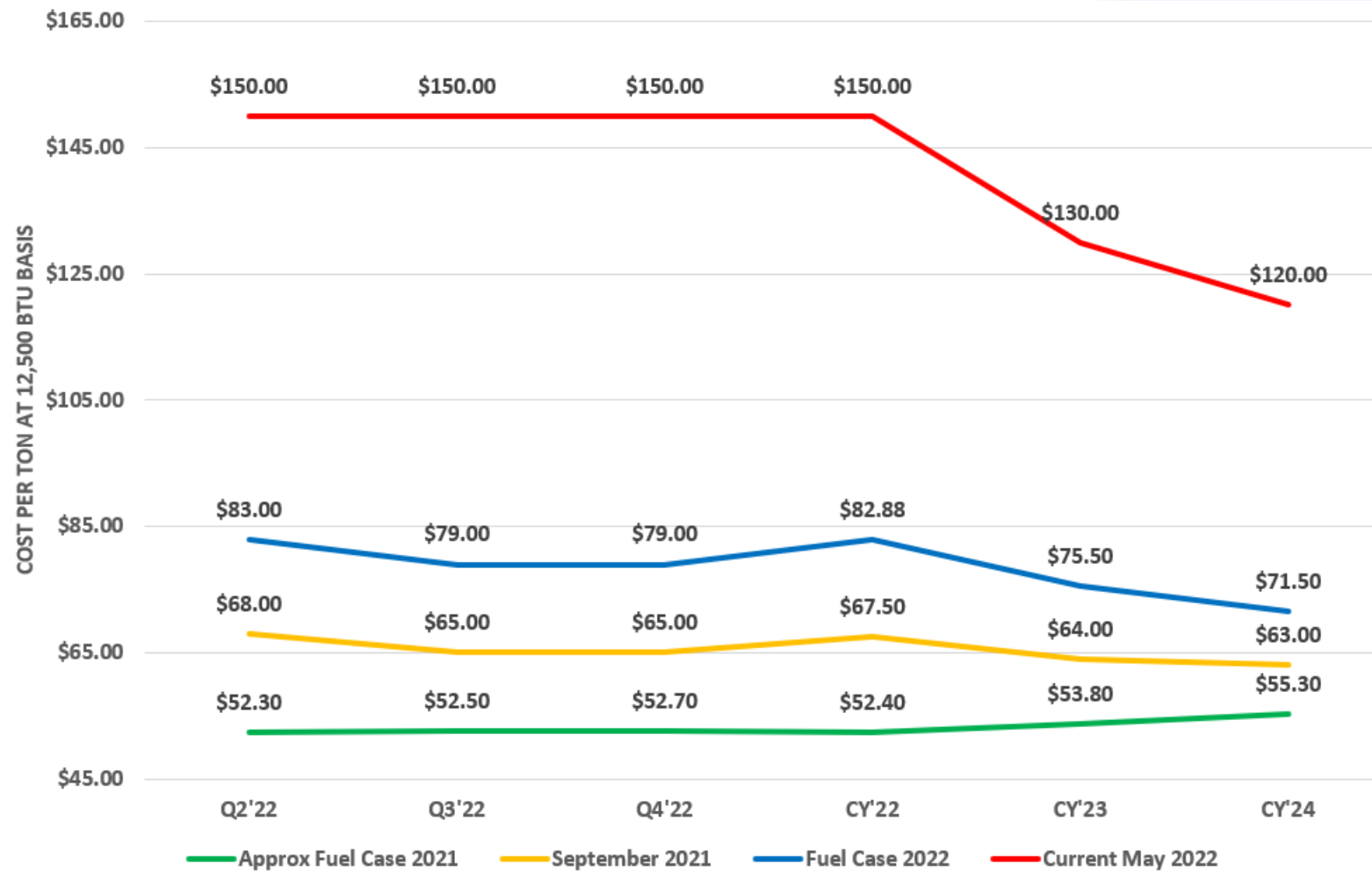
- Fuel Costs including Coal, Natural Gas, Uranium and Fuel Oil.
- Plant Outages, such as Nuclear Refueling every 18 months.
- Purchases including Mandatory Solar PPAs and Off System as needed.



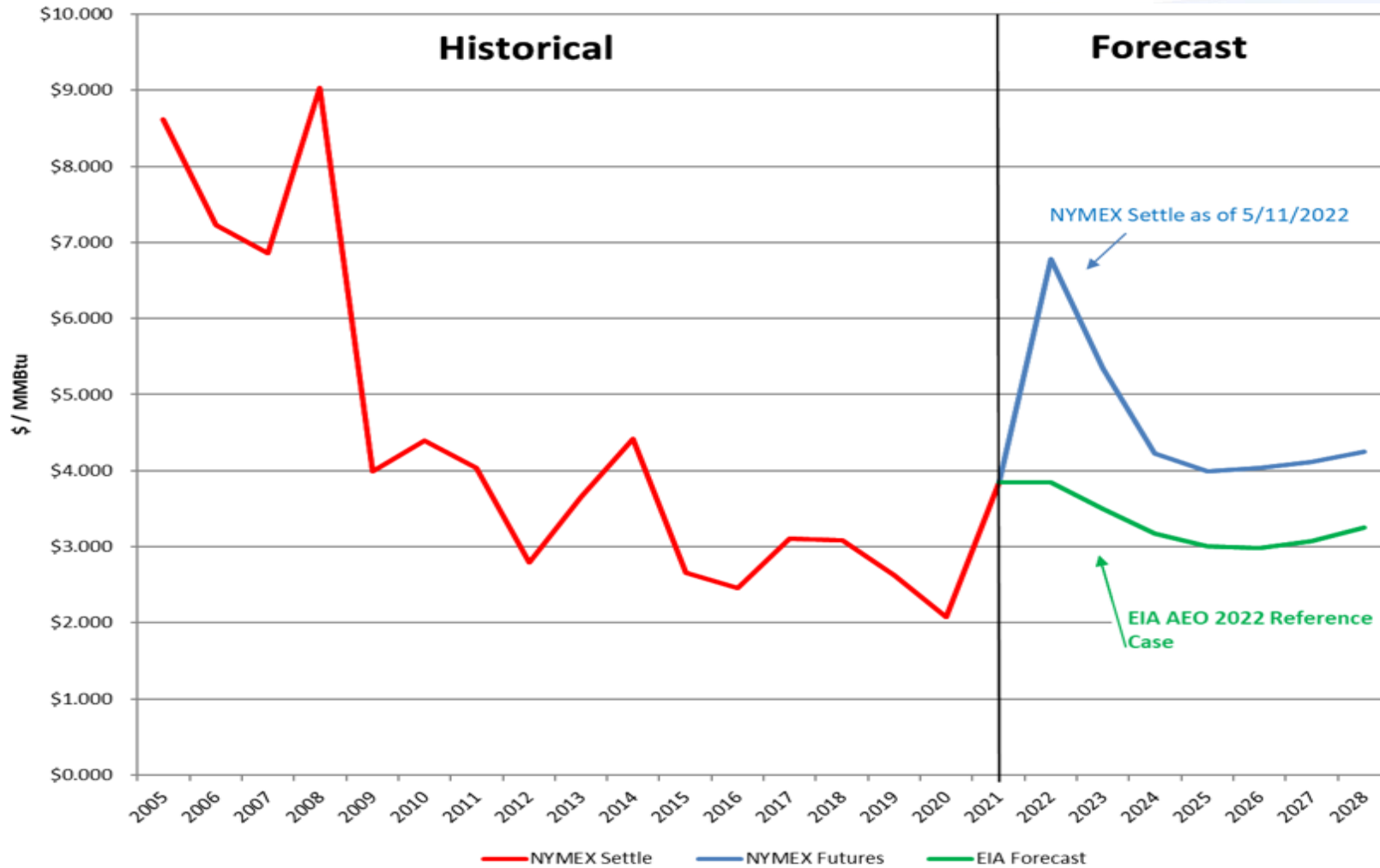
# 2022 Fuel Hearing Major Impacts

- DESC Total Base Fuel Cost for calendar year 2020 = ~\$480M
- DESC Total Base Fuel Cost for calendar year 2021 = ~\$720M
- April 2022 Fuel Forecasted to be ~\$142M Under-Collected.
- One-Time Offsets Totaling ~\$68M Accelerated outside of a General Base Rate Case:
  - \$61.4M in Remaining New Nuclear Mechanics Liens
  - \$4.6M in Westinghouse New Nuclear Reimbursements
  - \$1.8M in Variable Integration Solar Charges

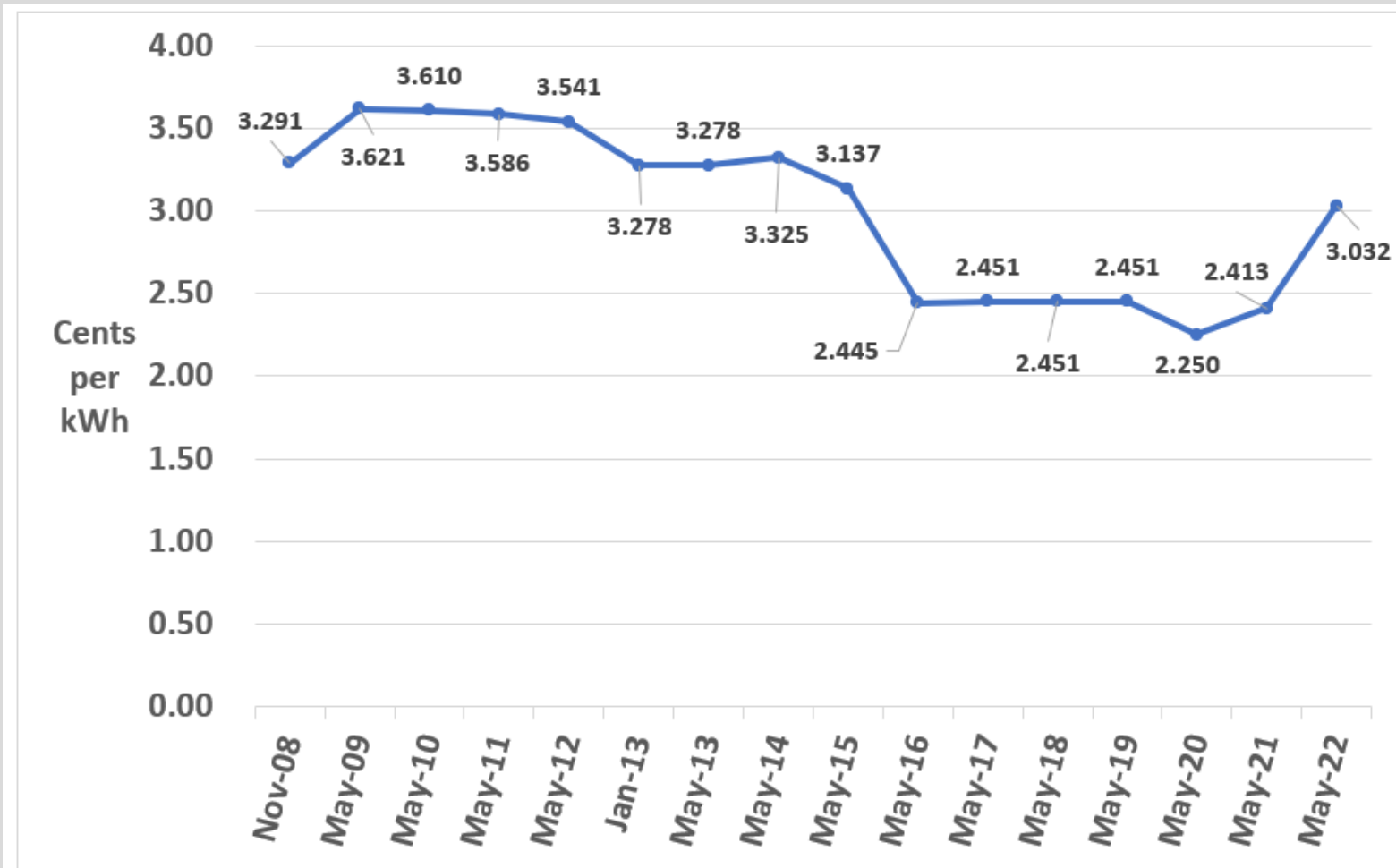
# Market Coal Cost Comparison



# Annual Average Natural Gas Prices

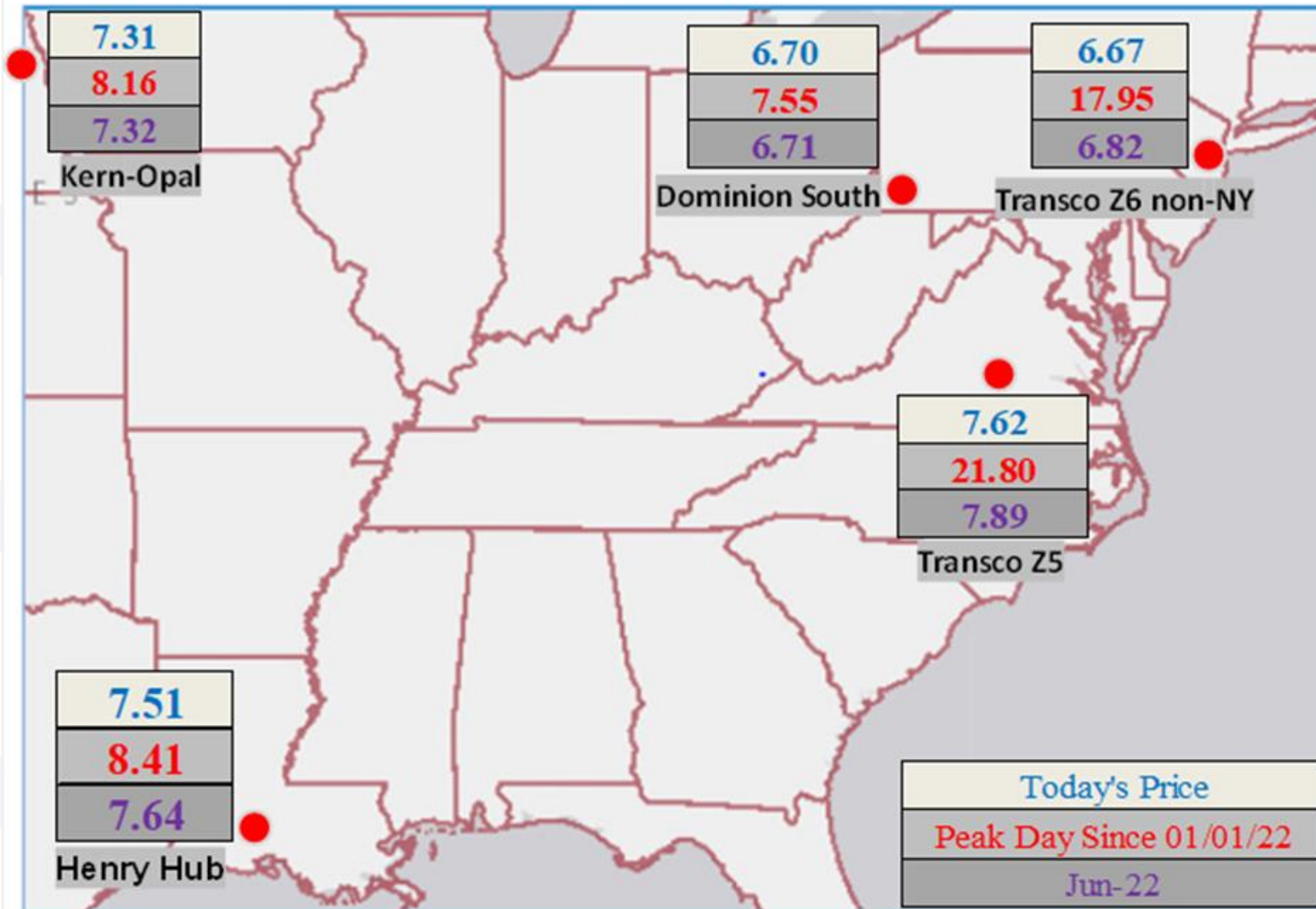


# DESC Base Fuel Component History

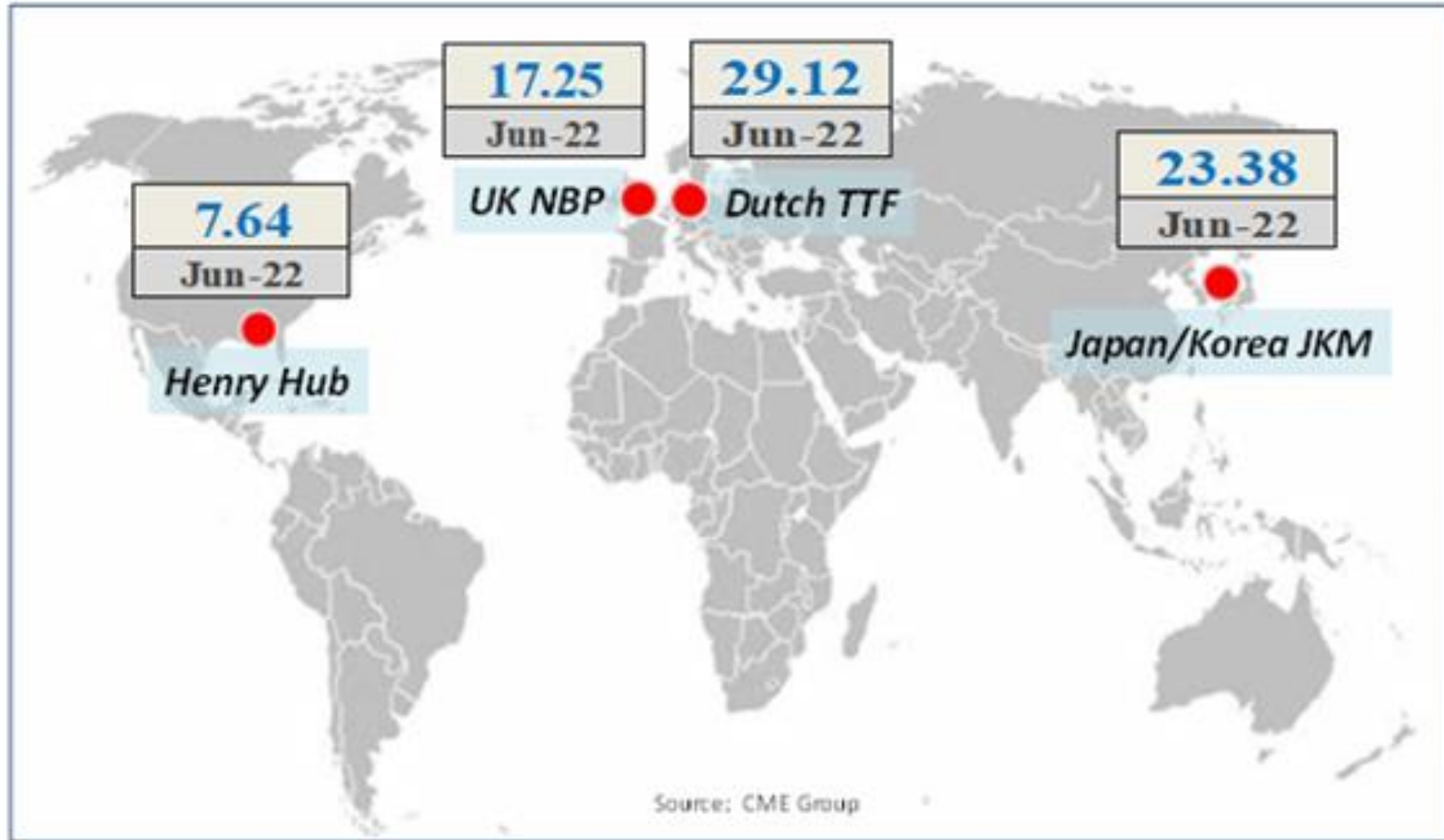


# Purchased Gas Adjustment

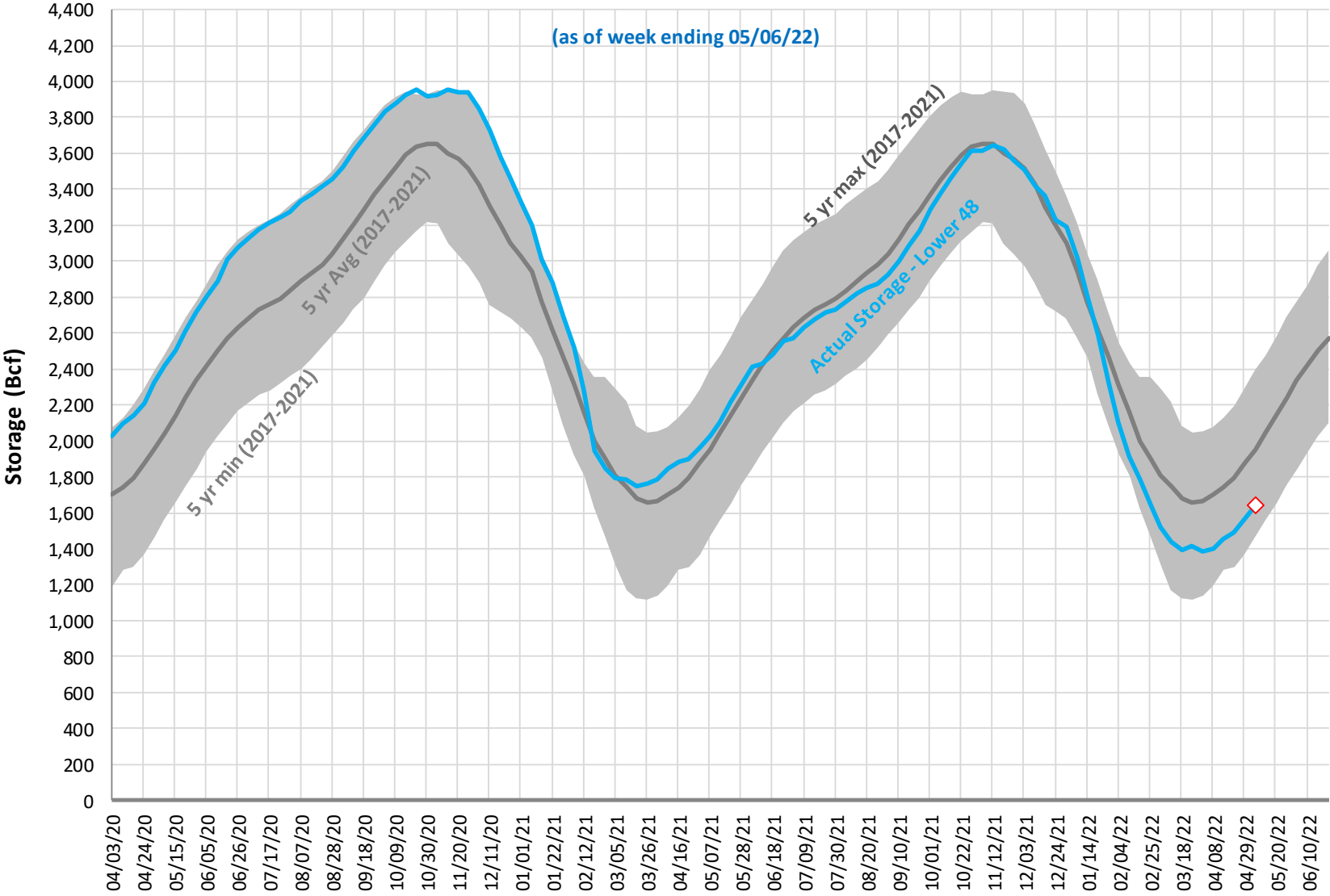
# Gas Hub Prices (\$/mmbtu): 05/12/22



# Global Gas Hub Prompt Month Prices (\$/mmbtu): 05/11/22

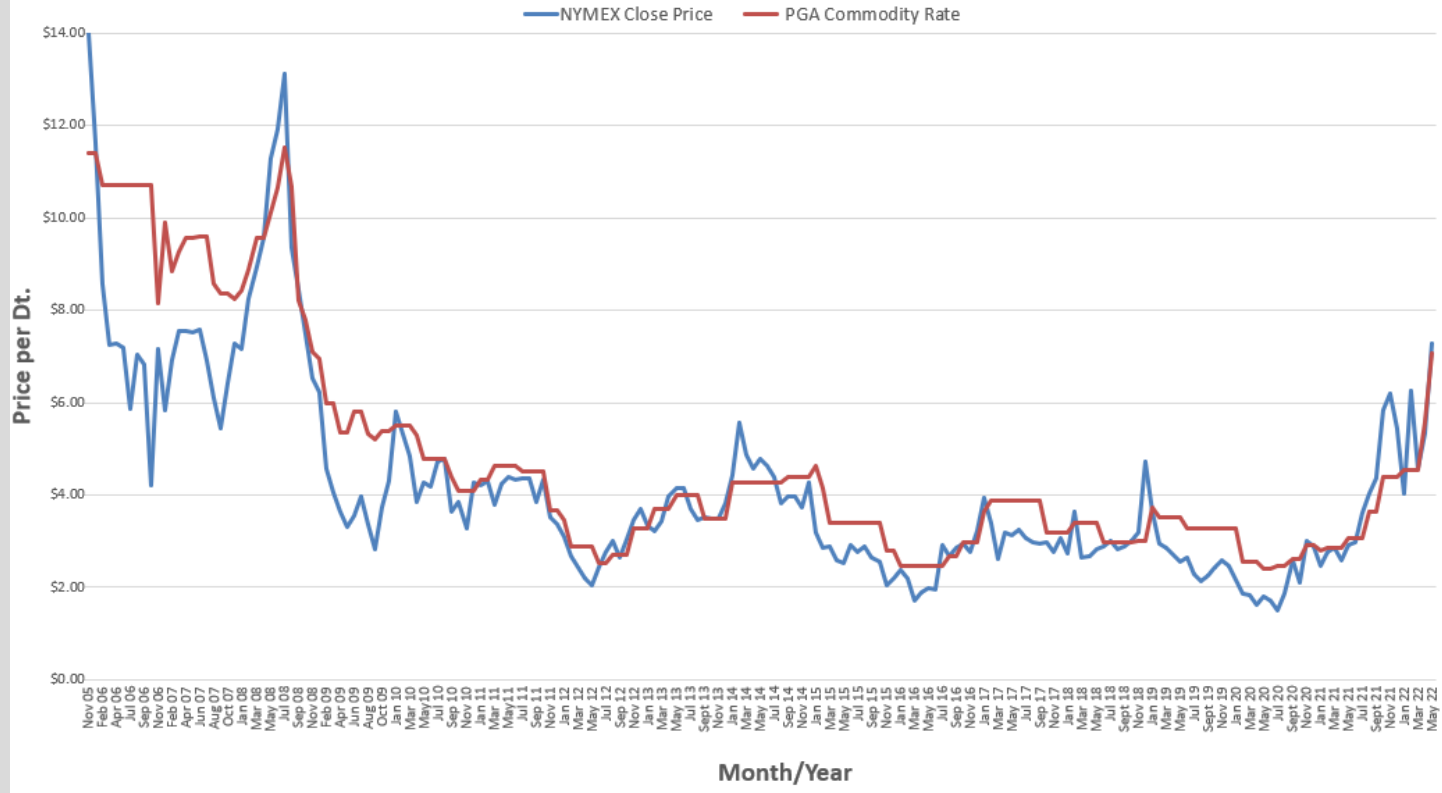


# US Natural Gas Storage (lower 48)





### Historical NYMEX Close Prices and PGA Commodity Factors



# Monthly Bills based on Average Annual Usage

	November 2005	May 2022	17 Year Change	
Residential (Rates 32S, 32V)	\$70.09	\$70.08	<b>-\$0.01</b>	<b>0%</b>
Commercial (Rates 31,33)	\$573.08	\$504.16	<b>-\$68.92</b>	<b>-12%</b>
Industrial (Rates 34,35)	\$11,021.93	\$10,589.69	<b>-\$432.24</b>	<b>-4%</b>
	May 2021	May 2022	1 Year Change	
Residential (Rates 32S, 32V)	\$56.55	\$70.08	\$13.53	24%
Commercial (Rates 31,33)	\$378.72	\$504.16	\$125.44	33%
Industrial (Rates 34,35)	\$7,752.30	\$10,589.69	\$2,837.39	37%

# Thank you.



# Questions

