

PJM EIS

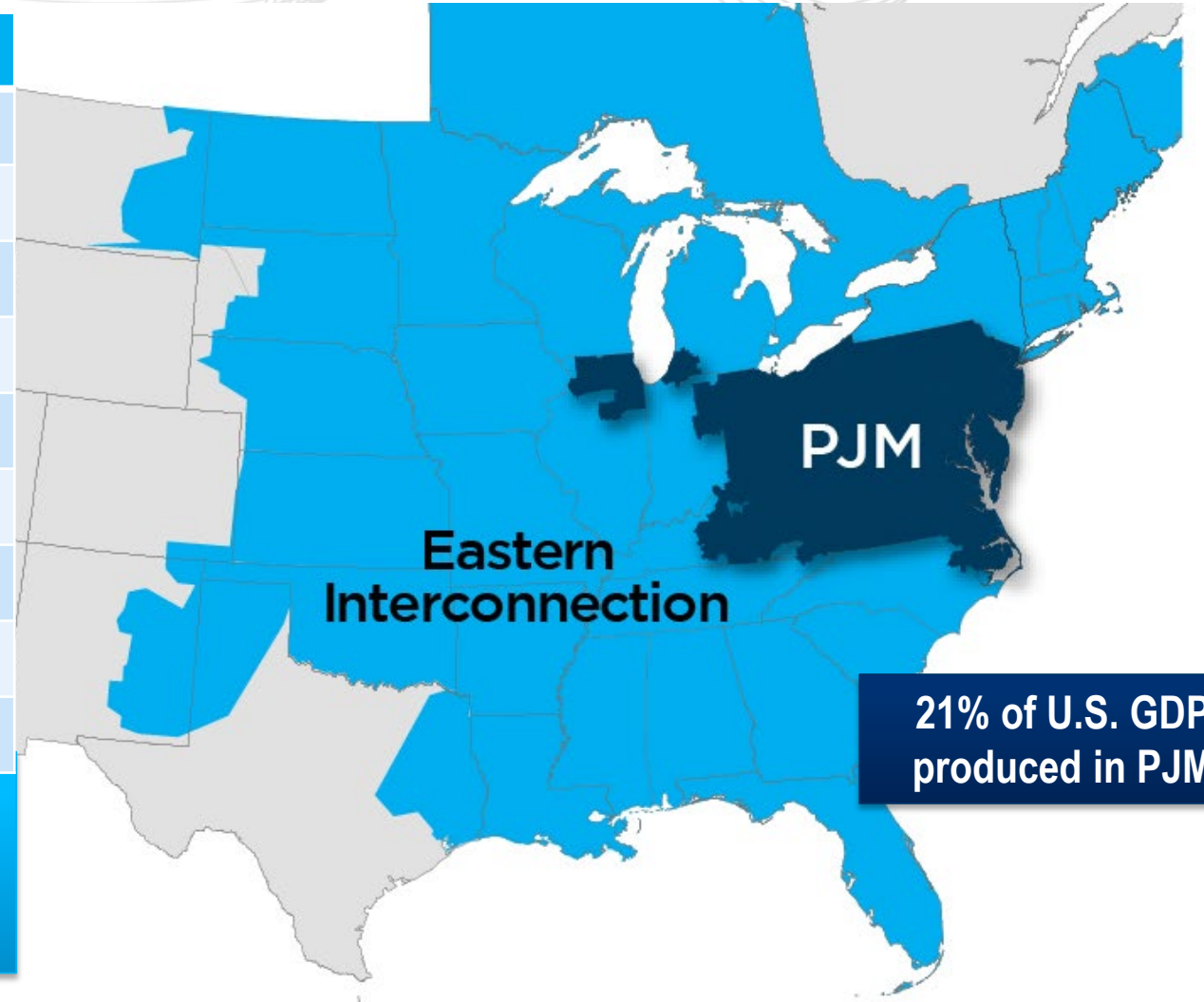
Generation Attribute Tracking System (GATS)

Presented to
CETA and Markets Work Group
July 15, 2020

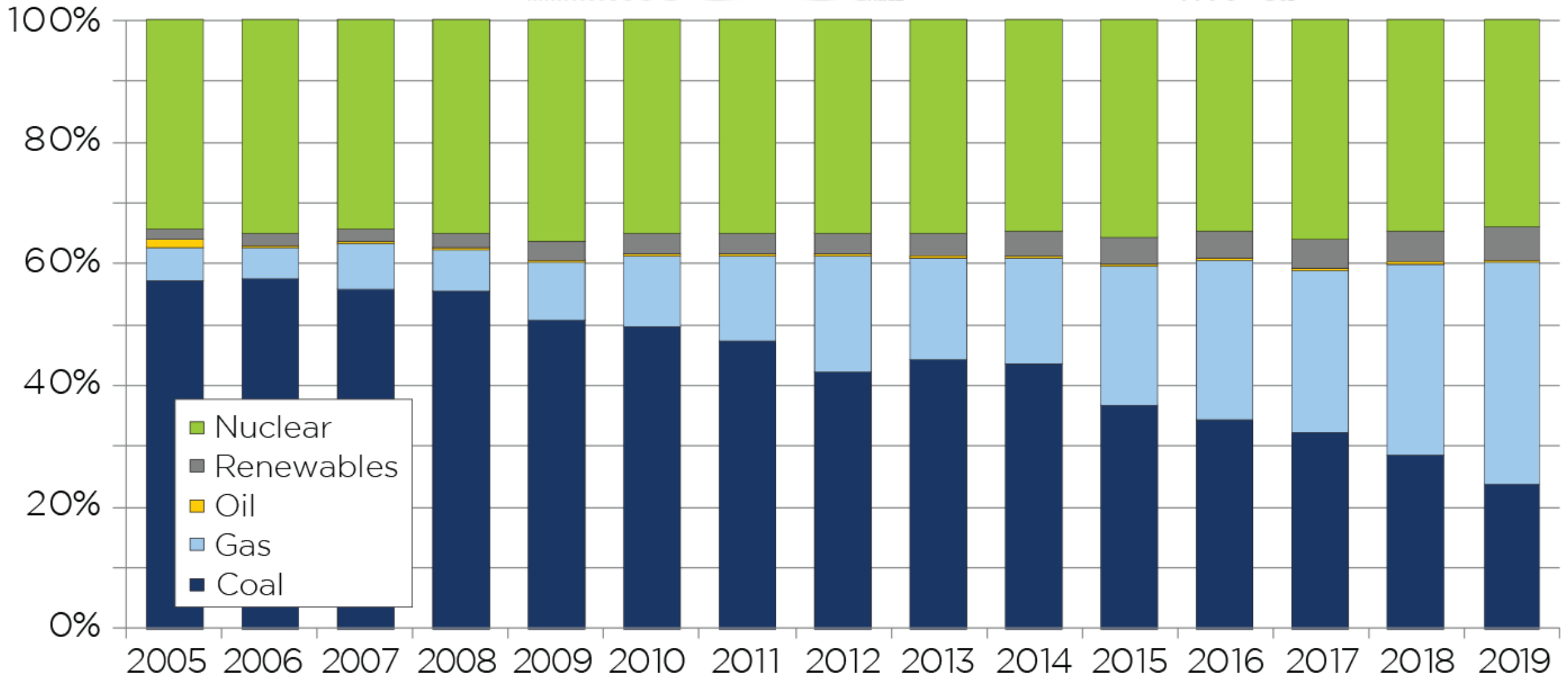
Key Statistics

Member companies	1,040+
Millions of people served	65
Peak load in megawatts	165,563
MW of generating capacity	186,788
Miles of transmission lines	84,236
2019 GWh of annual energy	787,307
Generation sources	1,446
Square miles of territory	369,089
States served	13 + DC

- 27% of generation in Eastern Interconnection
- 26% of load in Eastern Interconnection
- 20% of transmission assets in Eastern Interconnection



As of 1/2020

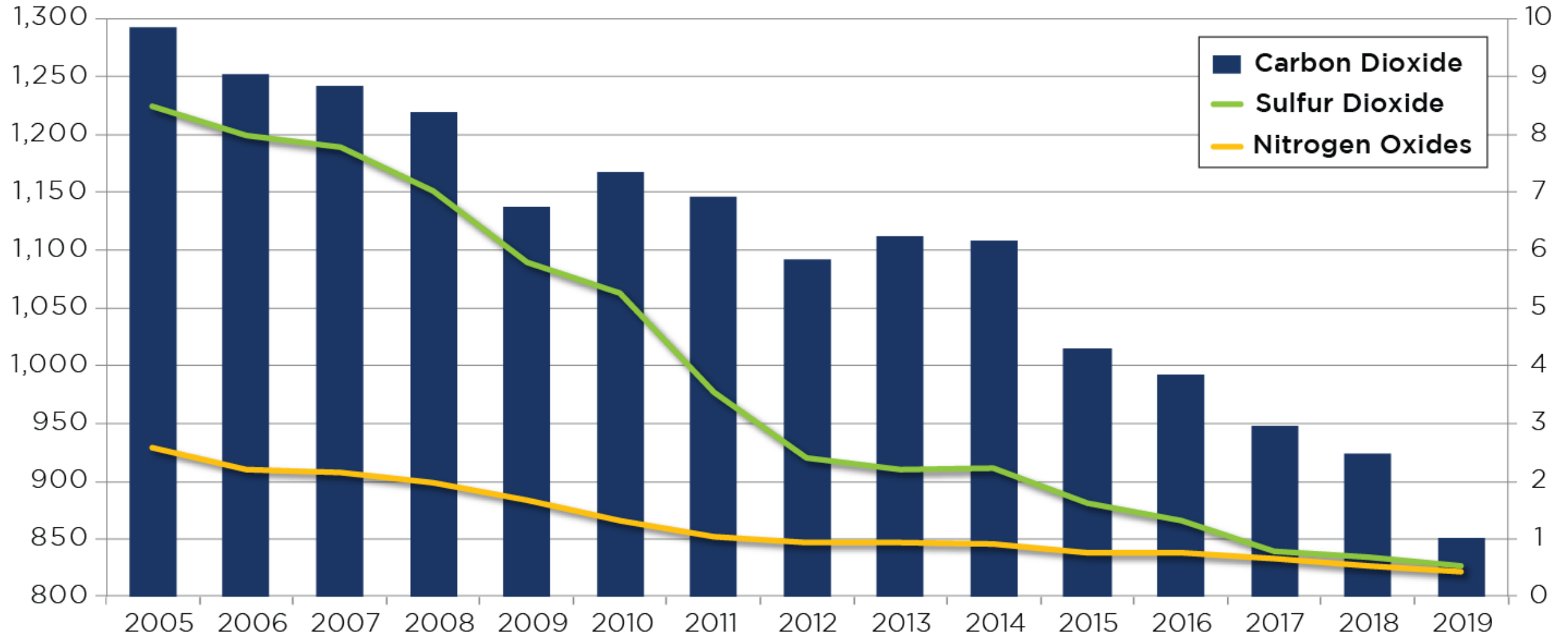




2005–2019 PJM Average Emission Rates

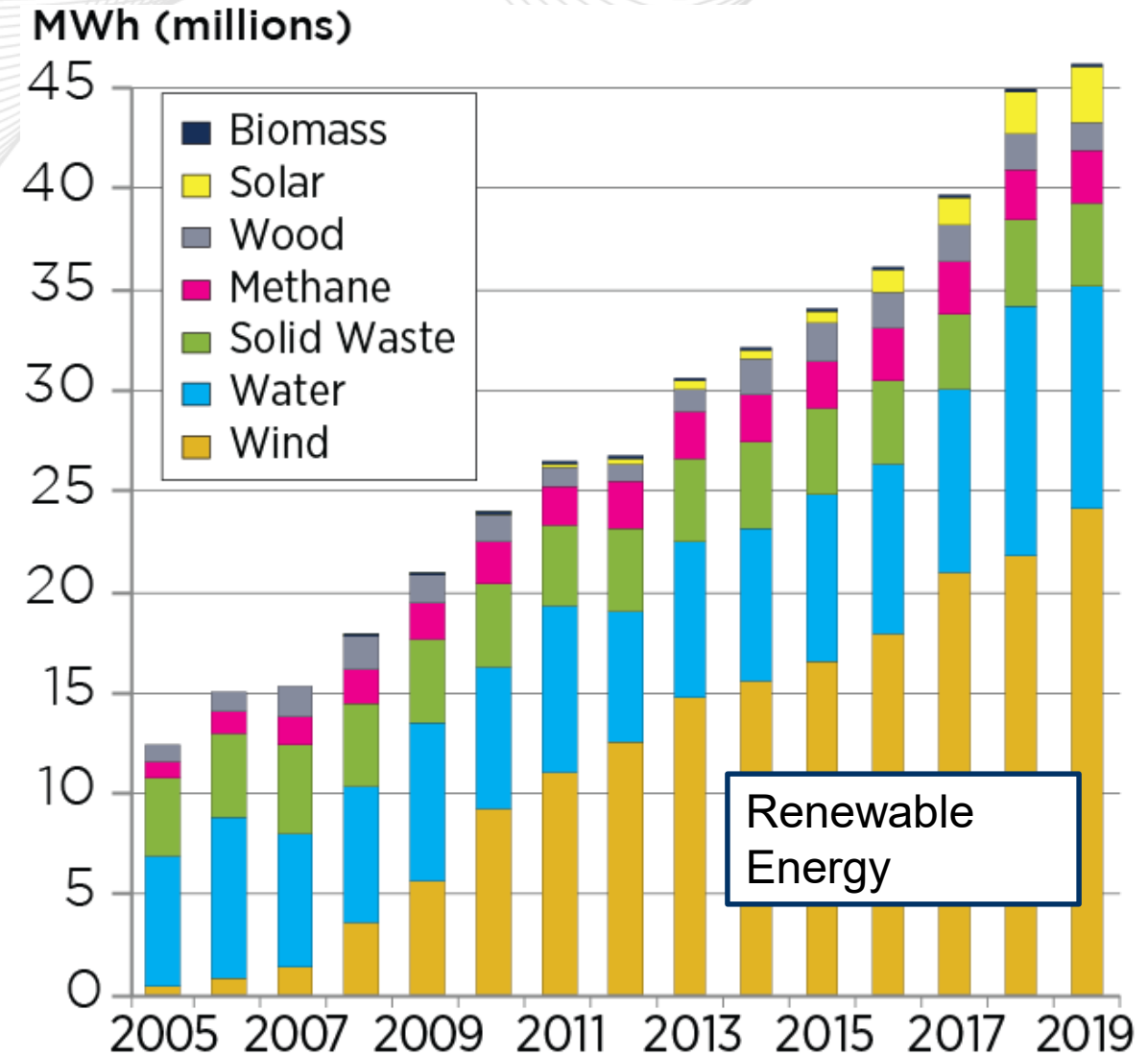
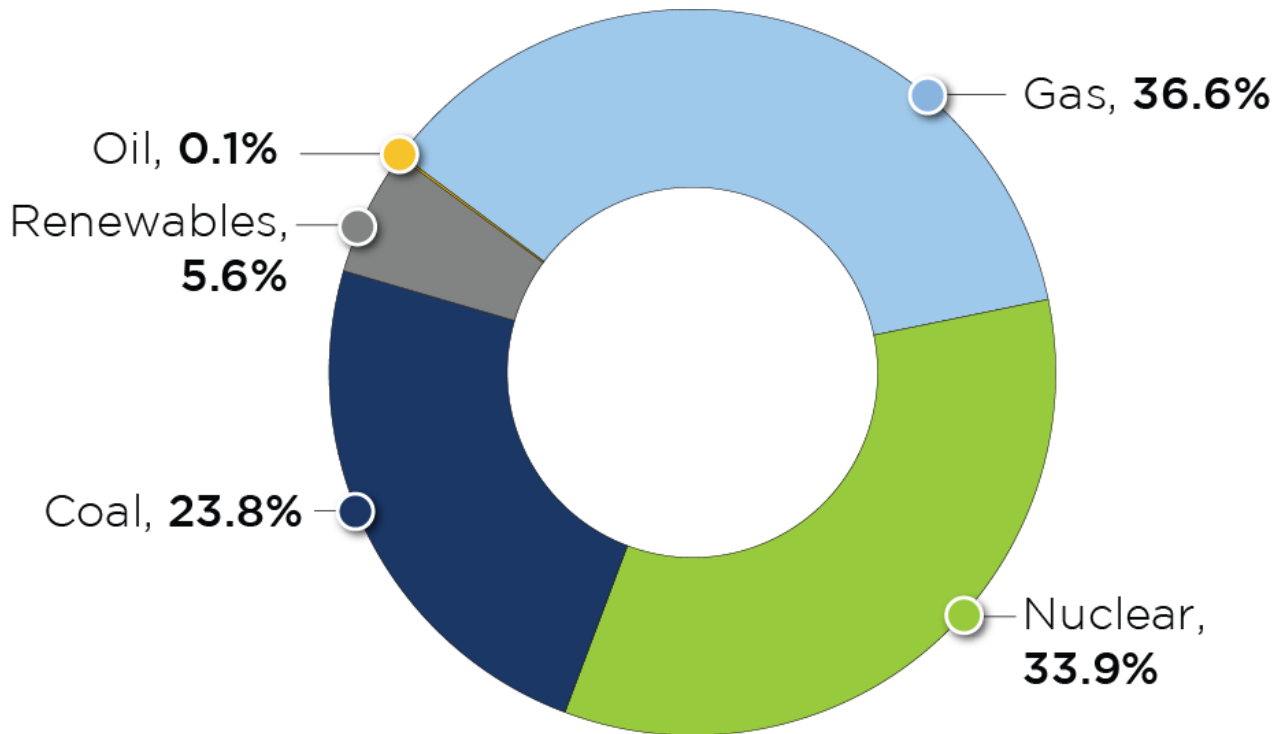
CO₂ lbs/MWh

SO₂ and NO_x lbs/MWh

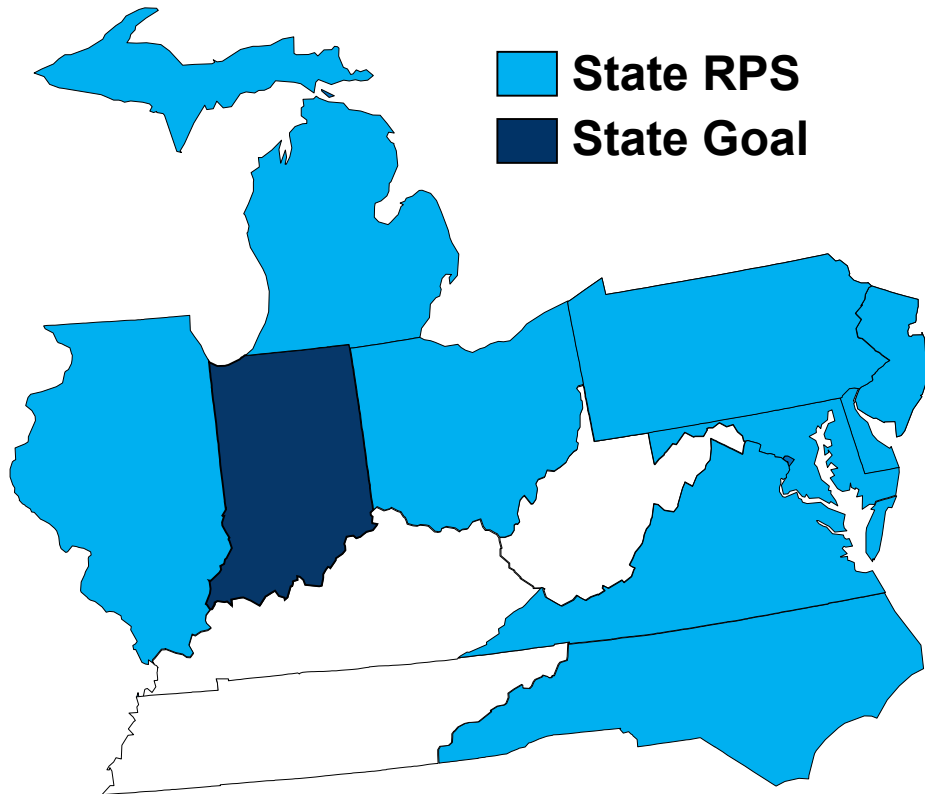


Percentage of Renewable Energy Is Small but Growing

PJM Generation Mix – 2019 Annual Energy



State Renewable Portfolio Standards (RPS) require suppliers to utilize wind and other renewable resources to serve an increasing percentage of total demand.



State RPS Targets

- | | |
|-----------------------------|------------------------------------|
| ☀️ NJ: 52.5% by 2030 | ☀️ VA: 100% by 2050 (IOUs) |
| ☀️ MD: 50% by 2030 | ☀️ NC: 12.5% by 2021 (IOUs) |
| ☀️ DE: 25% by 2026 | OH: 8.5% by 2026 |
| ☀️ DC: 100% by 2032 | MI: 15% by 2021 |
| ☀️ PA: 18%* by 2021 | IN: 10%* by 2025 |
| ☀️ IL: 25% by 2026 | |

☀️ Minimum solar requirement
 * Includes non-renewable "alternative" energy resources



Example – Virginia Legislation in 2020

SB 851 Virginia Clean Economy Act

Implements a mandatory RPS (excluding nuclear sales and corporate PPAs)

- Dominion – 59% by 2035, **100% by 2045**
- Appalachian Power – 45% by 2035, 100% by 2050
- Estimated Renewable Energy Required – 37% by 2035, 66% by 2050

Sets deadlines for closing coal (2030) and gas-fired power plants (2045).

Requires utilities to petition the SCC to construct/acquire by 2035:

- **3,100** MW of storage (400 APCo, 2,700 Dominion)
- **16,700** MW of solar and onshore wind (600 APCo, 16,100 Dominion)
- Up to **5,200** MW of offshore wind capacity by 2034 (Dominion)

Sets mandatory yearly targets for increasing energy efficiency.

SB 1027 Clean Energy and Community Flood Preparedness Act

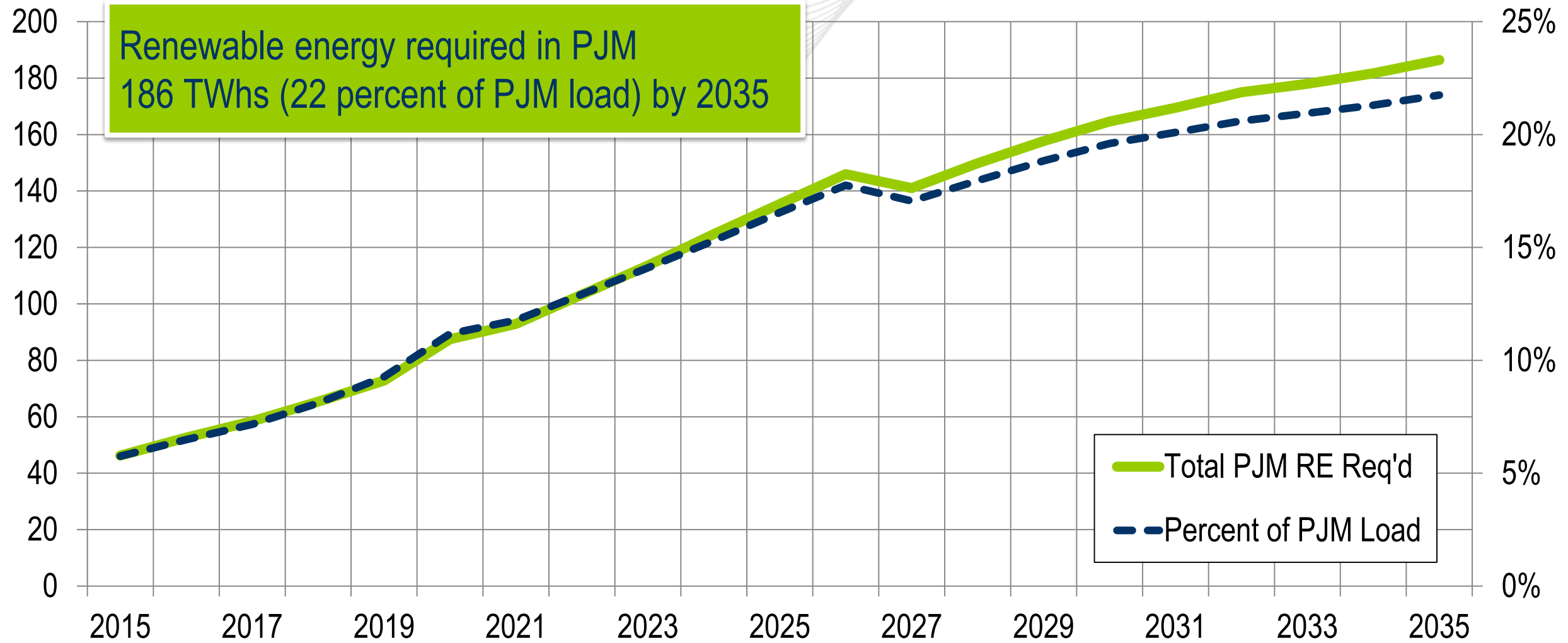
Establishes a carbon dioxide cap-and-trade program to reduce emissions from power plants, in compliance with the Regional Greenhouse Gas Initiative (RGGI).

Creates a Virginia Community Flood Preparedness Fund to enhance flood prevention, protection, and coastal resilience. Funded by the sale of emissions allowances.



Renewable Energy Required to Achieve RPS Targets

TWhs



- **PJM Environmental Information Services, Inc.**
 - Formed in February 2005
 - Capitalized independently of PJM Interconnection, L.L.C.
 - PJM members have no cost responsibility or liability

- **Generation Attribute Tracking System (GATS)**
 - GATS is owned and administered by PJM EIS
 - Tracks environmental attributes of generation
 - Supports reporting and verification requirements related to environmental compliance (e.g., state Renewable Portfolio Standards) and related markets
 - Costs borne solely by GATS users

- 22,000+ Account Holders
- 860 Million MWhs of Generation tracked in 2019
- 253,000+ Registered Renewable Generators located in 21 states plus the District of Columbia
- 6,165 Renewable Generators external to PJM

Location of Facilities Tracked in GATS

NJ	120,729	IN	1,084	MO	22
MD	72,328	WV	409	SC	16
PA	24,057	NC	315	WI	13
IL	16,461	KY	302	TN	7
DC	6,656	MI	136	ND	2
DE	5,872	GA	45	AL	1
OH	2,566	NY	27		
VA	2,343	IA	22		

- All MWhs of PJM generation are tracked.
- A certificate market separate from energy is enabled for renewable generation.
 - Certificates (i.e., credits) traded separate from energy
 - Certificates can have different value depending on their attributes (e.g., fuel type, location, date of generation, etc).
- It is a *single information system* that will support a range of reporting, verification, and compliance requirements (e.g., disclosure, RPS, voluntary retail markets, etc).
- It is a *regional* system that will enable PJM states and market participants to support varying needs and priorities.
- A system that is flexible enough to meet evolving state requirements.

First
of the month

All production
estimate
systems are
processed

6th – 10th
business day
of the month

PJM Settlements
Data is loaded
into GATS

7 days
before last
business day
of the month

TPR window
closes

Last Business Day
of the Month

- All PJM generators and remaining validated systems are processed
- Load obligations are processed
- Billing is processed





Generation Attribute Tracking System

Accounts | Assets | Certificates | Obligations | Reports | Training

The deadline for generation entry this month is 7/29/2016 12:00 AM

Account Summary

Unprocessed Activity (MWh)

Generation	0.000	Load	19,341
Imports	0	Exports	0

Account Activity

Certificates		Obligations	
Active		Transferred In	0
CEPS		Transferred Out	0
On Bulletin Board			
Bulletin Board Purchases			
Reserved			
In Retail LSE Subaccounts		In Retail LSE Subaccounts	
Certificate Total		Obligation Total	

Inbox

Certificates	0
Obligations	0

Outbox

Certificates	0
Obligations	0

Retail LSE Subaccounts Summary

Load data in GATS might not match your actual RPS obligation

Retail LSE Subaccounts Name	State	Zone	Default	Certificates	Obligations
Default	NJ	AECO	Yes	0	6,448
Default	NJ	JCPL	Yes	0	37,252
Default	NJ	PSEG	Yes	0	114,858
Default	NJ	RECO	Yes	0	0

MSET Load Data

Results

Note: Click on a heading label to sort the data.

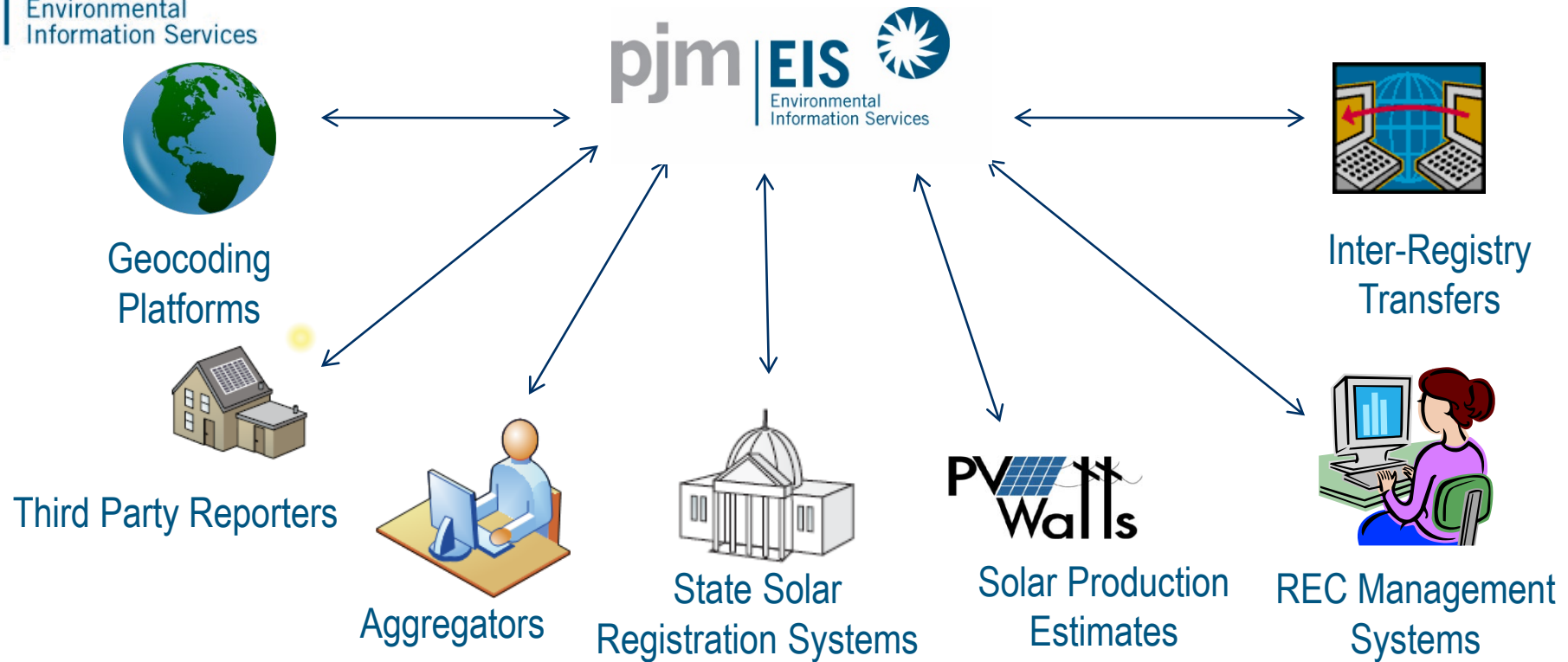
[Create Filter](#)

Drag a column header here to group by that column

Month	State	Zone	Electrical Load	Pumping Load	MMA	Adjusted Load
06/2016	NJ	AECO	1,527.00	0.00	0.00	1,527.00
06/2016	NJ	JCPL	4,913.00	0.00	0.00	4,913.00
06/2016	NJ	PSEG	12,901.00	0.00	0.00	12,901.00
Total			19,341.00	0.00	0.00	19,341.00

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Load data in GATS might not match your actual RPS obligation!!!



- Interfaces are being developed to automate processes and satisfy the needs of the Subscribers as well as the States within the PJM Region
- Currently there are seven existing Interfaces in GATS

Information available in State Regulator accounts:

- **Certified Generators**
 - Listing of all RE systems and their State RPS Enrollment(s)
- **Annual Certified Generation**
 - Listing of Generation Reported for Eligible Resources in the State
- **My RPS Compliance Report**
 - Listing of Credits Retired for RPS Compliance in the State (including Price Paid)
- **ZEC Generators (used by Illinois)**
 - Listing of Generators Eligible for Zero Emission Standard (ZES)
- **Reserved Certificate Transactions**
 - Listing of Credits Retired in GATS for Reasons other than RPS (including ZES)

Information publicly available to improve market transparency:

<https://www.pjm-eis.com/reports-and-events/public-reports.aspx>

- **Aggregator/Broker Listing**
 - Listing of Aggregators and Brokers in GATS
- **Renewable Generators Registered in GATS**
 - Listing of all RE systems and their State RPS Enrollment(s)
- **Solar Weighted Average Price**
 - Listing of SREC Trades by State, by Month
- **Bulletin Board & Buyer's Bulletin Board**
 - Listing of Credits for Sale/Purchase
- **RPS Eligible Certificates & RPS Retired Certificates**
 - Listing of Eligible / Used RECs (i.e., supply and demand)

**GATS Technical &
Customer Service / Administrative
Support**

GATS Administrators

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