



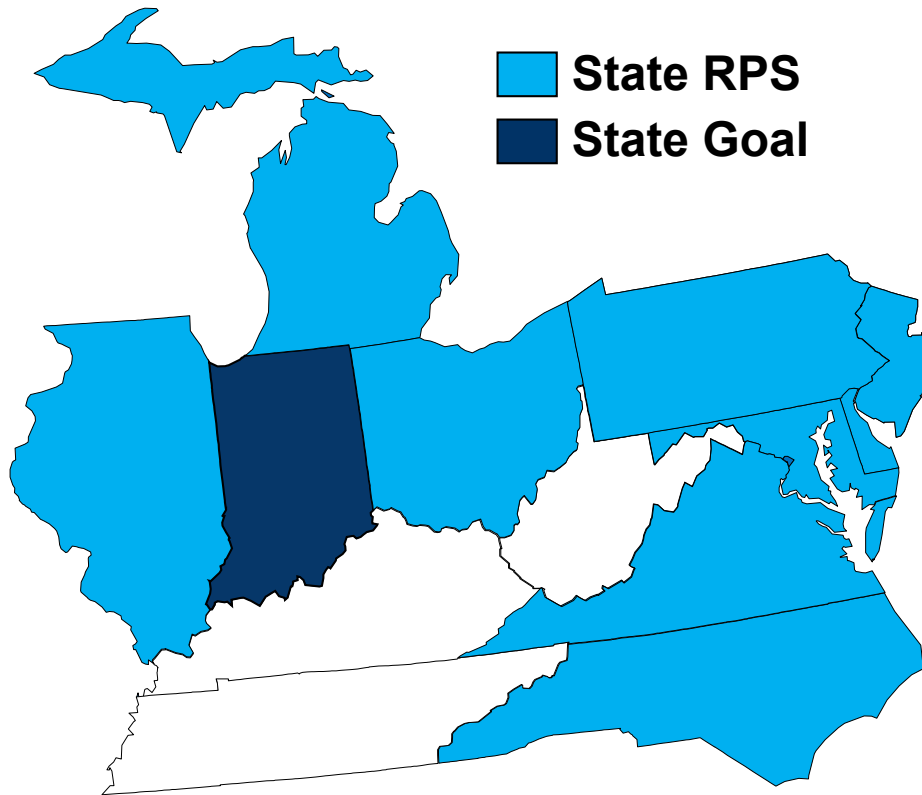
PJM-EIS / Generation Attribute Tracking System (GATS) Education

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- States create renewable portfolio standards (RPS) to incent the development of new **renewable** and **alternative** energy sources.
- A state RPS defines the percent of electricity generated by renewable resources that must be sold in the state over a specified time period.
- The resource requirements determined by RPS policies vary state to state.

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

State RPS Targets*



☀️ NJ: 50% by 2030**	☀️ VA: 100% by 2045/2050 (IOUs)
☀️ MD: 50% by 2030	☀️ NC: 12.5% by 2021 (IOUs)
☀️ DE: 40% by 2035	OH: 8.5% by 2026
☀️ DC: 100% by 2032	MI: 15% by 2021
☀️ PA: 18% by 2021***	IN: 10% by 2025***
☀️ IL: 50% by 2040	

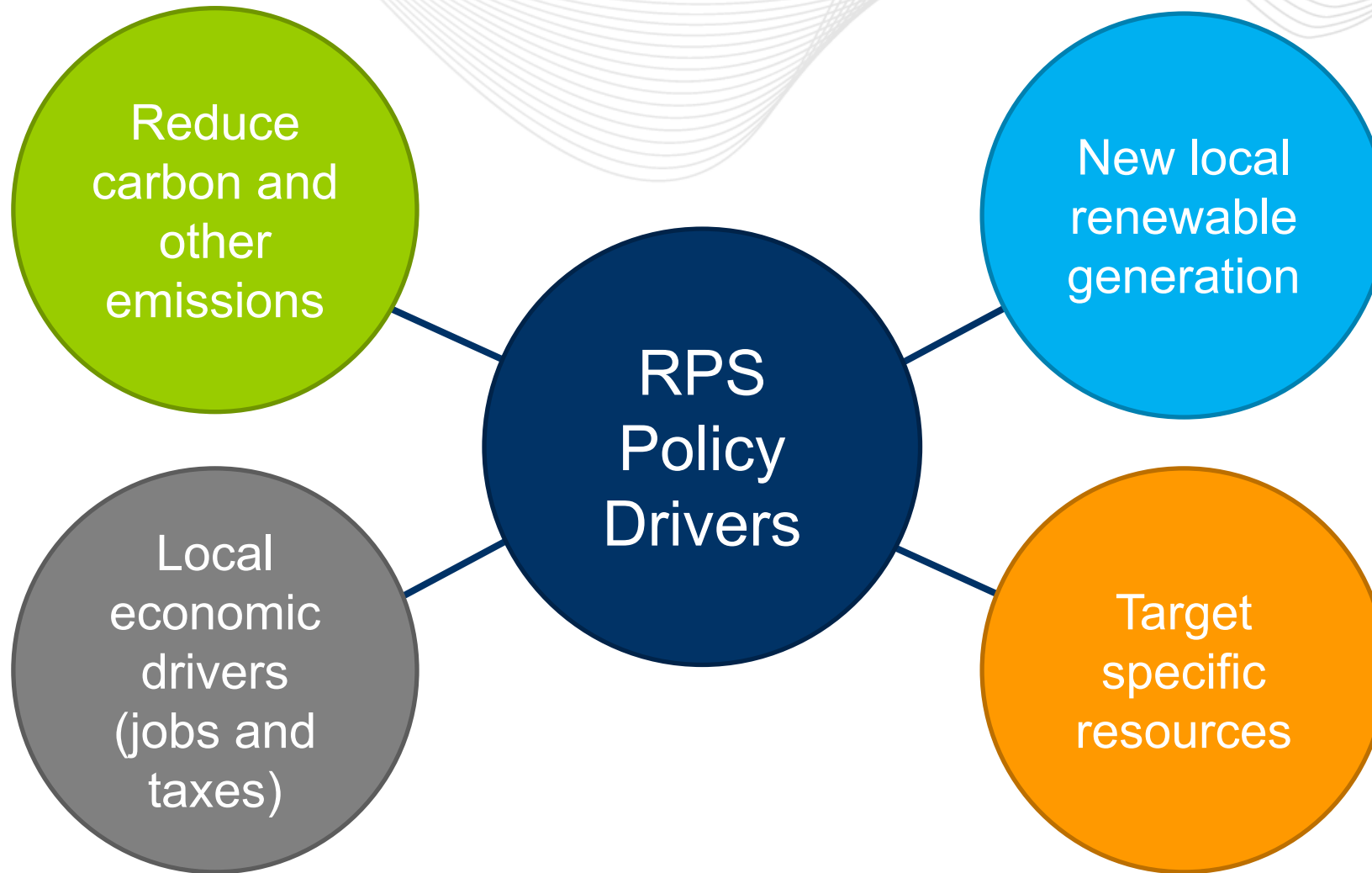
☀️ Minimum solar requirement

* Targets may change over time; these are recent representative snapshot values

** Includes an additional 2.5% of Class II resources each year

*** Includes nonrenewable “alternative” energy resources

Carbon Reduction Is Not the Only Driver of RPS Policies



A **renewable energy certificate (REC)** represents the environmental and other non-power data attributes created when renewable energy is generated.

Data include:

- Generator location
- Emissions output
- Fuel source
- Generator vintage

Buyers of RECs:

- Electricity suppliers
- Brokers / aggregators
- Environmental firms
- Companies seeking to reduce carbon footprint

Common resources

- Solar
- Wind
- Landfill gas
- Hydro
- Biomass
- Geothermal

State-specific resources

- Coal mine methane (PA)
- Pumped hydro (PA)
- Waste coal (PA)
- Poultry litter (MD and NC)
- Swine waste (NC)

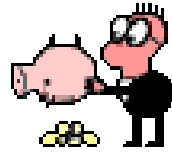
- Geographic eligibility, banking, multipliers, price caps
- Eligible generation sources (e.g., Tier I / Tier II)
- Technology-specific requirements (e.g., “carve-outs”)
- Schedule for increasing percent of renewable generation

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



All GATS users must enter into a subscription agreement with PJM Environmental Information Services (EIS)

USERS WILL BE CHARGED:

Annual Subscription Fee

- \$1,500/year fee for PJM load serving entities (LSEs)
- \$1,000/year for large traders and large renewable generators
- \$500/year for small traders
- No annual fee for renewable generators with aggregate generating capability under 10 MW, or for nonrenewable generators
- No annual fee for state regulatory commissions

Volumetric Fees

- LSE's volumetric fee for load served in states with GATS requirements, ranging from \$0.002/MWh to \$0.004/MWh. No volumetric fee for small LSE's serving <100,000 MWhs /per year.
- Voluntary Market fee of \$0.01/MWh for certificate-only product sales directly to an end-use customer that does not have a GATS account
- Fee of \$0.05/MWh for other certificate retirements/exports

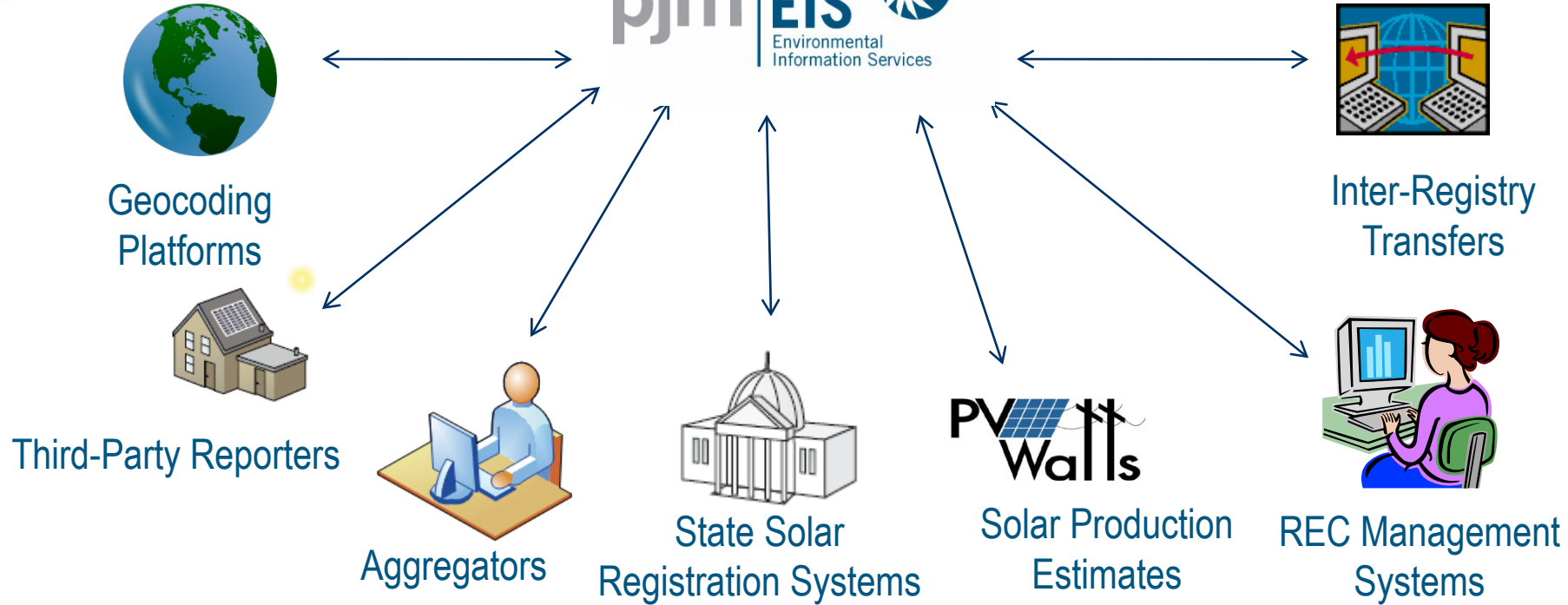
Facilities Registered in GATS

28,100 Accountholders	NJ 141,659	IN 1,257	IA 22
	MD 80,538	WV 406	SC 15
+ 320,000 Registered Renewable Generators	IL 38,242	NC 326	WI 12
	PA 32,175	KY 275	TN 6
Located in 22 states plus DC:	DC 10,660	MI 165	MN 2
	DE 6,620	GA 45	ND 2
	VA 4,912	NY 27	AL 1
	OH 2,637	MO 23	

SOLAR PV :	
317,765 Facilities in 19 states & DC	13,810 MW Nameplate capability
In PJM Market 5,190 MW	Not in PJM Market 8,620 MW
PJM GENERATORS:	
1,401 in PJM Wholesale Market	
Registered 765	Not Registered 636

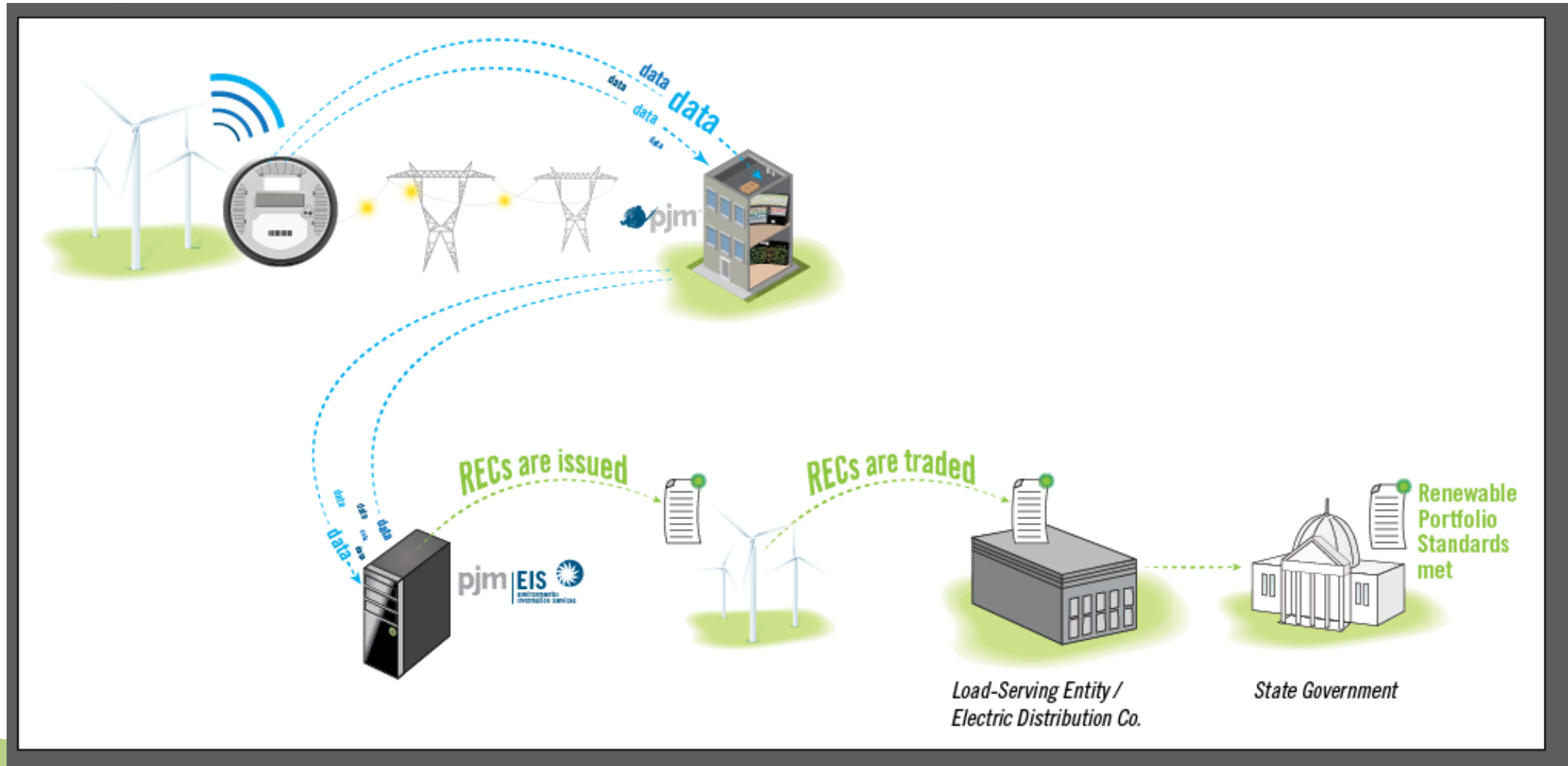
- All MWhs of PJM generation are tracked.
- A certificate market separate from energy is enabled for renewable generation.
 - Certificates (i.e., credits) traded separate from energy.
 - Certificates can have different value depending on their attributes (e.g., fuel type, location, date of generation).
- It is a single information system that will support a range of reporting, verification and compliance requirements (e.g., disclosure, RPS, voluntary retail markets).
- 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.

Developing Streamlined Processes



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.



Certificate Creation Process (effective October 2019)

First
 of the month

All production
 estimate
 systems are
 processed

6th – 10th
business day
 of the month

PJM Settlements
 Data is loaded
 into GATS

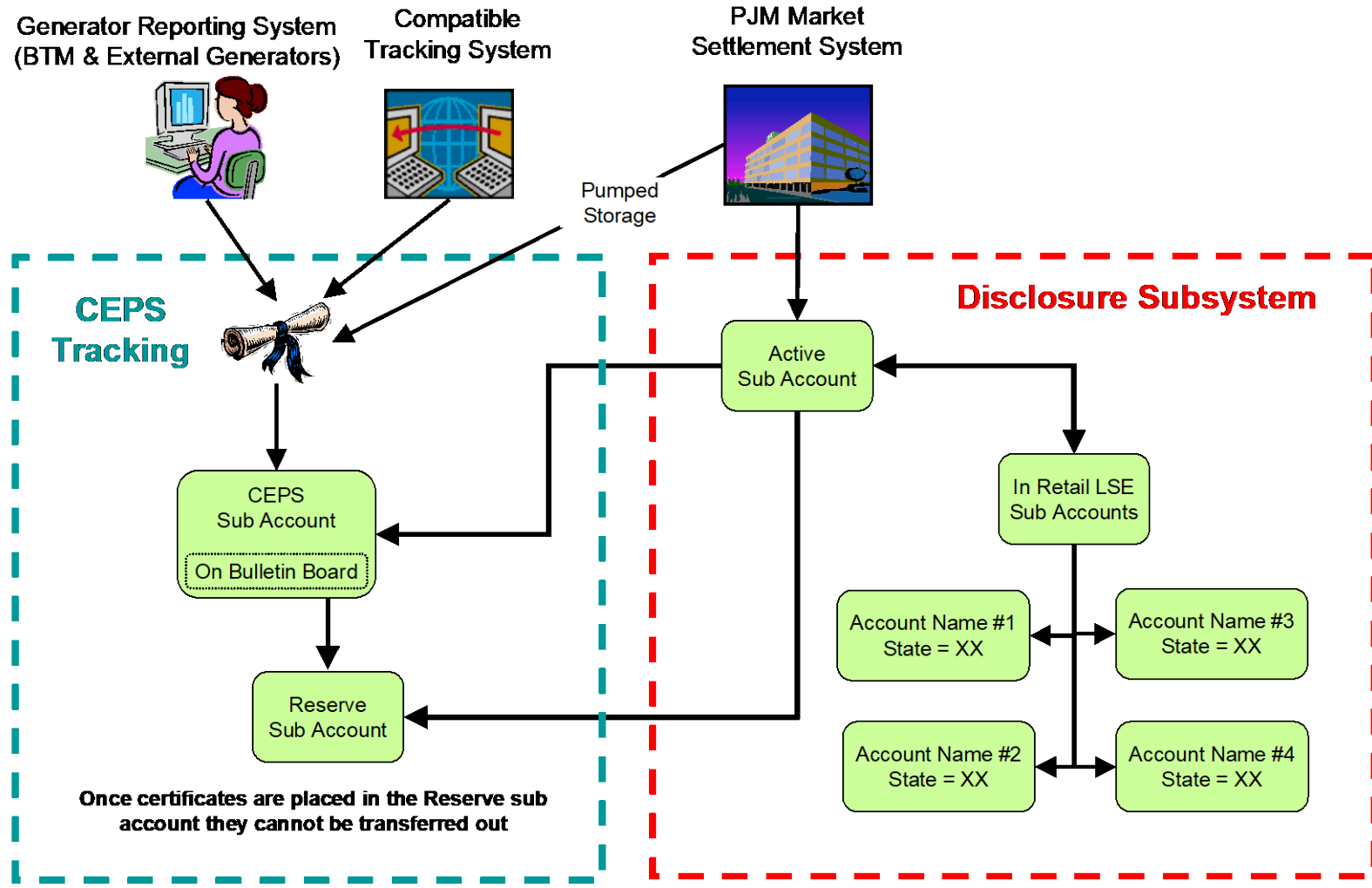
7 days
before last
business day
 of the month

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





- **Electricity suppliers and utilities have GATS accounts and are using the system** to demonstrate RPS compliance in PJM states.
- **There is no cost to the states to use GATS**, and no contract with PJM EIS is required. States can view full details of all REC retirements for their RPS in GATS.
- **GATS is tracking all PJM generation**. Generation data for PJM Generators is provided to GATS automatically from the PJM Settlement System on a monthly basis. GATS also tracks production for generators that do not sell into the PJM wholesale market if they are eligible for a PJM-State RPS.
- **320,000+ renewable generators eligible for use in PJM states have been registered in GATS.**
- States determine which resources are eligible to be used for compliance with their RPS. **PJM EIS has implemented a State Agency Application Program Interface (API) to automate the process of exchanging data about eligible resources.**

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!!!

Regulatory Agencies With Accounts in GATS



PJM states determine eligibility for their programs

State RPS
(examples)

- PA Tier I, Tier II, Solar
- NJ Class I, Class II, TREC, SREC-II
- MD Tier 1, Tier 2, Solar
- VA Renewable, DER
- Offshore Wind (OREC)

State Non-RPS

- IL Zero Emission Credit
- IL Carbon Mitigation Credit
- OH Solar Generation Fund

Voluntary: Emission Free Energy Certificate (EFEC)

“PJM” Tri-Qualified RECs – 2021

(in Millions)

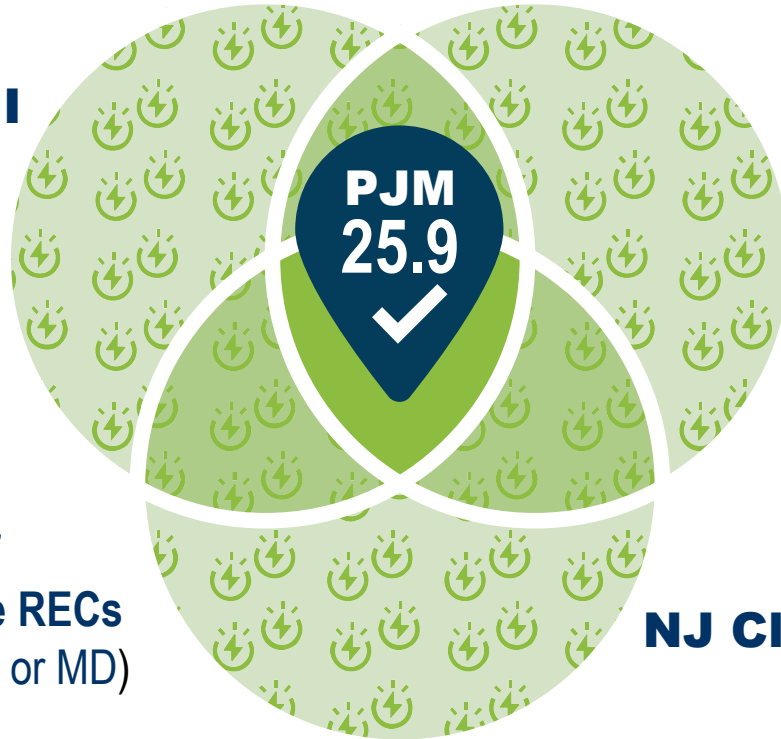
**PA
 Tier I
 36.3**

**MD
 Tier I
 33.8**

**PJM
 25.9**

**NJ Class I
 28.5**

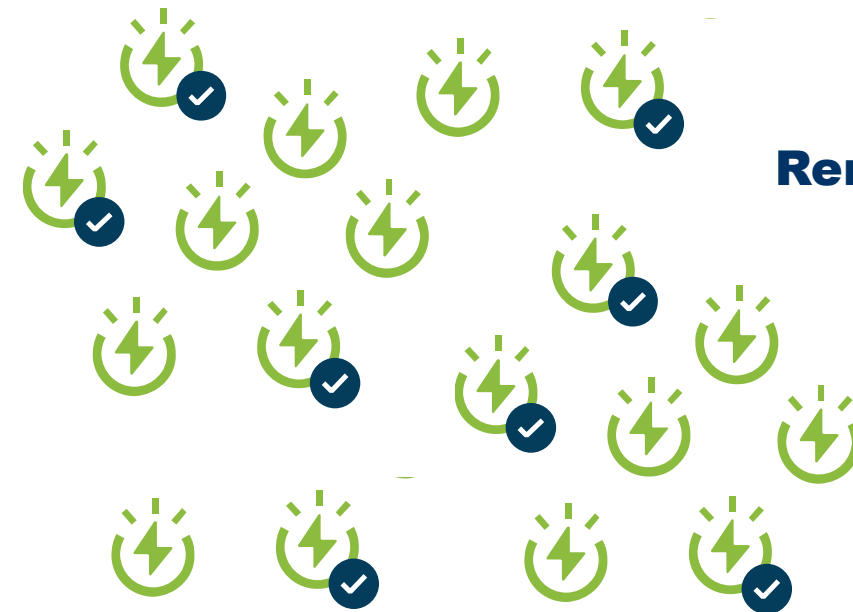
**Sum of
 Eligible RECs
 (PA, NJ or MD)
 = 43.1**



Automatically Apply Eligibility

(e.g., VA, 2021) (in Millions)

**VA
 Renewable
 59.9**





**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 / CMC Generators (used by Illinois):** Listing of Generators Eligible for Zero Emission Standard or Carbon Mitigation Standard

- **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 Customer
Service /
Administrative
Support**

GATS Administrators

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