

Powering Reliability Through Market Design Workshop

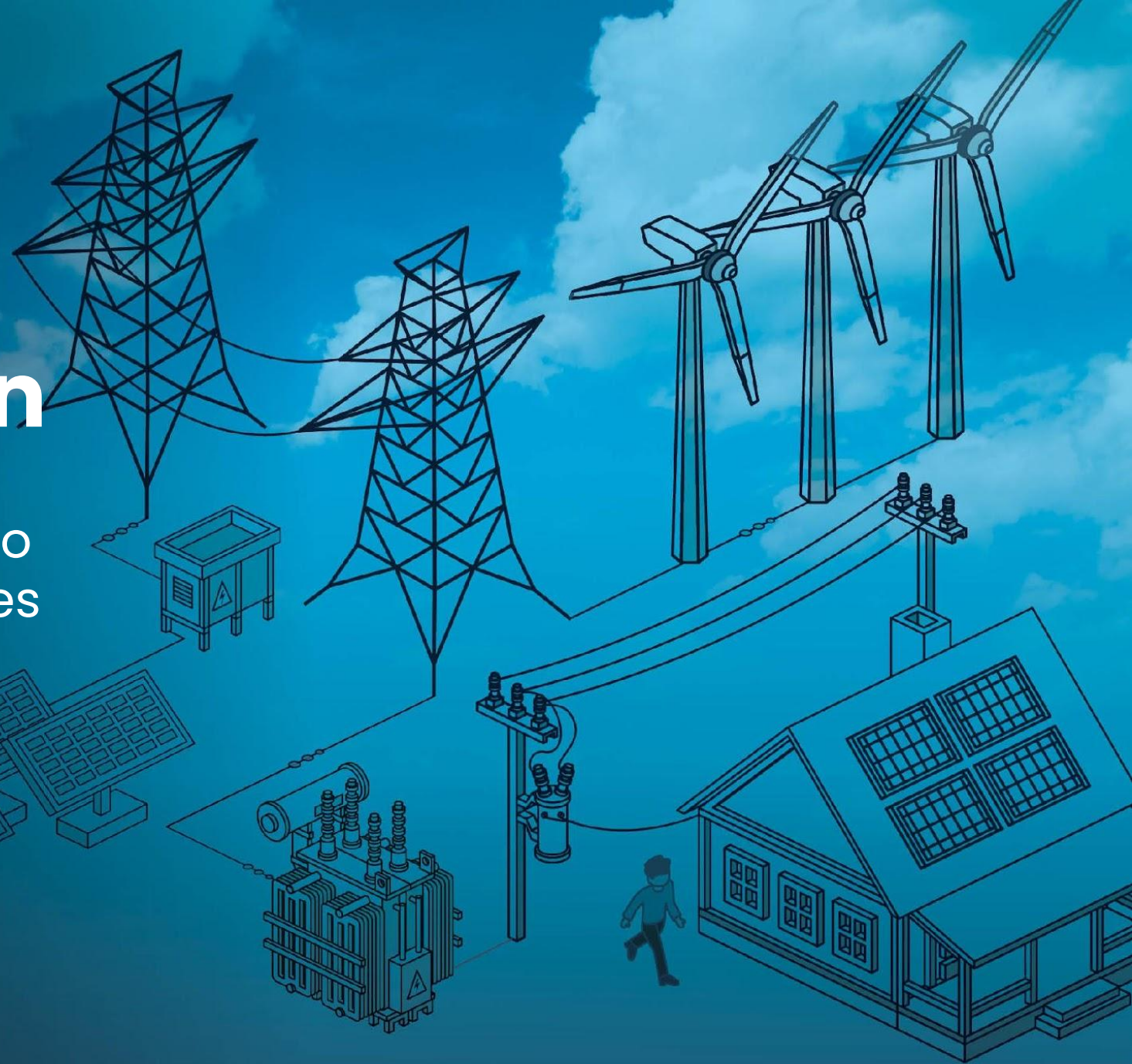
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Expertise To Enable Grid Transformation

We deliver expert capacity to address technical challenges and reliability questions.

GridLAB



Diagnosis: Concerns with Current RPM



New Entry

New Entry far too slow

New resources stuck in long interconnection queues
Often assigned high network upgrades, despite low accreditation values

ELCC

Future ELCC Values, and therefore capacity values, highly uncertain

Opaque and complex process creates significant future risk,
make forward hedging difficult.

Timing

Mismatch in timing of RPM and need for investment

Three years is insufficient to spur real investment. Capacity market vacillates between CONE and zero.

Path Forward | Eliminate the RPM, rely on energy markets with “full strength” pricing with robust bilateral contracts to spur new investment

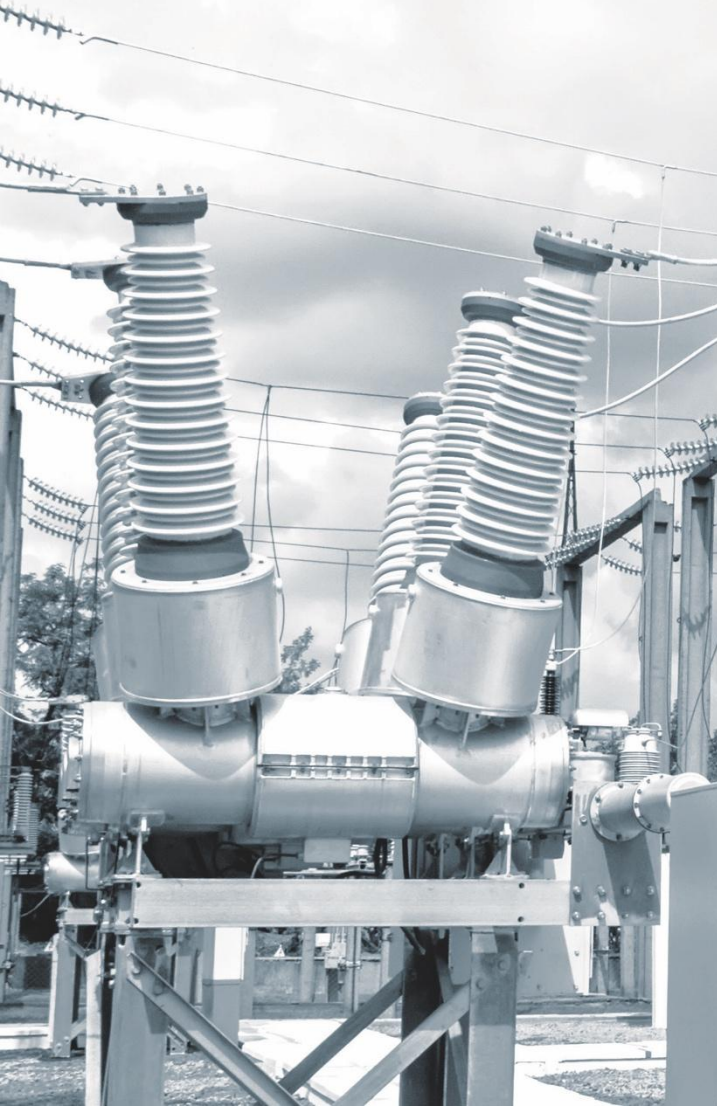


How would PJM move to an Energy Market?

We will focus on three areas today:

1. Interconnection of new resources
2. Maintaining Reliability
3. Transmission Planning

We will leave changes to the energy market and hedging to others.



First, some key mythbusting:

- NRIS does not mean priority dispatch
- NRIS does not mean “protected from curtailment”
- There is no difference between ERIS and NRIS in real-time dispatch (SCED)
- Deliverability is a planning proxy, indicative of the capacity that can be delivered under very specific circumstances.
- Deliverability is a policy choice, an aid to support capacity markets, not an indicator of reliability



Interconnection



The interconnection vicious cycle

01**Developers
Submit Requests**

Developers submit many NRIS interconnection requests to capture capacity revenues and “hedge their bets”

02**PJM performs
Detailed Studies**

Interconnection Study includes excessive NRIS applications, many of which will not get built. This requires highly detailed and time consuming deliverability modeling

03**Network
Upgrades
Triggered**

Massive network upgrades are triggered, delaying ISDs and increasing project costs

04**Projects Dropout**

Projects drop out, and the base assumptions are re-shuffled, requiring re-study

05**Queue Delays**

Slow queue process causes upward pressure on capacity prices and the incentive to submit more requests in the next queue

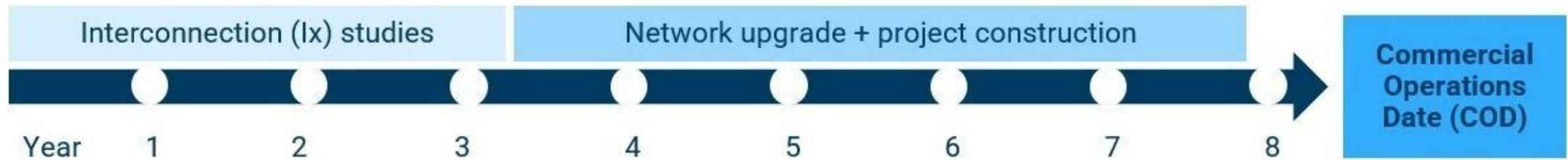


Increasing application fees/deposits is not addressing the root problem
Deliverability has become overvalued, and speed to deliver undervalued

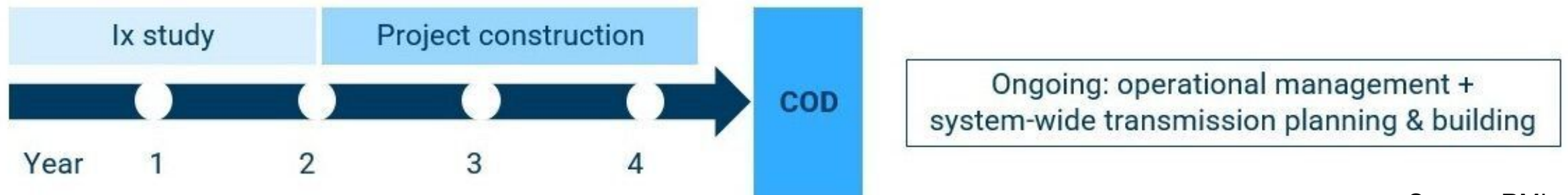


By only requiring point of interconnection upgrades, **ERCOT saves time on studies and construction**, which allows them time to focus on regional, optimized system planning

Invest & Connect



Connect & Manage

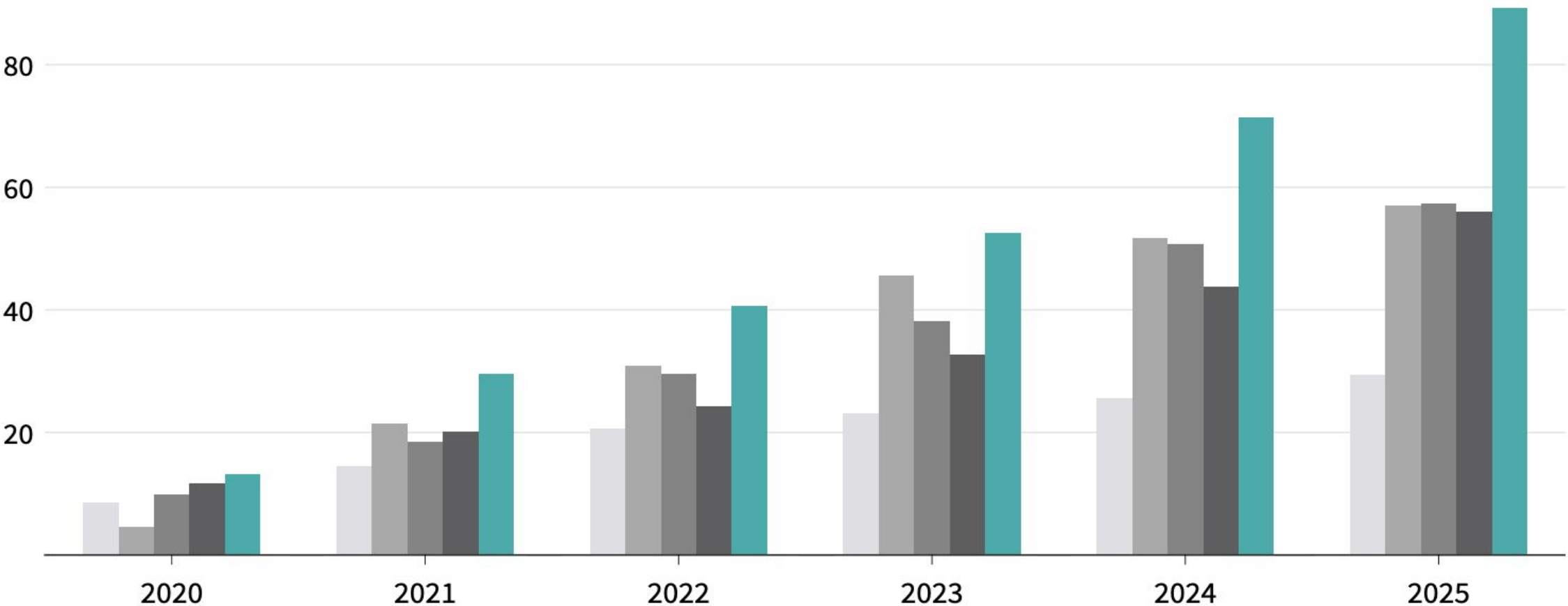


Source: RMI

ERCOT added significantly more generation between 2020 and 2025 than other market regions

Cumulative additions of new, operational generation facilities (GW)

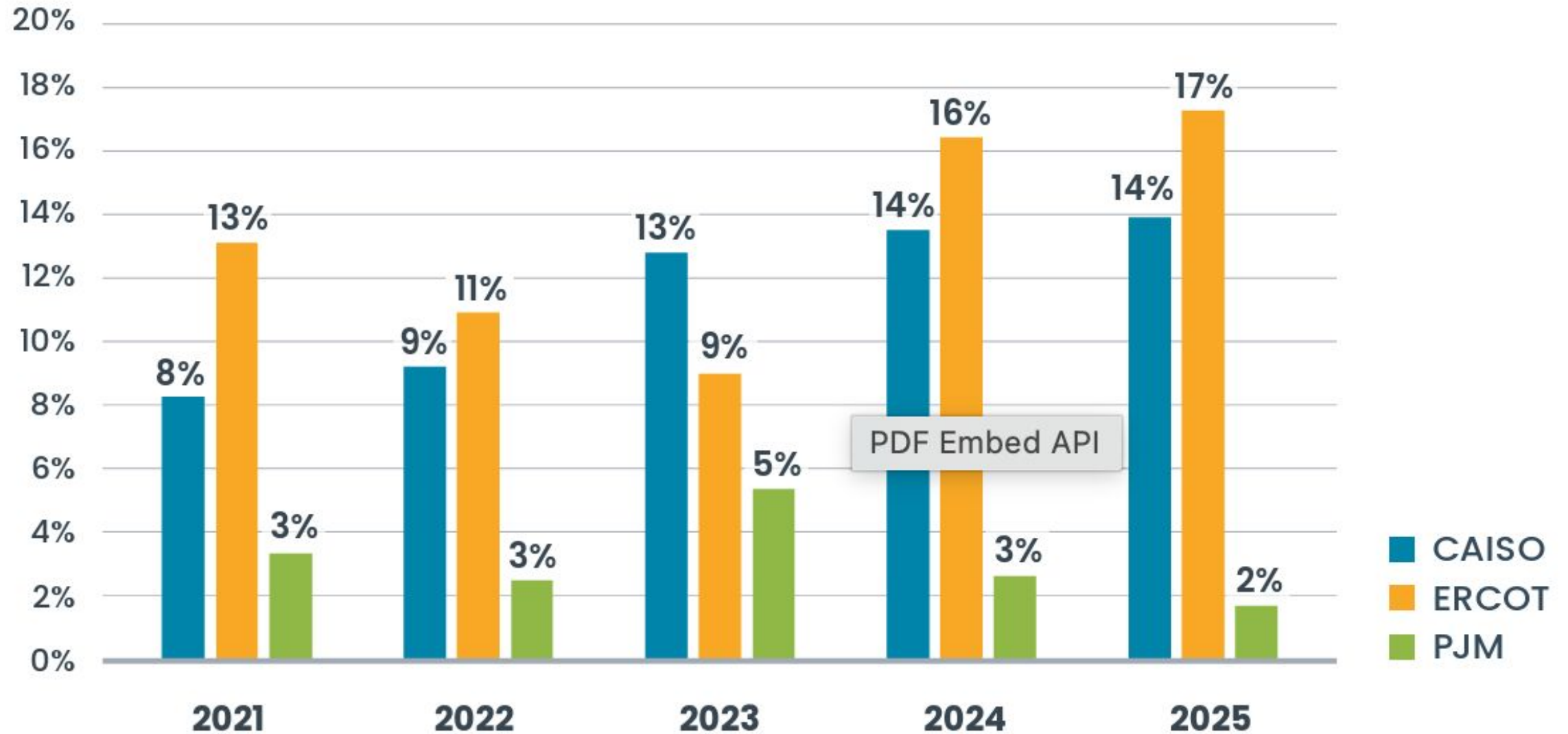
SPP PJM CAISO MISO ERCOT



ERCOT is the third-largest US market region by peak demand, while PJM is the largest.

Source: EIA 860 Summer Capacity

ANNUAL ADDITIONS OF NEW, OPERATIONAL GENERATION FACILITIES AS A PERCENTAGE OF EACH REGION'S ANNUAL PEAK DEMAND



- Connect and Manage has allowed Texas to add more resources faster than any other region
- GridLab's recent paper details how reliability and deliverability *to load* is maintained under Connect and Manage





Reliability

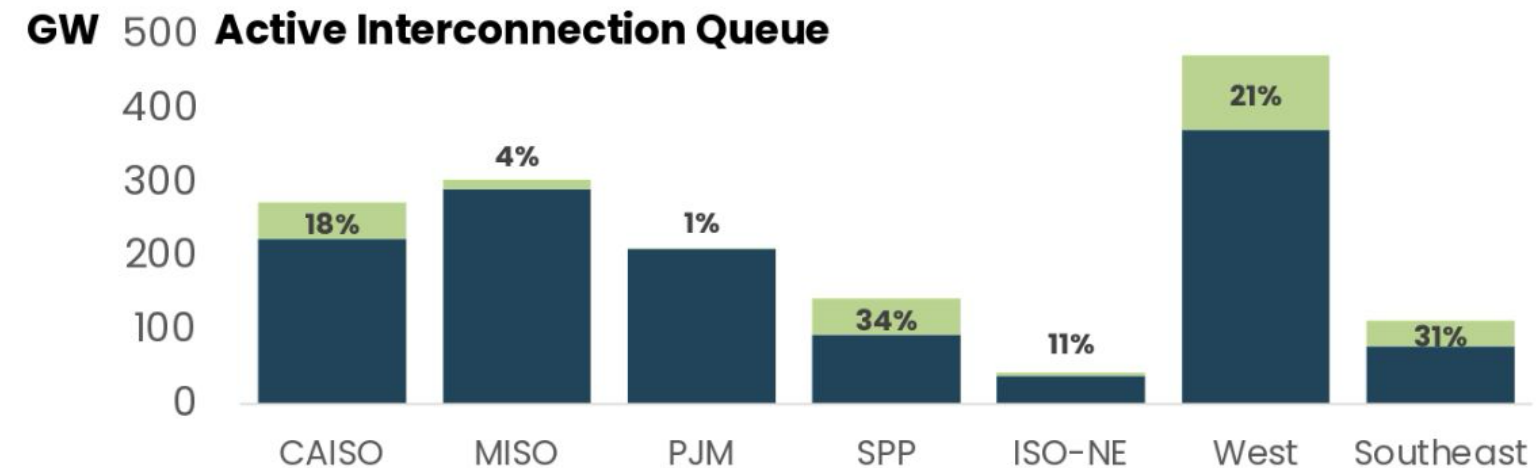


NRIS vs. ERIS Interconnection Requests by ISO



NRIS is the primary interconnection service for operational resources across the US (excluding ERCOT).

However, **operating ERIS resources play a critical reliability role** in MISO, SPP and the Western US



PJM ERIS remains low for both operating and active requests because there is no speed benefit for ERIS to compensate for losing capacity rights.

Data source: ERIE Queue as of 2020

*NRIS includes projects choosing the NRIS/ERIS study option at time of request

No!

- Modeling analysis from Telos demonstrates that curtailment does not occur during RA events in PJM.
- These results indicate that transmission constraints and deliverability are not a limiting factor for either NRIS or ERIS resources in PJM.
- Operators do not distinguish between resources that are NRIS or ERIS.

Understanding the linkage between transmission deliverability and resource adequacy

Technical presentation

June 2026

GridLAB



- A key function of a power market is to drive resource entry. Scarcity pricing, coupled with long term bilateral contracts, incentivizes new resource build more effectively than a capacity market.
- Connect and Manage has allowed Texas to add more resources faster than any other region
 - NERC's 2026 Summer Reliability Assessment recently calculated **ERCOT's reserve margin to be about 67.9%**
 - Texas just sailed through a new system peak of 91 GW, 6 GW higher than last summers, with muted prices.

The ELCC vicious cycle

01**Gas Underperforms in Winter**

Winter storm Fern and Elliot - Gas underdelivers

02**PJM Reforms ELCC methodology**

Reduces ELCC values significantly for gas, as risk shifts to winter and historical performance is included in model

03**Less accredited GW bid into auction**

20% of the GW in PJM vanish due to ELCC adjustment

04**RPM Prices Skyrocket**

Lack of supply coupled with rising demand = high prices

05**Gas Generators get Windfall**

Even with lower ELCC, higher RPM mean gas generators are rewarded for underperformance



ELCC – correct, but not helpful

Despite “Full Strength” Scarcity Pricing, ERCOT maintains some of the lowest wholesale electricity prices in the nation

Annual average U.S. wholesale electricity prices at select price hubs (2024–2025)

dollars per megawatthour

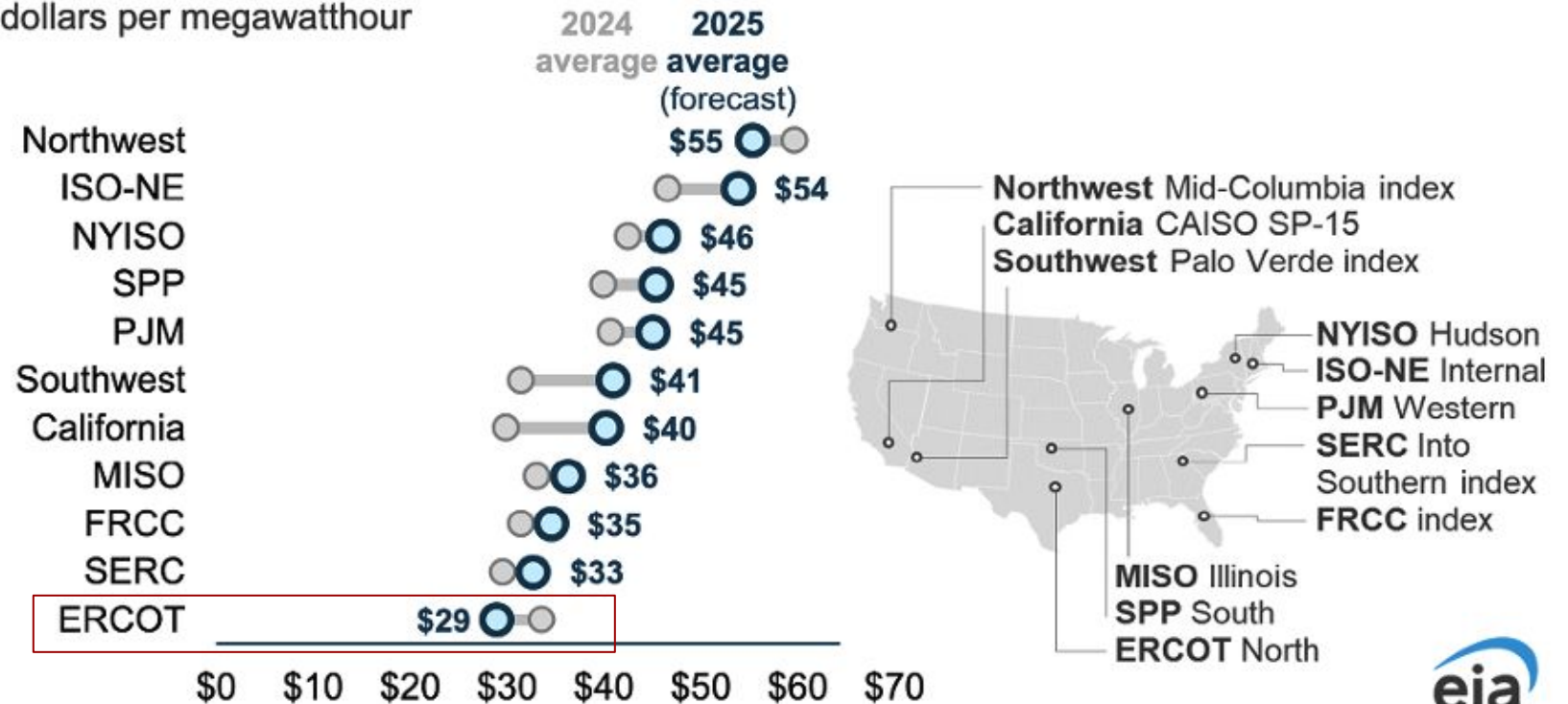


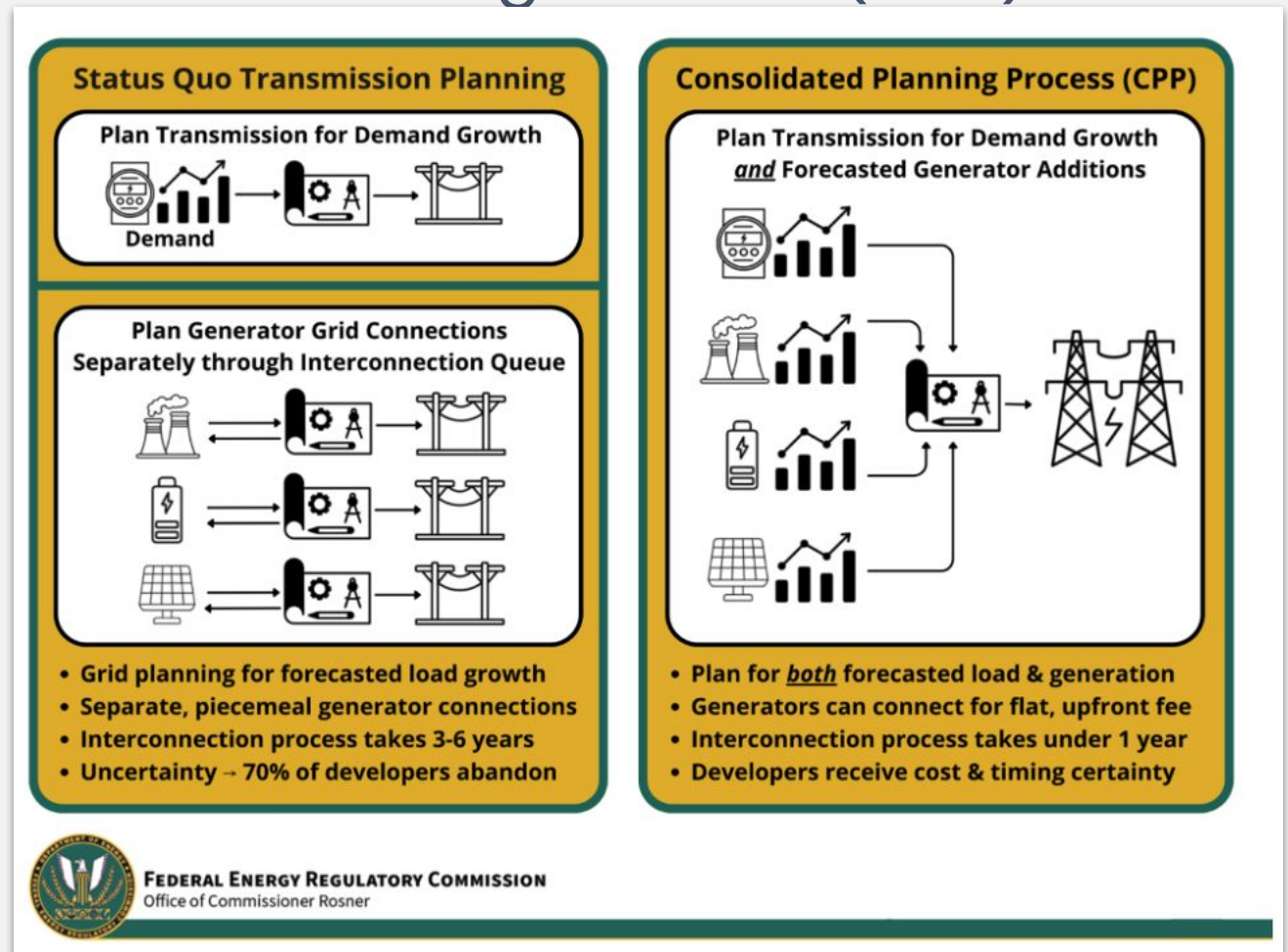
FIGURE 6. Figure from the US EIA showing ERCOT with some of the lowest wholesale electricity rates in the US.²



Transmission Planning



1. Create **cost certainty** prior to the interconnection application process
2. **Proactively** plan multi-value, long range transmission expansion to access low cost resources and bolster reliability
3. **Optimize system expansion** to serve load, rather than to serve generation



From Commissioner Rosner's Concurrence in Southwest Power Pool, Inc.
<https://www.ferc.gov/news-events/news/commissioner-rosners-concurrence-southwest-power-pool-inc>



Thank You

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