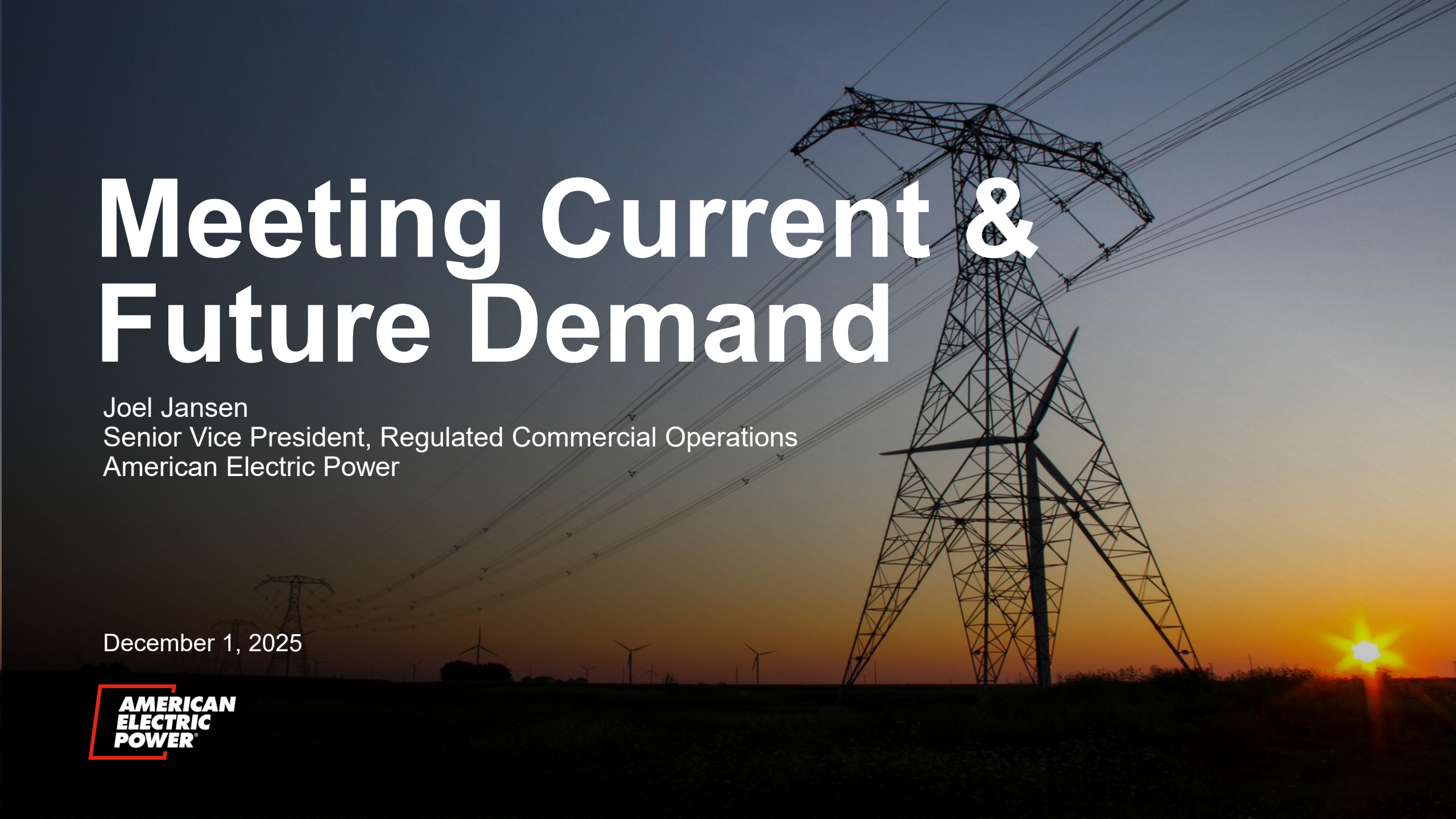


# Meeting Current & Future Demand

Joel Jansen
Senior Vice President, Regulated Commercial Operations
American Electric Power

December 1, 2025

AMERICAN ELECTRIC POWER®

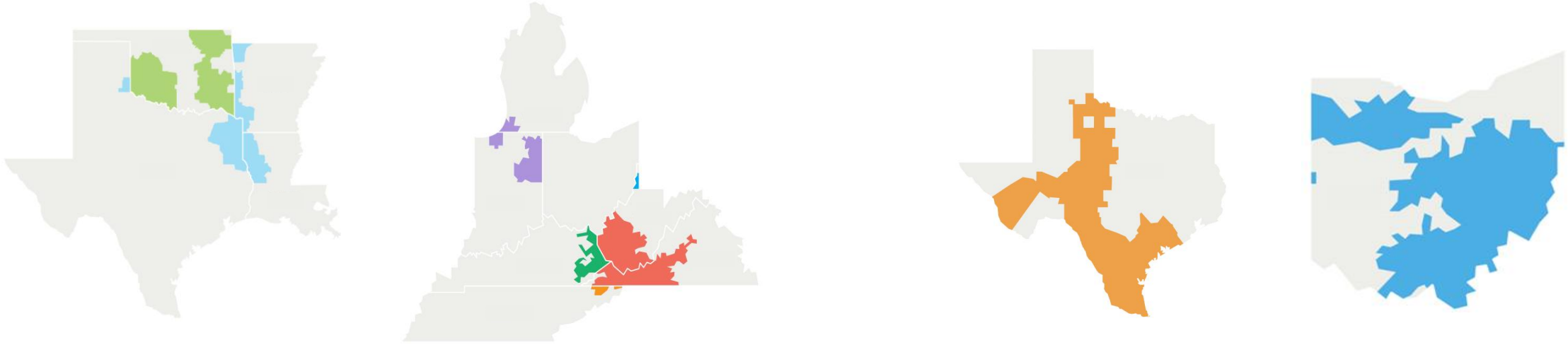
# AEP Service Territory

## Vertically Integrated Utilities

- Public Service Company of Oklahoma (PSO)
- Southwestern Electric Power Company (SWEPCO)
- Appalachian Power Company (APCo)
- Indiana Michigan Power Company (I&M)
- Kentucky Power Company (KPCo)
- Kingsport Power Company (KGPCo)
- Wheeling Power Company (WPCo)

## Transmission and Distribution Utilities

- AEP Texas
- AEP Ohio



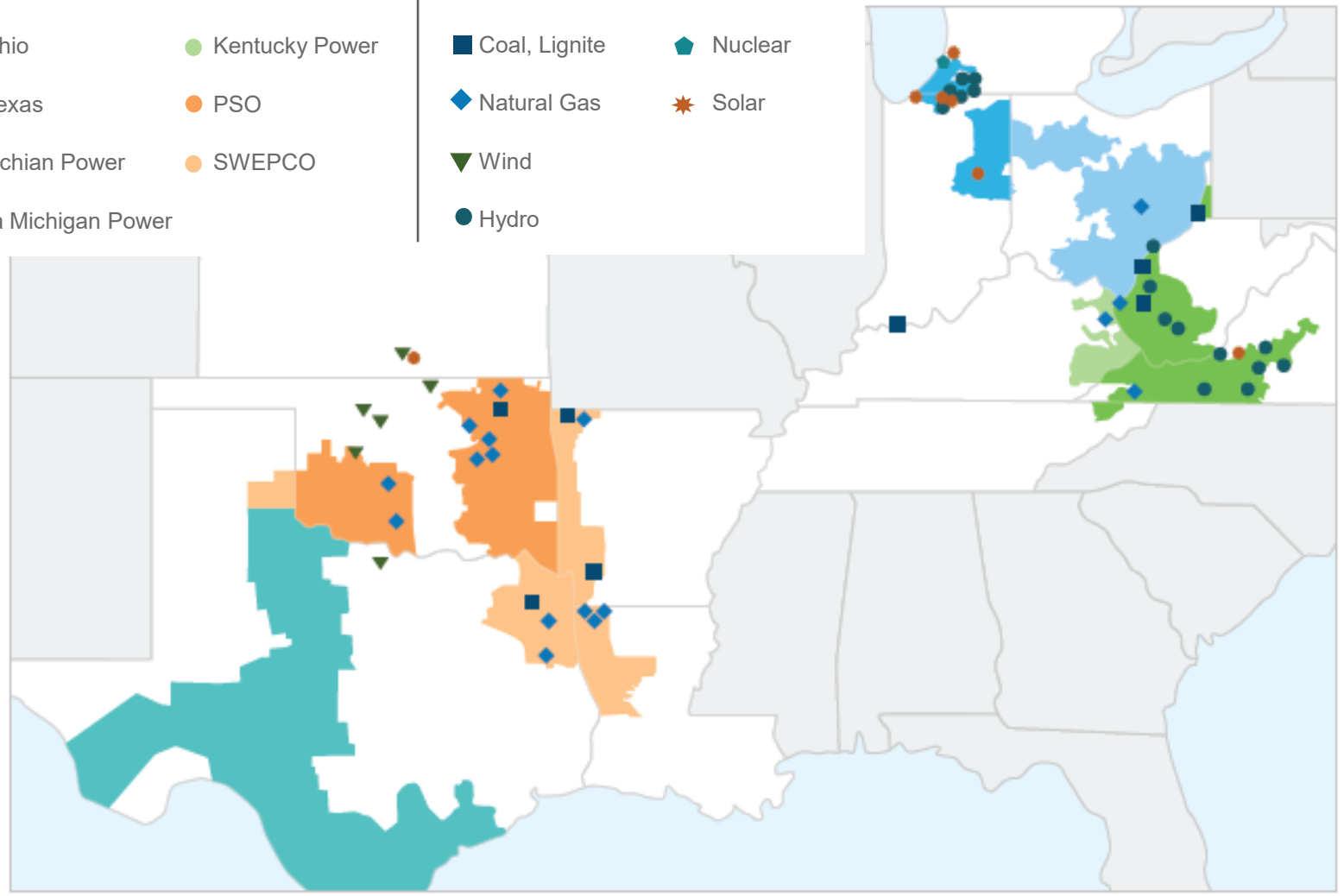
# Generation Mix

**Service Territories**

- AEP Ohio
- AEP Texas
- Appalachian Power
- Indiana Michigan Power
- Kentucky Power
- PSO
- SWEPCO

**Generating Facility**

- Coal, Lignite
- Natural Gas
- Wind
- Hydro
- Nuclear
- Solar



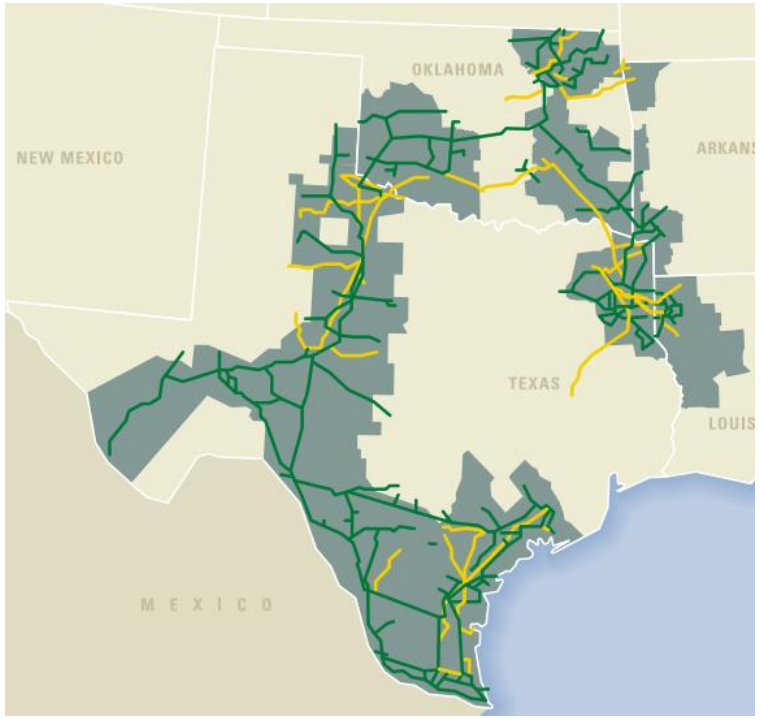
In 2025, AEP has approximately 30 gigawatts of total generation.

That's enough power to keep the lights on in approximately 6 million average U.S. homes.

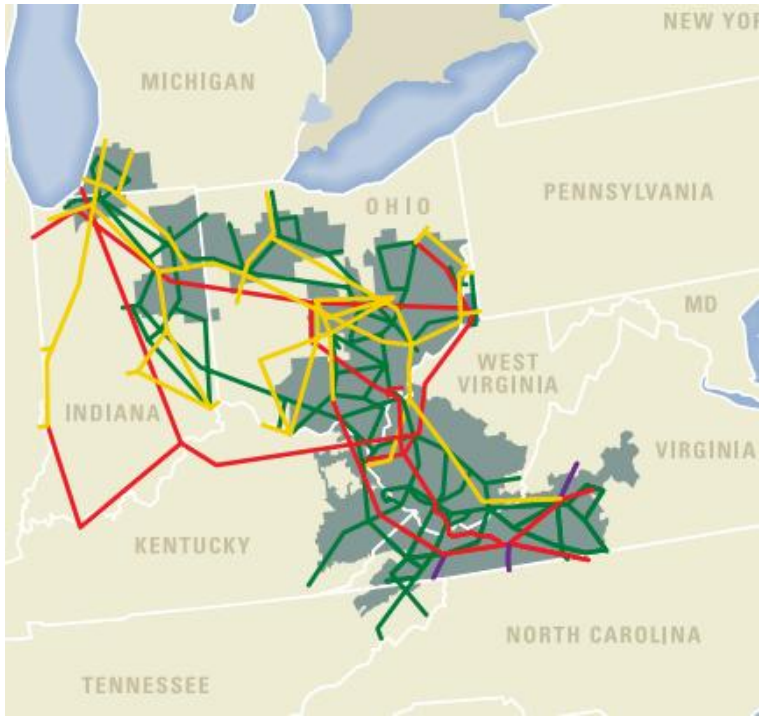
# Connecting Our Communities

## AEP's Current Transmission Network

### West




### East




**765 kV**
East 2,124 Miles

**500 kV**
East 113 Miles

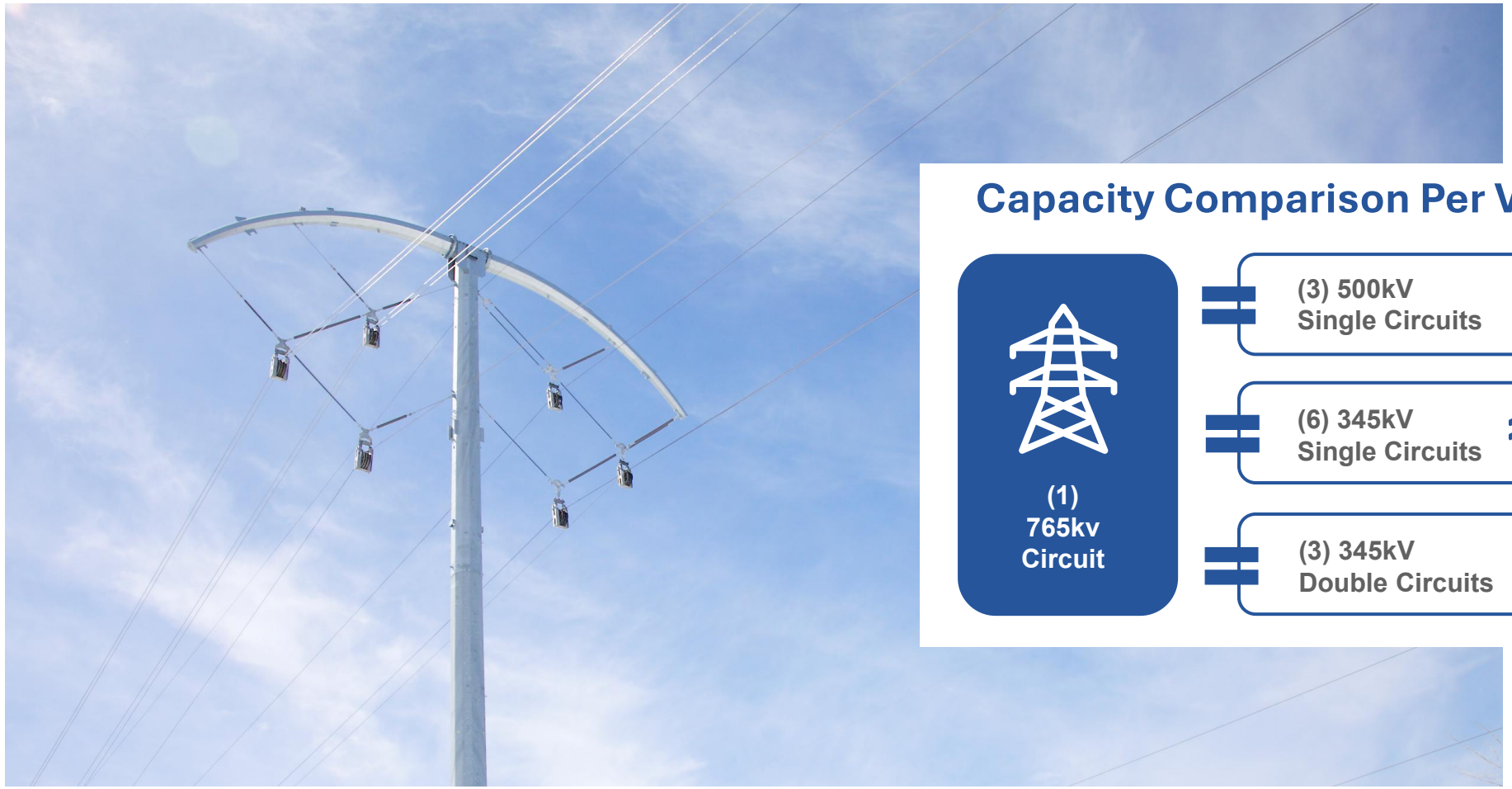
**345 kV**
West 2,451 Miles
East 3,583 Miles

**138 kV**
West 8,028 Miles
East 9,392 Miles

**Joint Ventures**

- Electric Transmission Texas
- GridAssurance
- Midwest Transmission, LLC
- Pioneer Transmission
- Prairie Wind Transmission
- Transource
- Valley Link

# Transmission Leadership



## Capacity Comparison Per Voltage Class

(1)
765kv
Circuit

=

(3) 500kV
Single Circuits

=

(6) 345kV
Single Circuits

=

(3) 345kV
Double Circuits

# New Partnership

AEP and Quanta Services partnership aligns supply chain, constructability, and operations to create new model.

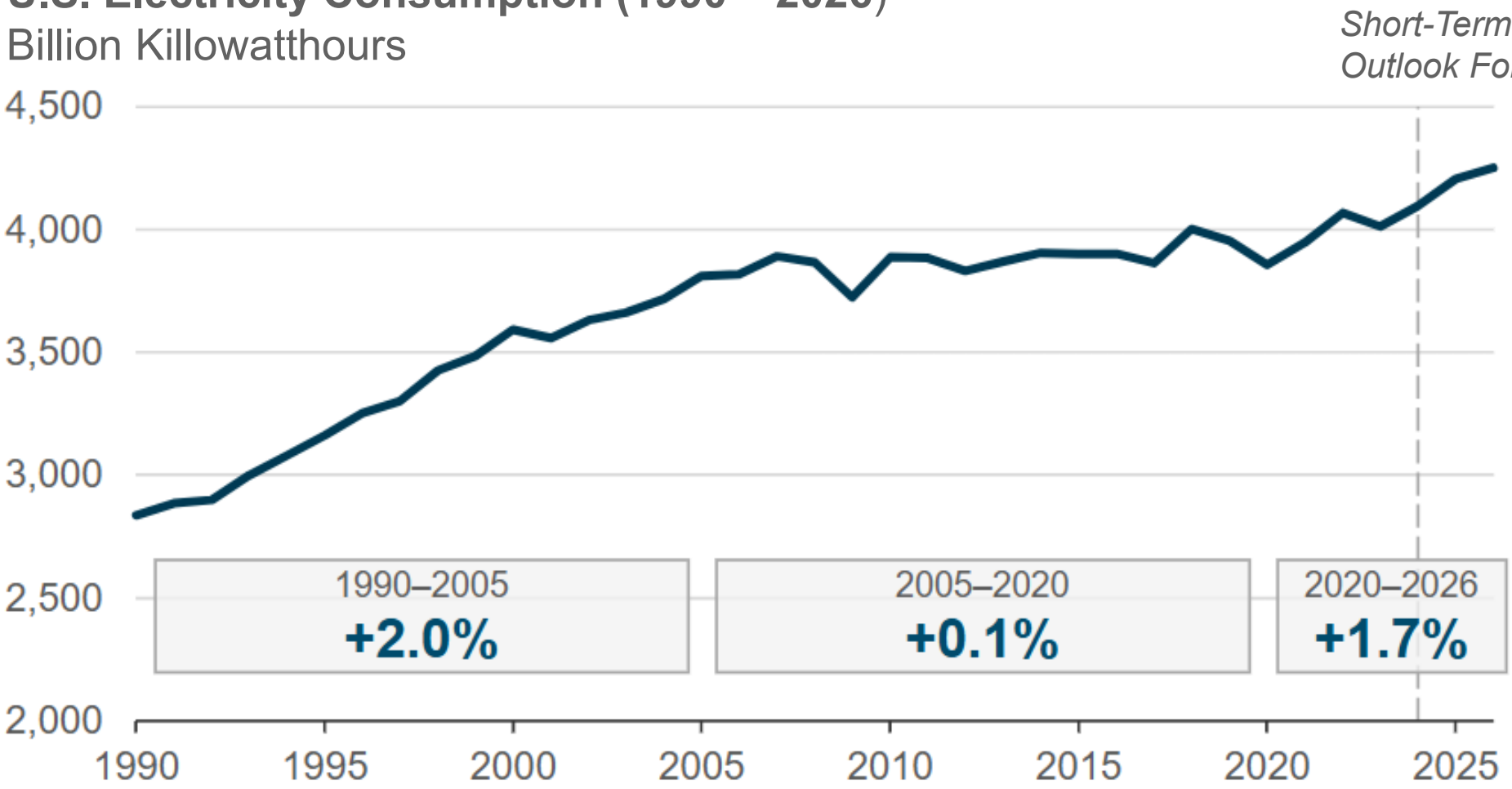
Quanta has handled several projects for AEP Transmission including the structures pictured which are part of an ongoing build in the Lower Rio Grande Valley in Texas.

# EXAMINING LOAD GROWTH TRENDS

Understanding Generational Change in the Utility Industry

# Historic Demand Growth

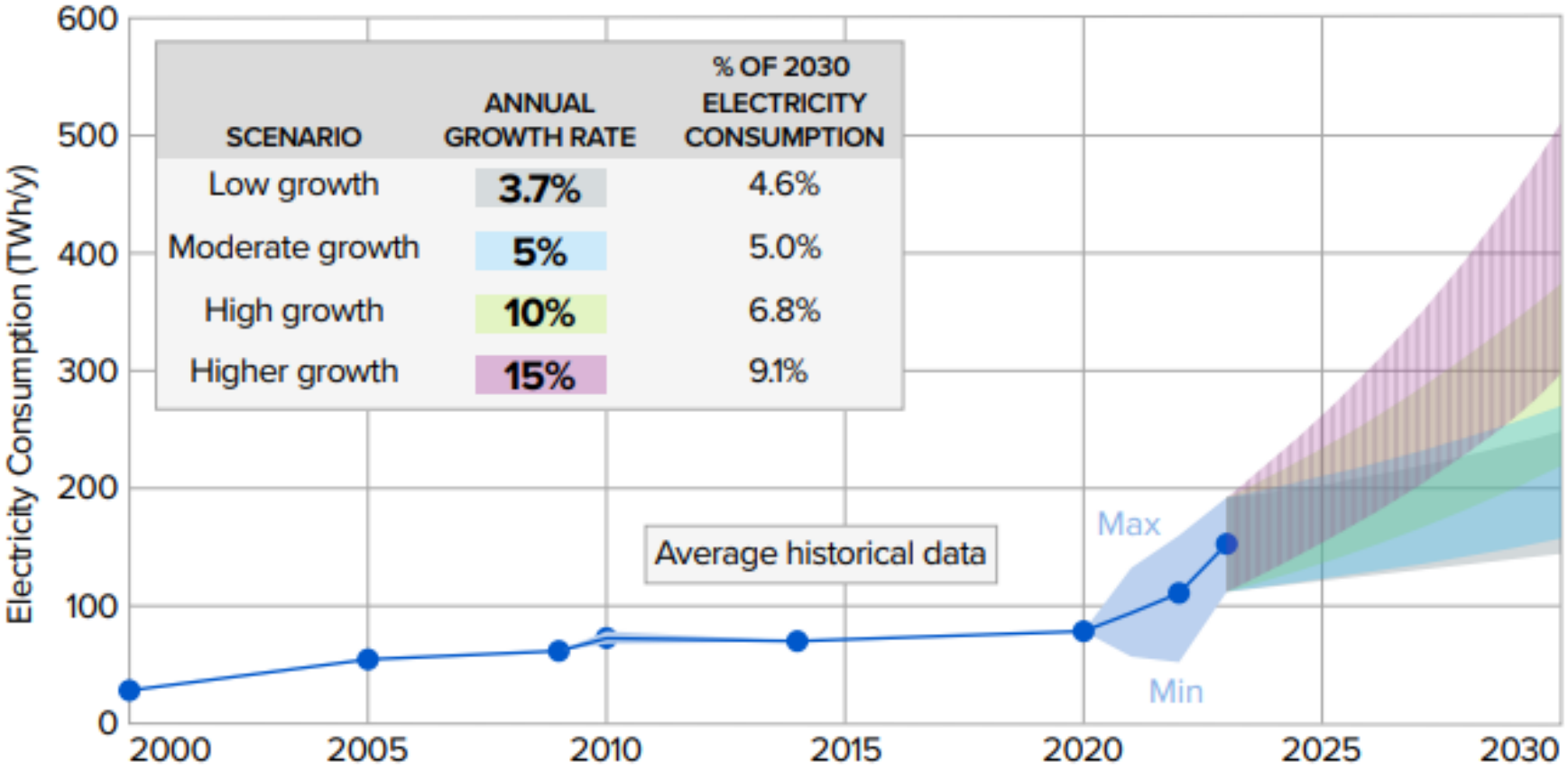
**U.S. Electricity Consumption (1990 – 2026)**
Billion Killowatthours




Average Annual Growth Rates

*Data Source: U.S. Energy Information Administration, Monthly Energy Review and Short-Term Energy Outlook, May 2025*
*Data Values: Electricity Overview (history) and U.S. Electricity Industry Overview (forecast)*

# Potential Impact of Data Centers




Projections of potential electricity consumption by U.S. data centers: 2023 – 2030. % of 2030 electricity consumption projections assume that all other (non-data center) load increases at 1% annually.

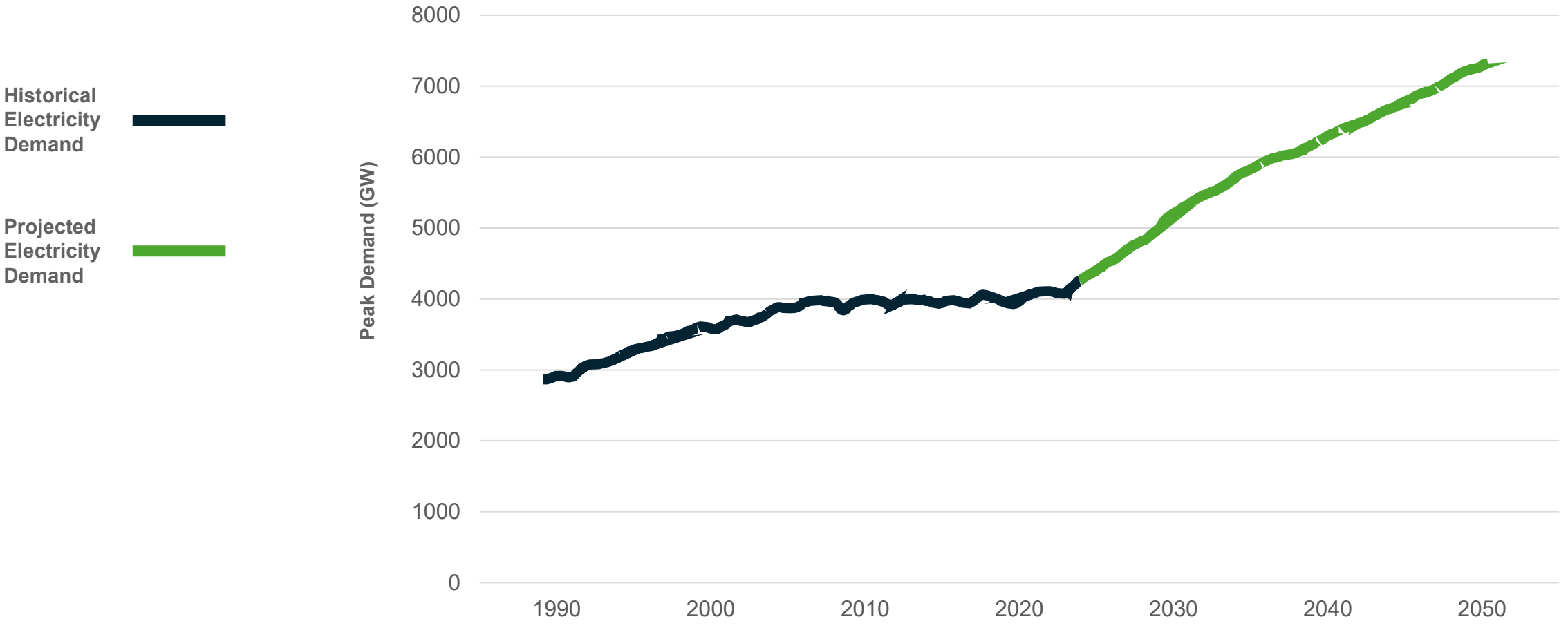
Source: EPRI Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption Report, May 2024

- **Low growth:** 3.7% annual load growth based on a Statista projection of data center financial growth issued prior to the release of ChatGPT.
- **Moderate growth**: 5% annual load growth based on an expert assessment commissioned by EPRI.
- **High growth**: 10% annual load growth consistent with both a McKinsey estimate and another expert assessment commissioned by EPRI in summer 2023.
- **Higher growth**: 15% annual growth based upon a commissioned expert assessment consistent with rapid expansion of AI applications and limited efficiency gains.

# Future Demand Growth

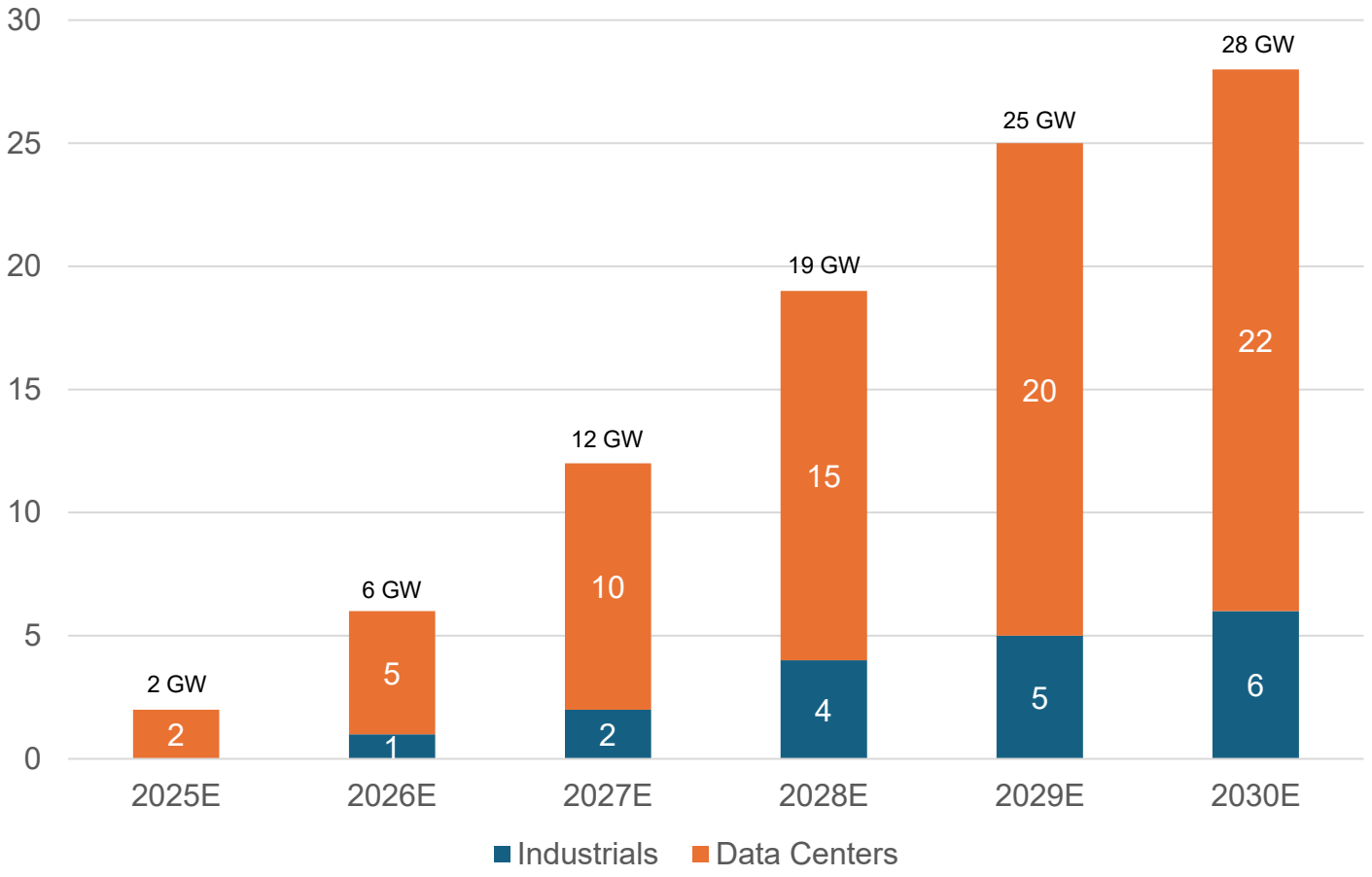
## U.S. Electricity Demand and Peak Demand Growth

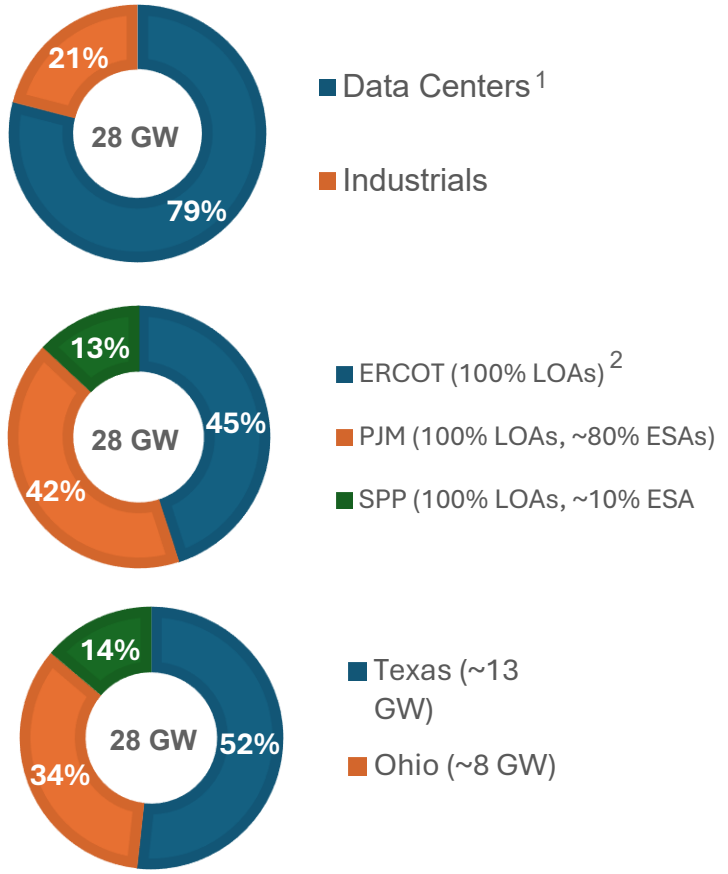
Source: ICF, Rising Current: America's Growing Electricity Demand, May 2025



# AEP 2026 – 2030 Load Growth

AEP's projected 2030 system peak demand of **~65 GW** includes 28 GW of incremental contracted load from 2026 – 2030 backed Electric Service Agreements (ESAs) and Letters of Agreements (LOAs) and further supported by the 190 GW active projects in the interconnection queue.



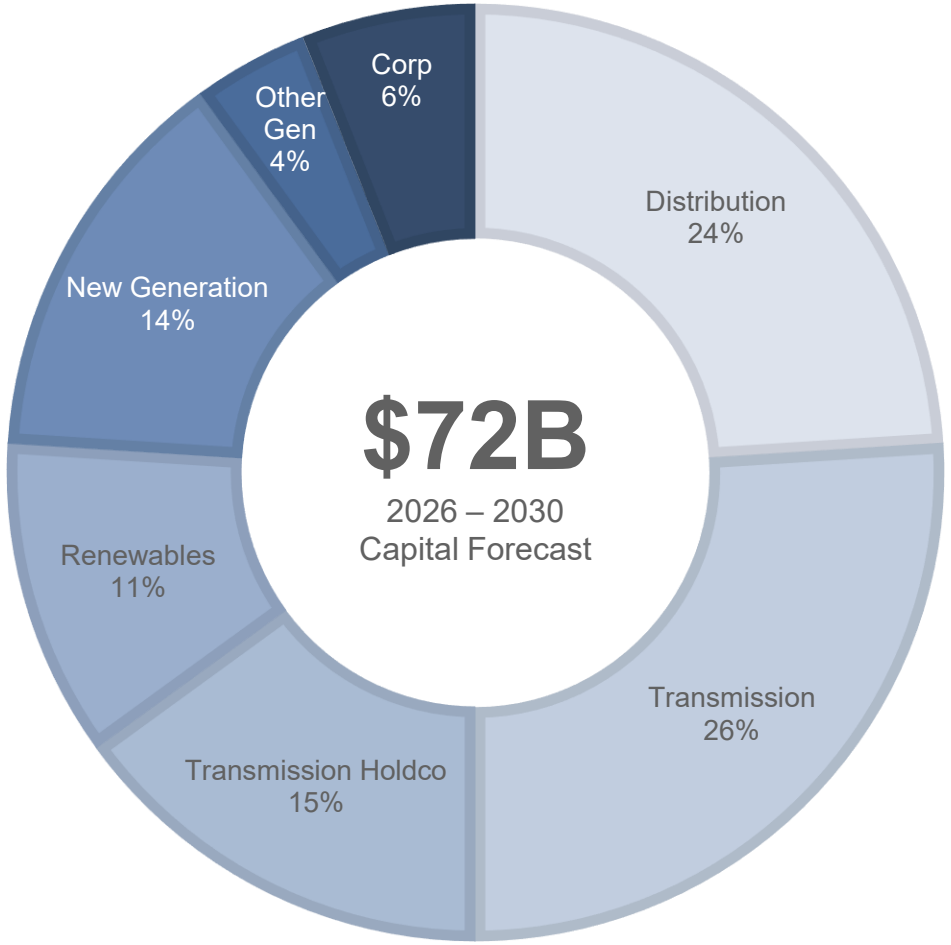




1. Includes crypto customers
2. ERCOT contracting structure allows for LOAs only.

# LOOKING AHEAD

Overcoming Challenges and Seizing Opportunities

# Investing in Growth




| | |
|---|---|
| **$21 Billion** in Transmission | Strengthening the electric transmission grid and meeting robust demand while focusing on improved system performance, increased reliability and resiliency, and security. |
| **$13 Billion** in Distribution | Modernizing the electric distribution system to address increased needs and enhance customer satisfaction. |
| **$14 Billion** in New Generation | Diversifying our generation fleet by taking an “all of the above approach” to support resource adequacy and affordability. |

# Meeting Demand

## 2026-2035[1] Projected Resource Needs

| Nameplate MW[2] | Solar | Wind | Storage | Nat. Gas[3] | Total |
|---|---|---|---|---|---|
| APCo | 1,926 | 605 | 252 | 3,071 | **5,854** |
| I&M | 2,959 | 3,100 | 50 | 6,690 | **12,799** |
| KPCo | - | - | - | 450 | **450** |
| PSO | 893 | 753 | 200 | 1,975 | **3,821** |
| SWEPCO | 600 | 598 | - | 3,113 | **4,311** |
| **Total** | **6,378** | **5,056** | **502** | **15,299** | **27,235** |

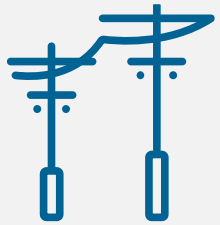
## RFPs In Progress [2]

| Company | APCo | I&M | PSO |
|---|---|---|---|
| RFPs Issued | May-25 | Sep-24 | Nov-23 |
| All Source (Renewables and Natural Gas) | 800 MW Renewable Resources | 4,000 MW | 1,500 MW of SPP accredited capacity |
| Reg. Filings and Approvals | Q2-26 - Q4-26 | Q2-25 - Q3-26 | Q3-25 - Q2-26 |
| Projected In-service Dates | 2028 or 2029 | 2028 or 2029 | 2027 or 2028 |

1. Resource additions are from Integrated Resource Plans (IRP) filings based on current regulations, alternative forms of generation may be added based on specific customer requests.
2. RFPs represent up-to-MW capacity values; related regulatory filings will take into consideration commission preferences, including owned and contracted resources.

# Bridging Solutions

## Grid Constraints



Exponential load growth has created capacity and timeline challenges for large customers seeking grid-connected power.

## Bridging Solutions

Behind the meter solid oxide fuel cell solution can bridge power needs while grid enhancements are built out.

# Protecting Customers: AEP Ohio

- Data Center Tariff applies to new data centers larger than 25 MW.
- Requirements:
  - Must pay for a minimum of 85% of the energy they are subscribed to use, even if they use less
  - Must provide proof they are financially viable and able to meet those requirements.
  - Must pay exit fee if their project is canceled or they can’t meet obligations.

# Large Load Tariffs: I&M Territory

## Indiana

- Applies to new or expanded facilities with contract capacity of at least 70 MW or 150 MW aggregated across a company.
- Requirements:
  - Initial contracts must be for at least 12 years.
  - Any reduction of more than 20% of a large load customer's contracted peak capacity, that is mutually agreed upon between I&M and the large load customer, must be submitted to the IURC for its review and approval before becoming effective.

## Michigan

- Would apply to Large Load customers who use 50 MW or higher at any single site or combination of sites.
- Requirements:
  - Minimum contract term of 12 years
  - Minimum monthly demand charge of at least 80% of contracted capacity
  - Exit fee if customer reduces their contracted capacity by more than 20%

# Recap

Electric utility industry is expected to experience historic load growth after decades of stagnation.

New solutions designed to meet customer needs and balance impacts are coming into play.

Growth is fueled by data center customers who need power quickly.

Collaboration by utility companies and the public and private sector are needed

Utility companies are investing in their systems to meet these needs.


Questions
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POWER