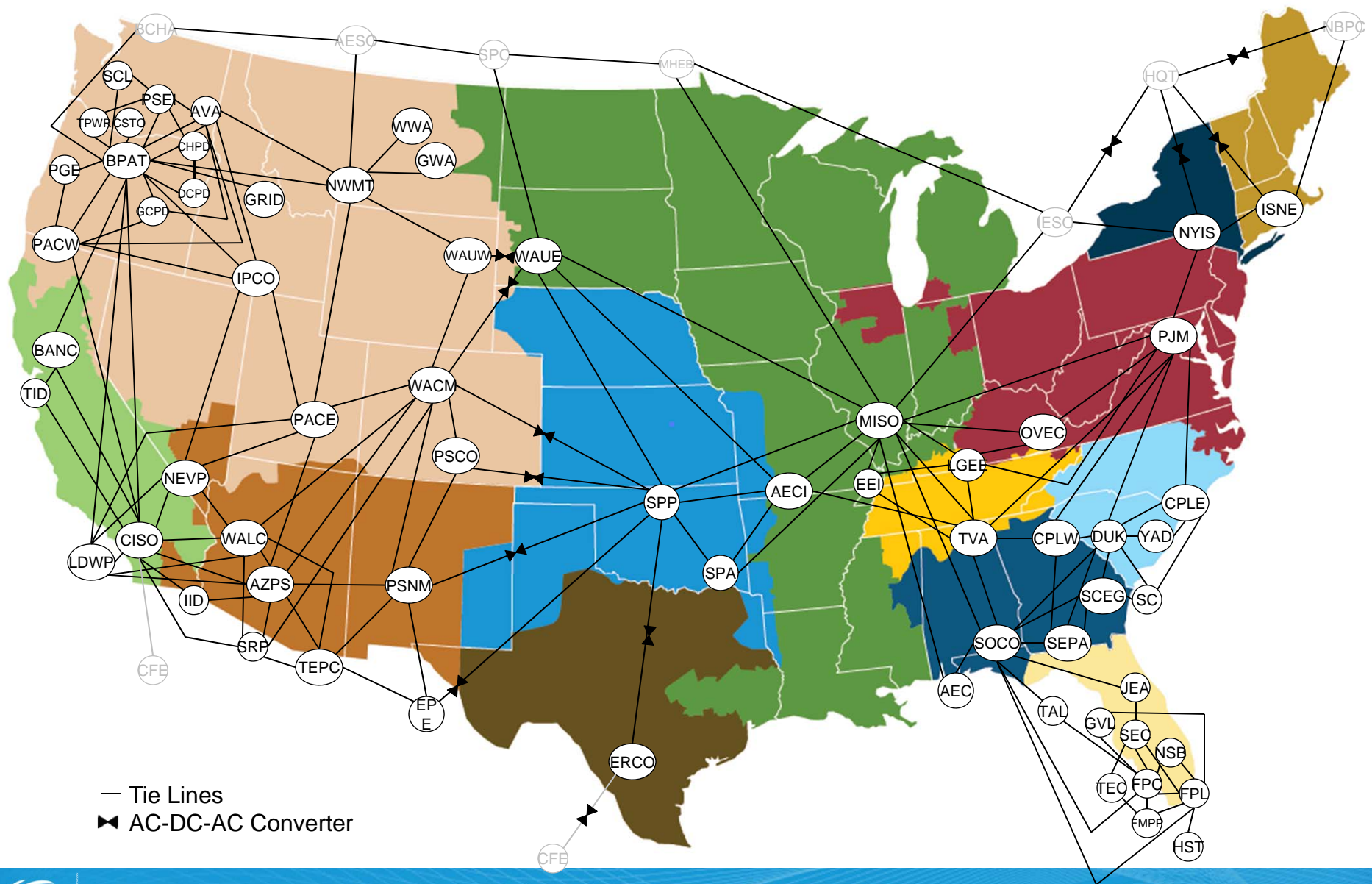

EIA clearinghouse of hourly electric power operating data in 2015



EIA clearinghouse of hourly electric power data in 2015

- EIA recently gained approval for a new survey of hourly electric power data from the 67 electric systems (balancing authorities) in the contiguous United States that make up the national grid.
- EIA will provide public access to this data as soon as it is collected through a clearinghouse on its website in Summer 2015.
- The data that will be posted are:
 - Hourly demand
 - Hourly next-day demand forecast
 - Hourly net generation
 - Hourly net actual interchange with each interconnected balancing authority

Electric systems (balancing authorities) filing the EIA-930



Motivation: Statutory

“(a) . . . [Shall] establish a **National Energy Information System**... [which] shall contain such information as is required to provide a **description of and facilitate analysis of energy supply and consumption**...

Section 52, 15 U.S.C. §790

Federal Energy Administration Act (FEA Act), Public Law 93-275

“(2) assess the adequacy of energy resources to meet *demands in the immediate and longer range future* for all sectors of the economy and for the general public;...

Section 5(b), 15 U.S.C. §764(b)

Federal Energy Administration Act (FEA Act), Public Law 93-275

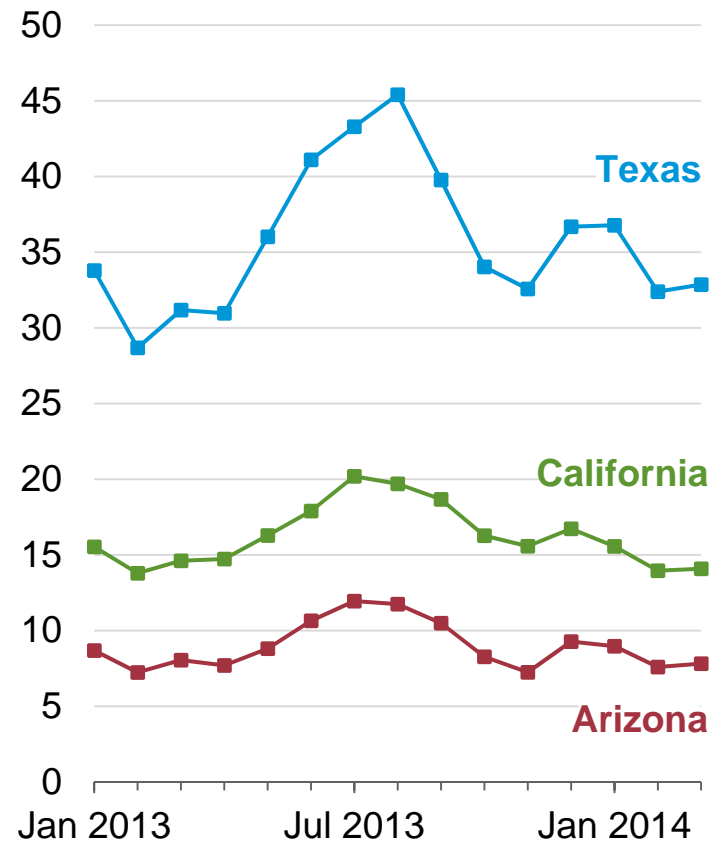
Motivation: Statistical

EIA supply-side electricity data

Currently:

- Smallest time unit is by month; no further resolution
- Monthly data lags by 6+ weeks; annual data lags by many months
- Most common regional breakdown is by state; not well-aligned with electricity operating regions

Net electricity generation million megawatthours (MWh)



Motivation: Electricity Policy

Most policymakers are not familiar with the dynamic nature of the electric industry operations.

Due to the lack of sufficient cost-effective electricity storage, electricity is produced at the moment it is used.

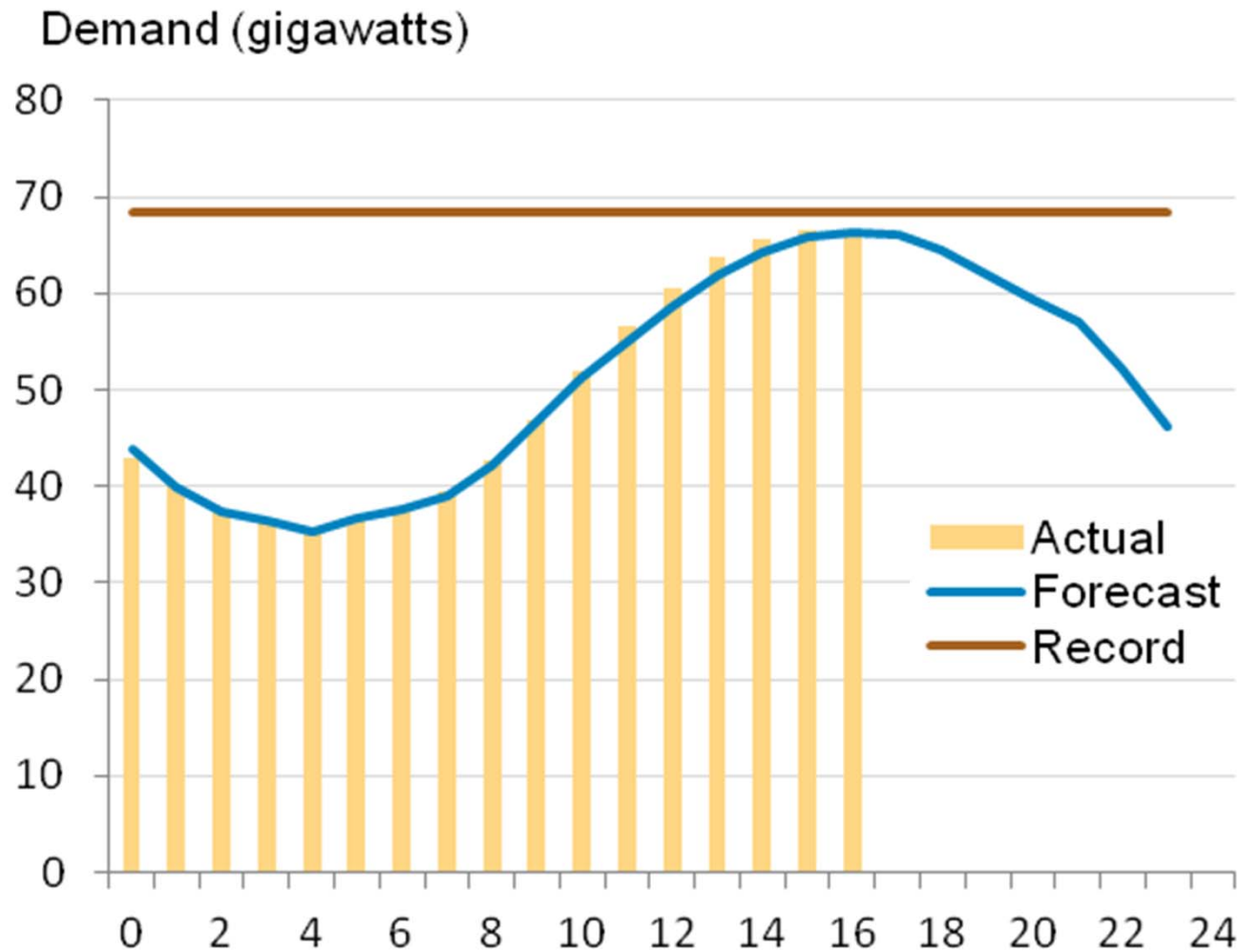
This presents the electric industry with significant challenges in delivering its primary product: electricity on-demand.

The industry meets the challenge by always having more capacity available than needed and relying on certain entities to ensure the moment-to-moment balancing of supply and demand.

Electric utilities that perform the balancing function are called Balancing Authorities.

Examples of data presentation

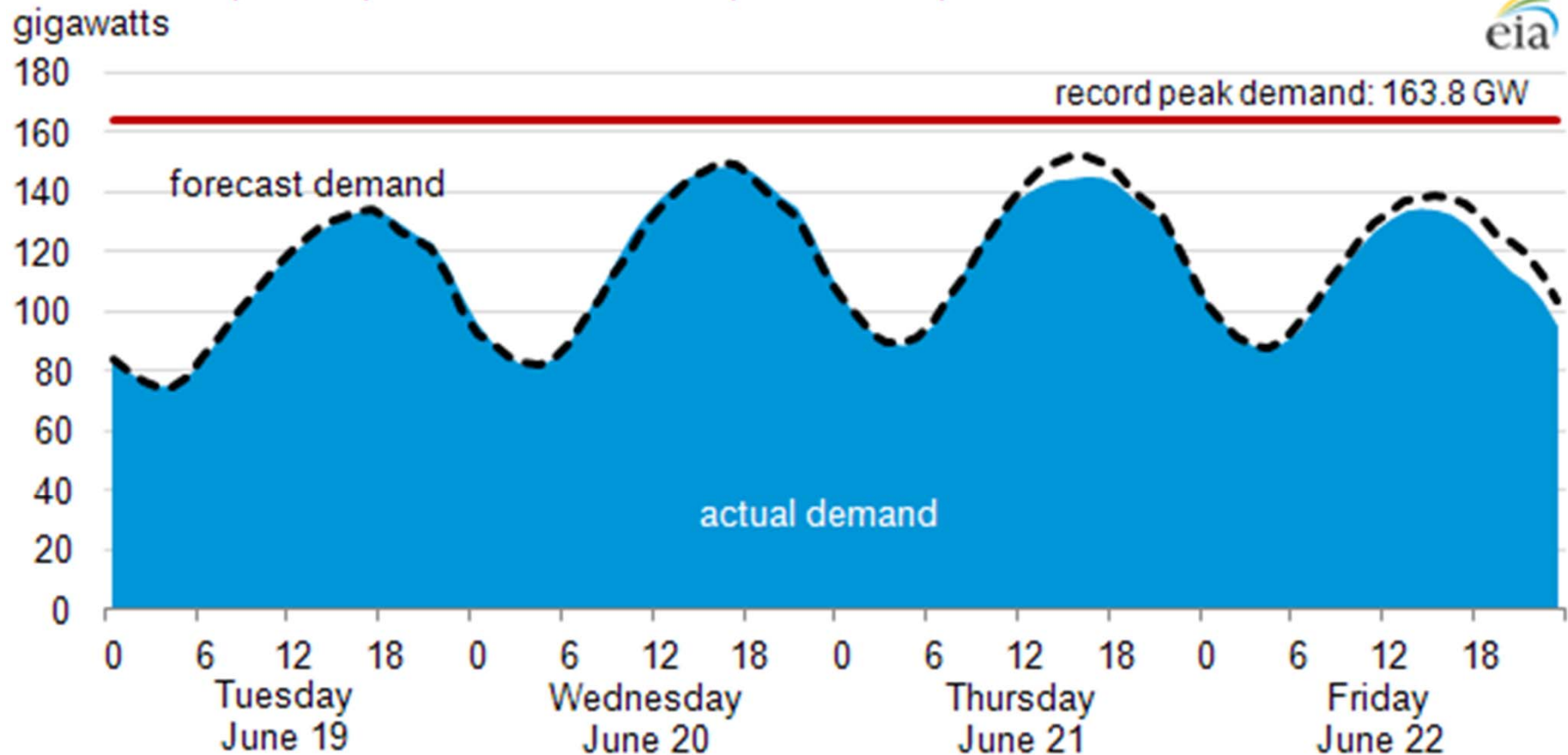
Track Hourly Demand Throughout the Day



Examples of data presentation

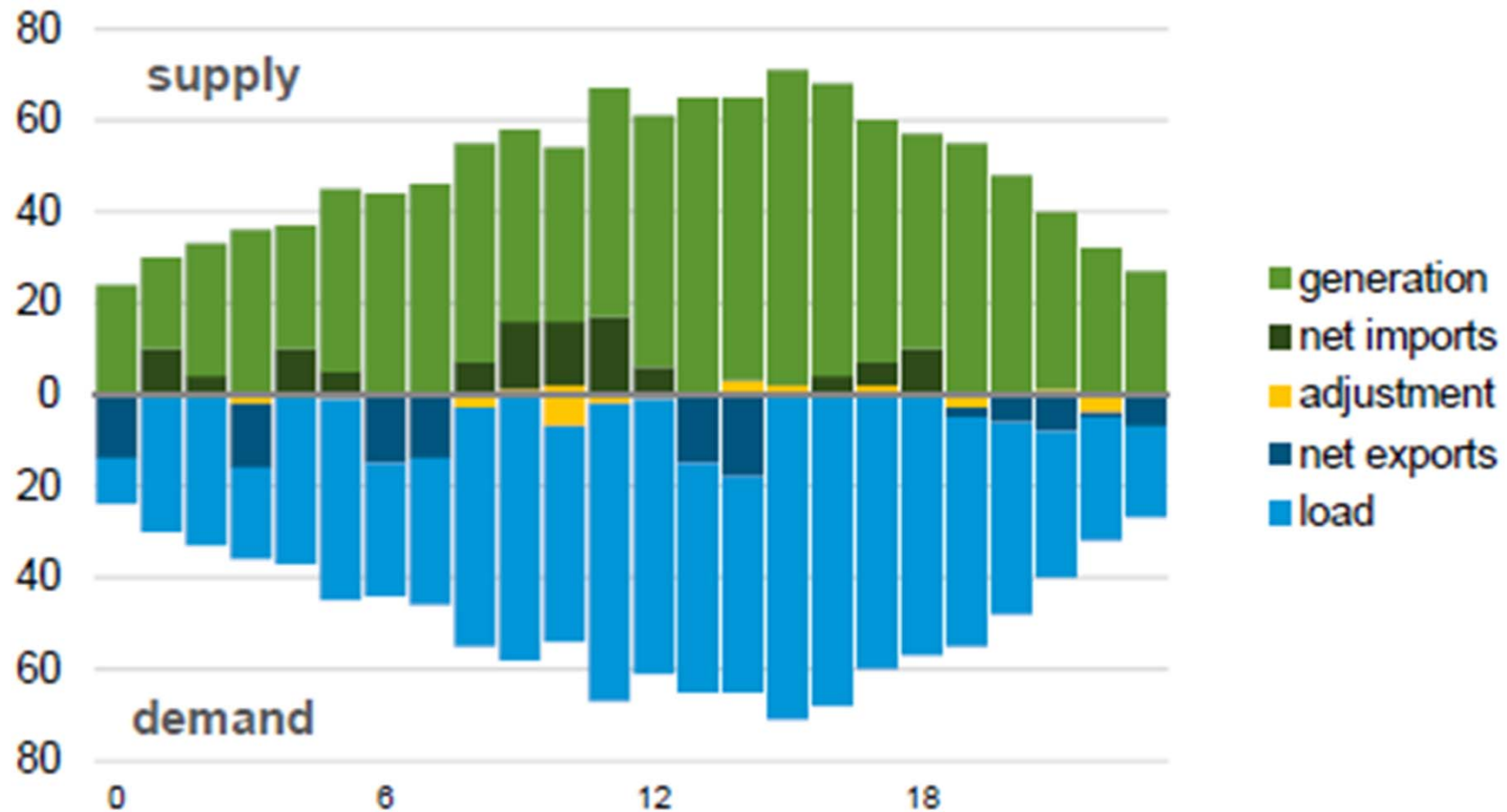
Demand Response Kicks in on High Demand Day

PJM forecast, actual, and record demand, June 19-22, 2012



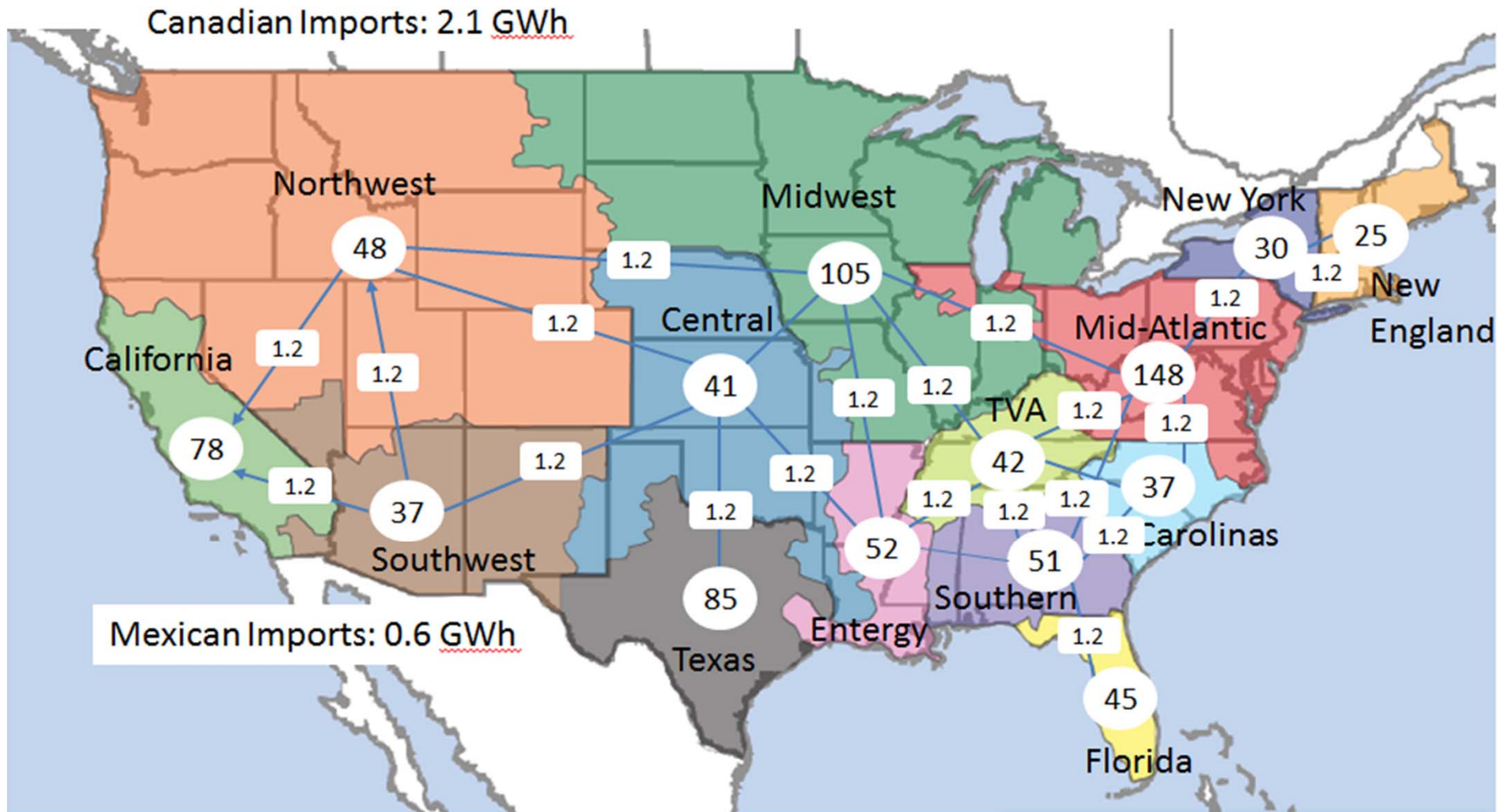
Examples of data presentation

PJM supply & demand balance, 10/14/14
megawatts (MW)



Examples of data presentation

System Demand and Actual Interchange



Uses for EIA-930 data

The immediacy of the data will allow people to experience the data in context, significantly enhancing understanding.

Many possible uses of the data, including:

- To evaluate the impact of **renewable power, smart grid, and demand response programs** on the power industry.
- To provide near real-time information on the **recovery of the electric grid** in the wake of disturbances (e.g., hurricanes).
- To provide state and local officials deploying **demand response and dynamic pricing programs** information on the impact of these programs on consumers.
- To allow policy makers, researchers, market participants and entrepreneurs to invest in technologies and programs to **take advantage of the time-varying nature** of electric operations

Uses for EIA-930 data issues

Can we even measure the operating balance?

- Actual interchange – metered
- Net generation – includes only those generators that are metered:
 - Non-metered generation
 - Behind the meter distributed generation
- Demand – derived or metered?

EIA survey enhancements

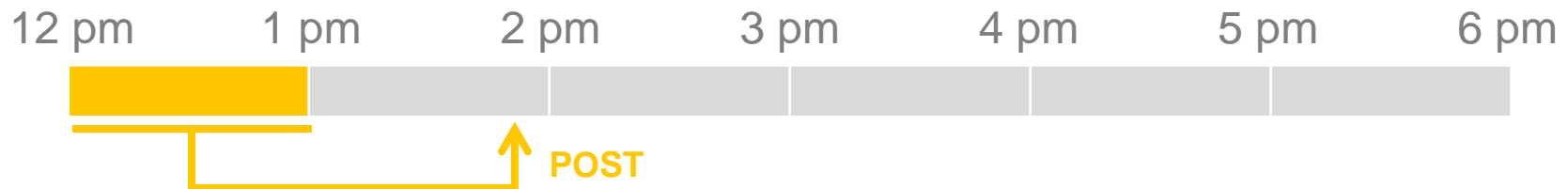
Retailers (distributors and competitive retail supplier) – sales statistics now (2013 data) collected by state and balancing authority in EIA-861, [Annual Electric Power Industry Report](#)

Plants -- balancing authority location now (2013 data) collected in EIA-860, [Annual Electric Generator Report](#)

Generators – RTO LMP price node designation now (2013 data) collected in EIA-860, [Annual Electric Generator Report](#)

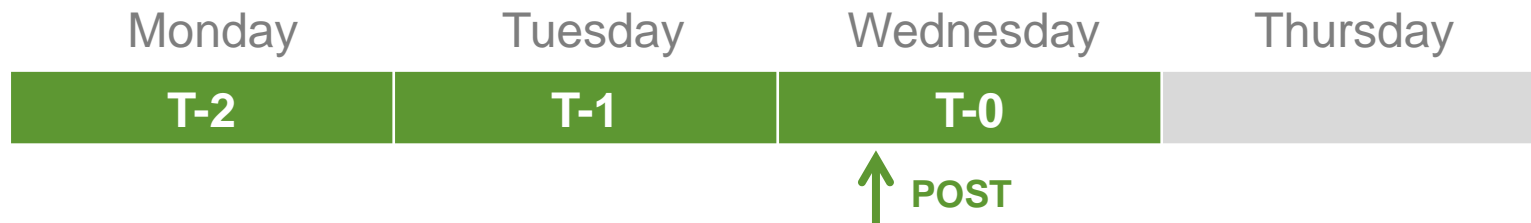
Proposed EIA-930 survey

Balancing authorities (BAs) would be required to...



Every hour, post:

- Hourly demand of previous hour



Every day before 7 am, post a set of hourly data:

- Demand forecast for current day (T-0)
- Hourly demand, net generation, total net interchange for T-1
- Net interchange with each connected BA for T-2

Survey design considerations

- The EIA-930 would collect data produced in the normal course of business.
- The data would be “as-is” from automated systems, minimizing survey burden.
- “As-is” data quality should still be good enough for statistics and analysis. We will be able to track data quality.