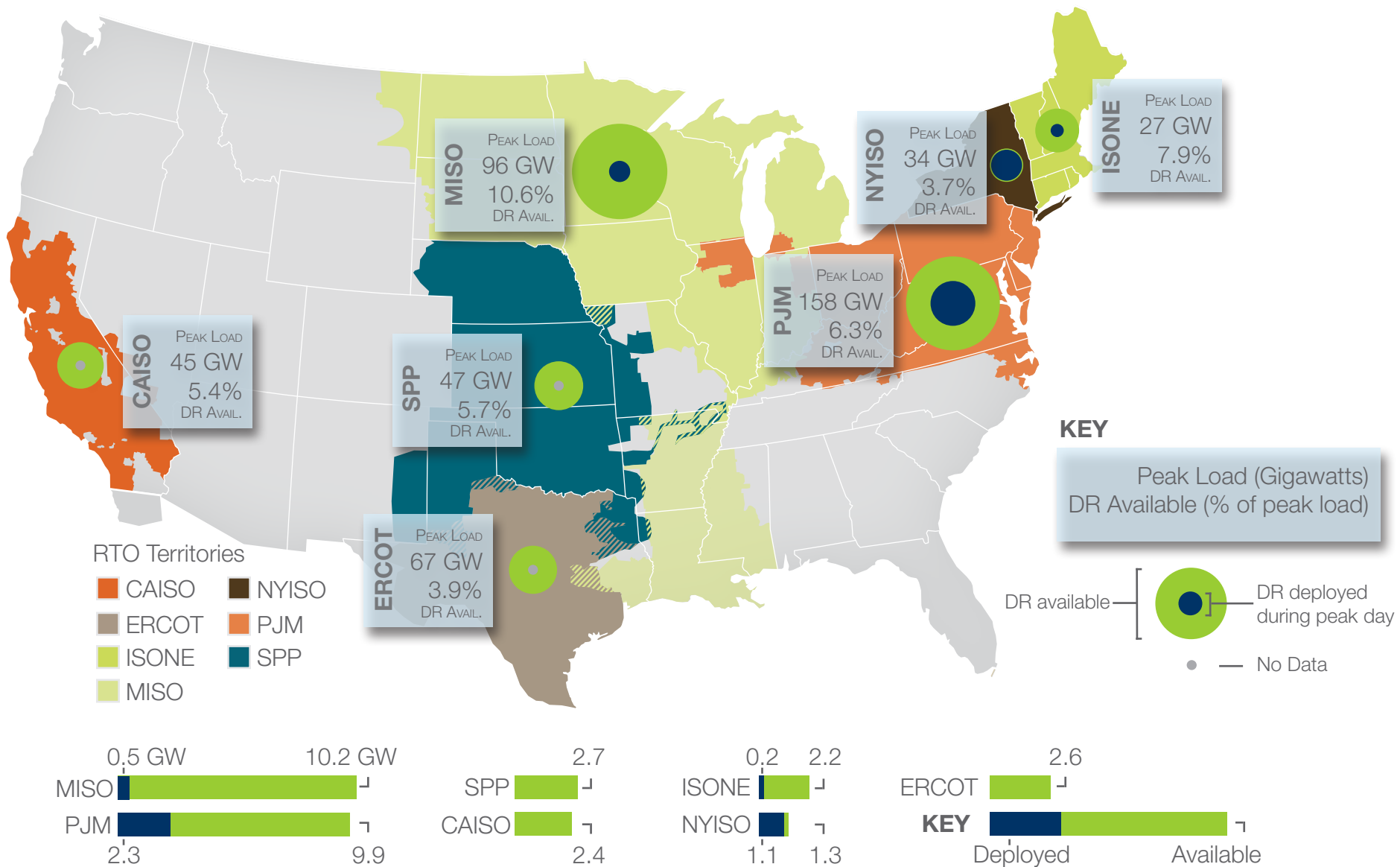


Summer Peak and Demand Response Utilization

by Regional Transmission Organizations

Summer 2013



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Summer Peak and Demand Response Utilization by Regional Transmission Organizations

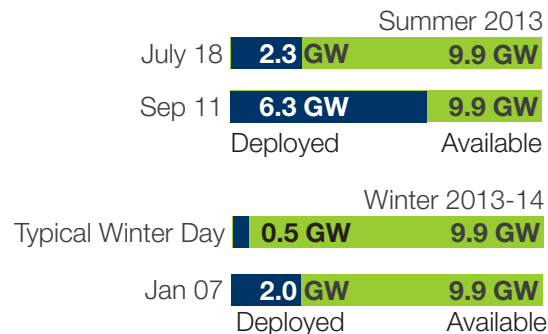


Three markets, three levels of utilization

Electricity demand reached its summer peak on July 17th and 18th, 2013, in the PJM, MISO and NYISO regions. In this 24 hour period, the three regional transmission organizations (RTOs) had three unique patterns of demand response utilization. Despite having very similar levels of demand response (DR) available (about 10 GW), **PJM** deployed about **2.3 GW** (23% of what was available) while utilities in the **MISO** region deployed an estimated **500 MW** (5%). Meanwhile, **NYISO** deployed **1.1 GW**, or about **86%** of the **1.3 GW** it had available.

Despite a similar size and availability of demand response resources, PJM and MISO deployed very different levels of energy- and cost-saving demand response on the same summer peak day. Due to regulatory and market differences, DR in PJM and NYISO is directly dispatched by the RTO, whereas in the MISO region, individual utilities generally deploy their own DR resources.

PJM Region Demand Response Resources



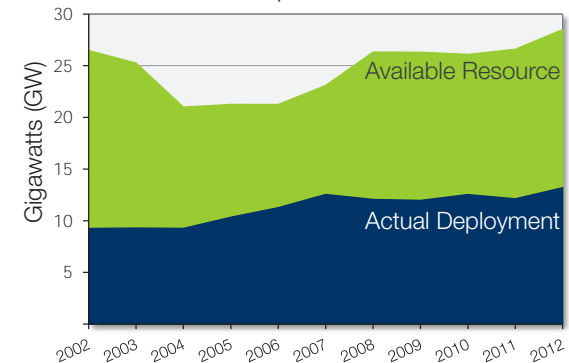
An expanding season for DR

Previously thought of as a summer time only resource, the season for deploying demand response to reduce peak load is expanding due to changes in climate patterns and an increased frequency of extreme weather.

In 2013, PJM saw a peak load of 158 GW in July 18, but also saw a heavy load of 144 GW on September 11. On this later date, PJM deployed 6.3 GW of demand resource (DR), about 63% of the DR resources available in the region.

In early 2014, the U.S. was hit with extreme winter weather. On January 7th, a "polar vortex" brought extreme cold temperatures to PJM's region, making it necessary to deploy about 2.0 GW of demand response to compensate for an above average heating load, nearly as much as was needed during the previous summer's peak day.

U.S. Demand Response Resources



Historic U.S. Potential vs Actual Peak Load Reduction

Over the past decade, the total amount of available demand response resources in the United States has fluctuated around 25 GW. In the same period, the U.S. actually only utilized about half those resources, deploying between 9 and 13 GW each year between 2002 and 2012.

Data Sources

Individual RTO Peak Date, DR Availability and Deployment:

Figures come from market reports and committee minutes from the following RTOs: NYISO, PJM, ISO-NE, MISO, CAISO, ERCOT and SPP. Contact GPI for more information.

U.S. Demand Response Potential and Actual Deployment:

US Department of Energy, Energy Information Administration, *Demand-Side Management Program Annual Effects*. December 2013.

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