

America's Competitive Power Suppliers

Power On



The **Future**
of **Electricity**
Generation



Electric Power Supply Association
*Advocating the **power** of competition*

The success of competitive markets in enabling renewable resources is evidenced by the fact that organized markets host 79% of today's installed wind generation, well above their 44% share of wind energy potential.

Markets Propel Innovation & Progress



Competitive Suppliers Rely on a Variety of Fuel Sources to Generate Electricity



Industry Uses Different Fuels to Generate Electricity

Source: U.S. Energy Information Administration, Electric Power Annual 2006, November 2007.

The competitive power supply industry includes power generators and power marketers. These suppliers account for nearly 40 percent of the installed generating capacity in the United States, providing reliable and competitively priced electricity from environmentally responsible facilities.

Currently 35% of electricity from competitive suppliers is **COAL**-fired. In comparison, when taken as a whole, coal-fired plants provide 49% of U.S. electricity. Coal is plentiful and domestic.

NATURAL GAS comprises 32% of competitive generation. In comparison, natural gas plants today provide 20% of overall U.S. electricity. Competitive suppliers have led the way in developing clean, efficient and innovative natural gas plants.

NUCLEAR power currently accounts for 25% of electricity from competitive suppliers and provides 19% of U.S. electricity. Nuclear power provides reliable energy with zero carbon emissions.

4% of electricity from competitive suppliers comes from clean and renewable **SOLAR, WIND, GEOTHERMAL** and **BIOMASS** and those numbers are growing. Competitive suppliers are developing the vast majority of new wind energy. In comparison, just 2% of overall U.S. generation comes from solar, wind, geothermal and biomass.

HYDROPOWER accounts for 2% of generation from competitive suppliers and 7% of overall U.S. generation.

Miscellaneous fuel sources comprise the remaining U.S. generation mix.



Competitive Power Suppliers Use More Diverse Mix to Generate Electricity

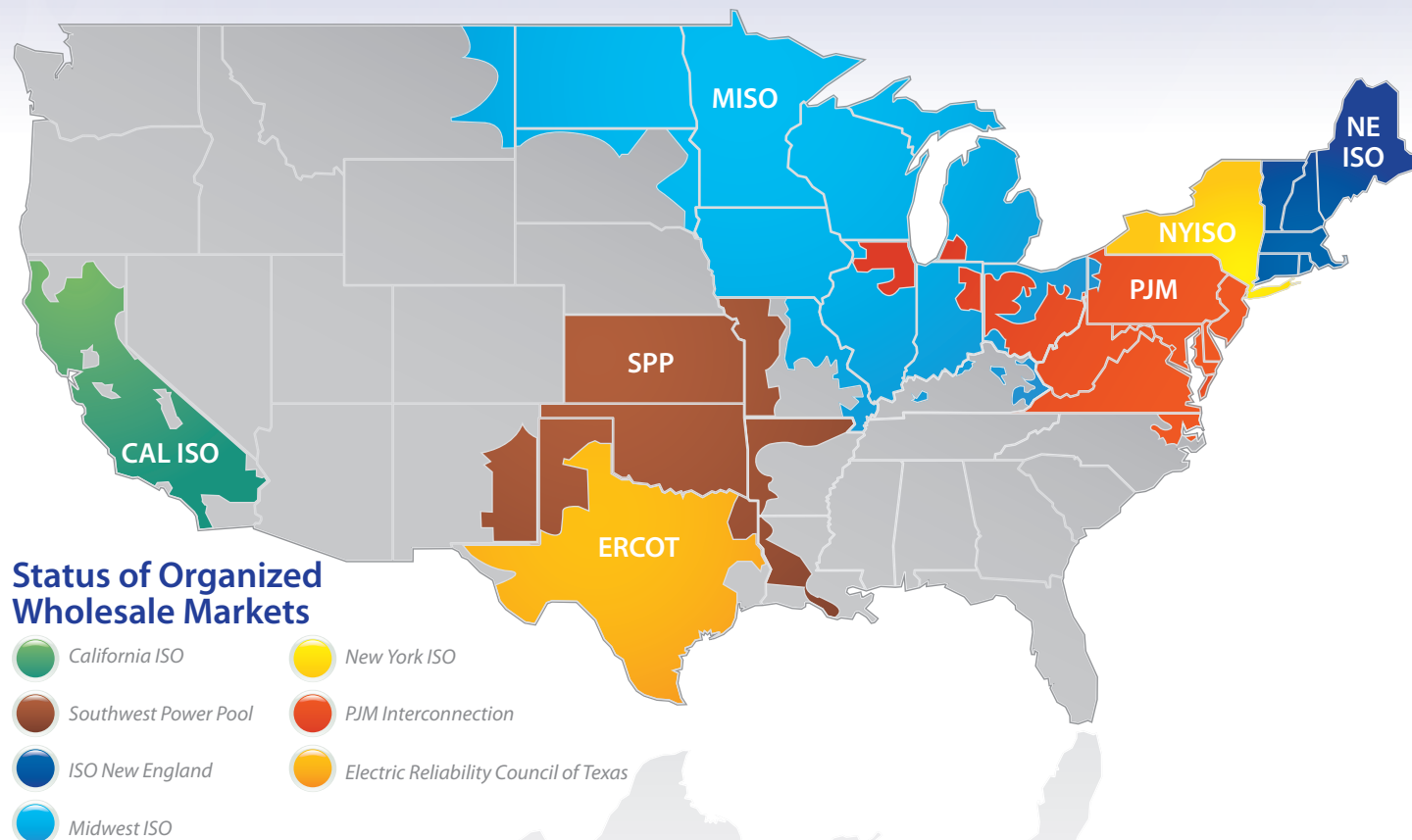
Source: U.S. Energy Information Administration, Electric Power Annual 2006, November 2007.

America's Electricity Markets are Meeting the Challenge

Organized regional markets provide the most robust competition, encourage the most diverse types of electricity resources and send the clearest market signals for future electricity needs, but even those states that don't participate in an ISO/RTO have potential to attract competition with the implementation of equal transmission access and state rules on competitive bidding for utility supply needs.

Did You Know?

- Many economists expect that even with substantial increases in energy efficiency, U.S. consumption of electricity will continue to increase in the coming decades, as population and the use of personal technology grow.
- Between 1998 and 2007, competitive electricity suppliers built the vast majority of all new generating capacity. Competitive wholesale markets attract needed new generation facilities and protect consumers by shifting a number of risks from customers to investors.
- EPSA's members contribute jobs and economic strength: they own more than 480 electricity generation plants representing 200,000 megawatts (MW) of capacity in 40 states and the District of Columbia, enough to power 20 million homes.



While two-thirds of the country participates in independently-administered organized markets, illustrated in the colored areas of the map above, competitive suppliers also attempt to participate in the "bilateral" wholesale markets that exist in the rest of the country. These bilateral wholesale markets, located primarily in the Southeast and the West, pose significant challenges to competition, as they are dominated by monopoly utilities that generally own both transmission and a large share of generation capacity and have little incentive to encourage competition. Improved federal regulations on equal transmission access and state rules on competition for utility supply needs are still necessary to bring more of the benefits of competition to consumers in these regions.

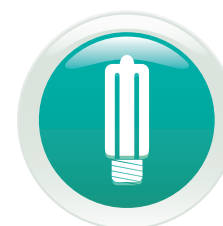
Status of Wholesale Electricity Competition

In the 1990s, as consumers grew increasingly dissatisfied with inefficiencies and cost overruns by traditional monopoly utilities, Congress sought to establish competitive wholesale electricity markets across the country. These markets, which are still being refined today, allow companies to build, own and operate power plants that compete to serve consumers' power needs.

States and regions have facilitated wholesale competition to varying degrees. At one end of the spectrum are the seven organized regional electricity markets, called either Independent System Operators (ISOs) or Regional Transmission Organizations (RTOs). ISO/RTOs offer many benefits, such as independent oversight of electricity sales and market transactions, equal access to the power grid for all power suppliers, sending of market signals that indicate future electricity needs, incentives for new generation and increased reliability across the region. As of 2008-2009, two-thirds of the U.S. economy is served by independently-administered, organized electricity markets.

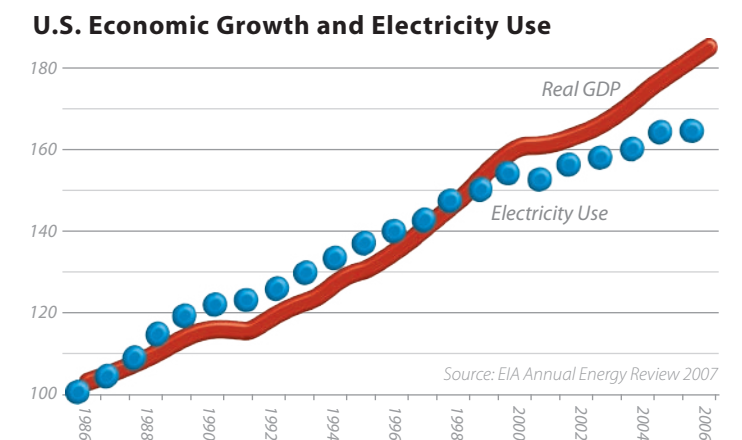
There also are states that have retained monopoly utilities. In these vertically-integrated states, competitive suppliers may at times compete to serve utilities' electricity demands, however many

of these states often still use the old model of "no-bid" supply deals for utilities. EPSA and its member companies encourage these states to host more robust and open competition in their electricity markets, which will ultimately benefit consumers through a more transparent and fair bidding process.



Economic Growth

It can't happen without electricity



- The Bank of America has estimated that power associated with Internet use will increase 17 % from 2000 to 2010, contributing to 40% of the projected growth in electricity use over the same period of time.

- Competition has dramatically improved the operating efficiency of many power plants. Between 1999 and 2004, nuclear power plants in the Eastern United States produced enough total additional energy to power more than 10 million residential households for one year. Comparable operating efficiency improvements also occurred at coal-fired power plants, creating enough additional energy to power more than 25 million residential households.
- It was competitive generators that filed the first industry applications (in 2007) to build new nuclear generation since the 1970s.
- Between 1997 and 2007, the amount of competitive generation has increased almost five-fold, from 8.5% to 40% of total U.S. capacity.
- Wind energy is the fastest growing form of renewable energy. The American Wind Energy Association says wind developers are choosing to build the majority of their wind in organized competitive electricity markets because they offer better access to transmission systems and clearer market signals.
- Competitive markets are enabling consumers to control the timing and amount of their electricity consumption through innovative programs such as "Demand Response." ISOs and RTOs are at the forefront of encouraging demand response, as evidenced by the amount of load enrolled in demand-response programs in summer 2007, with 20,864 MW of demand-response resources—the equivalent of 40 commercial-sized base-load generation units—enrolled in ISO/RTO markets.
- The price of all energy has increased since 2000, including electricity, although electric prices have increased less than natural gas, heating oil and the raw materials such as cement and steel that are needed to build power plants.
- The cost to expand existing generation facilities and to build new facilities has increased significantly in recent years. According to Cambridge Energy Research Associates, a power plant that cost \$1 billion in 2000 would have cost \$2.31 billion in early 2008. Competitive suppliers work to manage the risks of higher generation costs and have the incentives to keep costs lower. With traditional vertically-integrated utilities, costs generally are passed directly to the captive customer with less economic incentive for containment.

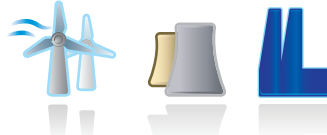


Electric System



FUEL SOURCES

A wide variety of natural resources provide the materials to generate electricity, such as water, natural gas, wind, coal & nuclear energy.



GENERATION

Power plants compete to produce energy as economically & efficiently as possible and then sell their power in wholesale electricity markets.

TRANSMISSION including INDEPENDENT SYSTEM OPERATOR or REGIONAL TRANSMISSION ORGANIZATION



Transmission lines move electricity to local communities. In some states or regions, an Independent System Operator (ISO), also called a Regional Transmission Organization (RTO), oversees transmission operations and the wholesale market where electricity suppliers compete to sell their energy to utilities or energy service companies.



UTILITY or ENERGY SERVICE COMPANY (ESCO)

The utility purchases electricity from a generator directly or through an ISO or RTO. In states that have retail competition for residential customers, an ESCO may purchase the electricity. The utility or ESCO delivers electricity to customers.



CUSTOMERS

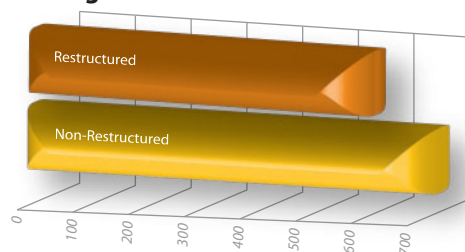
140 Million Customers in U.S.
122 million homes, 17 million businesses, 760,000 manufacturers.

Competitive power suppliers provided 40% of total electric capacity in 2006, double what they provided in 2000 and still growing.

Competitive Electricity Markets

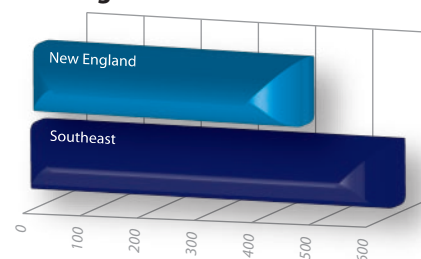
Show Consistently Lower Emission Rates

Carbon Dioxide Emissions in Restructured vs. Non-Restructured States Per Megawatt Hour



Tons of CO2/1000 MegaWatt Hours
Source: EIA Electric Power Annual 2006 Data.

Carbon Dioxide Emissions in New England vs. Southeast Per Megawatt Hour



Tons of CO2/1000 MegaWatt Hours
Source: EIA Electric Power Annual 2006 Data.

The two graphs above, developed from current U.S. Department of Energy data, depict the superior progress being made by states in restructured electricity markets in reducing greenhouse gas (CO2) emissions from electricity generation. At left, all U.S. restructured markets are compared to all non-restructured regions, showing how restructured markets have lower per-megawatt emissions. In the graph on the right, two representative regions of restructured and non-restructured states, New England and the Southeast respectively, are compared head-to-head. The difference is marked.

Competitive electricity markets are not the single driver behind these regional differences, but the efficiency gains, wide geographic footprints and integration of renewable energies that accompany competition will become even more necessary with the approach of new climate change regulations. Restructured markets are clearly leading the way in addressing climate change.

The Electric Power Supply Association works to advance the competitive power supply industry through advocacy and public education. EPSA:

- Provides a national voice for competitive suppliers and wholesale electricity markets.
- Advocates on Capitol Hill and at federal agencies for competitive electricity markets; for federal, mandatory, economy-wide, market-based cap-and-trade legislation to address greenhouse gas emissions; and for policies that promote the innovative technologies necessary to reduce emissions and enhance reliability and performance.
- Works with states and organized regional electricity markets to ensure they are facilitating clear market signals so competitive suppliers can meet customers' existing and anticipated needs efficiently and in an environmentally-conscious manner.
- Advocates for competitive procurement in states being served by vertically-integrated utilities.



Electric Power Supply Association
Advocating the power of competition

EPSA is the national trade association that represents competitive suppliers of electricity. Our companies generate electricity or otherwise supply it to wholesale markets. Competitive supply, marketing and generation of electricity produces technological efficiency, improved environmental performance, enhanced reliability and increased innovation in pricing and services, all at the least risk to consumers.

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