

# News Release

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## ISO markets continued to perform competitively in 2015

Department of Market Monitoring reports total wholesale costs decrease 30%

FOLSOM, Calif. – The California Independent System Operator’s (ISO) Department of Market Monitoring (DMM) reports the wholesale energy markets remained competitive in 2015 with wholesale prices decreasing by about 30 percent. In addition to a 40 percent drop in natural gas prices, moderate loads and several hundred megawatts of new peak summer generating capacity helped keep wholesale costs low and highly competitive during a period of record low hydroelectric production.

Overall prices in the ISO energy markets in 2015 were highly competitive, averaging close to what the DMM estimates would result under highly efficient and competitive conditions.

- The total estimated wholesale cost of serving load last year was just under \$37 per megawatt-hour, which was about 30 percent lower than in 2014. The primary driver again was lower natural gas prices.
- Prices in the real-time market were fairly stable in 2015, although there was an increase in frequency of negative prices compared to 2014. This trend was particularly notable in the first half of 2015 resulting from a planned outage on a major transmission path (Path 15) within California, moderate loads and peak output from solar resources.
- Costs for reserves and energy used by the system (ancillary services) decreased to \$62 million, or about 10 percent less than 2014. Lower natural gas prices again was the primary driver.
- Transmission congestion within the ISO system was low compared to prior years and had a limited impact on average overall prices across the system.

“As more renewable generation comes on line, we continue to see growing market effects. Thus, it remains important for the ISO and stakeholders to continue to develop market tools to value flexibility and address oversupply,” said Keith Collins, Manager of Monitoring and Reporting.

Non-hydroelectric renewable generation directly connected to the ISO system accounted for about 18 percent of total supply in 2015, up from about 16 percent from 2014. This growth was driven primarily by the increase in generation from solar resources. Energy from wind and solar resources directly connected to the ISO grid provided more than 12 percent of system energy, compared to about 10 percent in 2014. Solar energy production increased by about 38 percent compared to 2014 and

accounted for almost 7 percent of the total supply. Solar last year became the largest source of renewable power, overtaking wind for the first time. The overall output from geothermal generation increased by about 24 percent in 2015 and provided almost 5 percent of system energy while wind generation decreased slightly and contributed to about 5 percent of system energy. Natural gas power plants continued to be the largest source of energy in 2015.

Meanwhile, hydroelectric generation decreased about 16 percent last year and provided about 5 percent of the supply, which is the lowest level since the ISO began operation in 1998.

Almost 1,700 megawatts of new generation connected to the grid in 2015 with about 950 megawatts of summer peaking capacity. Of the total new generation, about 450 megawatts was wind capacity and more than 1,200 MW was solar. No natural gas-fired power plants were added in 2015 but just over 1,000 megawatts of gas plants were retired.

Demand Response programs operated by the ISO participating utilities continued to meet about 5 percent of the ISO's overall system resource adequacy capacity requirements. Meanwhile, the average annual system energy delivered in 2015 was almost unchanged from 2014 with about 231,495 gigawatt-hours, which continued the same trend as the past several years. The 2015 peak load was 47,257 megawatts, which was about 5 percent more than 2014 and the highest peak in the last five years.

Click [here](#) to see the full report.

For more information about the California ISO, click [here](#).

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