



Advanced Microgrid Solutions



Irvine Ranch
WATER DISTRICT

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Advanced Microgrid Solutions and Irvine Ranch Water District Partner on Largest Public Water Agency Energy Storage Network in the U.S.

Cutting-edge Project Will Help Address California's Water-Energy Nexus

IRVINE and SAN FRANCISCO, Calif. – Clean tech energy storage leader [Advanced Microgrid Solutions](#) (AMS) and the [Irvine Ranch Water District](#) (IRWD) today announced a public-private partnership to install the largest network of energy storage systems at a public water agency in the United States. The cutting-edge grid support project will enable the public water agency to store energy, making it available to reduce demand from the grid when requested by the utility without interrupting water treatment operations and reducing the need for additional supply from fossil fuel generation in a region challenged by the closure of the San Onofre Nuclear Generating Station.

This innovative partnership puts IRWD at the forefront of addressing one of California's great environmental challenges – the “water/energy nexus.” Water and energy use are inextricably intertwined – the pumping, treatment and distribution of water requires significant amounts of electricity. Public water agencies are aggressively exploring how best to smooth high energy demands, decrease costs and reduce their carbon footprints.

The system will provide IRWD cost savings of more than \$500,000 per year, help stabilize and balance demand on the strapped Southern California electrical grid and ultimately advance IRWD's sustainability efforts.

“Our agency has stepped forward with an innovative solution designed to protect customers while helping to reduce and better balance Southern California's energy demands,” said IRWD board president Mary Aileen Matheis. “This battery storage system – the largest in the nation – provides significant cost savings, enhanced grid stability and contributes to reductions in greenhouse gas emissions and a smaller carbon footprint.”

“We're proud to partner with IRWD on such an advanced, clean energy project,” said Susan Kennedy, CEO of AMS. “This energy storage system builds on IRWD's sustainability and efficiency commitment, taking it to a new level in tackling the water-energy nexus.”

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The 7 MW / 34 MWh network will utilize Tesla batteries, installed at 11 of IRWD's largest and most energy-intensive facilities – including three water treatment and recycling plants, a deep aquifer treatment system, a groundwater desalter facility and six high-energy pumping stations – as part of a major grid modernization project for Southern California Edison (SCE). The energy storage systems will be linked together as a network providing IRWD facility managers real time visibility and operational flexibility in responding to utility requests for demand reduction.

According to the California Energy Commission, the transportation and treatment of water, treatment and disposal of wastewater, and the energy used to heat and consume water account for nearly 20 percent of the total electricity and 30 percent of non-power plant related natural gas consumed in California.

IRWD is already a national leader in sustainability and energy efficiency. In 2015, the District commissioned a groundbreaking [study](#) to examine the average amount of energy needed to transport, treat and deliver water to customers on a per unit basis (kWh/AF). Each facility, a pump station or treatment plant for example, has its own "Energy Intensity." The study provides IRWD with a complete view of its water-energy footprint and will be used with the energy storage systems to reduce the District's energy and carbon footprint while reducing costs by hundreds of thousands of dollars each year. This is the first instance of a public water agency actively commissioning such research.

The IRWD-AMS Project is supported by a 10-year power-purchase agreement with [SCE](#). Under that agreement, AMS will design, finance, install and operate energy storage systems at IRWD facilities and manage requests from SCE for load reduction at IRWD's facilities when needed to balance the grid.

"Our utility-scale contracts make possible the realization of guaranteed savings and accomplishment for organizations – particularly public water agencies such as IRWD – with serious energy and emissions reduction goals," added Kennedy.

About Advanced Microgrid Solutions

Advanced Microgrid Solutions (AMS) is pioneering the use of advanced energy storage systems for electric utility grid support. The company designs, finances, installs and manages advanced energy storage solutions for commercial, industrial and government building owners. AMS's unique fleet management software provides optimized resource management, cost reduction and revenue generation for large-scale energy users. To learn more, visit www.advmicrogrid.com.

About Irvine Ranch Water District

Irvine Ranch Water District is the largest retail water agency in Orange County, California. Established in 1961, IRWD provides high-quality drinking water, reliable wastewater collection and treatment, ground-breaking recycled water programs, and environmentally sound urban runoff treatment to more than 390,000 residents. As an independent, not-for-profit public agency, IRWD is governed by a five-member publicly elected Board of Directors. To learn more, visit www.irwd.com.

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