



ENERGY AND WATER RESOURCES

ACWA POLICY PRINCIPLES

PREAMBLE

California has established ambitious targets to address climate change. With the passage of AB 32, the Global Warming Solutions Act of 2006, California launched the nation's most comprehensive, long-term initiative to reduce the State's greenhouse gas (GHG) emissions. Building on these efforts, in 2018 Governor Brown signed into law SB 100, expanding the Renewable Portfolio Standard (RPS) requirements to 60 percent renewables by 2030 and setting a planning goal of achieving 100 percent renewable and zero-carbon energy sources for the state by 2046.

To support these goals, California is implementing a mix of policies, including cap-and-trade, energy efficiency, RPS, and electrification of the transportation sector. These policies are driving a major transformation of the energy sector and creating opportunities to finance and otherwise accelerate local projects to reduce energy consumption and increase renewable energy resources. With the State well on track to meet many of its targets, these policies are also creating new challenges and opportunities associated with integrating the rising amount of renewable energy generation, while managing energy costs and reliability.

ACWA MEMBERS ADVANCING CLEAN ENERGY INITIATIVES

Water agencies have a long history and outstanding track record of participating in the development of the State's energy programs. As reflected by the early activities of both ACWA's Energy Committee and development of the 2009 "Water Energy Legislative Policy Recommendations," ACWA members recognized that:

"... with the concerns over climate change, population growth, and the growing potential for sustainable water shortages facing the state, there is an urgent need to address energy efficiency, renewable energy generation and water conservation in an integrated fashion."

ACWA members are uniquely positioned to voluntarily help meet the State's GHG emissions reductions goals, support a reliable electric grid and ensure a reliable water supplies. For decades, water agencies have been actively contributing to the State's clean energy supply. ACWA members have implemented a wide range of renewable energy projects, including large and small hydropower, biogas, micro-turbines, geothermal wind, energy storage, and photovoltaic solar. In addition, ACWA members have participated in a combination



LARGE HYDRO

Yuba Water Agency's hydropower facilities provide important electric grid stabilization in Northern California. The Yuba River Development Project includes a modern series of dams and hydropower facilities capable of generating up to 395 MW of carbon-free energy annually – enough to supply more than 300,000 homes throughout California. The New Colgate Powerhouse has a unique operational flexibility as it can go quickly from zero power to maximum output, helping to meet the rapidly changing demands for electricity throughout the day, and providing an ideal, clean supplement to solar and wind power.

of energy efficiency, demand-side management, and peak-use reduction programs. For many water and wastewater agencies, energy is one of the most expensive and most controllable costs in their operations. These projects have reduced costs and maximized benefits to ratepayers while contributing to the State's greenhouse gas emissions reductions goals.

ACWA MEMBERS COMMITTED TO SOUND ENERGY POLICY

ACWA members recognize that the provision of affordable and reliable energy supplies is necessary to providing long-term water supply and maintaining public health and safety. ACWA members remain committed to working with all stakeholders, including legislators, regulators, grid managers, NGOs, and municipal and investor-owned utilities, to support the advancement of sound energy and climate change policies that recognize the critical role water agencies play.

ACWA'S ENERGY POLICY PRINCIPLES

Water and energy are inextricably intertwined. About twelve percent of the State's total energy consumption is attributed to all water use, with ten percent identified for end-customer uses (heating, cooling, pressurizing, and industrial processes) and two percent attributed for conveyance, treatment and

distribution. As a result, ACWA seeks to engage in and impact energy policy discussions important to the water community. ACWA's engagement in these legislative and regulatory discussions is to be guided by the following policy principles.

- 1. Local Control:** The primary mission of water agencies is to provide a reliable water supply. Long-term water supply adequacy and reliability are critical to maintaining public health and safety and the economy. Decision-making authority regarding water supply, infrastructure investment, water management, and operational energy management must remain with local water agencies in any of the State's statutes, regulations and policies. ACWA may advocate for policies that recognize energy generation and consumption are among the many factors water agencies must consider in their decision-making although the weight given to each factor will vary depending on each agency's particular circumstances.
- 2. Cost Effective Energy Supplies:** To responsibly manage water, water agencies need access to affordable and dependable energy supplies to ensure the safe and reliable delivery of water to their customers. ACWA supports policies and programs that promote and ensure cost-effective energy supplies, grid reliability, and transmission, and reasonable, predictable, and competitive utility rate designs.

- 3. Greenhouse Gas Emissions:** Climate change poses a significant threat to California. ACWA supports the State's goals of reducing greenhouse gas (GHG) emissions and adapting to climate change. Incentive funding, including cap-and-trade revenues, should be accessible to water agencies for projects that further the State's climate change goals.
- 4. Water-Energy Nexus:** ACWA recognizes the importance of the water-energy nexus and will support programs that educate Californians about the relationship between water and energy. ACWA supports policies and programs that appropriately recognize energy use within the water sector. ACWA supports incentives that help improve energy efficiencies within the water sector and that also promote water supply reliability, safety, quality, and cost effectiveness. State policies must not require water agencies to make water management decisions or water delivery decisions based solely on embedded energy, GHG emissions or energy consumption, as energy is only one factor in water management decisions and only two percent of the State's total energy use is attributable to water conveyance, treatment and distribution.
- 5. Diverse Energy Portfolio:** The State's goals and associated policies should recognize that diverse energy generation sources are critical for ensuring energy reliability and cost effectiveness, and achievement of the State's climate change goals. ACWA supports policies, programs, tariffs, and incentives that promote voluntary new investments and preserve existing investments in diverse and cost-effective energy generation, including all hydropower, solar, wind, geothermal, biogas, and biomass – all of which should be recognized in the State's zero carbon energy portfolio. As the State transitions to a zero carbon future, policies and programs must be developed in a manner as to ensure grid resiliency and that energy is available locally during times of emergencies.
- 6. Energy Generation and Storage:** ACWA member agencies have invested and continue to invest heavily in energy generation. They are often owners and operators of resources that can facilitate energy storage opportunities that help to meet the State's long-term zero-carbon resource objectives. ACWA recognizes that members' energy generation resources help with the State's climate change goals while providing an opportunity for agencies to reduce energy costs and water rates for customers. ACWA promotes policies, integrated planning processes programs, tariffs, and incentives that encourage and preserve the financial integrity of water agency investments, ensure predictable energy markets, and incentivize effective distributed energy generation and storage projects that enhance grid stability and competitiveness of water agency assets. Policies should also enable and encourage ACWA member agencies to develop energy storage projects, including battery storage, pumped storage and bulk storage, for on-site or grid-level electric reliability that are cost-effective and economically viable for water agency customers.
- 7. Demand Response and Load Shifting:** ACWA supports policies that incentivize water agencies to voluntarily reduce non-critical electric usage during times of grid emergency and promote grid reliability by voluntarily shifting water agency usage to off-peak times or during times of over generation, while ensuring the delivery of reliable water supplies.

IN-CONDUIT

Calleguas Municipal Water District's four in-conduit hydro projects, some of which have been operating for over 30 years, have a combined energy production capacity of over 3 MW, much of which is exported to the grid.

San Diego County Water Authority's Rancho Peñasquitos Hydroelectric Facility is an in-line, 4.5 MW hydro generation facility that generates up to 21,500 MWh per year with an annual net revenue of up to \$900,000.

BATTERIES & DEMAND RESPONSE

Long Beach Water Department recently commissioned a 520 kW / 3360 kWh battery system to assist with demand side management. The system will allow LBWD to choose a more operationally flexible SCE tariff while achieving an approximate energy savings of 10 percent.

MICROGRID

Santa Rosa Water installed a microgrid at their wastewater treatment plant. The complete system will allow for increased renewable energy integration including a currently installed, 2.2 MW battery system, and 126 kW of photovoltaic solar for participation as a demand resource on the wholesale energy market and an overall reduction in GHG emissions.



SOLAR

Zone 7's 348 kW Del Valle Water Treatment Plant is expected to reduce greenhouse gas emissions while producing one-third of the energy for water treatment and other plant operations, reducing costs by approximately \$800,000 over 20 years.

8. Role of Hydropower in California's Energy

Portfolio: Large, small, and in-conduit hydropower are all important to achieving climate change goals, while ensuring energy reliability throughout the State. ACWA advocates for policies that promote each of these types of hydropower, balance the need to protect existing hydropower assets and to promote additional hydropower investments, and recognize them as consistent with the State's zero-carbon resource goal.

9. Efficient and Timely Regulatory Approvals:

ACWA supports reducing the regulatory and economic burdens associated with developing energy projects. ACWA advocates for efficient and streamlined utility interconnections, Federal Energy Regulatory Commission relicensing, land use and environmental permitting, and all other regulatory processes. Regulatory burdens should be reduced to protect water agency investments in energy infrastructure and to incentivize water agencies to maintain existing and develop new energy projects.



BATTERY

Irvine Ranch Water District has a public-private partnership to establish one of the nation's largest energy storage systems being used for on-site power – a 6.25 MW / 35.7 MWh network of high-efficiency battery arrays being set up at six water treatment, recycling and pumping facilities throughout its district. The project will allow the District to buy and store electricity when rates are low and use that energy to power operations during peak hours when rates are high – saving \$500,000 or more in energy costs annually without any upfront investment. At the same time, the project provides a source of stored power for SCE to utilize when necessary to protect the grid, and when renewable energy is being incorporated for enhanced and lasting economic and environmental benefits.