

EXECUTIVE SUMMARY

The Executive Summary provides the big picture overview of energy use in Sonora, the goals and potential savings associated with the implementation of the Energy Action Plan.

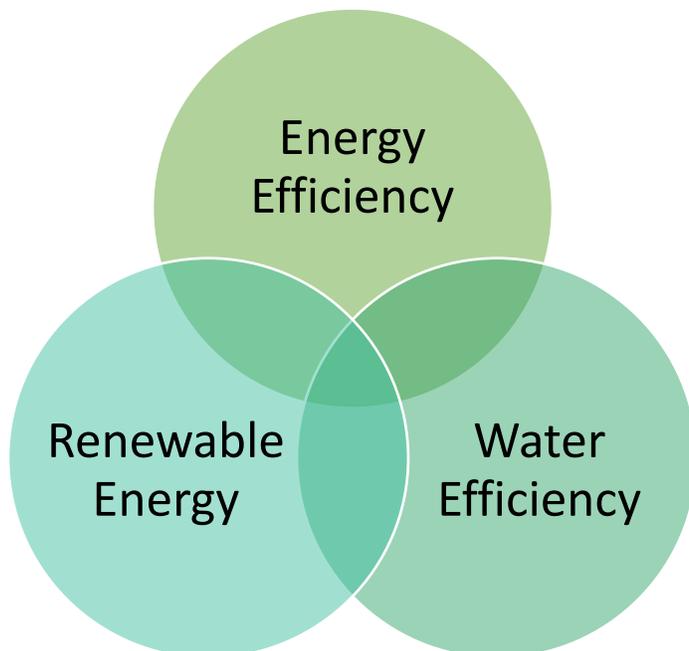
The City of Sonora Energy Action Plan (EAP) provides an analysis of the energy use within the City limits by the community and public agencies as well as a roadmap for accelerating energy efficiency, water efficiency, and renewable energy efforts already underway in Sonora. It is designed to assist the City in implementing the energy and water-energy related goals and policies in the City's General Plan and Housing Element, and inform the community of cost-effective programs and best practices that will help them save energy and money.

To inform the plan, Sierra Business Council (SBC) first evaluated the energy used in the entire community by the residential and non-residential sectors, including City and public agencies. This evaluation found that the community - including residential, non-residential, City, and public agencies - consumed 60,306,795 kilowatt hours (kWh) of electricity and an estimated 1,903,951 gallons of propane and 1,529 cords of wood in 2010. Of that energy use, the City's operations accounted for over 374,383 kWh of electricity consumption and 5,194 gallons of propane in buildings costing \$35,125 and 266,352 kWh of electricity for public lighting costing \$68,913 in 2010. In addition, the community wide potable and wastewater services accounted for 695,187 kWh of electricity consumption costing an estimated \$35,102 in 2010.

SBC then projected the community's energy use out to the year 2035 if no actions are taken to lower energy consumption or improve the efficiency of current City and community-wide operations. The 2035 "business-as-usual" forecast¹ of annual energy use showed that electricity consumption would increase to 69,398,808 kWh, propane consumption would increase to 2,115,239 gallons, and wood consumption would increase to 1,612 cords of wood at an estimated cost of over \$21.7 million in 2035.

This presents significant opportunity for community members and the City of Sonora to save money and energy by addressing the inefficiencies of current energy-consuming systems, operations, and behaviors. To achieve these savings, the City of Sonora EAP was developed to provide a broad view of energy use in the City, set energy and water-energy saving goals, recommend actions that result in short and long-term energy savings, and educate the community on existing resources designed to save utility customers money, energy, and water.

¹ Business as usual use is projected energy use if no energy efficiency measures or programs are implemented



The goal of the plan is to reduce the projected annual electricity use in 2035 by 55%, annual propane use by 25%, and annual wood use by 18%. This translates to annual savings of 38,184,137 kWh of electricity, 530,684 gallons of propane, and 287 cords of wood from the projected business as usual forecast. Since 2010, Sonora’s community efforts are saving over 4,794,107 kWh of electricity annually from PG&E energy efficiency programs² and producing an estimated 3,640,474 kWh of electricity from solar photo voltaic (PV) systems³, which underscores the importance of utilizing the available resources and funding. The actions within this plan are voluntary and do not require the City or community to meet these target reduction goals; however, savings may only be realized if the recommended actions are taken.

The heart of the plan is contained in Chapter 3: Goals and Strategies and Chapter 4: Implementation Plan. The goals address three key areas of energy: energy efficiency, renewable energy, and water efficiency.

The strategies focus on voluntary measures that can be taken by residents, businesses, and public agencies to reduce energy use through energy efficiency, renewable energy, water efficiency. Key components include: developing and disseminating information on existing programs at community events and on the City’s website; energy-related training for City staff, building contractors, realtors, and homeowners associations; and partnerships with local and regional utilities and organizations to leverage resources and increase participation in existing and new programs.

The plan recognizes that there are energy-consuming sectors such as transportation; while those other sectors are not addressed here due to the nature of funding, the City could address them in the future for additional community benefits.

The following table compares 2010 baseline energy use, 2035 business as usual forecasted energy use and potential energy use savings in 2035 with the successful implementation of the EAP strategies and actions. The majority of energy savings are attributed to existing structures and would have significant impact in the community regardless of the projected new construction. A critical way of achieving the energy savings estimated in this plan is by convening a Working Group that focuses on implementing the plan. In order to complete the actions in the Implementation Plan, it is recommended that with coordination assistance of the Local Government Commission’s CivicSpark AmeriCorp fellow, the Working group can assist with implementation and alleviate the demand on City staff time. The Working Group should be comprised of

² Sonora residential and non-residential energy savings based on projects completed 2010-2016. California Public Utilities Commission. Accessed September 22, 2017. <http://eestats.cpuc.ca.gov/Views/EEDataShelf.aspx>

³ Sonora residential and non-residential solar PV statistics based on installations completed 2010-2016. California Solar Initiative. Accessed September 22, 2017. https://www.californiasolarstatistics.ca.gov/data_downloads/

representatives from the City, Tuolumne County, Tuolumne Utilities District, Tuolumne County Resource Conservation District, Amador Tuolumne Community Action Agency, Sonora School District, PG&E, Tuolumne County Association of Realtors, the business community, and residents.

Table ES-1: Summary of 2010 Baseline and 2035 BAU Forecast Energy Use and Potential 2035 Energy and Cost Savings

Energy Use	2010 Baseline	2035 BAU Forecast	2035 Potential Energy Savings	2035 Potential Cost Savings ⁴	Percent Difference
Electricity	60,306,795 kWh	69,398,808 kWh	38,184,137 kWh	\$8,018,669	55% reduction from 2035 BAU
Propane	1,903,951 gallons	2,115,239 gallons	530,684 gallons	\$1,332,018	25% reduction from 2035 BAU
Wood	1,529 cords	1,612 cords	287 cords	\$78,997	18% reduction from 2035 BAU

⁴ Forecasted composite rate for 2035 of \$0.21 per kWh based on SBC forecast of PG&E and TPPA Rates, 2035 average rate of \$2.51 per gallon of propane based on 2010 Energy Information Agency West Coast Annual Average Retail Prices. Accessed September 22, 2017. http://www.eia.gov/dnav/pet/pet_sum_mkt_dcu_R50_a.htm, and 2010 average of \$275 per cord estimated based on local listings for soft and hardwood.