

INTEGRATED RESOURCE PLAN (IRP)	Date:	June 28, 2023
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IRPs shall consider all reasonable opportunities to meet future energy resource requirements using Demand Side Management techniques, new renewable resources and other programs that will provide retail consumers with electricity at the lowest possible costs, and minimize, to the extent practicable, adverse environmental effects.

Customer Contact Information:

(Provide contact information for your organization. Contact person should be able to answer questions concerning the plan)

Customer Name:	Northern California Power Agency 10 Members
Address:	651 Commerce Drive Roseville, CA 95678
Contact Person:	Guy Nelson
Title:	Resource Engineer
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E-Mail Address:	gnelson181@aol.com
Website:	

Type of Customer:

<input checked="" type="checkbox"/>	Municipal
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Identification of Resource Options (considerations that may be used to develop potential options include cost, market potential, consumer preferences, environmental impacts, demand or energy impacts, implementation issues, revenue impacts, and commercial availability):

Supply-side options:

(Including, but not limited to: purchase power contracts and conventional and renewable generation)

Existing supply-side options	Future supply-side resource options
Calaveras/Mendocino Hydro	Additional Renewable projects (PV, Wind)
NCPA Geysers Geothermal/PV	Battery Storage
Conventional Generation	Additional Geothermal Projects
NCPA Peaking Plants	Biomass Projects
Wind Projects	Additional Conventional Generation
PV Projects	Additional Power Purchase Agreements
Power Purchase Agreements	Hydrogen

Demand-side options:

Existing demand-side options:	Future demand-side resource options considered and evaluated:
Res/Commercial Heating and Cooling	Demand Response
Behavioral Changes	
Res/Commercial Building Shell	
Res/Com Lighting, Appliances, & Equip	
Process Efficiency	

Resource options chosen:

(Provide a narrative statement that describes the option chosen and clearly demonstrates that decisions were based on a reasonable analysis of the options)

NCPA members focus on cost effective energy efficiency programs. Energy savings quantification is a key element in determining cost effectiveness. Prior 5-year IRPs submitted to and approved by WAPA in 2003, 2008, 2013 and 2018 described a unified series of energy savings quantification methodologies for a variety of end-use new and retrofit DSM efficiency measures. In this 5-year IRP for 2023, the members are using the 2017 CMUA Technical Reference Manual (TRM) to demonstrate that the decisions are based on a reasonable analysis of the options.

TRM is a credible document recognized by state and local program administrators, regulatory agencies, and program evaluators as a manual that can be used to consistently, reliably, and transparently calculate energy savings for utility energy efficiency programs. TRM provides the methods, formulae, and default assumptions used for estimating energy savings and peak demand impacts from energy efficiency measures. The savings estimates are used to report program accomplishments and progress towards program goals.

Energy efficiency measures are documented and classified as either unit energy savings measures, provisional measures, semi-custom measures, or custom measures. The manual presents both nonresidential and residential measures. Each measure type is presented in separate sections and grouped by technology type. Measure information is presented in a consistent tabular format.

Future Annual Updates will document any changes or modifications to the methodologies. More information and background on the methodologies and reporting tools are available in the CMUA's Energy Efficiency in California's Public Power Sector annual reports of 2007 – 23 to the California Energy Commission. These annual reports are also an excellent source of information on EE programs in all of California's Public Power Utilities.

Action Plan:

Specific Action Items to be Implemented Over the Next 5 Years: (NOTE: Many of the programs listed below were begun decades ago. The program begin dates and end dates correspond to the five-year plan and are not intended to mean that they started and ended in that time span. Many of the programs may continue after 7/1/28. Any additions, discontinuations, and revisions will be documented in the annual update reports.)

Energy Consumption Improvements:

Proposed Programs	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Res Clothes Washers	7/1/23	7/1/28	4	40,407	Every March
Residential Cooling	7/1/23	7/1/28	10	14,053	Every March
Res Dish Washers	7/1/23	7/1/28	0	1,726	Every March
Res Comprehensive	7/1/23	7/1/28	4	139,127	Every March
Res Heating	7/1/23	7/1/28	8	14,317	Every March
Res Lighting	7/1/23	7/1/28	40	492,413	Every March
Refrigeration	7/1/23	7/1/28	28	212,981	Every March
Res Building shell	7/1/23	7/1/28	25	36,423	Every March
Res Water Heating	7/1/23	7/1/28	1	1,405	Every March
Commercial Cooling	7/1/23	7/1/28	26	88,538	Every March
Commercial Heating	7/1/23	7/1/28	2	1,621	Every March
Commercial Lighting	7/1/23	7/1/28	883	7,522,535	Every March
Electric motors	7/1/23	7/1/28	56	267,274	Every March
Commercial Refrigeration	7/1/23	7/1/28	66	612,744	Every March
Commercial Shell	7/1/23	7/1/28	9	75,279	Every March
Commercial Pumps	7/1/23	7/1/28	0	78,737	Every March

Renewable Energy Activities: (NOTE 1: Two of the projects listed below were begun decades ago. The project begins dates correspond to the five-year plan and are not intended to mean that they started or will end in the time span of this plan. Most, if not all, will continue after 7/1/24. (NOTE 2: The estimated MW and MWh production figures of the projects are identical to those in the 2023 Annual Update Report to WAPA. Future project production will vary based on a number of factors, including solar insolation, hydrology, and steam field performance.) (NOTE 3: Any additions, discontinuations, and revisions will be documented in the annual update reports.)

Project	Start	End	Est. MW	Est MWh	Evaluation Date
Geysers PV	7/1/2023	Continuous	2	2989	Every March
Geysers Geothermal	7/1/2023	Continuous	55	319,743	Every March
Calaveras Hydro	7/1/2023	Continuous	151	536,406	Every March

Environmental Effects:

(Provide a narrative statement that sets forth the efforts taken to minimize adverse environmental effects of new resource acquisitions)

NCPA members operate within a complex political and economic environment. The issues confronting them vary over time, but fundamentally, their work to preserve local decision-making in the energy policy debate consistently produces highly beneficial outcomes for the communities and districts they represent – as well as for the State of California. And their work is being recognized nationally.

In 2021 and 2022, The City of Palo Alto Utilities (CPAU) recently earned a Champion Award from the US Environmental Protection Agency (EPA) through the Responsible Appliance Disposal (RAD) program. This EPA program is a voluntary partnership that brings together organizations to recycle refrigeration materials. The RAD Champion award recognizes the top 10 partners with the highest percentage of units processed with foam recovery.

The award highlights partners for accomplishments in reducing ozone-depleting substances and greenhouse gas (GHG) emissions through insulation foam recovery, significant growth of an appliance recycling program, and in demonstrating a notable commitment to advancing the goals of the RAD program.

In 2021, the City of Palo Alto Utilities (CPAU) was recently announced a designee of the American Public Power Association Smart Energy Provider (SEP) Award for the third year in a row. The SEP designation recognizes public power utilities for demonstrating leading practices in four key disciplines: smart energy program structure; energy efficiency and distributed energy programs; environmental and sustainability initiatives; and the customer experience. This is the third year the Association has awarded this designation to public power utilities.

Aligning with the guiding principle of local control has proven to be a sure way of creating policy that is both responsible and forward looking. Moreover, the NCPA members’ connection and accountability to the communities and citizens they serve has placed the utilities on the cutting edge of environmental issues.

Like public power nationally, NCPA and its members have long been committed to environmental stewardship within the energy industry. In addressing key issues, NCPA's Roseville, California-based Legislative and Regulatory Affairs team works hand in hand with California Municipal Utilities Association (CMUA), Southern California Public Power Authority (SCPPA), American Public Power Association (APPA), Transmission Agency of Northern California (TANC), and the Transmission Access Policy Study Group. Below are six key issues that NCPA members are proactively addressing:

CO2/Greenhouse Gas Emissions and Global Climate Change

NCPA and its members participate in state and national initiatives to help reduce CO2/greenhouse gas emissions through advocating best practices, promoting research and development, and joint action projects to provide the benefits of scale to NCPA's smaller utility members. The global consequences of environmental impacts constitute a challenge for utilities in the energy business. Publicly owned utilities, like NCPA's members, have asserted responsible energy production for decades — and have made it happen. The tension between meeting demands for electricity (resource adequacy) while achieving reductions in greenhouse gas emissions, is not new for NCPA leadership, and NCPA's experience has provided important policy direction for California as a whole.

Energy Efficiency

Energy efficiency includes policy and programs that promote efficiency in the production and use of electricity—beginning at the generation sites and continuing all the way through to NCPA members' end users. NCPA and its members actively work with leaders from the regulatory and legislative branches to assure optimal autonomy for NCPA members, enabling them to design policy which makes every kilowatt count.

Renewable Energy

NCPA and its members have long recognized the importance of renewable energy sources—they are a perfect fit for its core values of environmental responsibility and energy security. Currently, NCPA members' resource base is more than 60% renewable, and, when large hydro facilities are included, (they were excluded under AB 1890's definition because of environmental impacts of large dams) the percentage goes above 90%. NCPA and its members have fought hard to assure that its members continue to retain the right to design and implement their own Renewable Portfolio Standards.

To mandate a one-size-fits all solution, when that solution has its own inherent design and materials flaws is a policy rejected by NCPA and its members. Individual members of NCPA craft their portfolio by policy determined at the local level to optimize unique climate conditions and local needs.

Public Benefit Programs

Under AB1890 (1996), utilities set aside approximately 3% of their gross revenues for programs that fall into categories that were expected to be jeopardized in what was thought would be a competitive electricity market. Consequently, NCPA members use these funds for 1) low-income customers, 2) research and development, 3) renewables, and 4) energy efficiency. Many NCPA members use these funds for environmental efficiency programs, an essential plank of a comprehensive state energy policy.

Central Valley Project

NCPA and its members promote fair costs for water and power customers of California's Central Valley Project, while asserting generous environmental remediation and restoration efforts.

Public Participation:

(Customers must provide ample opportunity for full public participation in preparing and developing an IRP. Provide a brief description of public involvement activities, including how information was gathered from the public, how public concerns were identified, how information was shared with the public, and how it responded to the public comments)

NCPA and its members feel that the public deserves to give feedback on their goals, directions, and progress in developing and implementing their IRPs. To encourage that feedback, each member conducts regularly scheduled meetings each month in which the public is invited to comment on all matters involving the utility operations, including the utility’s public benefit program.

The public can comment on agenda items covered in presentations or matters not covered on the agenda. Below is a table that describes the frequency in which the members conduct the regularly scheduled public meetings. In addition, many members have special meetings announced in a timely manner that the public is invited to attend and are composed of a combination of city officials, interest groups, and committee and task force members. All concerns and comments are documented and addressed in meeting minutes which are available at each member’s website.

Evidence of Public Participation

NCPA Member	Monthly Meeting Frequency	Time(s)
City of Alameda	3rd Monday	6:00 PM
City of Biggs	1st and 3rd Mondays	7:00 PM
City of Gridley	1st and 3rd Mondays	7:30 PM
City of Healdsburg	1st and 3rd Mondays	6:00 PM
City of Palo Alto	First three Mondays	5:00 PM
City of Lodi	1st and 3rd Wednesdays	7:00 PM
City of Lompoc	1st and 3rd Tuesdays	6:30 PM
Plumas-Sierra REC	Fourth Wednesday	10:00 AM
Port Oakland	1st and 3rd Tuesdays	4:00 PM
City of Ukiah	1st and 3rd Wednesdays	6:00 PM

Future Energy Service Projections:

(Provide a load forecast to show expected growth or expansion; or a narrative statement concerning expected future growth)

Calendar Year	Peak Demand (kW)	Total Energy (kWh)
2024	495,800	2,362,900,000
2025	500,900	2,356,500,000
2026	503,900	2,392,700,000
2027	506,400	2,422,100,000
2028	506,800	2,438,200,000

And/or Narrative Statement:

The above figures represent the combined Peak Demand (kW) and Total Energy (kWh) projections for all ten NCPA members covered in this Combined IRP. The individual utility figures in mW and gWh for the Fiscal Years are contained in the 2023 Annual IRP Update Report.

Measurement Strategies:

(Provide a brief description of measurement strategies for options identified in the IRP to determine whether the IRP’s objectives are being met. These validation methods must include identification of the baseline from which a customer will measure the benefits of its IRP implementation).

The NCPA members covered in this IRP make available to their customers and to the CEC the results of any independent evaluation that measures and verifies the energy efficiency savings and the reduction in energy demand achieved by its energy efficiency. Although the reporting is required by law, the members strategically respond to the requirement in a manner that confirms the accuracy of reported savings while optimizing the exchange of program information across the entire range of public power utilities, large and small.

The Evaluation Measurement and Verification (EM&V) process is used to provide utility program managers with feedback and relies generally on the approaches articulated in the National Action Plan for Energy Efficiency, adopted CPUC protocols, and the innovation and expertise of firms experienced in program evaluation. To further enhance the value of the information obtained from these reports, the NCPA members covered in this IRP, other NCPA members, and the other public power organizations in California have worked closely with CEC staff to develop a consistent set of evaluation guidelines for third-party consultants that are retained to evaluate utility programs. Results from the EM&V studies provide utility program managers with feedback to improve program effectiveness.

CMUA, SCPPA and NCPA continue their active collaboration in this regard, sharing best practices and coordinating the distribution of program evaluation information throughout the public power community. As a practical matter, EM&V reports are intended to be used by utilities to understand the effectiveness of specific program areas with the purpose of enhancing programs offerings in the future. In general, many of the EM&V studies completed to date have focused on high savings

impact measures and measures that exhibit the greatest levels of uncertainty. Key findings from the initial volume of reports submitted by POU's continue to confirm high realization rates for utility-reported energy savings, corroborating that public power's energy efficiency reporting provides a reliable source of data to help state policymakers gauge the success of the state's overall energy efficiency efforts.

The economic slowdown has had an impact on program evaluation and savings realization rates. In some cases, businesses participating in energy efficiency programs do not survive the economic downturn, even though the efficiency measures they paid for were installed, but ultimately are not being utilized as intended. In essence, unanticipated vacancies can negatively impact realization rates.

Continuous progress has been made in the EM&V state-of-the-art since the last five-year IRP was submitted. NCPA members use several methods of using measured data to estimate energy savings. The methods involve using measured data either as (1) input for engineering models or (2) as the basis of statistical models, such as a whole-building utility bill analysis. The members also use statistical models to estimate energy savings based on measured data that correlates to key parameters effecting energy use (such as weather and production). The members are also using statistical sampling to reduce EM&V costs.

IRP Approval:

(Indicate that all of the IRP requirements have been met by having the responsible official sign below; or provide documentation that the IRP has been approved by the appropriate governing body)

Guy Nelson	Resource Engineer
_____ (Name – Print or type)	_____ (Title)
GUY NELSON	June 28, 2023
_____ (Signature)	_____ (Date)

Other Information:

(Provide/attach additional information if necessary)

NCPA members focus on cost effective energy efficiency programs. Energy savings quantification is a key element in determining cost effectiveness. Prior IRPs submitted to and approved by WAPA in 2003, 2008, 2013, and 2018 described a unified series of energy savings quantification methodologies for a variety of end-use new and retrofit DSM efficiency measures. In this IRP for 2023, the members are

using the CMUA Technical Reference Manual (TRM) to demonstrate that the decisions are based on a reasonable analysis of the options.

Going forward, the IRP Annual Update Reports for 2023-2027 will include any changes and progress in the methodologies and quantification of energy savings for a variety of end-use, retrofit efficiency measures using correct, consistent values to help the members fulfill their mandatory reporting requirements and to more accurately estimate energy and peak-load reduction as a result of public benefits' programs. The consistent values provide uniform reporting standards that all members can use for common reporting requirements.

More information and background on the methodologies and reporting tools are available in the CMUA's Energy Efficiency in California's Public Power Sector annual reports of 2007 – 23 to the California Energy Commission. These annual reports are also an excellent source of information on EE programs in all of California's POUs.

Below is the description of the individual NCPA members' energy efficiency programs. The annual reports over the next five years will include any changes in the programs. The annual reports will also include information on complimentary programs such as low income, renewable energy, electric vehicle, and research, development, and demonstration programs.

Alameda Municipal Power (AMP) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Energy Plus Program: The Energy Plus Program, which started in January 2016, is a nonresidential direct-install lighting, refrigeration, and heating, ventilation, and air conditioning (HVAC) program. This program is also available to local municipal customers doing EE upgrades. In FY 2022, five customers participated in lighting and refrigeration upgrades with low co-pay amounts, due to AMP's rebates. This program ended December 31, 2021.

Non-Residential Self-Install Program: This program, like Energy Plus, offers nonresidential customers rebates for EE upgrades such as lighting, HVAC, and refrigeration. In FY 2022, four customers participated in lighting upgrades with low co-payment amounts, due to AMP's rebates. AMP has maintained this program as an umbrella commercial rebate program since Energy Plus ended to provide continuing support for commercial customers' EE needs. This program will remain open in FY 2023.

Commercial Kitchen Rebate Program: This program was introduced in the second half of FY 2021, targeting the growing restaurant and food service industry in the City of Alameda. The program offers rebates for EE such as solid doors for commercial refrigerators and freezers, glass doors for commercial refrigerators and freezers, commercial ice makers, and other energy efficient commercial kitchen equipment. In FY 2022, there were no participants in the program. In FY 2022, AMP supplemented this program with no-cost in-person commercial kitchen audits, and free in-person or virtual webinars.

Residential Programs

Residential Online Rebates – Lighting and Appliances: Alamedans have been able to participate in residential EE rebates using a simple web application since March 2016. In the first quarter (Q1) of FY 2022 AMP approved 31 applications. Rebates were available for LED bulbs, LED fixtures, LED decorative string lights, electric clothes dryers, washing machines, heat pump water heaters, and electric vehicle (EV) chargers. Starting in the second quarter (Q2) of FY 2022, AMP launched a new rebate portal and an e-commerce online marketplace. The marketplace was a resource for customers to research, purchase, and compare energy efficient products for their homes or small businesses. In addition, the new marketplace offered downstream rebates for customers. The marketplace remained open until February 2023.

Energy Assistance Program (EAP) Plus – In October 2019, AMP launched a residential direct-install program, called EAP Plus, targeting income-qualified residents living in single and multi-family homes. Eligible customers received no-cost EE upgrades, including LED bulbs, LED fixtures, refrigerators, advanced power strips, low-flow shower heads and various weatherization measures. In FY 2022, the program served 60 customers. The program will remain open in FY 2023.

Biggs Municipal Utility (BMU) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Commercial/Industrial Lighting Program: Customized Lighting Retrofit Rebate Program available to all commercial customers and educational facilities.

Commercial HVAC Program: Customized HVAC Retrofit & Optimization Program provides generous incentives for businesses and educational facilities to update aging HVAC units or tune-up units that don't need replacement.

Residential Programs

Limited complimentary EE audits are conducted by Efficiency Services Group for high-use customers. Residential Rebate Programs were suspended in FY 2019 because BMU did not choose to renew its Weatherization Program through Community Action Agency. BMU is currently analyzing a potential contract with RWI to provide energy audits & weatherization measures.

Gridley Municipal Utility (GMU) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

GMU manages a comprehensive EE incentive program for commercial customers focusing on EE and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, electronics, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and/or demand. On-site energy audits are provided by energy specialists. EE measures are recommended, and additional visits are completed upon request.

Commercial Lighting Program: GMU offers rebates to business owners who invest in the installation of EE lighting upgrades. There is a prevalence of inefficient lighting throughout the city and most high bay lighting uses high intensity discharge fixtures instead of more efficient fluorescent or LED fixtures.

Commercial HVAC: The City offers rebates to commercial customers for energy efficient HVAC upgrades. • Commercial Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.

Commercial Appliances: Rebates are available for energy efficient cooking equipment such as ovens, dishwashers, fryers, and griddles.

Commercial Electronics: The City offers rebates for uninterrupted power supplies, plug load occupancy sensors and smart power strips.

Commercial Custom Program: GMU offers rebates to business owners based on site specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.

Residential Programs

GMU offers rebates to residential customers for the installation of various EE measures, such as lighting, HVAC, appliances, and weatherization. On-site energy audits are provided by energy specialists. EE measures are recommended, and additional visits are completed upon request.

Residential Lighting Program: GMU offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans and LED holiday lights.

Residential HVAC Program: GMU offers rebates to homeowners who install high performance heat pumps, central air-conditioners, room air-conditioners, or whole house fans that exceed current state requirements. GMU also offers a rebate for duct sealing when not required by code.

Residential Equipment Program: GMU offers rebates to homeowners who purchase new ENERGY STAR® qualified products, including clothes washers, room air conditioners, dishwashers, pool pumps and refrigerators.

Residential Weatherization Program: GMU offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments, window replacement or air/duct sealing.

Residential Water Heater Rebate Program: GMU offers rebates to homeowners who purchase a new, energy efficient electric water heater. Complementary Programs When applicable, GMU refers customers to the state funded Community Action Agency HEAP Program for low-income Butte County residents.

City of Healdsburg Electric Department (Electric Department) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Commercial Lighting Rebates: This program engages local lighting and electrical contractors to promote and install energy efficient lighting upgrades through technical assistance and financial incentives available from the Electric Department.

Commercial HVAC Rebates: The Electric Department offers commercial customers a variety of HVAC rebates. In 2023, the Electric Department added new rebate offerings for heat pump HVAC systems and heat pump water heaters. The new rebates are intended to promote efficient electric space heating and cooling and water heating.

Electric Kitchen Equipment: In 2023, the Electric Department added new rebate offerings for efficient electric commercial kitchen equipment. A one-time additional rebate is also available for electrical upgrades needed to switch from a natural gas to an efficient electric appliance.

Custom EE Programs: The Electric Department will consider custom energy efficiency programs for site-specific consumption. The Electric Department requires that its contractor review and endorse all custom programs. This review may result in a small cost adder to the proposed project but validates the benefit to cost ratio of the program. The Electric Department retains the sole right to approve or deny custom projects.

Residential Programs

Residential Heat Pump Rebates: The Electric Department offers rebates for residential and small business customers who install high performance heat pump HVAC systems and/or heat pump water heaters. Beginning in 2023, higher rebate amounts are available for replacing an existing natural gas appliance with an efficient electric heat pump. The heat pump water heater rebates were introduced in 2023 as well.

Weatherization and Building Envelope Rebates: The Electric Department provides financial incentives for property owners who invest in home weatherization such as ceiling insulation, wall insulation, and window replacement projects.

Laundry Rebates: The Electric Department offers incentives for high performance clothes washers to encourage energy efficiency and water conservation. In 2023, clothes dryer rebates were added to further encourage energy efficiency and electric clothes drying.

Device Rebates: The Electric Department also provides rebates for variable speed pool pumps and ENERGY STAR® wifi enabled smart thermostats.

Electric Stove: In 2023, the Electric Department added an electric stove/cooktop rebate to promote electric cooking.

Multi-Family Income-Restricted Properties: In 2023, the Electric Department began development of a direct install appliance program for multi-family income-restricted properties. The program will include replacing old inefficient appliances with efficient electric appliances, such as clothes washers, clothes dryers, dishwashers, refrigerators, and water heaters. Priority appliances, eligibility requirements, timeline, and other program elements are in development.

The City of Healdsburg is currently developing a Climate Mobilization Strategy. Additional energy efficiency programs and updates may be identified during this process.

Lodi Electric Utility (LEU) Energy Efficiency Programs

Commercial & Industrial Programs

LEU manages a comprehensive EE incentive program for commercial and industrial customers focusing on EE and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, electronics, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and/or demand. Onsite energy audits are provided by energy specialists. EE measures are recommended, and additional visits are completed upon request. There are no Agricultural customers in LEU service territory.

Non-Res Lighting: LEU offers rebates to business owners who invest in the installation of energy efficient lighting upgrades.

Non-Res HVAC: LEU offers rebates to commercial customers for energy efficient HVAC upgrades.

Non-Res Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.

Non-Res Appliances: Rebates are available for energy efficient cooking equipment such as ovens, dishwashers, fryers, and griddles.

Non-Res Electronics: LEU offers rebates for uninterrupted power supplies, plug-load occupancy sensors and smart power strips.

Non-Res Custom: LEU offers rebates to business owners based on site-specific equipment and usage. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the project. In

addition, LEU offers zero percent energy financing that allows commercial customers to install energy efficient improvements up to \$150,000. The loan requirements are simple, easy to administer, and are paid back to LEU over a 24-month period. The amounts due are invoiced on the customer's monthly utility bill.

Keep Your Cool: This program provides direct installation of energy savings measures for restaurants, convenience stores, or other facilities with commercial refrigeration. The program offers upgraded equipment such as energy efficient motors, motor controls, anti-sweat heater controls, door closers and case lighting to help reduce energy use. This program is a popular energy savings program for commercial and industrial customers in Lodi, particularly retail food distributors.

Residential Programs

Programs For residential customers, rebates are offered for the installation of various EE measures, such as lighting, HVAC, appliances, and weatherization. On-site energy audits are provided by energy specialists.

Residential Lighting: LEU offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans and LED holiday lights.

Residential HVAC: LEU offers rebates to homeowners who install high performance heat pumps and air-conditioners that exceed current state requirements. LEU also offers a rebate for duct sealing when not required by code.

Residential Equipment: LEU offers rebates to homeowners who purchase new ENERGY STAR® qualified products, including clothes washers, dishwashers, pool pumps, refrigerators, and advanced power strips.

Residential Weatherization: LEU offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments, solar attic fans, and air sealing.

Residential Water Heater Rebate: LEU offers rebates to homeowners who purchase a new, energy efficient electric water heater.

Residential DI: Audits are performed on residential homes and advanced smart power strips, faucet aerators, thermostatic shower valves, and ENERGY STAR® rated LEDs are installed at no cost to the customer.

City of Lompoc Electric Utility Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Lompoc offers a number of rebate programs for commercial, industrial and agricultural customers, including rebates for lighting, HVAC, and other energy-efficient equipment upgrades. These customer classes may also apply for rebates on custom energy-saving projects. Lompoc currently classifies industrial and agricultural customers as commercial customers; therefore, there are no specific programs for these sectors.

Residential Programs

Lompoc offers several rebate opportunities for residential customers such as the Energy Star® Appliance Rebate Program, the LED Lighting Replacement Program, and the Holiday Light Replacement Program. While each residential rebate program provided a small percentage of Lompoc's overall energy savings, these programs provide all customers a chance to participate in Lompoc's EE program. It should be noted that clothes washer rebates administered through the Energy Star® Appliance Rebate Program is partly funded from the PBC, sharing program costs with the City of Lompoc's Water Conservation Fund. Lompoc provides both water and electricity services to its customers, among other services. To help encourage low-income residential customer participation in EE upgrades, Lompoc continued to offer its Income-Qualified Energy Star® Refrigerator Replacement and Recycle Program in FY 2022. Success of this program can be attributed to an established pre-approval process for participating customers, as well as city staff working with one small, locally owned appliance dealer who handles the delivery and installation of new energy-efficient refrigerators. The appliance dealer also handles refrigerator-recycling processes for participating customers. This program expedites the process for low-income customers to participate in the EE program and assists Lompoc to ensure that old, inefficient appliances are recycled properly at the city landfill. Residential customers must meet low-income guidelines established by the Department of Housing and Urban Development (HUD) to participate. Participating customers also pay a portion of the cost back to Lompoc over a year.

City of Palo Alto Utilities (CPAU) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Commercial Advantage Program (CAP): Incentives are offered to commercial customers for investments in efficiency, lighting, motors, HVAC, and custom projects that target gas, peak demand, and energy reductions. In FY 2022, the CAP program resulted in net annual electric savings of 160,096 kWh. In FY 2022 CAP was renamed the Business Customer Rebate program and will appear as such on CPAU's FY 2023 report.

CIEEP: This program provides Key Account customers with an engineering consulting firm to evaluate and implement EE projects. In FY 2022, the CIEEP program produced net annual electric savings of 362,182 kWh.

Small and Medium Business (SMB) program: This program focuses on EE savings from the small and medium commercial sector and targets energy management systems and air filter replacements to help businesses recovering from COVID-19. The new SMB program was launched in FY 2021 and saw a strong uptake that continued through FY 2022. In FY 2022, the SMB program produced net annual electric savings of 81,029 kWh. In FY 2022 the SMB program was renamed to the Business Advantage Program (BAP) and will appear as such on CPAU's FY 2023 report.

BEA program: This program sends trained energy professionals to evaluate business equipment such as lighting, HVAC systems, hot water systems, refrigeration and more. Their customized assessments pinpoint exactly where businesses can benefit from efficiency by identifying electric, gas and water use equipment that is ready for upgrades and/or retrofits. Energy Advisors review assessment reports with customers and explain where they can reduce energy or water use. This program was launched in late FY 2022 and did not yield any savings to report for FY 2022.

Residential Programs

Multifamily Plus: This program provides no-cost, direct installation of EE measures to multifamily residences with four or more units including hospices, care centers, rehab facilities and select small and medium commercial properties. These properties are typically very difficult to engage and unlikely to institute EE measures on their own. In FY 2022, the Multifamily Plus program resulted in net annual electric savings of 1,725 kWh.

Home Efficiency Genie: The Home Efficiency Genie is CPAU's flagship residential program. Launched in June 2015, residents can call the program's Efficiency Advisor to receive free utility bill reviews and phone consultations. This program has a high educational value for Palo Alto residents and offers personalized consultation services for all utilities-related questions, including topics such as improving the quality of a home's building envelope, installation of rooftop solar and battery storage, EV charging, heat pump technologies, smart home devices and carbon-reducing tactics such as electrification. At a highly subsidized cost, residents have the option to receive an in-depth home assessment which includes air leakage testing, duct inspections, insulation analysis, energy modeling and a one-on-one review of assessment reports with an energy expert. This package is followed up with guidance and support

throughout home improvement projects. During FY 2022, the Home Efficiency Genie program resulted in net annual electric savings of 5,332 kWh.

REAP: This program provides weatherization and equipment replacement services to low-income residents and those with certain medical conditions, at no cost to the residents. This program has an equal focus on efficiency and comfort. As a program serving income and medically qualified residents, it is not meant to be cost-effective, and neither costs nor savings are included in CPAU's calculation of EE portfolio cost effectiveness. In FY 2022, the Residential Energy Assistance Program resulted in net annual electric savings of 4,675 kWh.

Refrigerator Recycling Program: This program provides customers the opportunity to recycle refrigerators and freezers. This program was originally planned using grant funding from the Bay Area Air Quality Management District (BAAQMD). The program was successful, resulting in the recycling of 101 refrigerator and freezer units in FY 2022, and 447 units cumulatively from August 2019 through December 2021. Palo Alto was recognized for the program by the Environmental Protection Agency (EPA) through its Responsible Appliance Disposal with a Nationally recognized Champion Award.⁵¹ The Refrigerator Recycling Program concluded in December 2021 because BAAQMD was changing the program format and did not approve a contract term extension. In FY 2022, the Refrigerator Recycling program produced net annual electric savings of 31,456 kWh.

Plumas-Sierra Rural Electric Cooperative (PSREC) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

PSREC provides free energy audits to businesses to assist with energy conservation and troubleshooting high energy consumption. This program has been successful in assisting business owners in making decisions in efficiency upgrades and conservation. PSREC offers rebates for commercial and industrial members who perform efficiency upgrades including lighting and other custom measures. To encourage the installation of energy efficient equipment in agricultural irrigation systems PSREC offers rebates for pump tests and efficiency improvements.

Residential Programs

Geothermal Heating/Cooling Loans: 0% interest ground source heat pump loop loans available for installation of ground-source heat pumps.

HVAC Rebates: PSREC provides members with rebate options to encourage installation of energy-efficient electric heat pumps and ground-source heat pumps in new construction and existing homes and small businesses. Upgrading to an energy-efficient heating and cooling system will contribute to increased comfort in homes while helping to reduce overall energy use.

ENERGY STAR® Rebates: Rebates available for the purchase of an ENERGY STAR® refrigerator, dishwasher, or clothes washer.

Appliance Recycling: Rebates offered for recycling a non-essential freezer or refrigerator.

ENERGY STAR® Lighting Rebates: Offers rebates for the purchase and installation of LED lamps.

LED Holiday Light Rebate: Provides an incentive to replace incandescent holiday light strands with qualified new ENERGY STAR® LED holiday light strands.

Water Heater Sales and Rebates: Discounted sales of, and rebates for the purchase of high-efficiency electric water heaters, including heat pump water heaters.

Weatherization Rebates: PSREC offers members rebates for upgrading windows and insulation in their homes. By retrofitting a home to above-code Resistance Values (RValue), and upgrading windows to double-pane high-performance windows, members not only realize the added comfort, but also gain increased home values. PSREC encourages members to invest in weatherization measures prior to, or in addition to, investing in a new heating source for energy conservation.

Annual Member Meeting Efficiency Giveaways: PSREC provides members who attend the annual meeting with efficiency items such as LED lights, low-flow showerheads, faucet aerators, etc.

Efficiency Education: PSREC provides EE and conservation information, as well as kilowatt meters, to interested members to help them reduce their bill, understand their energy consumption, and make their home more efficient. This program has successfully addressed high bill concerns by empowering members to use information such as our 'Do-It-Yourself Energy Audit' to learn more about their home and how they use energy.

Efficiency Education - Energy Audits: PSREC provides free comprehensive energy audits to assist members with energy conservation and troubleshooting high energy consumption in their home. This program has been successful in educating members about efficiency and conservation and assisting in reduction of energy use, especially in low-income homes.

Port Oakland (Port) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Energy Audits: The Port provides Energy Audits that focus on five major energy saving retrofit/improvement projects that will result in load reduction and more efficient use of energy.

Energy Saving Measures Exceeding Title 24 Standards: Port will provide a rebate for any new facility constructed within the Port by its electricity customers that exceed the Title 24 standards in energy saving measures. Eligible facilities must reduce energy usage by a minimum of 10% compared to the standard Title 24 facility.

Energy Saving Equipment Retrofits/Improvements Rebates: The Port has implemented a program that provides rebates and solid technical support for the installation of new EE equipment/improvements by our commercial customers.

Lighting Retrofit: The Port provides rebates for the installation of EE lighting upgrades.

Residential Programs

The Port does not have any residential customers.

City of Ukiah (The City) Energy Efficiency Programs

Commercial, Industrial & Agricultural Programs

Ukiah provides comprehensive EE incentive program offerings for commercial and industrial customers focusing on EE and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, electronics, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and/or demand. On-site energy audits are provided by energy specialists. EE measures are recommended, and additional visits are completed upon request.

Non-Res Lighting: Ukiah offers rebates to business owners who invest in the installation of energy efficient lighting upgrades. There is a prevalence of inefficient lighting throughout the city instead of more efficient fluorescent or LED fixtures. • **Non-Res HVAC:** Ukiah offers rebates to commercial customers for energy efficient HVAC upgrades.

Non-Res Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems. • **Non-Res Appliances:** Rebates are available for energy efficient cooking equipment such as ovens, dishwashers, fryers, and griddles.

Non-Res Electronics: Ukiah offers rebates for uninterrupted power supplies, plug-load occupancy sensors and smart power strips.

Non-Res Custom: Ukiah offers rebates to business owners based on site-specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.

Residential Programs

Ukiah provides comprehensive EE incentive program offerings for residential customers. Rebates are offered for the installation of various EE measures, such as lighting, HVAC, appliances, and weatherization. On-site energy audits are provided by energy specialists. EE measures are recommended, and additional visits are completed upon request.

Residential Lighting: Ukiah offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans and LED holiday lights.

Residential HVAC: Ukiah offers rebates to homeowners who install high performance heat pumps and air-conditioners that exceed current state requirements. The City also offers a rebate for duct sealing when not required by code. • **Residential Equipment:**

Ukiah offers rebates to homeowners who purchase new ENERGY STAR® qualified products, including clothes washers, dishwashers, pool pumps, refrigerators and advanced power strips. Rebates are also available for refrigerator and freezer recycling.

Residential Weatherization: Ukiah offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments/replacement, solar attic fans, and air sealing.

Residential Water Heater Rebate: Ukiah offers rebates to homeowners who purchase a new, energy efficient electric water heater. Complementary Programs • **Low-Income Programs:** Ukiah offers a low-income bill assistance program to eligible customers. •

Renewable Energy Program: Ukiah offers NEM agreements to customers wishing to install Solar PV.

EVs: In addition to the eight Tesla Fast Charging stations, Ukiah has installed four Level 2 chargers in the downtown area and is reviewing additional locations throughout the city of Ukiah. Ukiah also offers a \$500 rebate for installation of a Level 2 EV charger in customer homes and up to \$4,000 for public or workplace Level 2 chargers.