

RePower Humboldt

The Redwood Coast
Energy Authority's
Comprehensive Action
Plan for Energy

2019 UPDATE – DRAFT 2.0a

10-21-19



REDWOOD COAST
EnergyAuthority

Redwood Coast Energy Authority

633 3rd Street
Eureka, CA 95501

Telephone:
707-269-1700

Fax:
707-269-1777

Email:
info@redwoodenergy.org

Website:
[**www.RedwoodEnergy.org**](http://www.RedwoodEnergy.org)

TABLE OF CONTENTS

- Executive Summary1**

- Introduction2**
 - Energy Fuels Our Everyday Lives2
 - Redwood Coast Energy Authority Mission & Purpose3
 - Vision Statement4

- Strategies5**
 - Regional Energy Planning & Coordination.....6
 - Integrated Demand Side Management8
 - Low-carbon Transportation11
 - Energy Generation & Utility Services12

Executive Summary

Consistent with Humboldt County's General Plan, the County of Humboldt recognizes the Redwood Coast Energy Authority (RCEA) as the regional energy authority to foster, coordinate, and facilitate countywide strategic energy planning, implementation, and education through RePower Humboldt, RCEA's comprehensive action plan for energy. This action plan consists of implementation measures specific to the functions of RCEA as the regional energy authority for Humboldt County and in alignment with the mission and purpose stated in RCEA's Joint Powers Agreement, which is to:

Develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region.

The strategies within this 2019 update of the RePower Humboldt strategic plan will be implemented between 2020-2030 to achieve the following goals:

REGIONAL PLANNING AND COORDINATION

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

Goals: Achieve net-zero greenhouse gas emissions county-wide by 2030.

By 2030 fully establish Humboldt County as a renewable energy secure community that can affordably and reliably meet its local energy needs with local renewable resources and has the robust local capabilities and infrastructure necessary to effectively respond to energy emergencies or disruptions in energy supply.

Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and establishing Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

INTEGRATED DEMAND SIDE MANAGEMENT

RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and government sectors and to align customer energy use with variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance local energy resiliency and independence.

Goals: Support the wide-spread installation of customer solar photovoltaic energy systems, with a target to increase installation to a rate of one system every day for the next decade and reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

Make energy efficiency and conservation services available to every household and business in the county by 2030.

Develop and begin implementation of expanded energy efficiency, conservation and electrification programs to reduce greenhouse gas emissions from buildings using fossil fuels by 20% from 2018 levels by 2030 and establish and maintain a trajectory to reduce emission from natural gas by 90% by 2050.

Deploy a network of community microgrids and renewable energy back-up power systems for homes and businesses across the county to reduce greenhouse gas emissions and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

LOW-CARBON TRANSPORTATION

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

Goals: Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support the county electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emissions from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to a full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

ENERGY GENERATION AND UTILITY SERVICES

RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives.

Goals: By 2025 100% of RCEA's power mix will be from a combination of state-designated renewable energy sources—solar, wind, biomass, small hydroelectric, and geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable electricity and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.

Introduction

ENERGY FUELS OUR EVERYDAY LIVES

SECTION TO BE UPDATED

In Humboldt County, as in all parts of the United States, we depend on energy 24 hours a day, and we continuously benefit from direct and indirect use of energy resources. Energy is so pervasive in our daily lives that it can sometimes be taken for granted. From the sun we draw heat, light, and solar power; we depend on it to grow our food, forests, flowers, etc. We depend on fossil fuels to get us to work, school, local shops, and the hospital; to transport our food, commodities, mail, and even garbage; we depend on it to visit exotic places by plane (and to get to the airport), or to visit a friend by car. Electricity enables us to work after the sun goes down; we depend on it to light our offices, classrooms, and streets; to keep our food cold and our ice cream frozen; to pump water through pipes; and to transmit information in this electronic age. Energy in a diversity of forms fuels our industries and business ventures: from powering lumber mills to dairy farms; from firing ceramics to pizzas, and from brewing beer to baking bread. Energy generation and transmission is also an industry in and of itself. Clearly, reliance on energy resources characterizes a large part of our everyday lives.

The production and consumption of energy also affects our daily lives in more indirect ways, particularly with regard to the environment. The burning of fossil fuels has led to damaging environmental effects such as acid rain, smog, water pollution, and global warming. Exploratory drilling and extraction of non-renewable energy sources (such as coal, petroleum, and natural gas), and their attendant infrastructure, has resulted in the degradation of other natural resources, for example forests, coastal communities, and rainforests. Although these areas may be far away, the environmental impacts can reach Humboldt County.

In Humboldt County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. In 2010 it is estimated that Humboldt County spent \$460 million to meet local energy demands, the majority of which left the county. Approximately half of the energy was used as a transportation fuel (gasoline and diesel), with large amounts also used to meet end use electrical demands and end-use natural gas heating demands. Primary energy sources were comprised mainly of natural gas, gasoline, diesel, and biomass (wood waste and firewood).

REDWOOD COAST ENERGY AUTHORITY MISSION AND PURPOSE

The purpose of the Redwood Coast Energy Authority is to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents. To further that purpose, the Redwood Coast Energy Authority will work toward the following goals:

- A. To lead, coordinate and integrate regional efforts that advance secure, sustainable, clean and affordable energy resources.
- B. To develop a long-term sustainable energy strategy and implementation plan.
- C. To increase awareness of, and enhance access to, energy conservation, energy efficiency, and renewable energy opportunities available to the region.
- D. To add value to, but not duplicate, energy services offered by utilities and others serving the region in a manner that does not conflict with acting as a community choice aggregator.
- E. To keep key decision makers and stakeholders informed of policy, regulatory, and market changes that are likely to impact the region.
- F. To support research, development, demonstration, innovation, and commercialization of sustainable energy technologies by public and private entities operating in Humboldt County.
- G. To develop regional capabilities to respond to energy emergencies and short-term disruptions in energy supply, infrastructure, or markets that could adversely affect Humboldt residents and businesses.

The RePower Humboldt plan is intended to support achieving these goals through strategies that specifically address: Regional Energy Planning & Coordination, Integrated Demand Side Management, Low-Carbon Transportation, and Energy Generation & Utility Services.

VISION STATEMENT

The below vision statement was developed in 2012 through the public comment process for the original draft of the Humboldt County General Plan Energy Element prepared by RCEA. It expresses the community qualities and characteristics that the RePower Humboldt plan aspires to achieve, expressed as how Humboldt County could be described in 2030. Minor modifications have been made to the original vision statement to reflect recent changes to the state and local energy economies, as well as community input gathered in developing this 2019 RePower Humboldt update.

In 2030...

Humboldt County has surpassed net-zero greenhouse gas emissions and is a net exporter of renewable energy. We achieve energy independence and self-sufficiency through high levels of energy conservation, efficiency, and electrification combined with locally-produced and -managed energy generation. Our energy comes from renewable sources. Money spent on energy stays in the county.

Individual communities have developed greater energy self-sufficiency and independence as has the county overall. Citizens have a diversity of choices for how to meet their energy needs. We have local control over energy prices. We readily adapt to any major external changes in energy supply or technology.

Our rate of energy consumption is level, due to increasing conservation and efficiency to offset increases in growth-related demand.

Our overall quality of life is better than it was in 2005. The population is healthier as a result of leading energy-conserving lifestyles. It is safe, pleasant, economically favorable, and typical to have a lifestyle that doesn't consume much energy.

Energy conservation education has reached, and continues to reach, effectively, everyone in the county.

Energy considerations and decisions are integrated with all other decision-making arenas.

The County is energy efficient through neighborhood design. Good community planning has reduced sprawl. There are fewer automobiles used for travel; people depend more on transit, bikes, scooters, walking, and shared-use automobiles than they depend on private automobiles. Public transportation is conveniently available and well utilized. There is much less consumption of energy from non-renewable sources for transportation.

All buildings are energy efficient. All new construction is all-electric and done in the most energy efficient manner, starting with building design. All existing buildings have been upgraded to be more efficient and many have converted their previous uses of natural gas and propane to electricity. Energy efficiency is integral to locally adopted building standards, which have flexibility and include meaningful incentives. Many homes and businesses produce more energy than they consume.

The County is a thriving research and development center and incubator for energy technology and related manufacturing, which is a stable source of local jobs.

Draft 2019 Strategies Update

Regional Energy Planning & Coordination

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

Goals: Achieve net-zero greenhouse gas emissions county-wide by 2030.

By 2030 fully establish Humboldt County as a renewable-energy secure community that can affordably and reliably meet its local energy needs with local resources and has the robust local capabilities and infrastructure necessary to effectively respond to any energy emergencies or disruptions in energy supply.

Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

ECONOMIC DEVELOPMENT

Attract Energy-related Business. Collaborate with local economic development entities to attract technology developers, manufacturers, and energy service providers to locate operations in the County when appropriate.

Support Proactive Energy-related Business Development. Collaborate with local jurisdictions to identify and pre-assess locations and facilities for energy-related business ventures.

Support Energy-sector Workforce Development. Work with other local entities to provide training and continuing education that develops and maintains a qualified local workforce available to implement energy efficiency upgrades, renewable energy projects, and advanced-vehicle technology deployment.

ENERGY-RELATED EMERGENCY RESPONSE

Develop Emergency Response Capabilities. Coordinate with other local entities to develop regional capabilities to respond to energy emergencies and disruptions in energy supply, infrastructure, or markets. Incorporate efforts to enhance emergency response capabilities across RCEA's demand-side, power resources, and transportation programs.

Assist with Energy Emergency Response Procedures. Assist the Humboldt County Office of Emergency Services in the preparation of energy response procedures for the Humboldt County Emergency Response Plan.

Support Climate Change Adaptation. Work with other local entities to conduct a climate change risk assessment and develop an adaptation plan consistent with the best-practices guidance provided by the California Natural Resources Agency and California Emergency Management Agency.

FUNDING

Develop Regional Energy Funding Mechanisms. Offer support and act as the fiscal agent and funding clearinghouse for countywide energy programs.

Pursue Cap and Trade Auction Proceeds. Work regionally to access Cap and Trade auction proceeds and other State funding mechanisms to ensure effective, efficient, coordinated, and equitable resource allocation in the North Coast Region.

Develop Job Development Incentives. Collaborate with local economic development entities to identify funding opportunities for developing jobs in the field of energy conservation, efficiency, and renewable sources.

Implement Energy Project Financing. Work with local economic development entities and/or financial institutions to develop and implement financing programs that enable residents and businesses to implement energy efficiency and renewable energy projects.

Facilitate Financing Mechanisms. Facilitate Property Assessed Clean Energy (PACE) and other financing programs that access the needed capital to deploy regional energy independence strategies.

Develop Local Energy Investment Programs. Work with local economic development entities and financial institutions to develop programs and resources that facilitate local community investment in and/or ownership of energy efficiency and renewable energy projects.

PLANNING

Support Carbon Sequestration. Support the development and deployment of mechanisms for retaining carbon in the region's abundant natural areas and working lands.

Assist with Climate Action Planning. Work with member jurisdictions to regularly complete greenhouse gas inventories, set greenhouse gas reduction targets, and develop climate action plans.

Support Countywide Strategic Energy Planning. Coordinate an effective energy strategy based on self-sufficiency, development of renewable energy resources, energy conservation, and

electrification that is actively implemented countywide through Climate Action Plans, General Plans and the Redwood Coast Energy Authority's RePower Humboldt plan.

Encourage Adoption of Energy Elements. Encourage and assist with the adoption of energy elements by member jurisdictions. Periodically review local energy elements and recommend updates, as necessary, to reflect changing technologies for the generation, transmission, and efficient use of energy.

Encourage Energy Policies and Plans. Encourage member jurisdictions and entities to adopt and implement sound energy plans and policies, to include energy elements and/or energy policies in their general plans and ordinances. Advocate and disseminate energy planning strategies, policies, and other information.

EDUCATION

Maintain an Energy Resource Center. Operate an energy resource center open to the public and provide information on energy conservation, energy planning, renewable energy, energy storage, low-carbon transportation, and energy-efficient and all-electric building design and retrofits.

Hold Regional Energy Forums. Serve as a forum for addressing countywide energy issues.

Develop Public Displays. Encourage and assist development of educational displays for exemplary renewable energy and distributed energy systems installed throughout Humboldt County. Displays should provide county residents and businesses with information on how the systems work and how well they perform and should inform county residents about the importance, benefits, and associated impacts of developing local energy resources.

Provide Energy Efficiency, Conservation and Electrification Education and Training. Provide community education, information, and resources on energy issues to support informed decision making related to customer energy use, including the benefits of reduced energy consumption, electrification and increased energy efficiency. Collaborate with schools and colleges for energy-related research, education, and conservation practices.

Integrated Demand Side Management

RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and

government sectors and to align customer energy use with variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance local energy resiliency and independence.

Goals: Support the wide-spread installation of customer solar energy systems, with a target to increase installation to a rate of one system every day for the next decade to reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

Provide energy efficiency and conservation services to every household and business in the county by 2030.

Develop and begin implementation of expanded efficiency and electrification programs to reduce greenhouse gas emission from natural gas use by 20% by [YEAR] and establish and maintain a trajectory to reduce emissions from natural gas by 90% by 2050.

Deploy a network of community microgrids and renewable energy back-up power systems across the county to reduce greenhouse gas emission and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

INTEGRATED DEMAND SIDE MANAGEMENT STRATEGIES

Support Member Agency and Local Government Energy Management. Support member agencies in managing their energy consumption. RCEA will support activities that reduce and balance energy use with available clean and renewable supplies to reduce costs while aligning to performance-based action plans and Greenhouse Gas Emission Reduction goals. Additional activities will be prioritized where they support energy resiliency and independence.

Support Implementation of Codes and Standards. Support the State's goals related to residential and commercial net-zero-energy and zero-net carbon standards along with other green building standards, including the local implementation of Title 24 building energy codes, Title 20 appliance efficiency standards and individual projects that strive to achieve energy efficiencies that exceed state or local requirements. Support implementation of above code energy ordinances.

Promote No Regrets Energy Efficiency, Renewable Energy, and Storage Permitting. Support local ordinances that streamline permitting processes for energy efficiency, renewable energy, and storage technologies.

Assist with Facility Benchmarking. Assist local governments and businesses with facility benchmarking to evaluate and track the energy performance of non-residential buildings.

Support Energy Assessments. Support and encourage full knowledge of the costs and benefits (including product stewardship) of energy efficiency, conservation, generation and storage activities through assessments.

Integrate Distributed Energy Resources. Develop and implement customer programs that support, promote and integrate distributed energy resources, including but not limited to distribution-

connected generation, energy storage, energy efficiency, electric vehicle and demand response technologies.

Integrate a Distributed Energy Resource Management System. Support the development and installation of systems needed for effective and responsive management of distributed energy resources. Evaluate the potential integration of distributed energy resources into a unified system that would allow RCEA to aggregate and automate demand response activities.

Support and Deploy Microgrids. Support and deploy energy microgrids, focusing on critical infrastructure and community facilities, that through onsite generation, energy storage, and advanced control systems provide energy resiliency and emergency-response capabilities as well as ongoing economic and environmental benefits.

Use Advanced Metering Infrastructure. Use advanced metering infrastructure to make informed, data driven program decisions and allow customers visibility into their energy usage for more ownership and control of their energy related behavior and decisions

ENERGY EFFICIENCY & CONSERVATION

Maximize the Efficiency of Buildings. Support energy efficiency and conservation as core strategies toward achieving environmental, economic, and community goals. Where feasible, energy efficiency technologies will be controllable and integrated as a distributed resource; any such efforts will be implemented with a commitment to respecting and protecting customers' rights to privacy.

Support Electrification. Prioritize the development and implementation of programs and services that promote the use of the most energy-efficiency electric equipment including: air-source heat pump hot water and space heaters, induction stoves, electric clothes dryers, and the electrification of commercial and industrial processes.

Encourage Energy-Efficient Equipment. Encourage the use of the most energy-efficient equipment for space and water heating, ventilation, lighting, refrigeration, and air conditioning in all buildings and developments, including residential, commercial and industrial facilities.

Promote Performance Contracting. Promote residential and commercial performance contracting that is consistent with current best practices for energy efficiency and environmentally sound construction techniques.

Develop and Support Behavioral, Commissioning and Operations Programs. Promote, develop, and implement programs that enable energy conservation and load-shifting through customer behavior changes, building system commissioning, and operational changes.

Replace Plug Loads. Replace existing plug load devices and install smart technologies that save energy and provide an integrated solution that aligns with demand response and storage measures. Examples include internet-of-things enabled lighting, water and space conditioning, dish and clothes washing, and refrigeration.

DEMAND RESPONSE

Implement Demand Response Programs. Support and prioritize demand response programs that offer ratepayers a role in balancing energy usage with renewable energy supply. Demand response programs and offerings will, where possible, integrate with distribution-connected efficiency systems and controls, renewable energy generation, and energy storage measures.

Support Time of Use. Notify, support, and enable action from customers who want to participate in load shifting or peak shaving to reduce energy usage during times of peak demand.

Provide and Support Peak Day Pricing. Provide notification and support for customer energy use changes during summer peak energy demand day events.

Enable Automated Demand Response. Install electrification, efficiency, and storage technologies that automatically reduce energy use during demand response events. Implement building demand response systems that allow for the curtailment of loads without major impacts to occupants and operations.

DISTRIBUTED GENERATION & STORAGE

Support Customer Installation of Distributed Generation. Support the deployment of distribution-level renewable energy and storage systems as core strategies toward achieving environmental, economic, and community stability/resilience goals.

Implement the Public Agency Solar Program. Continue to implement the solar and energy-storage technical assistance program for public agencies; integrate grid-connected resources, electrification and microgrids as feasible.

Implement a Community Solar and Storage Program. Evaluate, design and launch community solar and storage program services that support the increased adoption of grid-connected solar and storage technologies.

Integrate Vehicle to Grid Storage. Integrate vehicle to grid storage solutions with transportation and demand side management goals and objectives.

Low-carbon Transportation

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

Goals: Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support these county-wide electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emission from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to the full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

REDUCE VEHICLE MILES TRAVELED

Strengthen Broadband Infrastructure. Support efforts to strengthen rural regional broadband infrastructure to facilitate remote access to educational and business opportunities, and deploy advanced, resilient grid management technology and integrated energy efficiency and demand response solutions.

Encourage Transportation-efficient Land Use Planning. Encourage infill, transit-oriented development, and walkable and bikeable communities through thoughtful zoning and land-use planning processes.

Facilitate Multi-modal Transportation Infrastructure. Support improving multi-modal transportation options through regional trail networks, transit infrastructure, and complete streets infrastructure strategies that support walking, biking, carsharing, ridesharing, and the use of public transportation.

INCREASE ADVANCED FUEL VEHICLE ADOPTION & FUEL EFFICIENCY

Support Local Vehicle Fleet Owners Leading by Example. Encourage local government and private fleets to maximize the use of low-carbon vehicles and support low-carbon transportation initiatives at other agencies..

Promote Advanced Fuels. Equitably promote, support and incentivize low carbon vehicle and fuel adoption by local governments, commercial fleets, and the public. Encourage the use of non-fossil sources of advanced fuels that reduce greenhouse gas emissions, which may include electricity, hydrogen, biodiesel, ethanol, and renewable diesel.

Support Electric Vehicle Adoption. Conduct public outreach campaigns to promote electric vehicles. Offer electric vehicle incentives and provide customers with web and in-person decision

support when considering the purchase of an electric vehicle. Conduct leadership by example among government agencies.

Promote Efficient Driving Practices. Promote the use of energy-efficient driving practices that improve fuel efficiency, such as moderate speed changes and legal speeds, anti-idling, and traffic-calming features.

Support Shipping Efficiency. Support the implementation of trucking efficiency technologies and best-practices, including idle-reduction technologies, aerodynamic retrofits, and low rolling resistance tires. Support the analysis of other potential transportation modes that could provide efficient shipping alternatives such as barge and rail.

EXPAND FUELING INFRASTRUCTURE

Develop Transportation Electrification Infrastructure. Develop and implement Electric Vehicle charging stations. Provide local incentives for electric vehicle charging infrastructure and prioritize technologies that align with integrated demand-side management goals.

Utilize Biofuels. Promote use of biofuels with low California Low Carbon Fuel Standard (LCFS) scores, particularly those produced with local waste feedstocks.

Streamline Permitting for Electric Vehicle Charging Infrastructure. Encourage local jurisdictions to list vehicle charging as a permitted use across a broad range of zoning classifications. If a zoning review is triggered, consider vehicle charging as an accessory use to another permitted use whenever possible. Develop a standard vehicle charging permitting process.

Promote Vehicle-to-Grid Connection. Promote integration of electric vehicles with the electric grid. Evaluate the development status of vehicle-to-grid interconnect standards and the use of grid-connected vehicles for short-term energy storage.

Energy Generation & Utility Services

RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives.

Goals: By 2025 100% of RCEA's power mix will be from a combination of state-designated renewable energy sources—solar, wind, biomass, small-hydroelectric, and

geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable electricity and RCEA’s power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.

POWER RESOURCES

Maximize the Use of Local Renewable Energy to the Extent Technically and Economically Feasible and Prudent. Use the CCA program with its renewable energy targets, and programs supporting distributed energy resources, to achieve this goal.

Minimize Greenhouse Gas Emissions Associated with RCEA’s CCA Program. Procure a power mix that has, at least, a 5% lower greenhouse gas emission rate than PG&E mix. Assess, evaluate, and monitor the short-term and lifecycle emissions from all generation sources to ensure power resources align with RCEA’s greenhouse gas emissions goals.

Reduce Regulatory Barriers. Support streamlining the renewable energy permitting process and reduce any excessive regulatory barriers to renewable energy and distributed generation projects. Using RCEA’s position as a power offtaker, work with developers on proactive strategies to reduce and mitigate the environmental and community impacts of potential energy projects.

Maximize Renewable Energy Content of RCEA’s CCA Program. Procure a power mix that reaches 100% clean and renewable content by 2025.

Ensure Diversity in Local Sources. Pursue development of a diverse, locally produced renewable energy supply that is price-competitive in the California power market and that can be generated in a way that minimizes adverse environmental and community impacts.

Promote Energy Feasibility Studies. Encourage and support feasibility studies of local wind, solar, hydro-power, and ocean energy resources. Make recommendations on preferred alternatives that are consistent with community goals for energy security and sustainability.

Power Resources: Distributed Generation

Designate “Renewable Energy Parks.” Work with County and City planning departments to designate areas of the county preferred for renewable energy development.

Develop Distributed Generation. Encourage studies to identify key locations throughout the county that would benefit from distributed generation systems. Encourage development of responsive distributed generation demonstration sites.

Provide Feed-In-Tariff Power Procurement Program for Small Generators. Offer long-term contracts at a market-adjusting rate for Renewable Portfolio Standard eligible renewable energy generators of 1MW or smaller.

Power Resources: Solar

Support Solar Energy Development. Support local efforts to develop customer solar electric systems and solar hot water systems in the county. Support development of local training programs for solar contractors and installers. Educate the public about the benefits of solar energy systems. Develop programs that facilitate an increase in the number of solar energy systems in the county.

Procure Local Solar Energy. Contract for local onshore solar energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

Power Resources: Offshore Wind

Develop Offshore Wind Energy. Work with public and private entities to develop offshore wind energy off of the north coast region's coastline, and support establishing Humboldt Bay as a west-coast hub for the offshore wind industry.

Procure Local Offshore Wind Energy. Contract for local offshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

Power Resources: Onshore Wind

Promote Large-Scale Wind Energy. Provide information about the potential for cost-effective, commercial-scale wind farms in the county. Educate the public about the benefits and impacts of wind energy systems. Work with utilities, local government, and private companies to develop onshore wind energy projects.

Procure Local Onshore Wind Energy. Contract for local onshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

Power Resources: Bioenergy

Support Biomass Fuels Reduction and Utilization. Develop strategies and technologies for improved biomass utilization in ways that effectively support restoration objectives and fire management priorities. Coordinate with local agencies, communities, and landowners to develop biomass energy plans that are consistent with sustainable forest management, hazardous fuels reduction, fire safety, and restoration needs.

Procure Local Biomass Energy. Contract with local biomass facilities at a scale matched to the local supply of wood waste from mills and, when feasible and appropriate, from forest management and restoration activities. Require and support a high standard of environmental compliance from RCEA's biomass suppliers through the deployment of the best-available emissions control technologies. Analyze and confirm on an ongoing basis that, within the context of local commercial forest land management practices and the forest-products sector, local biomass power generation sector has net-zero greenhouse gas emissions on both a short-term and long-term basis.

Promote Small-Scale Biomass Generation Sites. Monitor feasibility of smaller and/or mobile biomass electric generators fed with wood waste and very small diameter logs (e.g.,

from thinning for fire safety and timber harvest slash). If/when technology proves feasible and cost effective, promote its use in county areas where appropriate.

Pursue Biogas Development. Support HWMA and others with the development of organic waste digesters. Develop and publicize dairy biogas demonstration sites and work with local farm organizations to promote dairy biogas energy systems where appropriate. Publicize the use of biogas at existing local wastewater treatment facilities and encourage its use at additional facilities where appropriate. Encourage biogas use to produce electricity onsite rather than pipeline injection to avoid the potential greenhouse gas emission impacts of pipeline leaks.

Power Resources: Wave and Tidal

Pursue Wave and Tidal Energy Development. Build on the previous WaveConnect and CalWave projects to explore and evaluate opportunities for local wave and tidal energy research, development, and pilot deployment.

Power Resources: Hydro

Support Existing and New Local Small-scale Hydroelectric Power. Evaluate options for contracting with existing small hydroelectric projects as well as the development of new run-of-river hydroelectric projects that would be eligible for Renewable Portfolio Standard designation and compatible with environmental and cultural priorities. Update the Oscar Larson and Associates' 1982 assessment of small hydroelectric resource potential in the county.

UTILITY ENERGY SERVICE

Minimize Energy Interruptions. Work with local utility providers to minimize the impact of power outages and improve the reliability and resiliency of the local electricity delivery service.

Provide Energy via Direct Access. Explore the feasibility of RCEA acting as an electricity provider through direct access.

Review Utility Options. Review the effectiveness of the incumbent utility in meeting Humboldt County's long-term energy needs and evaluate the feasibility of establishing a local municipal electric utility.

Provide Outstanding Customer Service to RCEA Ratepayers. Ensure that participants in RCEA's community choice energy program receive high-quality customer service related to enrollment, rates, billing, and customer programs supported by CCE program ratepayer funds.

RATES & TARIFFS

Provide Community Choice Aggregation Program Customer Rate Savings. Provide customer savings relative to corresponding PG&E generation rates and departing load charges averaging at least \$2 million per year.

Provide Electricity Buyback from Self Generators. Provide a net energy metering program that encourages more distributed local generation and more equitably compensates such generation.

Retain and/or Redirect Rate-Payer Dollars Back into Humboldt County. Work to maximize the amount of ratepayer dollars retained in Humboldt County when taking into consideration local power procurement, electricity rates, local program spending, and allocations toward building the reserve fund for RCEA's Community Choice Aggregation program.

Provide Match Funding for State, Federal, and Foundation Energy Grants. Support bringing resources into Humboldt County to pursue CCA community energy goals.

Support Transition to Time of Use Rates. Support customer adoption and transition to time of use electricity rates.

TRANSMISSION & DISTRIBUTION INFRASTRUCTURE

Perform Transmission Assessments and Monitoring. Encourage development of long-term transmission assessments and, if necessary, electrical transmission grid upgrade and/or expansion plans. Monitor local electricity transmission system planning to ensure that projected growth areas are adequately served and to support the development of local renewable energy projects.

Support Upgrade of the Electricity Transmission and Distribution System. Collaborate with PG&E, the California Independent System Operator, and renewable energy developers to upgrade the regional transmission and distribution electrical grid to enable increased development of both utility-scale renewable energy projects and community-scale distributed generation systems, including capability to export surplus renewable electricity from Humboldt County to other areas of the state.