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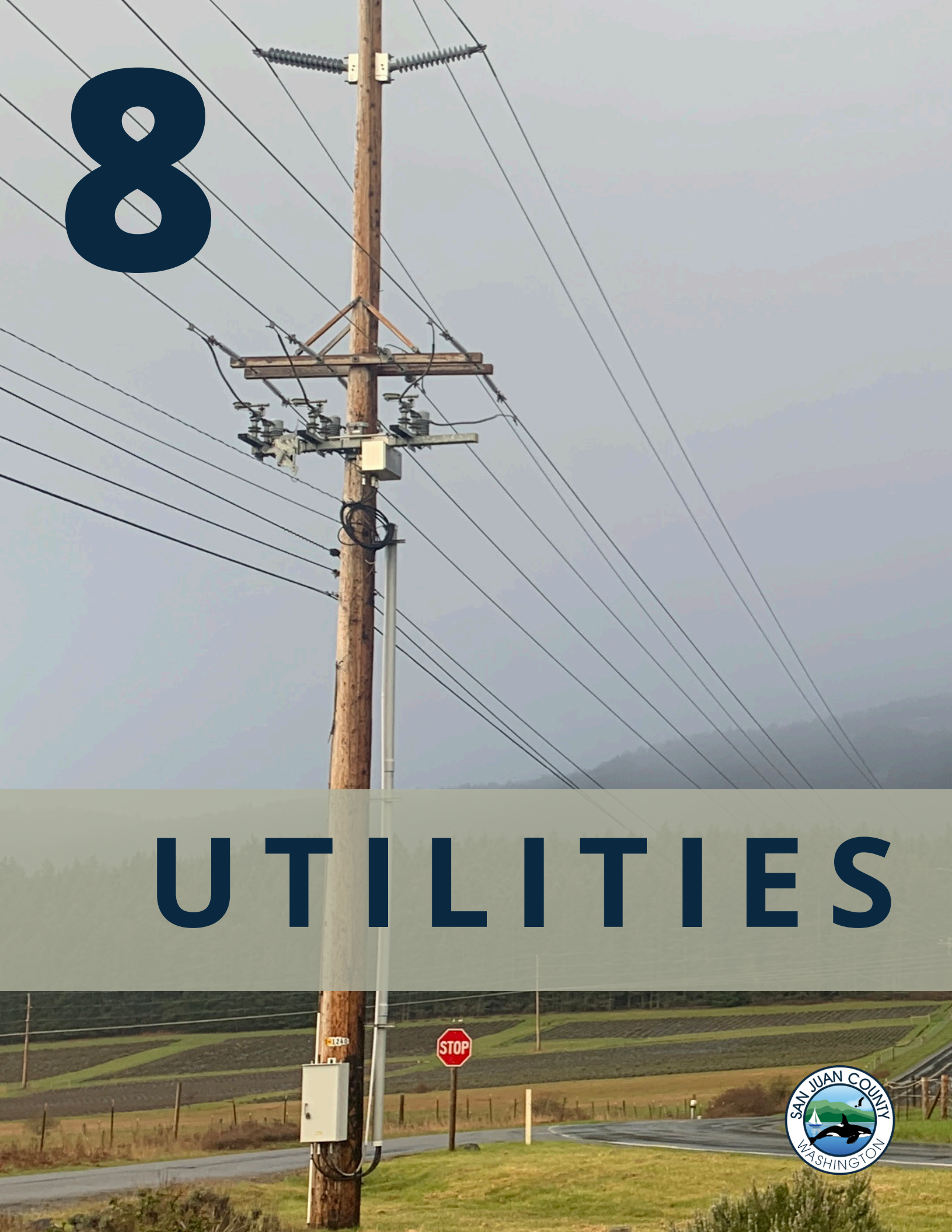
UTILITIES



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ELEMENT 8. UTILITIES

Introduction

The Utilities Element includes the current and projected conditions of private utilities in San Juan County. Utility services included in this Element are electricity, propane, telecommunications, internet, and cable. San Juan County does not provide utility services discussed in this Element; therefore, this Element relies on information shared by utility providers.

This Element establishes goals and policies to guide the provision of utility services. Goals and policies aim to facilitate the coordinated, cost-effective provision of services, planning, and construction by utility service providers in a manner consistent with the goals and policies of other elements of the Comprehensive Plan (Plan). This document also identifies opportunities and challenges for utility services through the 2045 planning period. These opportunities and challenges stem from projected population increases, new technologies, and climate change.

The Utilities Element reflects certain key assumptions:

1. Utility providers are the best identifiers of utility problems and the solutions needed to overcome them;

2. Level of service (LOS) standards, concurrency, and capacity requirements do not apply to utility services addressed in this element;

3. While privately held utilities may not be publicly owned, they provide publicly necessary services. Water, electricity, telecommunications and broadband services are essential to public health and wellbeing. Each utility bears the responsibility for providing services to San Juan County residents in accordance with their own policies and according to policy and regulations set by San Juan County, Washington State law and within the guidelines of the outside regulatory bodies having jurisdiction over them; and

4. County residents ultimately bear a large portion of the costs associated with the provision of utility services through utility rates, taxes, land development costs, and impacts to environmental and aesthetic values.

This Element supports the Plan Vision and fulfils the requirements of the Growth Management Act (GMA) for utilities planning to ensure adequate infrastructure to support population growth. Regarding energy, the Vision states, “Our community strives for energy independence…we use renewable energy.” Regarding communication systems, the Vision affirms that “Advanced communication infrastructure is encouraged…we encourage new ideas and new technology… [and] communication systems support our economy.”

The Utilities Element is oriented toward meeting the needs of the people of the County amid growth, climate change, and ever-advancing technologies. The GMA calls for comprehensive plans to include “the general location, proposed location, and capacity of all existing and proposed utilities” in RCW 36.70A.070(4). By fulfilling the GMA requirement, the County positions itself to use existing utilities infrastructure effectively, streamline development of needed new infrastructure to support the growing population's needs, and be responsive to inevitable change. Together, this Element and Appendix 8, Utilities Inventory, meet this requirement. Appendix 8 contains an in-depth inventory of utilities.

Relationship to Other Plan Elements

The siting and provision of utility services interacts with other topics in the Plan. Utilities information can be found in the Utilities, Capital Facilities, and Transportation Elements and Appendices. Water, sewer, and solid waste utilities are discussed in the Capital Facilities Element and Inventory and are subject to concurrency requirements and Level of Service (LOS) standards. Services discussed in the Utilities Element and Inventory are not subject to concurrency requirements or LOS standards. The siting of utility facilities, such as propane storage, electrical substations, and telecommunication towers, is a land use issue. Telecommunication services are closely tied to issues discussed in the Economic Development Element. The Utilities Element must be consistent with other Plan elements. No element can be enacted independently without consideration of other elements.

The County's shortage of affordable housing causes persistent difficulty recruiting staff for utilities like OPALCO and Rock Island Communications, as well as the County Government and other institutions with substantial workforces. Affordable housing is very limited for low-income and middle-income islanders. Element 5, Housing, contains goals and policies to increase the availability of workforce housing in the County.

Current Conditions and Future Outlook

The following subsections summarize existing utilities conditions and provide a look at what the future may hold for the provision of those services. The outlook is based on the assumption that the County will grow according to the population projections in the Land Capacity Analysis, Plan Appendix 1. Both existing and future utility services are and will be operating in the context of climate change and the development of new energy and communication technologies to support that growth.

Electricity

Current Conditions

Orcas Power and Light Co-operative (OPALCO) provides electricity in San Juan County. The majority of electricity is sourced from hydropower on the mainland. That electricity is generated by Bonneville Power Administration with Puget Sound Energy providing the final transmission connection to OPALCO's two submarine cables that power OPACLO's grid. Local renewable energy sources, such as rooftop solar currently supply about four percent of annual energy use, mostly on sunny summer days. In winter months, when load more than doubles, grayer, shorter winter days mean rooftop solar only provides a very small fraction of the energy mix and does not work during outages.

At the start of 2025, OPALCO had about 15,900 co-op member accounts on 21 islands. About 88% are residential members, and 12% are commercial members, growing at about 1% per year.

Energy Outlook

The impacts from climate change, changing carbon emission regulations, and the restructuring of the electric transmission market throughout the Pacific Northwest will impact the electric grid serving the County. This may increase the potential for issues such as unplanned outages and rolling blackouts. The need for locally generated electricity from wind, solar, tidal, and other sources is vitally important to prevent economic disruption and preserve the County's environment.

Washington State calls for rapidly reducing carbon emissions and improving energy efficiency. In San Juan County, about 70% of GHG emissions come from just two sectors, transportation and heating. Thirty five percent of county residential energy use is for heating, and over half of energy use is for transportation. The key to reducing carbon emissions in San Juan County is converting fossil-fueled heating and transportation to electric forms and powering that new load with clean, renewable energy sources. The state

energy strategy estimates that electrification of transportation and heating will nearly double statewide electricity demand by 2050. Over this same period, the electrification of transportation and heating is estimated to reduce greenhouse gas emissions by 72% by 2050.

OPALCO expects power disruptions in the planning horizon due to increasing electricity demand and decreasing mainland power supply. San Juan County's two mainland submarine cables are also expected to soon reach their maximum capacity. The need for locally generated electricity from local renewables and other sources is imperative.

The County Vision states, "Our community strives for energy independence…we use renewable energy." To fulfill that vision and increase local energy resilience, OPALCO plans to deploy enough utility-scale microgrids (solar and battery storage) to meet all new load through 2035, power the county through the three sunny seasons, and power critical services and systems in the winter. The micro-grids use tilting solar arrays to track the sun and maximize winter solar production. The microgrids would be deployed on each ferry-served island, requiring about 875 acres countywide, representing less than 1% of all county land. Agrisolar, a blend of agriculture and solar energy production, should be explored for siting in the County through an open public process, which considers all land use factors including scenic views, agricultural land quality, water resources, and habitat, among others. Siting electric facilities serving locally generated electricity and its supporting infrastructure supports the deployment of electric transportation systems while reducing the need for mainland GHG-emitting fossil-fueled generation facilities.

More information about the future of electricity in San Juan County can be found in OPALCO's planning documents. OPALCO's long-range plan contains an analysis of the capacity development needed to meet future demands. Additionally, their four-year Construction Work Plan contains load forecasts and information on construction projects.

Streamlining Local Renewable Energy Permitting and Land Use

To achieve the County Vision of increased energy independence, meet needs for the projected population increase and achieve GHG reduction targets identified in the Climate Element, San Juan County must prioritize streamlined pathways for renewable energy production and storage.

The County should review permitting processes to improve predictability, timeliness, and efficiency of utility permitting, and land use designations should be similarly reviewed and updated for siting renewables. Goals and policies should provide clear direction, reduce ambiguities and avoid unintentional conflicts which may act as barriers to renewable energy generation, storage and distribution. Increasing energy independence from the mainland will energy conservation from Islanders as well as require predictable permitting processes to ensure the delivery of new facilities in a timely fashion This is particularly so for agrisolar applications on Rural Farm, Forest, and agricultural land. Just as improved wireless land use designations fostered the rapid improvement of wireless services in the county, updating land use designations for local renewable energy sites can help accelerate energy independence.

Propane

There are no natural gas lines in San Juan County. Currently, the population relies heavily on propane. Propane tanks are not allowed on Washington State Ferries. Propane utility providers transport propane by barge from the mainland to their distribution centers on San Juan, Orcas, and Lopez islands. There have been recent changes to the State building code and greenhouse gas emission reduction requirements in an effort to meet Washington State Greenhouse Gas targets for energy efficiency, reducing reliance on propane. Propane has been a helpful energy source during outages, for backup heat, and to power home and business backup generators.

Communications

San Juan County encourages the development of advanced communication infrastructure. Reliable, up-to-date communication services support everything from healthcare and public safety to economic opportunity and modern lifestyles. Geographic isolation and relatively small resident populations have historically inhibited the extension of

telecommunication services to some islands in the County. Today, Fiber and LTE are providing faster and more expansive communication services.

- **Fiber:** The availability of fiber optic based services has grown extensively throughout the County in the past decade, meeting the growing needs of the electric grid, emergency communications, and residential and business broadband and cell phone service. Approximately half of County addresses are located within a serviceable distance of existing fiber optic facilities. As demand for higher bandwidth and additional improvements are made to public infrastructure, the availability of fiber optic services is expected to continue to grow.
- **Voice over Internet Protocol (VoIP):** Anyone with a reliable internet connection can purchase VoIP service, which is becoming more common as internet access and speed increases. It is the predominant method for non-wireless voice communications around the nation, particularly for businesses.
- **Fixed Wireless:** Fixed wireless provides high speed internet service throughout the County by multiple providers.
- **Fixed Wireless – Cellular Service:** All major cellular carriers have coverage to an extent in the County; however, the geography currently limits coverage in some areas. For some residents and visitors, lack of cell service poses a safety concern because it would be difficult to call for help in the case of an emergency.
- **Plain Old Telephone Service (POTS):** Use of POTS has decreased in the recent years as consumers discontinue landline service or switch to VoIP.
- **Cable:** Cable internet and television services are available from multiple providers in parts of Friday Harbor and Orcas Island. Use of cable services is declining as fiber and wireless broadband become more popular.

Key Challenges

The key challenges for utilities provided below are based on the Utilities Inventory in Plan Appendix 8 and the energy outlook. Considering the assessment of electricity, propane, and communications services, the utilities goals and policies in the following section put an emphasis on:

- Preparing to serve the County's 2045 forecasted population in Plan Appendix 1;
- Meeting energy and telecommunications needs within and outside of population centers;
- Reducing greenhouse gas emissions;
- Reducing the environmental impact of all forms of energy we use;
- Achieving the vision of energy independence;
- Increasing energy efficiency; and
- Working with the challenges presented by the islands' unique geography.

GOALS AND POLICIES

Utilities goals and policies guide San Juan County's actions affecting the provision of utility services. This section aims to result in meeting San Juan County's current and projected needs for energy and communications in a way that is cost-effective, efficient, appropriate for the character of the islands, and responsive to climate change. These goals and policies are informed by the 2022 Utilities Element, other Plan elements, information from utilities providers, community feedback, and by state climate directives.

General Goals and Policies

The general goals and policies in this Element address the planning, location and siting of utilities; services to new development; and environmental protection. These issues are common among all utility services.

Goal U 1

Coordinate planning efforts between the County and utility service providers and encourage the regular exchange of information to aid utility service providers in anticipating and responding to growth and maintaining consistency between utility service plans and County plans.

Policy U 1.1

Provide utility service providers with appropriate plans and mapped information to help establish a common County-wide base map for utilities planning.

Policy U 1.2

Obtain maps and facility inventories, with text designating the approximate location of existing facilities and the general location of proposed new facilities from utility service providers and integrate them into the County's Geographic Information System (GIS).

Policy U 1.3

Provide utility service providers with the six-year capital improvement financing plan to aid in their ability to coordinate necessary system improvements.

Policy U 1.4
Cooperate with utility providers in siting facilities for new and alternative technologies to increase energy independence, save money and promote reliability of existing utilities by conserving existing energy resources, developing local utility-scale generation, and promoting energy-saving technologies.

Policy U 1.5
Cooperate with utility service providers in future comprehensive planning efforts to evaluate actual patterns and rates of growth and compare them to demand forecasts.

Goal U 2
Allow for the timely and cost-effective provision of utility services to County residents by enabling inter-agency joint project planning and ensure the availability and use of utility corridors within public rights-of-way for the placement of utility service facilities.

Policy U 2.1
Facilitate inter-agency coordination and planning for joint trenching, installation, upgrade, repair, maintenance, and construction of new utility facilities between the Public Works Department, the various utility service providers, and other agencies.

Policy U 2.2
Provide timely notification of proposed projects in public rights-of-way to utility service providers and coordinate the placement of both above- and underground utility facilities, which are necessary to provide adequate service, including utility-scale renewable energy generation, transformers, switch vaults, telephone pedestals, utility equipment cabinets, and other necessary utility equipment or structures.

Policy U 2.3
Allow for utility services in new dedications for public rights-of-way.

Policy U 2.4
Encourage consultation between permit applicants and utility providers during the permitting process for installation of utility systems.

Policy U 2.5
Support community dialogue, planning, and proactive management of vegetation in right of ways and utility corridors, in a manner consistent with environmental policies within the County, while managing for fire risk hazard.

Goal U 3

Foster predictability and timeliness in processing permit applications for utilities to allow for necessary development, maintenance, repair, improvement, and expansion of utility facilities in a timely and efficient manner.

Policy U 3.1

Review permitting processes to identify ways to improve predictability, timeliness, and efficiency of utility permitting.

Goal U 4

Ensure siting and development of utility infrastructure while preserving rural character, protecting natural habitats, and minimizing environmental impacts.

Policy U 4.1

Require underground installation of new distribution lines where feasible, recognizing that alternate installation methods may reduce impact on critical areas and other sensitive environmental and habitat areas.

Policy U 4.2

Require new development to be designed so that utility easements are accessible and have sufficient capacity for installation of the full range of required utility services, including future renewable energy generation, storage and transmission needs. Ensure that providers bear the cost for work in public rights-of-way and all associated costs of mitigation and repair.

Policy U 4.3

Require landscaping to buffering adjacent uses for new utility installations from adjacent uses, excluding aboveground utility facility development and distribution or transmission corridors when located outside a public right-of-way. Encourage the use of existing, natural buffers in site planning with consideration for impact on safe and effective function of the facility.

Policy U 4.4

Locate and site utility facilities using objective standards to minimize negative impacts to the rural character, shorelines, and natural environment while ensuring adequate service to County residents.

Utility-Specific Goals and Policies

Electricity

Goal U 5

Minimize the environmental impacts of electricity production and use while promoting energy independence.

Policy U 5. 1

Encourage utility service providers to explore innovative and alternative methods of producing energy such as agrisolar.

Policy U 5.2

Work with OPALCO to promote both utility-scale and distributed solar projects. Encourage collaboration with organizations, businesses, and public institutions on solar installations, and collaboration with farmers on agrisolar projects and rooftop solar installations.

Policy U 5.3

Provide technical assistance and incentives to increase individual home, commercial, and community-owned solar installations.

Policy U 5.4

Encourage utility providers, Washington State Department of Transportation (WSDOT), and the public to reduce greenhouse gas emissions.

Policy U 5.5

Adopt regulations that allow facilities that support the generation and distribution of electricity for cleaner transportation including electric vehicles and electric ferries.

Policy U 5.6

Encourage the provision of electric vehicle chargers at key destinations throughout the County.

Policy U 5.7

Increase energy efficiency of buildings and systems on the islands by:

a. Providing educational materials and supporting education on energy efficiency in buildings, beyond State energy efficiency requirements; and

b. Installing solar panels on new and updated County buildings when feasible.

Policy U 5.8
Work with utilities and the public to develop a solar siting policy for utility-scale solar projects, siting on urban core/ impervious areas rooftops, already impacted developed land, and agrisolar projects in collaboration with farmers.

Policy U 5.9
Define agrisolar as a ground-mounted photovoltaic system that has been intentionally designed with agricultural producers, and is constructed, installed, and operated to achieve integrated and simultaneous production of both solar energy and marketable agricultural products through the duration of the project.

Policy U 5.10
Develop streamlined permitting processes for renewable energy projects that meet established design standards and environmental requirements, including expedited review timelines and consolidated permit procedures.

Policy U 5.11
Ensure adequate tribal consultation for renewable energy generation projects occurs prior to permit issuance and throughout the process.

Goal U 6
Collaborate with the Orcas Power and Light Co-Operative (OPALCO) in meeting the needs for projected population growth, achieving its goals for local energy resiliency, and meeting the County's Greenhouse Gas reduction goals set forth in the Climate Element.

Policy U 6.1
Assist OPALCO when necessary to respond to new, unforeseen conditions and technologies that may affect utility operations and facilities.

Policy U 6.2
Coordinate planning to allow for the appropriate location and siting of all necessary existing and future facilities including overhead, underground, and submarine transmission and distribution systems, substations, cable terminals, standby and generation, and any other necessary equipment or structures.

Policy U 6.3
Allow pilot programs to evaluate new renewable energy sources consistent with the goals and policies of this Plan and that comply with all regulations.

Policy U 6.4
Support the transition to up to 30 percent local renewable energy production on an annual energy (GWh) basis by the year 2035.

Policy U 6.5
Identify utility-scale renewable generation and energy storage facilities as essential public facilities, recognizing that they ensure local energy resilience for other essential public facilities, including telecommunications systems, water utilities, public safety systems, and economic infrastructure.

Telecommunications

Goal U 7
Promote the widespread availability of communication systems to facilitate communication among members of the public, public institutions, government agencies, and businesses.

Policy U 7.1
Identify telecommunications facilities developed and operated expressly to carry out emergency services as essential public facilities.

Policy U 7.2
Promote the public service and safety advantages and economic opportunities of widespread availability of state-of-the-art telecommunications technology by reviewing potentially suitable personal wireless facility locations as needed.

Policy U 7.3
Support development of telecommunications facilities to promote public safety and economic opportunity.

Propane

Goal U 8
Regulate and assure safe handling and distribution of propane within the County.

Policy U 8.1
Identify appropriate land use designations and safety criteria for the siting of bulk fuel storage.

Policy U 8.2
Support the use of historic barge landings that have served as landing sites for transporting bulk fuels.

Policy U 8.3
Work with the Ports, the Town of Friday Harbor, WSDOT, and propane distributors to develop safe transportation and circulation routes for the transport of propane.