

**CITY OF SEBASTOPOL
CLIMATE ACTION COMMITTEE
AGENDA ITEM**

Meeting 11-January-2023

Submitted By: Energy Working Group

Topic: Workplan Project – Neighborhood Energy

RECOMMENDATION: That the Climate Action Committee Include in its 2023 Workplan a project to investigate and develop a demonstration neighborhood energy implementation.

Sebastopol would participate with other organizations to identify the roadblocks to implementing such a capability. Some of the challenges that will be addressed during this multiyear effort will likely include:

- Finding ways to make participation financially attractive to both the consumers and the providers of the neighborhood energy facility
- Identify locations/blocks in Sebastopol where such a pilot could be implemented
- Finding ways to leverage existing or influence existing regulations to support such a facility
- Bring together the various players required to make a pilot possible (e.g. Utility, CCA, community organization, CPUC (or other regulatory), US DOE funders, Sebastopol staff, regional climate organization, financial institution, tax authorities, equipment providers, system maintenance providers)
- Identification of funding and/or financing sources

GOALS/RESULTS: The electric grid that developed during the 20th century relied on supply-controlled sources of energy. As the 21st century unfolds reliance of electricity as the primary energy source and schedulable renewables will require the grid to evolve. Part of this evolution will be development of DER (Distributed Energy Resources.)

The primary goal is to reduce the complexity of our energy delivery, reduce consumer costs, increase reliability of energy availability, and seamlessly handle the issues that accompany an increase in renewable energy sources.

As electrification efforts get traction more electric energy and power will be demanded by consumers. Already, CA Title 24 recognizes this and requires that forms of energy collection and capabilities to support electric fleets be provided with new buildings. This will tax the 20th century grid. DER relies on collection of energy from remote sources that are closer to the ultimate consumers. Transitioning to DER will increase reliability and reduce the size of the infrastructure that would be required from a supply-controlled framework.

However, with the lack of control over when supply is available, aggregation of resources and ability to store energy to support uncontrollable demand must be addressed. Rather than transporting the energy back to a remote storage facility, local storage is a more reasonable solution. As well, with local energy storage, reliability can be increased as vulnerability to region wide failures is eliminated.

Initiation of this multi-year project recognizes that there are some fundamental changes in regulations, financial structures, zoning and other yet to be identified aspects that will require collaboration with many organizations outside of Sebastopol City Government.

BACKGROUND/DISCUSSION: *Neighborhood energy* refers to the delivery of community-led renewable energy supply and storage projects, whether wholly owned and/or controlled by communities or through a partnership with commercial or public sector partners.

Typically today, each building is considered to be self-contained behind (that is on the customer side) of the meter. Tariffs are designed to bill based on the flow of energy across the meter. In the case for those buildings that have solar generation, meters run backwards when the energy is not consumed by the building appliances and any batteries installed. As well there are fees for sending energy back to the grid that offset some of the value of spinning the meter backwards.

Currently, there is no provision for any solar installation or energy storage that the customer might have which is located elsewhere. Nor is there an ability for several buildings to aggregate the energy flow between them such that the utility bill does not reflect additional charges. This is certainly the case for offsite solar and storage where the units are not wired on the customer side of the meter.

When a Neighborhood Energy project is in place, it allows for the value of operating both *offsite* solar and storage systems to be applied to the customers in the same utility who subscribe or hold ownership to the project as though it was behind their meter. Often this is referred to as a microgrid, where resources that comprise it are not behind a single meter. Energy flow is aggregated between the subscribers and netted as though storage is behind each of their meters.

The idea of neighborhood energy has been explored in many communities. During the most recent testimony regarding changes to electric tariffs, multiple organizations have recommended that amendments to regulations be made to support neighborhood/community energy which did NOT entail launching of a new public utility.

In southern California, new communities are being built in collaboration between the US DOE, the local utility (SDGE) and CCA, the building developer, solar and battery system providers, and auto manufacturers with neighborhood energy. PG&E has filled with the CPUC for limited tariffs that support neighborhood energy projects in hard to service and low-income areas.

During the review period before the CPUC for “DECISION REVISING NET ENERGY METERING TARIFF AND SUBTARIFFS” (AKA NEM-3.0) multiple proposals were set forward to support *Community Energy* projects at the tariff level. The CPUC responded to these suggestions in section 8.6.3 of the Proposed Decision. Though they rejected the proposals at this time, related proceedings are exploring how this might work. (They are required by AB2316 to respond to establishment of community renewable energy program needs by March 2024.)

The Energy Task Force has had discussion with both PG&E staff (responsible for microgrid initiatives) and Sonoma Clean Power about the concept. As well in the past, Sebastopol council members had explored backup energy ideas with PG&E for the entire community. (This was found to be impractical from a technology point of view).

ALIGNMENT: The concept of neighborhood energy is supported by the Sebastopol Climate Action Framework and the Sebastopol General Plan

From the Sebastopol Climate Action Framework

BE1. Reduce greenhouse gas (GHG) emissions from buildings and support better community health by eliminating natural gas use in new buildings, electrifying existing structures, minimizing embodied carbon in new construction and remodels, and making all buildings more energy efficient.

BE3. Expand the installation of solar panels and other renewable energy sources, both locally and in partnership with other entities in Sonoma County, to further decarbonize Sebastopol’s electricity supply.

BE5. Make buildings more resistant to climate change impacts, such as damage from floods, wildfires,

extreme weather events, and other climate hazards.

BE6. Ensure energy sources are reliable during extreme weather conditions.

C5. Improve community preparedness for climate-influenced hazards.

From the Sebastopol General Plan

COS2. Reduce Emissions of Greenhouse Gases from City Operations and Community Sources

COS9. Promote Conservation of Energy and Other Natural Resources

EV1: Encourage Economic Development that Broadens the City's Employment Base, Attracts High-Quality Jobs, Provides Services and Goods that Reflect the City's Values, and Increases the City's Tax Base

F-1: Promote Energy Conservation in Residential Development

F-2: Promote Resource Conservation in Residential Development

LU 9: Increase Industrial Employment in Sebastopol While Maintaining the Quality of the Environment

TIMING: As described above this effort is expected to take several years before the demonstration pilot would be in operation. However, regular participation will be required throughout that time in meetings, collection of information, and development of the idea.

A standing team should be assembled to meet regularly and identify how regular progress can be made.

PUBLIC COMMENT: This document has not yet been posted in a public forum. Consequently, no public comment has yet been submitted.

PUBLIC NOTICE: This item was noticed in accordance with the Ralph M. Brown Act and was available for public viewing and review at least 72 hours prior to schedule meeting date.

FUNDING NEEDS – Staff Estimate: Until the precise form and methods for the tour are determined, the full cost (and Sebastopol's contribution to it) cannot be determined.

Some funding needs (not yet quantified) can be assumed for the development of the project as the steering team is assembled to support meeting and organizational costs. City staff will likely be the resource that assures continuity in the effort over the years that it might take.

Funding Source(s): Sebastopol Operational Budget; department TBD

STAFF COMMENTS/RECOMMENDATION: [to be completed by staff before reading at SCAC]

ATTACHMENT(S):

none