

## Resilient Power Work Group Charter (Portland, OR)

### Purpose

The purpose of the Resilient Power Work Group (RPWG) is to support public sector efforts to improve the resilience of Portland's neighborhoods and critical facilities with solar plus battery storage (s+s). The work of the RPWG will enhance the community's capacity to respond to disaster events (such as the Cascadia subduction zone earthquake) and climate impacts.

The RPWG will focus on the following four actions identified as high or medium implementation priority as part of the [2016 Mitigation Action Plan \(MAP\)](#):

- 1) **Plan** for solar + battery storage systems, which can serve as mini power-supply stations or provide residents the ability to shelter in place after any electricity supply-disrupting event, at varying scales (project, neighborhood and district) and locations (critical City facilities, low-income housing, community gathering spots).
- 2) **Encourage** solar + battery storage **demonstration projects** at critical City facilities, in low-income neighborhoods and in other strategic locations.
- 3) **Promote** and **fund** energy independence projects in low-income neighborhoods and communities.
- 4) **Support** 2015 Climate Action Plan and Climate Change Preparedness Strategy actions that relate to **adaptation** planning and natural hazard **mitigation** actions.

This work also supports the 2015 [Climate Action Plan](#) and [Climate Change Preparedness Strategy](#).

### Rationale

Among other hazards, Portland is at risk of a Cascadia subduction earthquake within the next 50 years that could take the electric grid offline for as long as four months. Solar combined with advanced battery storage (s+s) has been identified as important both for its ability to power critical facilities during an extended outage and also as a climate mitigation action that contributes to community capacity building and resilience.

Steadily dropping costs in both solar and energy storage technologies, has made s+s a viable and more reliable choice for backup power. Not only do s+s systems have the ability to provide power indefinitely when the grid is unavailable, they also have the potential to cut costs and generate revenue during the 99.9 percent of the time when the grid is functioning normally. These potential savings and revenue streams improve the value proposition for s+s and could reduce the payback period of an energy storage system. Solar plus storage technology that can island buildings from a downed power grid is currently available on the market, but is in the early stages of deployment.

Deployment can be accelerated by addressing several factors:

- Lack of knowledge about and understanding of the technology;
- Lack of funding;
- Presence of other priorities;
- Potential permitting issues; and
- Other as-yet unidentified questions and barriers.

If these can be identified and addressed, it will be easier for the installation of s+s to grow and become part of overall community resilience planning.

### Work group members

The RPWG is composed of people who can provide the expertise, information and resources to better understand the path to wide deployment of s+s, and can identify and address barriers. Initial members include:

- Community emergency management planners
  - Portland Bureau of Emergency Management
  - Multnomah County
- Community energy planners

- Portland Bureau of Planning and Sustainability
- Sources of expertise and funding
  - Energy Trust of Oregon
  - Portland General Electric
  - Pacific Power
  - Oregon Dept. of Energy

Other members may be added as the group evolves.

### **Boundaries and Completion Date**

This group will make recommendations to agencies, identify funding sources, apply for funding, and share lessons learned with City agencies and other Oregon communities. This group will not work to increase use of diesel generation. Although that may be part of community emergency planning and response, it is best handled by other working groups. The RPWG will continue through the 5-year cycle of the Mitigation Action Plan ending in 2020.

### **Activities**

#### **Plan**

- Submit an application to RMI eLab Accelerator (planning for s+s at the neighborhood scale, January 13, 2017).
- Research with other communities/states that are further ahead in deployment of s+s to elicit information that may be applied to this effort. Continue to follow San Francisco's efforts closely.
- Prioritize sites for s+s as part of planning process in order to create an implementation roadmap. Use the BEECN program as a starting point for evaluating sites that could be augmented with s+s. Engage neighborhoods and community-based organizations.

#### **Fund**

- Prepare a grant application for the Hazard Mitigation Grant Program (HMGP) and/or the Pre-Disaster Mitigation (PDM) grant program (March/April 2017)
- Participate in the [Solar in your Community Challenge](#) (March 17, 2017)

#### **Demonstrate**

- Design and install s+s system on Fire Station 1, in partnership with Energy Trust and PGE. Outcome of Accelerator 2016.
- Solar plus storage at select BEECN sites.
- Other sites like Oregon Food Bank...

#### **Promote**

- Develop recommendations for creating a smooth and rapid deployment, growth and installation process.
- Identify which recommendations can and can't be implemented by this group.
- Share lessons learned and actions taken with other communities, potentially in a workshop convened with Oregon League of Cities or Association of Oregon Counties.