



## The Bainbridge Island Energy Challenge

*A Community-Utility Collaboration to Create a More Sustainable Future*

The Bainbridge Island Energy Challenge is a broad based community-wide effort that will substantially reduce Bainbridge Island's consumption of electricity by targeting comprehensive, deep efficiency in both residential and commercial facilities, implementing demand response management, and developing clean, renewable power generation and storage alternatives.

### **I. Origins and Objectives**

In early 2009, in response to local climate, economic and energy challenges, Community Energy Solutions and City Councilmember Hilary Franz, led a diverse group of islanders to form a Community Energy Task Force (CETF). Community Energy Task Force participants include citizens and representatives from community non-profit organizations, religious organizations, local government, school district, the business community, Conservation Services Group (CSG), and Puget Sound Energy (PSE), the Island's electric utility provider.

At its first meeting, the Task Force decided to engage the entire community in a focused Island-wide *Bainbridge Island Energy Challenge (Challenge)* that would achieve the following objectives:

1. Increase energy efficiency and conservation
2. Reduce the Island's peak load demand
3. Increase the Island's energy reliability
4. Reduce greenhouse gases emissions
5. Create local jobs
6. Increase public awareness of energy efficiency, conservation and renewable generation.

The large number of active and diverse participants in the Task Force provide a strong, grassroots network to mobilize the community around the *Challenge* goals and strategies. Ultimately, the *Challenge* will help Bainbridge Island residents and businesses use energy more efficiently, control their energy costs, and build a cleaner future with renewable energy options.

## **II. Key Components of the Challenge**

The key components of the *Challenge* are energy efficiency and conservation, demand response management, and distributed power generation and storage. The *Challenge* will include outreach, education, and intensive promotion of the programs under these components. The intent is to change the way we think about energy similar to that of the Marshfield Energy Challenge: “to explore a shift in focus away from the traditional means of meeting growing demand by building new power plants or upgrading substations, to a new way of doing more with less.”

### **Energy Efficiency & Conservation**

The *Challenge* will phase in several different energy efficiency and conservation programs that cover the entire island population; helping residents, businesses, and non-profit organizations to reduce their overall energy consumption, save money, and cut carbon emissions. Each program will focus on a specific building sector. They are identified as follows:

- a. Single-Family Residential Units – This is the foundation of the Bainbridge Island Energy Challenge. Puget Sound Energy has identified pre-1980 single-family residences as the single most important area to focus on Bainbridge Island for energy efficiency measures. In response, Community Energy Solutions has partnered with Conservation Services Group to deliver a two-tiered home energy audit program to homes. Tier One is a visual home energy review that provides non-biased, fuel neutral, face-to-face interaction with utility customers, creating an all-inclusive approach to energy-efficiency programs. This review includes installation of simple energy efficient devices, while also identifying the best opportunities for participants to improve their home’s energy efficiency. Potential solar electric and water heating installations will be identified through the Tier One review. The Tier One Home Energy Review has proven successful in other communities in leading to the Tier Two program. The Tier Two Home Performance with Energy Star program involves an in-depth home performance assessment, utilizing certified building analysts to perform diagnostic tests to identify whole-home energy opportunities. To support the above two tiered program, a financing component will be included.
- b. Multi-Family Units – The *Challenge* will engage landlords and renters to participate in PSE’s multifamily program and incentives. Through the Task Force efforts, work has already begun to sign up multi-family units for energy audits.
- c. Commercial – The *Challenge* will target the top ten Commercial/Industrial energy users on Bainbridge Island to identify energy efficiency opportunities through PSE’s Business Energy Management Program for comprehensive energy efficiency upgrades and retrofits. The Challenge in collaboration with PSE will also work with small to mid-sized businesses to identify simple energy efficiency

opportunities and work with them to implement measures. Finally, the Challenge will work for full participation of the six island grocery stores in PSE's Energy Smart Grocer Program

- d. Incentives for measures – The ultimate goal of the *Challenge* is to increase energy efficiency and reliance on renewable power. With each energy review, homeowners and businesses will be encouraged to take action. PSE incentives will be available to homeowners, multi-family property owners, and businesses for qualifying energy-efficiency measures. Additional tax credits and other incentives will be available for renewable energy installations.
- e. Trade Ally Contractor Support. The *Challenge* will be working with and recruiting more trade allies to serve the Bainbridge Island area. The Trade Ally Network will be expanded through the Challenge, increasing the network of heating and cooling contractors, insulation specialists, window installers and solar contractors in and around Kitsap County.
- f. Home Energy IQ - Another important element of the Energy Efficiency Program will be the Home Energy IQ education series. The curriculum for this series includes:
  - Understanding home energy use
  - Heating systems
  - Building envelopes
  - Do-it-yourself or trade ally weatherization projects
  - Energy efficient appliances and lighting
  - Creating an action plan

Where possible, the Home Energy IQ program will work with a self-selected Neighborhood Lead to organize homeowners and/or small businesses in the neighborhood where they live. This individual will help the program by volunteering to promote energy conservation through outreach and participant assistance.

It is significant to the partners that this Energy Efficiency Program is replicable and easily extended to other parts of PSE's service territory. The *Energy Challenge* will be implemented through a volunteer Energy Corps that will work directly with neighborhoods, organizations, churches, and businesses to sign up participants to have high participation in audits and take-up of energy efficiency measures.

### **Demand Response Management**

The island's peak power demand had exceeded the nameplate carrying capacity of the power transmission substations during a few cold winter mornings. While PSE has initiated planning for an additional substation, they are also working with the CETF to

explore alternatives to a costly infrastructure project. In order to be able to quickly shave the winter peak demand, a 600 home demand response management pilot will be initiated in Fall 2009. This pilot is essential to support the goal of the *Challenge*.

In addition to the PSE's demand response pilot, island-wide energy consumption meters will be installed in highly visible locations on the island to display the aggregated electricity consumption on Bainbridge Island on an almost real-time basis. These meters will communicate to people on energy consumption, carbon emissions, and the need for conservation. The island-wide energy meters present a great educational value on energy.

### **Distributed Power Generation & Storage**

The Community Energy Task Force is exploring opportunities for distributed generation and storage projects within the City of Bainbridge, identifying ones with the greatest potential for success, and working with the critical participants to pursue the projects. Opportunities currently being explored, include: generating electricity from methane from the wastewater treatment plant; installing solar water heating at the Bainbridge Island Aquatic Center; combined heat and power facility in critical high energy use areas; and power storage opportunities.

### **III. Key Partners of the Challenge**

The Bainbridge Island Energy Challenge will extend citywide and into Kitsap County to involve individuals, community organizations, local government and businesses. Key support will come from:

- Puget Sound Energy
- Community Energy Solutions
- City of Bainbridge Island
- Kitsap County
- Olympic Workforce Development Council
- WorkSource
- A Local Financial Institution
- Positive Energy
- Project DX
- Olympic College
- Conservation Services Group
- Kitsap Community Resource
- Helpline House
- Sustainable Bainbridge
- Bainbridge Island North Kitsap Interfaith Council
- Bainbridge Island Chamber of Commerce