



# Islands Energy

Empowering Our Island Community for a Resilient Future



# San Juan Islands Energy Plan

## *Empowering Our Island Community for a Resilient Future*

### Developed By:

#### Islands Energy Team

##### ***Orcas Island***

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##### ***San Juan Island***

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##### ***Lopez Island***

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##### ***Shaw Island***

John Bogert

### Energy Leadership Team

June Arnold, San Juan Island School District Board  
Sandy Bishop, Lopez Community Land Trust  
Lisa Byers, OPAL Community Land Trust  
Shawn Collins, Opportunity Council  
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Gary Franklin, Economic Development Council  
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Marilyn O'Conner, Port of Friday Harbor  
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Greg Sawyer, San Juan County Public Works  
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Mike Thomas, San Juan County  
Duncan Wilson, Town of Friday Harbor  
Ron Zee, San Juan Islands Conservation District

# Energy Plan Guiding Principles

**Community:** Engage all communities in developing and making decisions related to the development and implementation of the energy plan, and build a broad-based community support for and ownership of local energy solutions.

**Commitment:** Set ambitious energy and carbon reduction targets that make a climate difference, and commit resources necessary to achieve the targets.

**Respect:** Respect island community diversity through engagement of all demographics, and respect the natural environment through stewardship and conservation.

**Resiliency:** Build local energy resiliency and self-reliance by reducing dependency on energy imports through cultivating energy consciousness, improving efficiency of the energy system and consumption patterns, and increasing deployment of local renewable energy resources.

**Prosperity:** Create and nurture a vibrant local economy and creation of green jobs through investments in local clean energy, waste reduction, and energy efficiency.

**Equity:** Provide equal access to energy by ensuring affordability of essential energy services, and fair and equal treatment of different segments of our community.

**Prudence:** Implement measures and programs that reflect industry best practices and demonstrate financial prudence by ensuring all resources are utilized in an efficient and effective manner.

**Innovation:** Utilize technological, social, and regulatory innovations and adapt creatively to arrive at solutions that work in our community and serve as a model for others.

**Governance:** Foster long-term governance to ensure participation, transparency, and implementation of the Energy Plan.

# Georgetown University Scoring Criteria

| Category                                               | Points     |
|--------------------------------------------------------|------------|
| Competition Performance                                | 25         |
| Innovation                                             | 15         |
| Potential for Replication                              | 15         |
| Likely Future Performance                              | 10         |
| Equitable Access, Community and Stakeholder Engagement | 10         |
| Education                                              | 10         |
| Overall Quality and Success                            | 15         |
| <b>Total</b>                                           | <b>100</b> |

# Overarching 2-Year Goals

## **Goal 1: Engage the Community and Students in Energy Issues**

- Objective: Reach 50 Percent of Student Population
  - Strategy: Develop and Implement K-12 Outreach and Education Program
- Objective: Reach 20 percent of Adult Population
  - Strategy: Develop and Implement a Community Outreach and Education Program

# Overarching 2-Year Goals

## **Goal 2: Reduce Energy Waste And Use Energy Wisely**

- Objective: Increase Residential Energy Efficiency and Conservation 20 Percent Annually
  - Strategy: Encourage Energy Efficiency And Conservation Through Incentives And Technical Assistance
  - Strategy: Encourage Energy Efficiency And Conservation Through Policy And Permitting Changes
- Objective: Increase Municipal Energy Efficiency And Conservation 20 Percent Annually
  - Strategy: Develop And Implement Energy Saving Facilities And Operations Plans

# Overarching 2-Year Goals

## Goal 3: Increase Local Renewable Energy Generation

- Objective: Increase Renewable Energy Portfolio 5 Percent Annually
  - Strategy: Promote Large-scale Renewable Energy Facilities
  - Strategy: Promote Municipal And Residential Renewable Energy Generation



# Overarching 2-Year Goals

## Goal 4: Reduce Carbon Footprint

- Objective: Decrease Carbon Emissions 5 Percent Annually
  - Strategy: Gain Comprehensive Understanding of Carbon Emissions
  - Strategy: Encourage Alternative Transportation Use Through Infrastructure, Policy, and Incentives
- Objective: Convert 10 Percent Of Low Income Housing From Propane to Heat Pumps
  - Strategy: Address Low Income Heating Needs
- Objective: Reduce Transportation Of Waste And Food 5 Percent Annually
  - Strategy: Utilize Waste As A Resource
  - Strategy: Reduce Carbon Through Local Agriculture



# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Output:

- Implemented the Bonneville Environmental Foundation's Energy Curriculum in five schools on four islands. Conducted 2 Teacher Trainings for 18 Champion teachers on energy principles, renewable energy, and hands on activities highlighting tools provided in the Teacher Science Kits.
- 5 Energy Science Kits given to school districts including energy & renewable energy curriculum and classroom science kit materials.

### Outcomes:

- Champion Teachers are incorporating Energy Efficiency and Renewable Energy curriculum.
- Connections made with community solar program and the PV systems at each school. Each school has on-line programs for students to monitor and analyze production data hourly, daily, and monthly.
- School Districts encouraged to incorporate an energy efficiency plan.



# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Output:

- Implemented Cool School Challenge with 12 classrooms and 204 students on 4 islands. In addition, 504 students, 322 student families, and 143 school district employees received a student generated 'Energy Saving Pledge'. Participating classrooms received Smart Strips and Kilowatt Meters.

### Outcome:

- Students gained knowledge of energy use, energy efficiency and climate change through instruction and hands-on energy monitoring and classroom and home audits.
- Students shared knowledge by preparing Energy Pledges and Actions for other students, teachers, classrooms and island families;
- Students prepared results of expected energy and cost savings from classroom changes for school peers and school staff.

# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Output:

- Lectures:
  - Cuban Energy Revolution, Mario Alberto Arrastia Avila, Cuban Author of Foundations of a Sustainable Future Lecture on the 3 Presentations on San Juan, Orcas & Lopez Island
  - Energy Use and Carbon Footprint in San Juan County, Jay Kimball and Vince Daucianas of OPALCO & Islands Energy
  - Fossil Fuel Junkies, Climate Change and Better Living Through Algae, Dr. Chuck Greene,
  - NE Pacific Warming: How I learned to Love the Blob, Dr. Nick Bond University of Washington Climatologist, with Madrona Institute
  - Decarbonizing Our Fuel Systems, Dr. Dan Kamen, UC Berkeley, IPCC
- Film Series:
  - Years of Living Dangerously with partners Transition Lopez, Thrive Orcas Island and Islands Climate Resilience, 9 part film series, all 3 islands
  - Symphony of Soil on Carbon Sequestration, with partners San Juan Agriculture Guild
- Facilitated Discussion On Building A Climate Resilient San Juan Islands Community, with partners Islands Climate Resilience

### Outcome:

- Community Actions: climate work groups to create an islands climate action plan and coordination between various islands groups on future programming.

**ISLANDS CLIMATE RESILIENCE**  
presents  
**YEARS OF LIVING DANGEROUSLY**  
SHOWTIME

**EMMY-AWARD WINNING  
9 PART SERIES ON  
CLIMATE CHANGE**

**APRIL 2nd to APRIL 30th**

**WEEK 1 APRIL 2**  
Episodes 1 & 2:  
Dry Season & End of the Woods

**WEEK 2 APRIL 9**  
Episodes 3 & 4:  
The Surge & Ice & Brimstone

**WEEK 3 APRIL 16**  
Episodes 5 & 6:  
True Colors & Winds of Change

**WEEK 4 APRIL 23**  
Episodes 7 & 8:  
Revolt, Rebuild, Renew & A Dangerous Future

**WEEK 5 APRIL 30**  
Episode 9: Moving a Mountain & Community Discussion on Local Actions for Climate Resilience

**7:00pm**  
**SAN JUAN ISLAND GRANGE**

**EACH WEEK'S SHOWING WILL BE FOLLOWED BY A COMMUNITY CONVERSATION TO INSPIRE US TO THRIVE IN THESE UNCERTAIN TIMES**

The films feature actors Harrison Ford, Matt Damon, Arnold Schwarzenegger, Don Cheadle, Journalists Thomas L. Friedman, Lesley Stahl, Mark Bittman, & others

**Co-Sponsors:**

- FRIENDS OF THE SAN JUAN ISLANDS
- SAN JUAN ISLAND GRANGE #966
- San Juan Islanders for Safe Shipping
- THE SAN JUAN ISLANDS FOOD CO-OP
- 3RD ANNUAL ISLANDS FILM FESTIVAL

# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Islands Energy Fairs

#### Output:

- San Juan Mullis Center Outdoors, May 30, 200 people attended
- Orcas Island June 6, Orcas Village Green, 250 people attended
- Lopez Island June 27, Community Center, 150 people attended
- Focus Areas: Energy Efficiency; Renewable Energy; Climate; Green Transportation; Solar Home Tours
- Solar Home Tours: 3-4 homes with renewable systems toured, handouts on home systems
- Electric Vehicle Demonstrations/rides: Various island EV's including Nissan Leaf, TESLA, Focus & home kits; Special Islands Energy Fair Incentives: \$1,000 off Wilson Motors Nissan Leaf Purchase throughout Fairs
- Energy Kit Giveaways: Be Energy Wise Card, weather stripping; wall outlet/light covers; aerator faucets/low flow shower heads; window coverings; clothes pines & lines; smart strips; surge protectors; LED night lights; LED motion detector lights; power timers; kilowatt meters; Turn Me Off stickers, Islands Energy buttons/stickers/tattoos.

#### Outcome:

- Positive Community Engagement



# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Energy Pie Socials

#### Output:

- TAKE CHARGE: Stay Warm In Winter & Decarbonize Your Energy
- Information Exchange focused on energy efficiency, decarbonizing our energy, fuel switching to electric heat pumps & renewable energy sources; 5-6 speakers and locally made pies; Energy Efficiency Giveaways:

#### Outcome:

- 30 people received Snap Shot Home Energy Audits from OPALCO
- 3 people received \$1,000 voucher for home energy project, all three have discussed possible projects with CD staff;
- 6 people received \$500 voucher for home energy projects, 4 have discussed projects with Cd staff.
- San Juan Islands Newspaper Article written on event & Outcomes.



# Accomplishments for 2015

## Engage the Community and Students in Energy Issues

### Georgetown University Energy Prize

#### Output:

- Quarterly Energy Use Data submitted by OPALCO staff & coordinated with Conservation District staff;
- January/February 2015: Local news media, Conservation District Website, FaceBook & Email List Serve on SJ County being a GUEP Contestant!
- February-December 2015: Outreach and advertising of on Energy Plan actions/events on Conservation District & OPALCO Websites, BLOGS, FaceBook, newsletters and monthly insert into OPALCO member mailings February-September: GUEP and Climate Communities Weekly Webinar on modeling Climate Communities
- November: Attended first GUEP Regional Workshop in Bellevue, WA; 3 Island Energy members attended; December: GUEP Coordinator San Juan Island visit; luncheon & discussion

#### Outcome:

- GUEP Competition Status: 16 out of 52 as of December 2015! New regional & national relationships developed, Energy Plan adjustments as a result, national exposure as a result



# Accomplishments for 2015

## Reduce Energy Waste And Use Energy Wisely

### Water Conservation & Energy Efficiency

#### Output:

- Water Conservation Posters, Handouts & Demonstrations; Giveaways: 10 low flow shower heads, 40 faucet aerators, 120 water collection buckets, 30 clothespin/lines, raffle for 1 40-gallon rain collection barrel
- November 2015: Future of Water Resources in San Juan County Forum on San Juan Island, 5 panel speakers and community discussion, 76 people
- Outcome:

#### Outcome:

- Water Conservation & Energy connection, community work group on water issues



# Accomplishments for 2015

## Increase Local Renewable Energy Generation

### Community Solar for Schools

#### Output:

- Completed installations at four schools. Total capacity of the system is 31.7 kW. Lopez, Orcas, and San Juan schools each have 10kW installed. Shaw, a much smaller school, has 1.7 kW.



#### Outcome:

- Well received by the community at large.
- Based on feedback, community would support a large-scale community solar project.
- Please see report for additional details



# Accomplishments for 2015

## Reduce Carbon Footprint

### Electric Vehicle Campaign

#### Output:

- Incentive program with Wilson Nissan.
- Installation of Charging station at CD office completed.
- Conservation District purchased an EV car, a Nissan Leaf! Using car to demonstrate EV use in San Juan County.
- Conducted outreach to improve visibility and accessibility of charging stations.

#### Outcome:

- 10 EVs purchased in county as result of outreach.



# Plans for 2016

## Goal 1: Engage the Community and Students in Energy Issues

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**Energy Fairs, Presentations,  
Newspaper Articles**

Energy Fairs on three islands, expert speakers, outreach

**Take Charge Campaign**

Outreach program to encourage fuel switching and conservation.

**Cool School Challenge**

Work with 6 Schools on 3 Islands

**Georgetown University Energy  
Challenge**

Continue participation in competition

# Plans for 2016

## Goal 2: Reduce Energy Waste and Use Energy Wisely

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**Heat Pump Conversions,  
Weatherization**                      15-20 Homes

**Municipal/School Program**                      4 Schools

# Plans for 2016

## Goal 3: Increase Local Renewable Energy Generation

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**Member Owned Renewable Energy Program (MORE)**

Meetings, Outreach, Report

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**Large-Scale Community Solar** Tracking Legislation

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# Plans for 2016

## Goal 4: Reduce Carbon Footprint

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### **Electric Vehicle Campaign**

Outreach to increase number of EVs in the County.

10 Charger Installations at Strategic Locations, partner with the County



Questions?

