

# 2010 FACILITY CONSERVATION ACTION PLAN

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|--|---|--|------------------|
| FACILITY<br>Concrete Senior Center<br>45821 Railroad St., Concrete, WA |   | SITE ID<br>SC-53B                                  | DATE<br>10-14-10 |
| CURRENT ENERGY USE INDEX (EUI)<br>66 kBtu/Sq Ft                        | TARGET EUI<br>60 kBtu/Sq Ft (10% reduction)   | AVERAGE EUI (BENCHMARK) FOR THE FACILITY TYPE: TBD |                  |
| NEXT REVIEW OF PLAN<br>Review and update annually.                     | FACILITY RCM TEAM MEMBERS (NAME AND POSITION)<br>1. Ric Boge, SCOG RCM<br>2. Katie Hampton, Skagit County Sustainability Coordinator<br>3. Sara Pritchard, Concrete Senior Center Coordinator |  |                  |
| WALK THROUGH SUMMARY AND PHOTOS  | DATE AND TIME OF WALK THROUGH: 10-1-10  |  |                  |

**OVERVIEW OF THE SITE VISIT AND OPPORTUNITIES FOR RESOURCE CONSERVATION IN THE FACILITY**

The Concrete Senior Center is a 5,000 square foot facility owned and operated by Skagit County. It is staffed by a part time Center Coordinator and local Volunteers. It is comprised of an entryway area, work-out room, administrative office, community hall, kitchen, restrooms, and garage for storage. The facility is open 8 to 3, M-F. It is also open for occasional night meetings and weekend special events. The facility is heated by a propane-fired furnace. Cooling is from outside air only. There is one 40-G electric hot water tank for the kitchen and one small electric tank for the restrooms. In 2009 this facility used 42,739 KWh of electricity, and 2,028 gallons Propane for a total energy cost of \$7,402.

One PSE electricity account services the facility: #614525000 (meter: # A091927649; rate: 24E-C). One Cenex Propane account services the facility: #825002. Water and sewer services are provided by the Town of Concrete: account #400020. Refuse service is provided by Waste Management: account #930-0029231-0043-8.



Concrete Senior Center

**Key findings** from the Resource Conservation Audit to save \$1000 to \$1500 annually on energy bills:

1. Retrofit overhead lighting with more efficient T8 fluorescent fixtures and lamps
2. Reduce the number of overhead fixtures and the number of lamps/fixture when retrofitting
3. Reduce the number of interior lights kept on during the day and for security at night
4. Disconnect the smaller 2-door reach-in refrigerator/cooler in the garage
5. Replace the upright freezer in the garage with a small, energy efficient chest freezer
6. Consider 2" Styrofoam panel inserts to insulate the interior windows overnight and on weekends during the winter
7. Clean or replace defective photocells on parking lot lights so they shut off during daylight.



**POTENTIAL CONSERVATION MEASURES, OPERATIONAL IMPROVEMENTS, OR MODIFICATIONS**

**MEASURE SUMMARY**

**FOLLOW UP ACTIONS**

DISPLAYED TO THE RIGHT OF EACH MEASURE

**HEATING/VENTILATION/AIR CONDITIONING (HVAC)**

1. Kudos for the overhead ceiling fans in the Community Hall.



**Funding:** Budget neutral  
**Staff:** Center Coordinator  
**Schedule:** N/A

**Note:** Warm air collects in the high ceiling. Ceiling fans help to circulate this warm air to the cooler spaces below.

2. Kudos for restricting occupant access to main thermostat.



*Locked cover on main thermostat*



**Funding:** Budget neutral  
**Staff:** County Facility Operations Supervisor and Center Coordinator  
**Schedule:** N/A.

**Note:**  
 Restricting occupant access to this thermostat reduces the chance of abnormal settings being left on when building is unoccupied.

3. Consider 2” Styrofoam panel inserts to insulate the interior windows overnight and on weekends during the winter.






*North-facing windows in the Community Hall*

**Funding:** Operating budget  
**Staff:** County Facility Operations Supervisor, Center Coordinator, Volunteers  
**Schedule:** Immediate action.

**Note:**  
 Much heat transfer takes place between inside air and outside air with the many older, double-paned windows in the facility. To reduce heat transfer of warmth from inside to the outside during the winter purchase and cut 2” Styrofoam panels to fit inside each window. Center Director or volunteers could put them up just prior to closing for the night/weekend and take them back down when reopening, especially during periods of very cold weather. (This may also enable lower thermostat settings when unoccupied.)

## ELECTRICITY AND LIGHTING

|   |  |
|---|--|
| <p>1. Retrofit overhead lighting with more efficient T8 fluorescent fixtures and lamps.</p>  <p style="text-align: center;"><i>Overhead T12 fixtures in the Community Hall</i></p>                 | <p><b>Funding:</b> Operating Budget / Capital Budget</p> <p><b>Staff:</b> County Facility Operations Supervisor / Contractor</p> <p><b>Schedule:</b> Immediate action</p> <hr/> <p><b>Note:</b></p> <p>It's costing the Center about \$.80/hour for electricity when all of the many overhead, T12 fixtures are turned on in this facility. Reduce that by 25% and save several hundred dollars annually on electricity by retrofitting the fixtures with energy efficient T8 fluorescents!</p>  |
| <p>2. Reduce the number of overhead fixtures and the number of lamps/fixture when retrofitting</p>  <p style="text-align: center;"><i>4-lamp T12 fixtures in the Community Hall</i></p>           | <p><b>Funding:</b> Budget neutral</p> <p><b>Staff:</b> County Facility Operations Supervisor / Contractor</p> <p><b>Schedule:</b> Immediate Action</p> <hr/> <p><b>Note:</b></p> <p>The new T8s will be brighter than the old T12s being replaced. Consider eliminating about ¼ of the fixtures and retrofitting with fixtures with fewer-lamps/fixture, such as 2 or 3-lamps/fixture to save additional money on electricity bills, especially in the Community Hall.</p>   |
| <p>3. Reduce the number of interior lights kept on during the day and for security at night.</p>  <p style="text-align: center;"><i>Overhead lighting on at the time of the audit in the</i></p> | <p><b>Funding:</b> Budget Neutral / Operating Budget</p> <p><b>Staff:</b> Center Coordinator</p> <p><b>Schedule:</b> Immediate Action</p> <hr/> <p><b>Note:</b> Most overhead lighting was on in the facility at the time of the audit, although the facility was not yet open for the public. This is a waste of energy and money! Some 'no-cost' solutions to this are:</p> <ul style="list-style-type: none"> <li>• Center Coordinator only turn on lighting in areas she's working in before facility opens to the public.</li> <li>• Label the switches and post small, attractive signs asking occupants to only switch on what's needed, and</li> </ul> |

*entryway*



*Entryway lighting is kept on 24/7*

to switch lighting off when not needed

- Educate occupants about the cost of annual electricity for the Center and that turning off unnecessary lighting is one way to reduce that cost.

(Consider a Volunteer-led campaign, for example: 'Let's Save Taxpayer's/Senior Center Money'. Post information with clear instructions of when to turn on/off which switches, and that informs occupants of the annual costs for electricity.)

Entryway lighting (see switch on the left) is kept on at night for security so law enforcement driving by can easily see into the facility. To save money on electricity add an extra switch so only a couple fixtures in the entryway can be left on at night, rather than all of them.

4. Disconnect the smaller 2-door reach-in refrigerator/cooler in the garage.



*Delfield 2-door reach-in commercial refrigerator was nearly empty*

**Funding:** Budget neutral

**Staff:** Center Coordinator

**Schedule:** Immediate Action

**Note:**

Center Coordinator confirmed the unit is seldom used. Save about \$500/year on electricity when it's disconnected!

5. Replace the upright freezer in the garage with a smaller, energy efficient chest freezer.



*15-year old upright freezer in garage.*

**Funding:** Operating Budget

**Staff:** Center Coordinator

**Schedule:** When replacement is possible

**Note:**

Save \$50+/year with an efficient chest freezer.



*Large buildup of ice in this upright freezer*

This freezer needs a good defrosting immediately. Ice buildup makes the refrigeration system work harder to maintain desired temperature. Defrosting before much ice builds up will enable the system to operate more efficiently and save some money on electricity.

6. Use only Energy-Star certified appliances when replacing older appliances.



*20-year old freezer in the kitchen*

**Funding:** Operating Budget.

**Staff:** Center Director

**Schedule:** When replacement is due.

**Note:**

Energy Star certified appliances are guaranteed to use less energy than the average of non-certified similar appliances.

7. Clean or replace defective photocells on parking lot lights.



*Several parking lot lights were observed on at 10 am on a bright sunny day.*

**Funding:** Budget Neutral / Operating Budget

**Staff:** County Facility Operations Supervisor / Center Coordinator

**Schedule:** When other electrical work is underway at the Center.

**Note:**

Consider a timer if tree shading interferes with proper photo cell operation.

## WATER & SEWER

|   |   |
|---|---|
| <p>1. Keep the 2 electric water heater tanks set not to exceed 120°F.</p> | <p><b>Funding:</b> Budget neutral</p> <p><b>Staff:</b> County Facility Operations Supervisor / Center Coordinator</p> <p><b>Schedule:</b> Ongoing</p> |
|   | <p><b>Note:</b> Consider upgrading to a more efficient, tank or tankless, gas-fired water heaters when replacement is due.</p>                        |

## SOLID WASTE & RECYCLING

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|--|--|
| <p>1. Increase recycling of cans, plastic and glass containers, and cardboard from kitchen operations, and investigate composting of appropriate kitchen wastes.</p> | <p><b>Funding:</b> Budget neutral.</p> <p><b>Staff:</b> Center Coordinator / Volunteers</p> <p><b>Schedule:</b> Immediate Action</p>   |
|  | <p><b>Note:</b> Solicit 'conservation-minded' volunteers to serve on a Concrete Senior Center Resource Conservation Committee. Ask the Committee to propose to the Coordinator how to increase recycling and implement composting of appropriate kitchen wastes. (For example, compostable kitchen wastes could be segregated from non-compostable wastes and collected by a volunteer(s) for composting in their home compost containers.)</p> <p>Coordinate recycling with pickup of the mixed-recyclables pickup at the Community Resource Center nearby.</p> |
| <p>2. Practice double-sided printing and copying, and waste reduction such as using both sides of paper before recycling.</p>  | <p><b>Funding:</b> Budget neutral.</p> <p><b>Staff:</b> Center Coordinator and Volunteers</p> <p><b>Schedule:</b> Ongoing.</p>   |
|  | <p><b>Note:</b></p>  |

RESOURCES REQUIRED FOR IMPLEMENTATION OF CONSERVATION MEASURES

OCCUPANT/EMPLOYEE TRAINING, DETAILED ENERGY USE ANALYSIS, CAPITAL IMPROVEMENTS, HVAC ADJUSTMENTS, ETC.

**RESOURCE**

**FOLLOW UP BY**

**1. Education and Communication**

- Frequent communication with Volunteers and visitors on viability of these conservation measures to secure and maintain 'buy-in' and to make minor changes as needed.
- Periodically, post energy usage and cost reports for the Center for occupants to see any impacts from the conservation measures
- Seek feedback from Volunteers and visitors regarding the implementation of action plan initiatives.
- Include County Facilities Supervisor and SCOG RCM in review of any renovation or new construction projects to ensure conservation measures are built in from the get-go.
- Reward success and good conservation-at-work behavior with awards or formal recognition by the Board of County Commissioners.

1. County Facilities Operations Supervisor, Center Coordinator, Lead Volunteers, SCOG RCM assistance as appropriate.

**2. Funding**

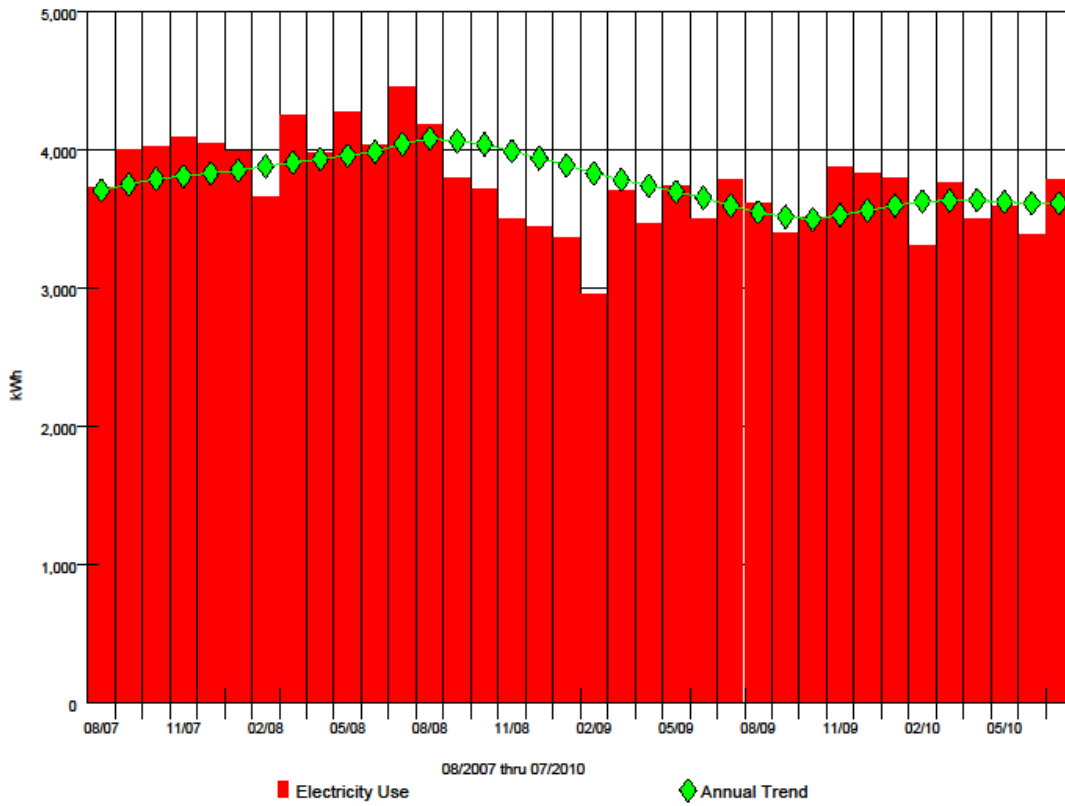
- Interact with utility companies to determine applicability of custom grant or prescriptive rebate funding for specific energy efficiency upgrades.
- Track savings from conservation and efficiency measures and challenge other Senior Centers to exceed % energy savings achieved at the Concrete Center.
- Propose to the Board of County Commissioners that a portion of savings from conservation and efficiency measures be credited back to the Anacortes Center budget for use towards other unmet needs.

2. County Facilities Operations Supervisor, Center Coordinator, Lead Volunteers, SCOG RCM assistance as appropriate.

**3. Utility Use Data** – such as the electricity propane usage graphs shown below to communicate energy usage and costs to Volunteers and visitors.

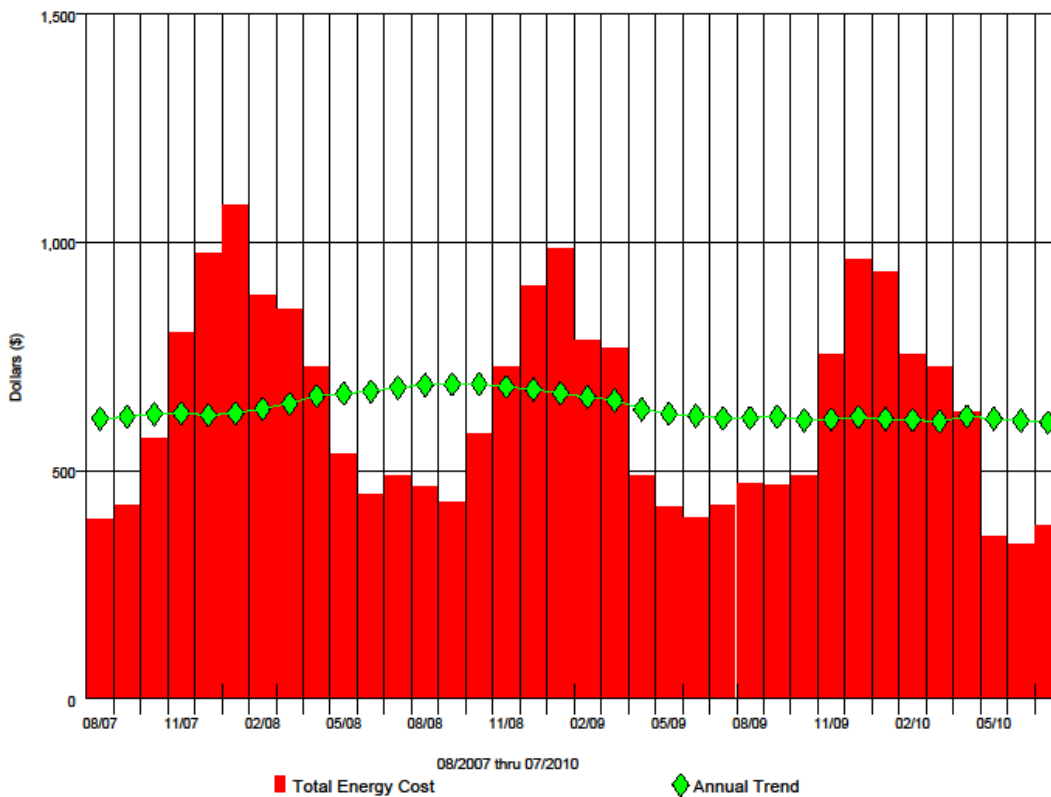
3. Additional and detailed usage data for energy and other utilities is available from the SCOG RCM (Ric Boge).

Concrete Senior Center 3-Years Monthly Electricity Use Ending 7-10



Individual Utility Graph - Printed by Utility Manager Pro Thursday, September 23, 2010 at 2:37 pm  
 Data prorated into calendar month according to billing from and thru dates - N/A indicates missing data

Concrete Senior Center 3-Years Monthly Total Energy Cost Ending 7-10



Individual Utility Graph - Printed by Utility Manager Pro Thursday, September 23, 2010 at 2:46 pm  
 Data prorated into calendar month according to billing from and thru dates - N/A indicates missing data