CITY OF KIRKLAND
City Manager's Office
123 Fifth Avenue, Kirkland, WA 98033 425.587.3001
www.ci.kirkland.wa.us

MEMORANDUM

To: David Ramsay, City Manager

From: Erin Leonhart, Intergovernmental Relations Manager

Date: May 7, 2009

Subject: ENERGY EFFICIENCY & CONSERVATION BLOCK GRANT (EECBG) AND PUGET SOUND NEW ENERGY SOLUTIONS (PSNES)

RECOMMENDATION

It is recommended that Council:

a. Select a project or projects from a menu for investment of Kirkland's Energy Efficiency and Conservation Block Grant formula funds ($211,500) and
b. Authorize the Mayor to sign a letter of intent (similar to Attachment A) to participate in the Puget Sound New Energy Solutions group.

BACKGROUND

Energy Efficiency and Conservation Block Grant Program – The American Recovery and Reinvestment Act of 2009 provided multiple funding opportunities intended for local governments. One such opportunity is the Energy Efficiency and Conservation Block Grant (EECBG). The overall intent of the EECBG Program is to assist eligible entities in creating and implementing strategies to:

- Reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities;
- Reduce the total energy use of the eligible entities; and
- Improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors.

Entities may develop various initiatives and projects that address one or more of the purposes. Each entity is required to use the funds in a cost-effective manner that is of maximum benefit to the population of that entity and in a manner that will yield continuous benefits over time in terms of energy and emission reductions.

The City of Kirkland is eligible for $211,500 in EECBG formula funding. The application due date for this funding is June 25, 2009 and agencies are encouraged to submit applications prior to that date. The period of performance for these grants will be 36 months. In keeping with the agenda of the Recovery Act, and supporting the goal of immediate investment in the economy, entities are required to obligate/commit all funds within 18 months from the effective date of the award. In the event funds are not obligated/committed within 18 months, the Department of Energy reserves the right to deobligate the funds and cancel the award.

Puget Sound New Energy Solutions – In order to maximize local and regional benefit from the EECBG and other similar funding opportunities, informal dialogue has been occurring between several cities, counties, utilities and non-profit agencies. This group is referring to itself as Puget Sound New Energy Solutions.

Puget Sound New Energy Solutions centers on creation and development of innovative partnerships that overcome traditional jurisdictional and sector boundaries to achieve transformational change in energy. PSNES builds on the region's long-term leadership in energy to position the region at the leading edge of an emerging new energy economy. PSNES aims to:

- Reduce dependency on petroleum and other fossil fuels, thus reducing greenhouse gas emissions and Puget Sound regional air and water pollution;
- Foster economic development, job creation and innovation in the interconnected technologies of efficient buildings, electrified transportation and smart grids delivering clean power; and
- Strengthen the brand of the Puget Sound region as a national leader on environmental protection and clean technology innovation in order to attract further investment in existing and new business.

This body is in the process of developing a formal identity and governance structure. Included in the process is a conversation with the Puget Sound Regional Council, which has conceptually offered to house the PSNES within their existing organization. Staff will keep Council apprised of developments as they occur. In the meantime, organizations interested in joining the group are encouraged to sign the attached letter of intent (Attachment A), which has been signed by King County Executive Sims, the City of Mercer Island and the City of Sammamish.

EECBG PROJECT MENU

As previously mentioned, the due date for EECBG applications is June 25, 2009. Staff members from various departments have been meeting to discuss potential uses of this grant funding. One portion of the EECBG application is an Energy Efficiency and Conservation Strategy. Kirkland will use the Climate Protection Action Plan and regional information from the PSNES to develop this strategy. With that in mind, the projects proposed are consistent with Kirkland's emissions goals and Climate Protection Action Plan.

OPTION #	***PROPOSED PROJECT***	***ESTIMATED COST***
1	*Convert City Hall Parking Lot Lights to LED Technology (potential partnership with Puget Sound Energy could reduce costs)*	*$60,000*
2	*Convert Remaining Traffic Signals to LED Technology (cost listed is for materials only after the PSE rebate is applied)*	*$1,637 avg. per unit*
3	*Replace Single-Pane Windows at Fire Station 27*	*$24,000*
4	*Remaining Funding Needed for Heat Pump Installation at Peter Kirk Community Center*	*$20,000*

5	*Positive Energy Program* • *Assumes 24,000 customers at $10 per customer* • *Partnership and 50/50 cost share with PSE*	*$120,000*
6	*Solar Energy/EcoMap*	*$55,000*
TOTAL	***ALL OPTIONS (excluding signal conversion)***	***$279,000***

PROPOSED PROJECT DESCRIPTIONS

Option 1. Convert City Hall Parking Lot Lights to LED (Light-Emitting Diode) Technology (Project Contact: Donna Burris) – Converting the 19 overhead area lights in the City Hall parking lot from 250 watt lamps to 90 watt LEDs represents a highly visible demonstration project and an opportunity to convey to Kirkland citizens that the City is striving to lead by example by making efforts to reduce energy costs as well as greenhouse gas emissions in our municipal operations. Also, the upgrade to LED lighting will reduce the maintenance needs as the lifetime of LED can be translated into a 10 to 15 year life expectancy. In contrast, conventional lamps burn out after 2 to 4 years incurring higher manpower and related maintenance costs for bulb replacement.

Total energy savings at 11 hours a day are estimated to be 12,205 kWh and a savings of 6 tons of carbon dioxide equivalent (CO_2e). Staff has begun discussions with Puget Sound Energy (PSE) regarding a potential joint venture in which PSE would fund 5-10 of the area lights. This project can be completed in 2-4 weeks. Without stimulus funding, budget constraints will limit our ability to upgrade to this more efficient lighting. Since this work would be conducted with in-house labor, indirect jobs created/maintained would be in the manufacturing of the LED lamps and poles.

Option 2. Convert Remaining Traffic Signals to LED Technology (Project Contact: Juliana Elsom) – Currently, approximately 44% of the City of Kirkland's signal system has been converted to LED amounting to 454 of the total 1,028 signals leaving 574 remaining to be converted. This conversion has been accomplished over time as City crews replaced existing lights with LED. The City has received PSE rebates for a total of 171 red and green signals for a total rebate of $3,196. In the past the yellow ball has not been converted to LED as it is utilized very little and lasts much longer compared to red and green incandescent bulbs; however, the yellow LED lamp requires 7-12 watts vs. the current incandescent version which requires 170 watts – a significant opportunity for energy savings.

If the City pursues a system-wide LED conversion to include 3M signal types, pedestrian indicators and yellow signals, a total of 1,077 signals remain to be converted for a total cost after PSE rebates of $167,325. The Street Manager is confident current staff can complete the conversion and meet the demands of the grant, total staff time to complete the job would equate to 1400 labor hours or $44,000. A summary of what remains to be converted and additional details about this program can be found in Attachment B.

A lower level of funding could be utilized to replace a portion of the remaining incandescent signals. The average unit cost of materials is $1,637 after the Puget Sound Energy rebate is applied.

Option 3. Replace Single-Paned Windows and Skylights at Fire Station 27 (Project Contact: Donna Burris) – Retrofitting the 16 single-paned windows and 8 skylights at Fire Station 27 located at 11210 NE 132nd Street in north Totem Lake can be seen as an example of the City's efforts to reduce energy costs as well as greenhouse gas emissions in our municipal operations. Energy efficient windows reduce the amount of energy needed to heat and cool the building. According to Environmental Protection Agency's ENERGY STAR, this project offers a savings of 25 million British Thermal Units (BTUs) and 4 tons of CO_2e. This project can begin in fall 2009 and can be completed within one week. Indirect jobs created/maintained would be in the manufacturing and installation of windows.

Option 4. Remaining Funding Needed for Heat Pump Installation at Peter Kirk Community Center (Project Contact: Donna Burris) – As part of the lifecycle improvements needed at the Peter Kirk Community Center, Trane, who was selected as the Energy Services Contractor (ESCO) through the State of Washington's Energy Savings Performance Contracting Program, will replace the six existing rooftop electric resistance HVAC units with high-efficiency air-source heat pumps. This project option secures the balance of funding required for the replacement, which is projected to result in 35% reduction in electricity costs, a renewed HVAC system to serve the Peter Kirk Community Center for the next 15-20 years, and projected savings of 42 tons of carbon dioxide equivalent (CO_2e). This project can begin in fall 2009 can be completed by spring 2010. Indirect jobs created/maintained would be in the manufacturing of the heat pumps as well as installation/construction jobs.

Option 5. Positive Energy Program (Project Contact: Erin Leonhart) – Puget Sound Energy is contracting with Positive Energy (http://www.positiveenergyusa.com/) and partnering with cities to provide energy reporting for residential customers (see Attachment C – sample report). The report contains information and analysis about electricity and natural gas consumption in comparison with a resident's neighbors to help increase understanding about energy usage. The report also provides personalized action steps to reduce utility usage and costs. Reports are customized for the community and provide information about City programs and opportunities.

This program would present a helpful outreach method to engage the community about the Climate Protection Action Plan and encourage behaviors that will reduce the community's greenhouse gas emissions. Puget Sound Energy/Positive Energy employs a statistical test and control methodology to sample energy use results over meaningful time periods (12-24 months) and measure exact impact within the community. Six other east King County cities are considering this program

Option 6. Solar Energy/Eco Map (Project Contacts: Ellen Miller-Wolfe, David Barnes, Xiaoning Jiang) – (see Attachment D) Staff from the Kirkland's GIS group would work with a consultant to develop an "Internet GIS Mashup" resulting in a public website that would provide solar energy estimates by parcel. Users would enter their address and the webpage will display information about:

- The estimated amount of solar photovoltaic (PV) energy that could be installed on their roof;
- The estimated amount of solar PV energy that could be generated at that site;
- Potential electricity cost reduction resulting from the solar PV installation;

- Potential carbon dioxide/greenhouse gas reduction as a result of installing a solar PV system;
- Case studies of other local businesses and homeowners who have already installed solar PV systems and their stories; and
- Information on installing a solar PV system, including contact information for local solar installers.

Providing this information to a user educates and informs them, increasing the potential for installation of solar PV. Staff estimates assuming that Kirkland has 14,800 structures that are large enough to install a 1-3 kilowatt solar panel on their rooftops. For the first year, the estimate is 5% of consumers will install solar based our mapping project (740 consumers). This could save from 873,200 kwh to 2,619,600 kwh per year. Additional details about this option can be found on Attachment D.

STAFF RECOMMENDATION

If Council is interested, staff will be prepared to offer a recommended package of projects from the Green Team at the Council meeting.

Attachment A – Puget Sound New Energy Solutions Letter of Intent
Attachment B – Project: Convert Traffic Signals from Incandescent to LED
Attachment C – Positive Energy Sample Home Energy Report
Attachment D – Kirkland Solar Mapping Option

PUGET SOUND
NEW ENERGY SOLUTIONS

DRAFT

May 20, 2009

To Whom It May Concern:

This letter sets forth an intent to work together to form a consortium to plan and implement significant energy saving and greenhouse gas reduction projects, in preparation for federal economic stimulus money and other future funding.

Our nation, state and region are confronted with critical energy and environmental challenges including dependence on foreign oil, climate change, and volatile energy prices. We are simultaneously facing economic challenges and job losses that demonstrate the urgent need to revitalize and renew our employment base. To meet these challenges, our collective vision is to encourage the creation of a clean and efficient new energy economy in the Puget Sound region, focused on three interconnected areas: smart and clean power grids, energy efficiency and clean mobility. The federal focus on these topics and the significant federal funding resources available for these efforts create an ideal opportunity for regional action.

The Puget Sound region has demonstrated a solid record of leadership and inter-jurisdictional cooperation in protecting the environment, and we are building on that foundation to focus on the areas of smart and clean power grids, energy efficient buildings and clean mobility. Our region's base of innovative and entrepreneurial companies and our history of regional cooperation in such areas as clean water, clean air and salmon recovery position us for leadership and rapid implementation in the development of the new energy economy.

A collaboration of public agencies, educational institutions, businesses and civic leaders can best support and provide leadership to the new energy economy. To this end it is the intention of the undersigned, as a consortium to be known as New Energy Solutions, to collaborate on a comprehensive system of energy projects and programs that will accelerate a regional new energy economy and provide a national model for cooperation and initiative.

Specifically, as the New Energy Solutions consortium, we intend to:

- Cooperatively identify and seek funding sources (local, regional, state, federal, and private sector) to achieve the goals stated herein;
- Create a regional investment strategy to maximize economic and environmental outcomes and create and enduring collaborative framework;

- Optimize existing programs and where appropriate, develop, implement and monitor new models for community-scale delivery of building energy efficiencies;

- Seek to implement one or more significant national-scale energy pilot projects;

- In collaboration with regional utilities, develop foundational technologies of the smart grid as pilot projects to demonstrate advanced smart grid capabilities;

- Build and deploy electrified vehicle infrastructure and plug-in vehicle marketing, in conjunction with investment in public transportation hubs and a low-carbon built environment;

- Facilitate the siting and development of new local renewable generation to provide clean energy to serve the needs of the Puget Sound area;

- Create and retain living-wage jobs and train workers in green technologies while striving to minimize economic impacts so as to provide affordable energy to all customers, especially low-income communities;

- Capture economies of scale and maximize the combined resources of the utility, transportation, government and private sectors of Puget Sound through partnership and collaboration in existing programs and new initiatives;

- Accomplish these objectives in an accountable and measurable manner, through development of common metrics including job creation, greenhouse gas emissions reduction, and replacement of fossil fuel vehicle miles traveled; and

- Create an enduring regional collaborative framework to maximize economic and environmental opportunities opened by taking national leadership in development of the new energy economy.

We, the undersigned, as New Energy Solutions partners intend to use our best efforts to work together and with our legislative bodies to achieve these objectives. Our informal collaboration to date has included conversations with Puget Sound Regional Council, our four-county Metropolitan Planning Organization, about housing and providing structure and support for our association. We hope to have a more formal structure in place in time to support a major regional investment strategy encompassing the elements described above.

PUGET SOUND
NEW ENERGY SOLUTIONS

Please note that no expenditure of local funds will be made in connection to the New Energy Solutions initiative without prior approval through due process by councils, boards and executives of the member institutions.

We pledge our best efforts as members of the New Energy Solutions consortium to achieve these objectives.

Ron Sims County Executive King County, WA	Pat McCarthy County Executive Pierce County, WA
City of Bainbridge Island, WA	Ava Frisinger Mayor City of Issaquah, WA
City of Mercer Island, WA	
Stephen Norman Executive King County Housing Authority	Snohomish Community Transit

Above jurisdictions are listed in alphabetical order.

Jurisdictions invited to sign include:

- Counties (King , Snohomish, Pierce, Kitsap)
- Cities (all in above counties who want to sign)
- Utilities (SCL, Tacoma, SnoPUD, PSE)

- Housing authorities and transit agencies (if separate from Cities / Counties)

Project: Convert traffic signals from incandescent to LED

This funding would allow the Public Works Department to complete the conversion of incandescent signals to LED. Expanding energy efficiency efforts in our operations will help us comply with the US Mayors' Climate Protection Agreement and the City's resolution adopting greenhouse gas reduction targets. Since traffic signals operate 24 hours a day, 365 days a year, the opportunity for energy savings is significant. When compared with incandescent light bulbs LED signals are far superior; Benefits of LED signals include:

- Energy Efficient
- Increased Safety
- Cost Savings
- Proven Technology

LED signals are much more **Energy Efficient** than incandescent light bulbs. LED signals:

- Use less electricity to produce the same amount of light output as traditional traffic signals; consuming 80-90% less energy or 15- 20 watts compared to 100
- Use less energy therefore, lower greenhouse gas emissions and lower energy costs
- Reduced impacts on the environment can be measured and reported fairly easily

LED signals are proven to increase the **Safety** of motorists; through:

- Improved visibility
    - the vibrant colors are much more visible to the elderly,
    - and do not "wash out" in the morning and afternoon when the sun is shining directly into them
- High reliability
    - because LED's are made without filaments they have a very low chance of burning out;
    - many Cities report a 150%$^{+}$ reduction in failures,
- Emergency backup systems
    - Since only a very small amount of energy is required to operate, operating signals using an emergency backup system is feasible. In the future this would enable major intersections to operate during power failures.

Cost Savings realized from:

- Reduced maintenance costs from replacing failed lamps; LED's last 5 times longer than current bulbs; LED lights last 5-10 years compared to one year for incandescent.
- A 90% reduction in power usage will result in lower energy bills.
- PSE is currently offering rebates to agencies that operate traffic signals with electricity supplied by PSE, please see the chart below for details.
- According to the State of Washington, the typical payback rate for converting to LED traffic signals is thought to be approximately 3 years.

The conversion of incandescent signals to LED is **Proven Technology**, one example:

- Portland, Oregon
    - reported an annual energy & maintenance savings of $400,000 after the conversion;

- and a net payback of less than 3 years.
- Background info:
  - Project cost $1.0 Million after $715K in rebates and $500,000 from Oregon's Business Energy Tax Credit.
  - 140 flashing amber beacons, several light rail transit signals, 6,900 red and 6,400 green incandescent signal lamps were replaced with LED lamps.

- Reported savings:

Energy use & savings:	Before	After
Kilowatt hours per year	$ 6.1 Mill	$ 1.2 Mill
Electric costs per year	$ 420,000	$ 85,000
Energy savings per year		***$335,000***

Maintenance savings:	Before	After
Average lamp life	~ 2 Years	~ 6 Years
Maintenance costs per year	$ 60,000	$ 15,000
Maintenance savings per yr		***$ 45,000***

*www.portlandonline.com/shared/cfm/image.cfm?id=111737

The City of Kirkland's Traffic Signal System:

Currently, approximately 44% of the City of Kirkland's signal system has been converted to LED amounting to 454 of the total 1,028 signals leaving 574 remaining to be converted. This conversion has been accomplished over time as City crews replaced existing lights with LED. The City has received PSE rebates for a total of 171 red and green signals for a total rebate of $3,196. In the past the yellow ball has not been converted to LED as it is utilized very little and lasts much longer compared to red and green incandescent bulbs; however, the yellow LED lamp requires 7-12 watts vs. the current incandescent version which requires 170 watts – a significant opportunity for energy savings.

If the City pursues a system-wide LED conversion to include 3M signal types, pedestrian indicators and yellow signals, a total of 1,077 signals remain to be converted for a total cost after PSE rebates of $167,325. The Street Manager is confident current staff can complete the conversion and meet the demands of the grant, total staff time to complete the job would equate to 1400 labor hours or $44,000. A summary of what remains to be converted, the cost and associated PSE rebates are described in the table below.

COST OF SIGNALS TO BE CONVERTED								
Signal Type	**Quantity**	**LED cost w/new specs ($)**	**Total**	**PSE rebate**	**LED cost/unit after rebate**	**Total cost after rebate**	**Energy Savings / Unit (kwh) LED vs. Incandescent**	**Total Energy savings per year (kwh) LED vs. Incandescent**
Green **O**	213	$104	$22,118	$20	$84	$17,858	494 kwh	105,222 kwh
Green **<**	22	$90	$1,974	$20	$70	$1,534	224	4,928
Red **O**	140	$64	$8,974	$10	$54	$7,574	584	81,760
Red **<**	12	$60	$723	$10	$50	$603	808	9,696
Bi-Modes	23	$123	$2,838	$15	$108	$2,493	451*	10,373
Ped Indicators - convert to countdown type	164	$276	$45,205	$10	$266	$43,565	498	149,400
Subtotal	**574**	**$717**	**$81,832**	**$85**	**$632**	**$73,627**	**3059 kwh**	**361,379 kwh**
3M (these do not accept LED lamps so the entire fixture needs to replaced)	45	$600	$27,000	$35	$565	$25,425	451*	20,295
Ped Indicators (from LED to new countdown spec within 10 years)	136	$276	$37,487	$10	$266	$36,127	498	149,400
Yellow **O**	282	$109	$30,730	$5	$104	$29,320	100	28,200
Yellow <	40	$76	$3,026	$5	$71	$2,826	100	4,000
Total	**1077**	**$1,777**	**$180,075**	**$140**	**$1,637**	**$167,325**	**3610 kwh**	**413,874 kwh**

*Energy savings is estimated based on an average energy savings of traffic signals.

Conclusion:

LED signals are superior to incandescent in their life length as well as maintenance cost to replace outages. According to PSE, a typical incandescent signal bulb lasts 8,000-10,000 hours versus an LED which lasts 40-50,000 hours. Incandescent signals burn out and must be replaced annually compared to an LED which lasts 2-3 years.

The savings this equipment provides would be of great benefit to our operating budget and the citizens of Kirkland. Even a small conversion reaps big benefits. The chart above shows approximately 413,874 kwh savings. Cities have reported a tremendous amount of energy savings (87.25%) and a significant reduction in utility cost (79.77%) when LED traffic signal technology is implemented. Traffic signal LEDs are energy efficient, durable, cost effective, sustainable, will produce long-term results, and the energy savings is easily measured and reported.

Example of an LED traffic signal:

PUGET SOUND ENERGY
The Energy To Do Great Things

CITY OF KIRKLAND WASHINGTON

Home energy report

REPORT PERIOD: 11/01/08 - 11/30/08

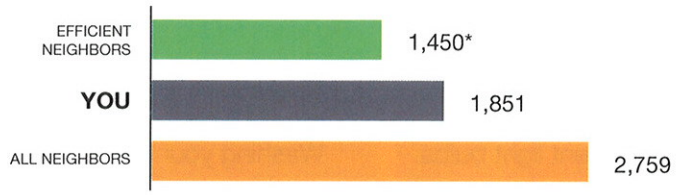
Account number:

ABOUT THIS REPORT This report contains information and analysis about your electricity and natural gas consumption. It includes comparisons to your neighbors to help you better understand your energy usage. We hope the information in this report helps you make smart choices to reduce your use and bills.

WHY AM I RECEIVING IT? You are among a group of 40,000 randomly selected Puget Sound Energy customers who are receiving these reports as part of a pilot program. Only you can see your personal information.

**********AUTO**MIXED AADC 430

November Neighbor Comparison | You used **28% MORE** energy than your efficient neighbors.



HOW YOU'RE DOING:

GREAT ☺☺
▶ **GOOD** ☺
MORE THAN AVERAGE

* This energy index combines electricity (kWh) and natural gas (therms) into a single measurement.

WHO ARE YOUR "NEIGHBORS"?

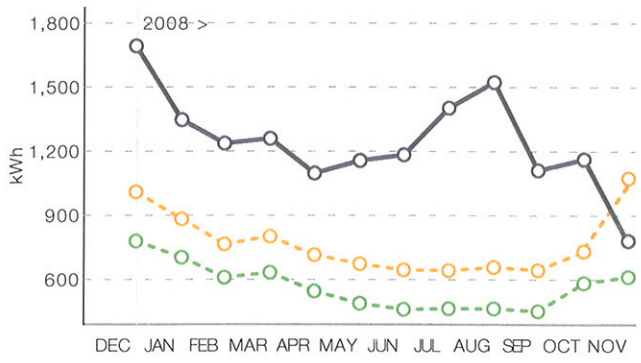
ALL NEIGHBORS
Approximately 100 occupied nearby homes that are similar in size to yours (avg 2,023 sq ft) and have both electricity and natural gas service.

EFFICIENT NEIGHBORS
The most efficient 20 percent from the "All Neighbors" group.

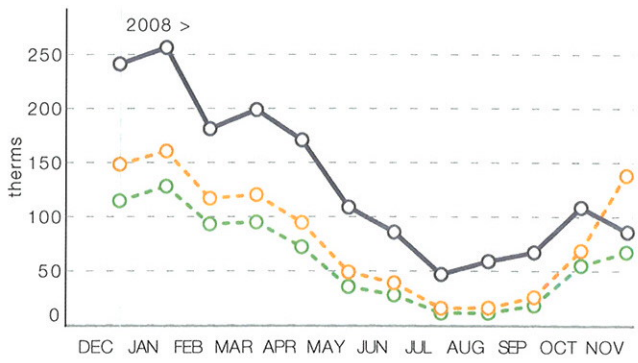
Last 12 Months Neighbor Comparison

You used **74% MORE** energy than your neighbors.
This costs you about **$1,385 EXTRA** per year.

Electricity | 70% more electricity than your neighbors



Natural Gas | 77% more natural gas than your neighbors



Personalized
Action Steps

☐ Set your thermostat for comfort and savings

☐ Switch to compact fluorescent bulbs

☐ Upgrade your washer and get money back

TURN OVER TO LEARN MORE ➡

Personal Comparison | How your energy use this year compares to last year.

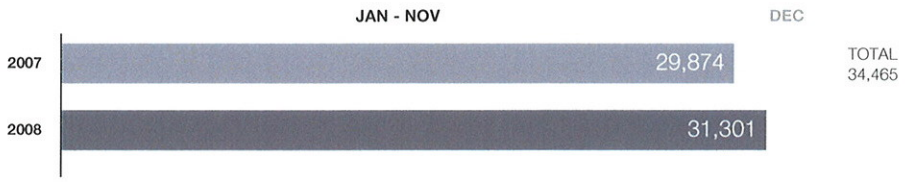
About This Graph

This section shows how much energy you've used so far this year and compares that amount to the same period last year.

As the months go by you can see how your progress compares to last year.

Your Progress

So far this year, you've used **5% MORE** energy than last year.



* This energy index combines electricity (kWh) and natural gas (therms) into a single measurement.

Action Steps | Personalized tips chosen for you based on your energy use and housing profile

Quick Fixes

Things you can do right now

☐ **Set your thermostat for comfort and savings**

Heating in the winter in our area requires a lot of energy. By setting your thermostat appropriately, you can be comfortable while saving energy and money.

Set the thermostat up to 10 degrees lower than your preferred setting (or off) when you're away from home or sleeping. This temperature reduction can save you up to 10% on heating.

Consider a programmable thermostat to help you save.

SAVE UP TO
$65 IN ANNUAL HEATING COSTS

Smart Purchases

Save a lot by spending a little

☐ **Switch to compact fluorescent bulbs**

Compact fluorescent light bulbs (CFLs) use 75% less energy and last up to 10 times longer than standard incandescent light bulbs. Replace a few of your incandescent bulbs and start saving money now.

Today's CFLs provide high-quality light and are available in a variety of sizes and shapes.

PSE offers a discount of up to $3 on certain bulbs—find participating retailers at PSE.com.

SAVE
$60 OR MORE OVER THE LIFE OF A BULB

Great Investments

Big ideas for big savings

☐ **Upgrade your washer and get money back**

Washing your clothes in a machine uses significant energy, especially if you use warm or hot water. In fact, when using warm or hot water cycles, up to 90% of the total energy used for washing clothes goes towards water heating.

Some premium-efficiency clothes washers use about half the water of older models—resulting in significant savings.

PSE offers rebates for some washers. Contact us for details.

REBATE OF
$100 FOR ELIGIBLE WASHERS

To find more ways to save energy and money and for more information about this report visit: **www.psereports.com**

PSE PUGET SOUND ENERGY
The Energy To Do Great Things
1-800-562-1482 (M–F 8am–5pm)
energyreports@pse.com

Kirkland Solar Mapping Option

Internet GIS Mashups

5/8/09

Website with Parcel Estimate for PV

- The estimated amount of solar photovoltaic (PV) energy that could be installed on the roof
- The estimated amount of solar PV energy that could be generated at that site
- Potential electricity cost reduction resulting from the solar PV installation
- Potential carbon dioxide/greenhouse gas reduction as a result of installing a solar PV system
- Case studies of other San Francisco businesses and homeowners who have already installed solar PV systems and their stories
- Information on installing a solar PV system, including contact information for local solar installers

How it Works for Citizens

Users access the solar map web page and enter their address. The webpage will display their building and solar analysis, and provide information on rebates, installers, case studies, etc. Each portal is designed to provide whatever information a city wants to give their citizens. Providing this information to a user educates and informs them which reduce the time they take to decide if they want to install solar – this benefits everyone, especially the planet!

Future Vision

The Solar Map could evolve to be one component of an EcoMap. The EcoMap will tell its citizens what they need to know to ***'live sustainably'*** which means we use the Earths resources at a rate at which they can be replenished. This means we need to change the way we live. It could provide information about Composting, Recycling, promote use of public and shared transport, provide walking and biking routs, which includes a technology that enables a user to enter a start and end position and get a safe walking or biking route map, and provide a level of difficulty for the journey. The EcoMap will also be a virtual community where you can network with other people in your area who are following similar practices.

Estimated Cost:

$30,000 -$55,000