

# Fun Factory Energy Heros!!!

## Energy Team Tips



**powersmart**

In the last Energy Team newsletter we talked about encouraging kids to be more energy conscious.

Erin and the gang at the Fun Factory took action and used their energy and creativity to create this board and show how they save energy. Helping others see how each of use can save energy in our own way.

Thanks to Erin and the Fun Factory team for getting the kids inspired to save energy, hopefully it's a lesson that will last a lifetime.

*Energy Team Leader*

Ken Olson [kolson@oakbay.ca](mailto:kolson@oakbay.ca)

### More Examples of Children trying to save energy and the world !

To show you what kids can do when they are inspired, here is a link to what one young person from BC did when she got fired up about environmental issues. She heard that the United Nations was holding an Earth Summit in Rio and asked her dad if anyone would be talking on behalf of the next generation, the ones that will have to live with the decisions that may be made. Her dad didn't think that was very likely, so she decided to do something about it. She started a club at school and started fund raising. After a lot of dedicated and clever work, she had raised enough to make the trip. Her name is Severn Suzuki and she was 12 years old at the time and yes David is her dad. <http://www.youtube.com/watch?v=uZsDliXzyAY>

Another must see video on energy conservation *This is the link to the behavioural science talk by Alex Laskey* <http://www.youtube.com/watch?v=4cJ08wOqloc>



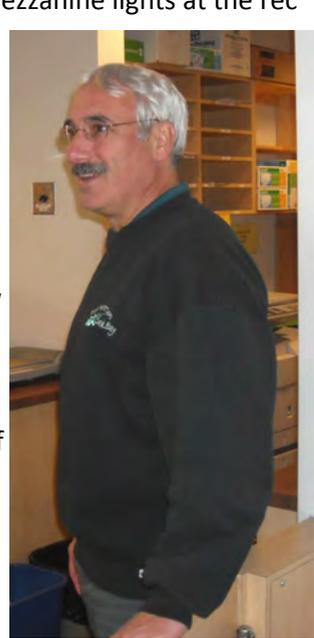
### Mark your calendar for earth hour !



### What has Oak Bay Recreation's Energy Team been doing ?

#### An update from our Energy Team Leader, Ken Olson . . .

Since our last newsletter came out we have replaced the mezzanine lights at the rec centre with LED fixtures. This saves power but also helps with maintenance as the old lights burned out frequently and were very difficult to replace. Also added were occupancy sensors in 12 rooms including the main floor and lounge washrooms. Our biggest electrical savings has come from changing our pool lights to LED's. This one project will save 90,000 kWh a year and save another \$2,000 every two years on re-lamping and associated costs, assuming the new lights last the estimated 7 to 10 years. Together these projects will save 117000 kWh per year and reduce our GHG emissions by 3 tonnes. We were able to complete all of these projects for less than \$14,000 and all of it was completed using in house labour. With the reduction in consumption, and the conservation rate credits, the return on investment will be more than \$80,000 over the next five years.



The other major project that is now completed is the replacement of the 4 court tennis bubble. The new bubble is insulated, saving an estimated 776 GJ of natural gas and \$9,700 on our bill. Also reducing GHG emissions by 40 tones a year. Additional savings will come from the new and more efficient heating unit in the bubble, but I don't have the numbers to pass on yet.

~ Ken Olson *Energy Team Leader*

### The Top 10 Energy Efficiency Smartphone Apps

<http://www.ase.org/efficiencynews/top-10-energy-efficiency-smartphone-apps>



From your Oak Bay Recreation Energy Team !



#### Related Links :



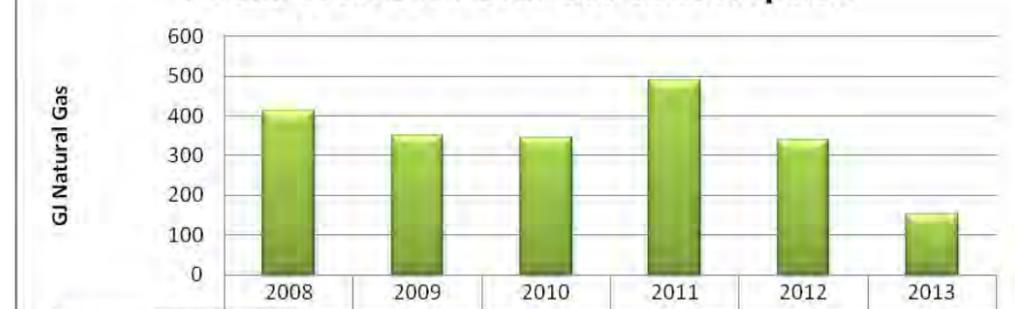
David Suzuki Foundation

# Public Works Department Energy HEROS!

## Energy Team Tips



A lot of the savings attributed to Green House Gas (GHG), is from behavioural changes and no area reduced their consumption more than our public works department. Each quarter, as I tallied up the consumption numbers, I was amazed at their conservation efforts. I'm guessing that some comfort may have been sacrificed here and there, but I am deeply appreciative of what they have been able to accomplish and hope that they will be able to continue to bring in these lower consumption numbers in the years to come.



Bill Cliff, our municipal electrician, spearheaded the changes there and helped encourage staff to buy into the changes. Some changes came from suggestions from a walk-through energy study, but most changes came from rethinking how they do their day-to-day work with a keen eye on conservation.

I want to thank public works for all they have done to help us reduce our carbon footprint and I'd like to remind all our staff to follow their lead and keep an eye open for energy saving opportunities

Energy Team Leader  
Ken Olson [kolson@oakbay.ca](mailto:kolson@oakbay.ca)



## BC Hydro rates head skyward

As if there weren't enough good reasons to conserve energy, on April 1<sup>st</sup> we will see the first in a series of Hydro rate increases. The first increase will be 9%. Then 6% for 2015, and yearly increases following of 4%, 3.5%, and 3%, compounded, that is an increase of 28% by 2018. In fact, it's anticipated the increase to be 40% over the next 10 years. That will cost the municipality an extra **1.1 Million Dollars** over the next 10 years, and that on top of the 30.5% increase we saw over the last 5 years.

As you can see this is a big blow to our cost of doing business. We hope to continue to minimize these increases with further conservation efforts. We have lots of great ideas in the works for this year and the years to come.

Only so much can be done with capital projects. The rest will be up to us changing our behaviour, and this is where we need your continued help. With a simple gesture like turning a light off or being less wasteful, you not only save money, but you can help us reach our energy and GHG reduction goals as well as helping planet earth!

## What has Oak Bay Recreation's Energy Team been doing?



### Oak Bay and our Green House Gas reduction targets.

In 2007 Oak Bay signed on the Climate Action Charter and in doing so adopted an aspirational target of reducing our Green House Gas (GHG) emissions by 33%. We have used the 2007 level of GNG as our baseline and hopefully will attain our target level by 2020. Thanks to the municipality's commitment to these goals, we are off to a great start. Several conservation projects have now been completed, together with a big boost from behavioral changes, we have been able to lower our emissions from 1,516 Tonnes down to 1,122 Tonnes.

The following chart displays our progress as of 2012:

Calendar Year	Actual GHG Emissions (tCO <sub>2</sub> e)	Actual % Reduced from Baseline	Actual Tonnes Per Year	Tonnes Reduced from Baseline	Tonnes Reduced to Date
2007	1,516	0	0	0	0
2008	1469	3.1	47	47	47
2009	1426	5.9	43	90	137
2010	1372	9.5	54	144	281
2011	1374	9.4	-1.1	142	423
2012	1122	25.9	250	392	815

From 2007 to the end of 2012, we have saved a total of 815 tonnes of GHG and lowered our emissions by 25.9%. That's a great start but we know that the easiest changes are behind us. However we will have to work harder in the future, to reach our goal.

A few of the projects that have helped us lower our GHG emission are: a new boiler at the OB Rec Centre, a switch to natural gas and a new boiler at Henderson, changing from a propane powered Zamboni to an electric (battery) powered Zam, and insulating the 3 and 4 court bubbles. Many other smaller projects and behavioural changes have contributed as well. All the numbers are not in yet for 2013, but at this point it look like we will be down at least 17 Tonnes over 2012. The improvements we made this year, like the insulation in the 4 court bubble, will not show its full value until the results are in for 2014.

~ Ken Olson *Energy Team Leader*

## THE DAILY AMOUNT OF ENERGY USED IN THE UNITED STATES, PER PERSON, IS ABOUT AS MUCH ENERGY AS...

- A-100 watt light bulb left on for 104 days straight
- B -707 quarter-pound hamburgers
- C-Half a tank of gasoline (7 gallons)

??

### Answer is all of the above.

The total amount of energy used in the United States includes homes, businesses, industry, and transportation. In 2011, each person in the United States used an average of 854,800 British thermal units (Btu) per day. Energy sources are expressed in different units, but their energy content can be compared using British thermal units (Btu). Food calories can also be converted to Btu.

The **United States** leads the way in gasoline use.

In 2005, the per capita gasoline consumption was about 1.2 gallons per day.

Here is the per capita gasoline use of selected countries in 2005:

**United States - 428 gallons per person per year**

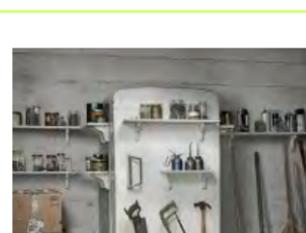
- Canada - 316
- Saudi Arabia - 185
- Japan - 119
- United Kingdom - 105
- Germany - 93
- Netherlands - 85
- Russian Federation - 61

Data source [EarthTrends Environmental Database](#)  
[How we use energy: Transportation](#) - from the National Academies of Sciences

## FRIDGE BUY-BACK PROGRAM

### Check back in spring 2014

The Fridge Buy-Back program returns in spring 2014. If you want to recycle your old fridge now, visit the [Recycling Council of British Columbia](#) or contact their Recycling Hotline at 1 800 667 4321.



## Mark your calendar for earth hour !



From your Oak Bay Recreation Energy Team !



### Related Links :

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## Energy Team Tips

# Energy Hero this month is YOU!



This month's energy hero is YOU!

Everyone who has been a part of making energy conservation a huge success here in Oak Bay is a Energy Hero!

Conservation initiatives in the Oak Bay municipality have saved \$2,570,504 to date. Saving \$323,492 per year!

#### Electrical Savings

In 2013 our municipality used 1,003,762 kWh less electricity than it used in 2007. This is a drop of 18.6%. In 2007 the electricity was 5,407,477 kWh and in 2013 it was 4,403,715 kWh

The entire municipality now uses 523,554 kWh less electricity than what just the Oak Bay Recreation Centre used by itself in 1993!

The Oak Bay Recreation Centre now uses 57% less Electricity than it did in 1993. In 1993 the centre used 4,927,269 kWh, and in 2013 the centre used just 2,188,651 kWh. That is a reduction of 2,804,618 kWh. If the Oak Bay Recreation Centre still consumed the same amount of hydro that we used in 1993 it would have cost us \$349,836 in 2013. Due to energy saving efforts we only paid \$136,511. A saving of \$213,325.

#### Natural Gas

The Oak Bay Recreation Centre has reduced it's Natural Gas consumption by 43% over the last 13 years. The municipal consumption is down 19.3% over the last 6 years. The Oak Bay Recreation Centre is down to an impressive 50% energy savings. When the 57% electrical savings is added, along, with the 43% Natural Gas savings, and convert to kWh, we are now saving more than 50% over our historical energy consumption levels. This does not include the \$10,000 propane bill we eliminated when we converted to an electric Zamboni.

#### Green House Gas Reductions over the years.

Since Recreation Oak Bay started conservation initiatives, it have reduced GHG emissions by 10,398 Tonnes, and are saving 802 Tonnes from being emitted into the atmosphere each year.

**WAY TO GO!** Each and everyone of you!

Energy Team Leader

Ken Olson [kolson@oakbay.ca](mailto:kolson@oakbay.ca)

**powersmart**

## Reminder about furnaces and air conditioners

If you haven't already turned your furnaces off for the summer, now is the time, this way they will not come on unnecessarily on a cool morning.

For those of you lucky enough to have air conditioning, it's important not to turn them down to low. In most cases, asking your air conditioner to cool a room to less than 21 degrees is considered unattainable. This will cause the unit to work too hard and in many cases freeze up or not cycle properly, this wastes energy and costs you money.

<http://www.goodhousekeeping.com/family/budget/save-money-air-conditioning-0708>

## What has Oak Bay Recreation's Energy Team been doing?



Oak Bay's goal to continue reducing Green House Gases

In the previous Energy newsletter Oak Bay's goals and targets for reducing GHG was discussed. At that time we didn't have the numbers for 2013. They are now available.

At the end of 2013, Oak Bay has reduced it's GHG emissions by 406 tones over the 2007 baseline of 1516 tones. This gets Oak Bay down to 1110 tones. A 26.8% reduction that puts Oak Bay in great shape to meet it's target of 33% by 2020.

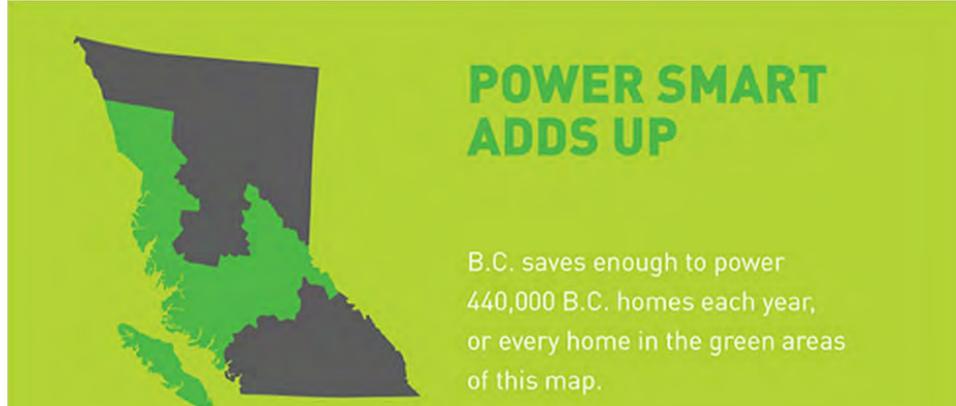
This is only part of the story. Oak Bay knows that it is unlikely it will ever be able to completely eliminate all GHG associated with municipal operations. To become carbon neutral Oak Bay needs to be part of GHG reducing initiatives that will offset it's emissions.

This is where the household organic waste composting program comes in. This program has diverted the equivalent of 104 tonnes of GHG from going into the atmosphere for each of the last 6 years. When added to Oak Bay's emission totals, it can be said that Oak Bay reduced it's carbon footprint by 33.8%.

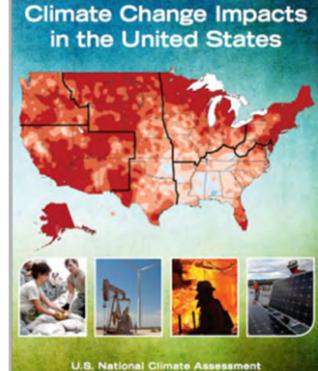
It is estimated that the expansion of the organics program to include all of Oak Bay, will divert another 300 to 400 additional tonnes of GHG in 2014. Unfortunately this will cause Oak Bay's emission to climb by an estimate 40 tones due to the extra trucking needed. Fortunately the larger picture still shows Oak Bay's carbon footprint to be a lot smaller even with the extra emissions from the trucking needs, when all the numbers for 2014 are compiled.

~ Ken Olson *Energy Team Leader*

## Power Smart celebrates 25 years of reducing energy waste.



## The National Climate Assessment



The BC Sustainable Energy Association's web site, provides a brief overview on the National Climate Assessment, and navigates through some informative interactive graphs.

<http://www.bcsea.org/blog/guy-dauncey/2014/05/08/storm-and-drought>

The US government has acknowledged the National Climate Assessment report and is willing to agree that there is a problem. Unfortunately people that rely on mainstream media, are getting very little of this

kind of important information. We have to relay on hearing about these topics through the efforts of nonprofits like the BCSEA and the David Suzuki foundation.

[http://www.whitehouse.gov/climate-change?mkt\\_tok=3RkMMJWWfF9wsRolu6nLZKXonjHpfsX56OorXaSxIMI%2F0ER3fOvrPUfGjI4CSMplI%2BSLDwEYgJlv6SgFS7jNMbZkz7gOXRE%3D](http://www.whitehouse.gov/climate-change?mkt_tok=3RkMMJWWfF9wsRolu6nLZKXonjHpfsX56OorXaSxIMI%2F0ER3fOvrPUfGjI4CSMplI%2BSLDwEYgJlv6SgFS7jNMbZkz7gOXRE%3D)

From your Oak Bay Recreation Energy Team!



#### Related Links:

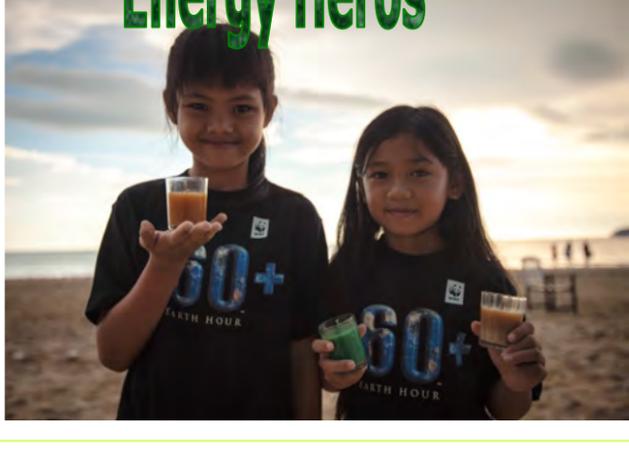
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David  
Suzuki  
Foundation

# Energy Heros Energy Heros

## Energy Team Tips



### This month's Energy Hero is everyone involved in Earth Hour 2014!!

#### What can you do to be an Energy Hero ?

Earth Hour is coming on Saturday March 28, 2015. How can you be involved?

Earth Hour 2015 is on March 28th, at 8:30pm. Celebrate the hour! Join millions of people across the world to raise awareness for the planet. Turn off all your power for one hour!



Over the last several years it has become popular to hold Earth Hour concerts to draw attention to the cause but concerts normally draw a lot of electricity, the solution people power. These peddle powered concert have taken place from Melbourne to Whistler and many spots in between, this picture is from a 2014 concert in Paraguay.

**WAY TO GO!** Each and everyone of you!

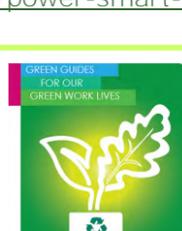
Energy Team Leader  
Ken Olson [kolson@oakbay.ca](mailto:kolson@oakbay.ca)

**powersmart**

### How much does it cost you to keep things running around your house?

- Here is a link to an article that sheds a little more light on the subject.  
<https://www.bchydro.com/news/conservation/2012/kilowatt-hour-explained.html>
- Here is a great app to have, it's called the **Recyclepedia** and has everything you need to know about where to take your recyclable materials.  
<http://www.rcbc.ca/services/recyclepedia-app>
- This is a great look at how we used energy at home 25 years ago compared to today.  
<https://www.bchydro.com/powersmart/25-years-power-smart/power-smart->

### What has Oak Bay Recreation's Energy Team been doing ?



Oak Bay's conservation efforts in simpler terms.

Ken Olson (*Recreation Oak Bay Energy Team Leader*) was asked a while ago if he could express Oak Bay's conservation efforts in simpler terms. This is what he came up with.

Through conservation effort over the last 20 years, Oak Bay has saved enough electricity to power 266 homes. In 2013 the average household in BC consumed 10,534 kWh of electricity, that's down from 11,000 the year before.

The Green House Gas story is impressive as well. Recreation Oak Bay's savings are equivalent to taking 169 cars off the road, or 90,224 Gallons of gas consumed or 861,439 pounds of coal burned. That is for each year! In fact it would take a 657 acre forest to sequester the amount of GHG Recreation Oak Bay used to emit into the atmosphere.

Please keep up the good work and encourage everyone you see to be less wasteful and while Recreation Oak Bay is trying to simplify things here.

~ Ken Olson *Energy Team Leader*

**Visitors to the COP-15 climate negotiations in, Copenhagen December 2009 are confronted by large balloons showing the size of the volume of CO2 gas which weighs a metric tonne -- the standard measure of greenhouse gas emissions. The average American causes the release of 20 of these each year**



### Earth Day

Earth Day is coming! This year it is on Wednesday, April 22, 2015.

With earth day in mind there is a phrase being used, Unsure who to credit the remark to, but it is to get our 3 P's in the correct order.

**Planet, People, then profits.**

Recreation Oak Bay has risen to the number 10 spot on BC Hydro's list for Power Smart Partner for the Municipal sector. Hydro looks at past performance and the measures Recreation Oak Bay has in place to be successful in the future.



From your Oak Bay Recreation Energy Team !



Related Links :

**BChydro**

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David Suzuki Foundation