

Kitchen Energy Saving Campaign Toolkit

This toolkit will help kitchen managers work with staff in their kitchens to reduce the amount of electricity and gas consumed by lights and equipment. The seven campaign planning steps found in this toolkit are based on the Energy Wise Kitchen Toolkit created by BC Hydro and Fortis BC.

Why Be Smart about Energy? Background Information

Vancouver Coastal Health consumed 117,000,000 kWh of electricity and 688,200 GJ of natural gas in 2015, this is enough to power 11,700 homes and heat 8,500 homes for a year. While BC currently benefits from clean hydro power to meet electricity needs, demand is expected to outstrip our current capacity by 40% in the next two decades.

At the individual facility level, food services operations typically use 5-7 times as much power as other building areas. Given the high energy usage of this type of operation, significant energy savings can be achieved by being smart with how we use energy.

Pilot Study Results

A pilot study conducted by the Energy and Environmental Sustainability (EES) Team at GF Strong Rehabilitation Centre (GFS) found a savings of :

- Lights in walk-in fridges and freezers: **56% electricity reduction by turning off lights** at night and occasionally during the day.
- Mixer and Blender: **71% electricity savings by unplugging the mixer and blender** when not in use.
- Ovens: **20-40% natural gas savings by turning off ovens** when not in use.

For further results of the pilot study, see **Appendix A**.

The Big Picture

This toolkit is part of a broader initiative to reduce the Lower Mainland Health Authorities' energy use, and to foster a workplace culture where everyone works together to help reduce our energy demand.



Steps

Step 1 – Perform an Energy Assessment

The energy assessment gives you a chance to connect with staff and understand opportunities for energy saving in your kitchen. It will also help you identify people interested in the initiative and that may champion the campaign.

Follow the steps below to complete your energy assessment:

1. Obtain a list of kitchen equipment.
2. Using the template in **Appendix B**, fill in your equipment in each section. Your assessment sheet will list all kitchen equipment at your site and relevant assessment questions.
3. Interview cook/production staff using the equipment assessment sheet.
4. Interview other staff (as least 25%) to get their ideas on how to save energy overall in your kitchen. Use these two questions:
 - a. What are the top 2 pieces of equipment you think have the best opportunity to save energy?
 - b. Are there any other actions or ways you could save energy during your shift?
5. Identify any lights that would be more appropriate on sensors – movement triggered on/off – and note the room number where they are located. The EES team will store this information in order to replace lights in the next lighting upgrade at your site. Please submit this information to Glen Garrick: Glen.Garrick@fraserhealth.ca

Step 2 – Select Behaviours

Use the findings of the energy assessment to determine what behaviours your campaign could address.

- Choose up to 3 behaviours to focus on in your campaign.
- If you have more than 3 options on your list, use the following criteria to narrow things down:
 1. Impact (amount of potential energy saved)
 2. Reach (how many people are involved in the behaviour)
 3. Diffusion (number of people already demonstrating the behaviour)

Need help figuring out the impact of potential energy saved? Contact Glen Garrick:

Glen.Garrick@fraserhealth.ca



Step 3 – Select Strategies

Run a second interview round with staff to understand their view of the barriers and benefits to the selected behaviours. This will ensure that you provide the right prompts and supports to succeed.

Review the behaviours to determine which staff need to be interviewed. For example, it's not relevant for a dietary aid to be asked about turning ovens down because they don't use that equipment.

It's important to communicate that you are **considering** implementing behaviour change initiatives and that their feedback will influence what is included in the campaign. This creates a sense of ownership and buy-in that will increase participation.

For specific interview questions see **Appendix C**.

Step for running the second round of interviews:

- Determine which staff need to be interviewed about which behaviours.
- Create interview questionnaires specific to the above staff groups.
- Interview staff.

Using the information collected from your second set of interviews, determine the strategies for implementing behaviour change during your campaign.

Strategies may include:

- Reminder stickers, posters, magnets, or other signs
- Check sheets filled out by staff to track behaviour. Also acts as a reminder prompt
- Staff memos
- Trayline huddles
- Manager reminders on new procedures in place
- One-on-one discussions during the campaign to report back on results and gain input on how things are going in the kitchen
- Kick-off day with one-on-one staff chats to explain WHY the campaign is being run

Be specific with behaviours.

Be specific as possible with your requested behaviours. For example asking staff to turn lights off in the walk-in fridge when they put the padlocks on at the end of the day (a workflow already in place) will be more effective than just asking them to turn off lights at the end of the day.



TURN OFF FREEZER
LIGHTS BEFORE
PUTTING ON
PADLOCKS



Step 4 – Determine and Measure Metrics

Determine how to measure success of your campaign. Measuring actual energy usage may not be possible so behaviour-check sheets and surveys may need to be used instead of or along-side meter data.

You can measure actual energy usage through:

- Plug Meters
- Light Loggers
- Utility bills

Light Loggers and Plug Meters are available to use during your campaign from the EES department. Light Loggers measure the 'On' and 'Off' time associated with a light, where Plug Meters measure the amount of electricity used by a piece of equipment.

Gas or electricity meter data may be available for your kitchen. To find out, contact Glen Garrick (Glen.Garrick@fraserhealth.ca).

Metrics measured during the GFS Energy Saving campaign were:

- % of lights left on
- % of staff participating in the campaign
- % of staff thinking about saving energy on shift
- % of staff saving energy on shift
- % of electricity saved (kWh, \$'s)
- % of gas saved (GJ, \$'s)

Important note: Collect data for at least 2 weeks before your campaign starts. This will allow you to know how much energy you saved!

Report on metrics weekly during the campaign to motivate and engage staff to continue or increase desired behaviour. Collect data for up to a month after the campaign to assess if behaviour continues after the campaign ends.

Plug Meters

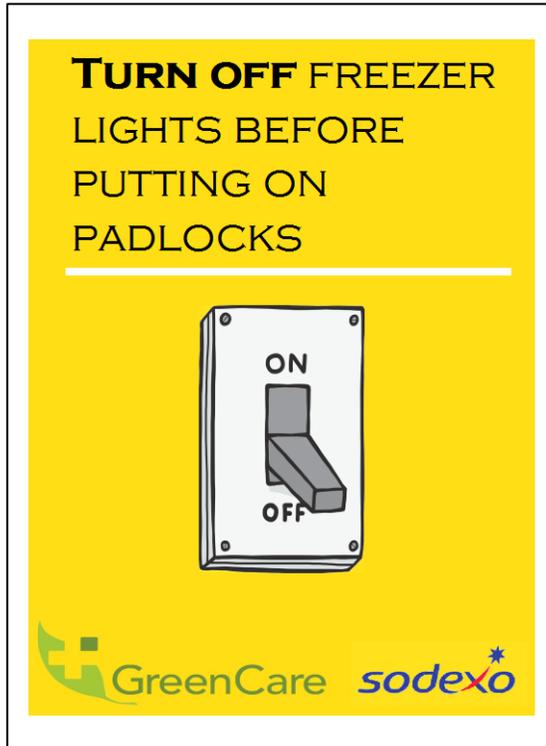
Plug meters are devices that plug into the wall socket and measure how much electricity each piece of equipment uses. You can request one of these plug meters from the Energy and Environmental Sustainability Department if you would like to calculate the savings of unplugging or turning off equipment when not in use.



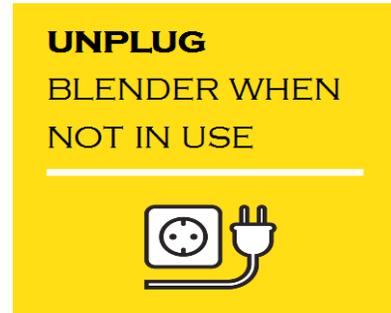
Step 5 – Obtain Campaign Materials

Contact Glen Garrick (glen.garrick@fraserhealth.ca) to get materials designed and printed using specific wording for the behaviours you will run during your campaign. Samples of the GFS Energy Saving campaign materials are found below:

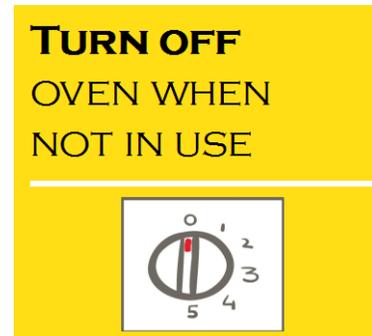
Turn off the lights poster:



Unplug the blender sticker:



Turn off the ovens magnet:



Step 6 –Launch the Campaign

Launch Campaign and Communicate to staff:

- Use existing communication channels to communicate the following to
 - ‘**Why**’ the behavior change is being requested and why energy saving in kitchens is important. For a sample script, see **Appendix D**.
 - **What specific behaviour change** is requested
 - What they can expect from you.

Some example communications channels are:

- Trayline huddles.



- One-on-one conversations with staff on the floor.
- Pre-shift or post-shift additional paid time training meetings.
- Staff boards.
- Staff memos.

Note: Bringing treats to any sessions always goes over well. For a sample Campaign Launch Plan, see **Appendix E**.

Step 7 – Share your Success

Sharing your success with other Sodexo kitchen managers can be motivating and help others save time as they implement these campaigns.

We also love telling success stories on the [GreenCare Community](https://bcgreencare.ca) site (<https://bcgreencare.ca>), so share your story with us, including lessons you've learned from challenges and successes. Contact glen.garrick@fraserhealth.ca

Contacts

For help using this toolkit, please contact the Energy & Environmental Sustainability Manager, Glen Garrick at Glen.Garrick@fraserhealth.ca.

Visit <https://bcgreencare.ca/framework/energy-conservation> for more information on GreenCare's energy-related initiatives.



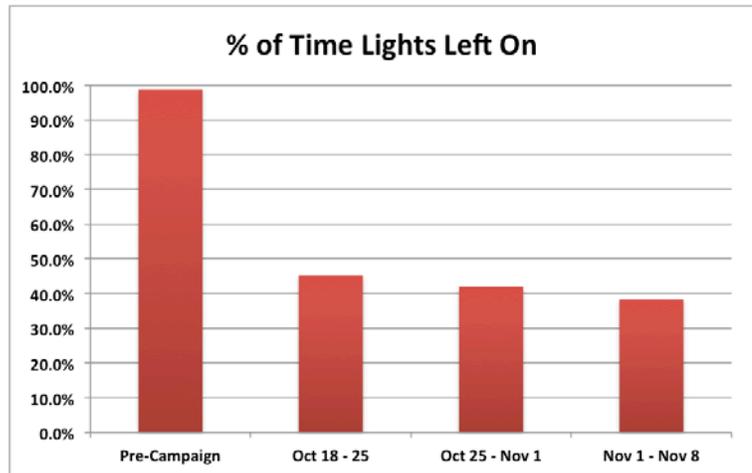
Appendix A

GF Strong Energy Saving Pilot Results

The Energy and Environmental Sustainability (EES) Team conducted a pilot project at GF Strong Rehabilitation Centre (GFS) in Vancouver in the Fall of 2016.

The pilot project achieved the following results:

- Lights in walk-in fridges and freezers: **56% electricity reduction by turning off lights** at night and occasionally during the day. In this study, the lights were turned off for at least a 10 hour period overnight.
- Mixer and Blender: **71% electricity savings by unplugging the mixer and blender** when not in use. In this study, the appliances were unplugged approximately 17 hours a day.
- Ovens: **20-40% natural gas savings by turning off ovens** when not in use. In this study, the ovens were turned off 14-19 hours/day.



While energy savings will vary by site and circumstance, this study’s results suggest that there are energy and cost saving opportunities in HA kitchens across the LMHA.

The table below highlights the energy and cost savings achieved per behaviour. Assuming behaviours continue, **GFS will save between \$485 and 1,035* in energy** over the next year.

Energy Saving Behaviour	Annual Energy Usage	New Annual Energy Use	Annual Energy Savings	Annual Cost Savings
Turning off lights in fridges/freezers	521.9 kWh	231.1 kWh	290.8 kWh	\$23
Unplugging small kitchen appliances	26.0 kWh	7.6 kWh	18.4 kWh	\$2
Turning off oven when not in use	161-266 GJ*	115-164 GJ*	46-101 GJ*	\$460 - \$1,015*

* There is uncertainty around how many hours GFS ovens were operated pre-campaign. We are monitoring meter data in order to potentially confirm gas usage and savings.



Appendix B

Food Services Equipment Questionnaire

Site _____

Instructions: Adjust the questionnaire below to include each piece of equipment at your site. Each type of equipment has a specific set of questions, so make sure to copy/paste appropriately.

Ovens

	Yes	No	N/A
Is the equipment turned off when not in use?			
Is it unplugged when not in use?			
Is there a start-up/shut-down schedule?			
Can you turn them down or turn back-ups off during slow periods?			
Do you pre-heat only when necessary?			
When is the oven on during the day?			

Stoves/burners

	Yes	No	N/A
Is the equipment turned off when not in use?			
Is there a start-up/shut-down schedule?			
Can you turn them down or turn back-ups off during slow periods?			

Food prep equipment (tilt skillets, steam kettles, meat slicer)

	Yes	No	N/A
Is the equipment turned off when not in use?			
Is it unplugged when not in use?			
Is there a start-up/shut-down schedule?			

Walk-in Fridge/Freezer

	Yes	No	N/A
Are lights turned off at night?			
Are lights turned off during the day when not needed?			



Small appliances (blender, food processor, mixer

	Yes	No	N/A
Is the equipment turned off when not in use?			
Is it unplugged when not in use?			
Is there a start-up/shut-down schedule?			

Exhaust fans

	Yes	No	N/A
Are they turned off at night?			
Are they on an automatic system?			
Can they be turned off during non-cook times in the day?			

Dishwasher

	Yes	No	N/A
Is the booster turned off at night?			



Appendix C

Food Services Behaviour Strategies and Energy Awareness Questionnaire

Site _____

Instructions: Repeat questions 3-6 for each behaviour proposed during the campaign. Some questions won't need to be asked of all staff (i.e. questions regarding ovens will only need to be asked of cooks). Questions 1 & 2 should be asked of all staff.

1. Do you think about saving energy while on shift?

Never _____

Rarely _____

Sometimes _____

Almost every shift _____

Every shift _____

2. How often do you save energy while on shift?

Never _____

Rarely _____

Sometimes _____

Almost every shift _____

Every shift _____

3. How often do you [INSERT BEHAVIOUR HERE]?

Never _____

Rarely _____

Sometimes _____

Almost every shift _____

Every shift _____



4. What issues do you see with *[INSERT BEHAVIOUR HERE]*?

5. What would be good about *[INSERT BEHAVIOUR HERE]*?

6. What would help you to remember to *[INSERT BEHAVIOUR HERE]*?



Appendix D

Energy Saving Campaign Intro Script

Hi Name,

I'm back to let you know the Energy Saving campaign has officially started! I'm going to take a few minutes to let you know why we're doing this, remind you what behaviours we're focusing on and what to expect throughout the campaign.

The WHY:

- *Buildings are the largest contributor of Green House Gases in the Lower Mainland.*
- *Green House Gases cause climate change which makes it harder for us to grow food, harder for fish populations to survive, it causes more incidence of respiratory disease in children and is the cause of environmental epidemics like the Mountain Pine Beetle.*
- *The average person wastes enough energy by leaving the fridge or freezer door open to power 50 washing machine loads in a year!*

As a reminder, these are the behaviours we're focusing on during the campaign:

- 1. Behaviour 1*
- 2. Behaviour 2*
- 3. Behaviour 3*

I'll be coming through once a week for the next month to check up on things, check our data and let you know how everything is going. I'll be doing a quiz one week and we'll make sure to stay connected around what's working and what's not.

I've brought some goodies to kick-off the campaign, enjoy!



Appendix E

Sample Energy Saving Campaign Plan

Activity	Phase	Date
Put up signs, stickers & tracking sheets	Kick-Off	October 18
Download data from Light Loggers and Plug Meters (baseline data)	Kick-Off	October 18
Kick-off treats	Kick-Off	October 18
One-on-one staff conversations <ul style="list-style-type: none">• Behaviour training• Behaviour tracking• Campaign WHY Campaign expectations	Kick-Off	October 18
Download data from Light Loggers and Plug Meters	Week 1 Update	October 25
Report back to staff on energy saved, check in on behaviours	Week 1 Update	October 25
Download data from Light Loggers and Plug Meters	Week 2 Update	November 1
Report back to staff on energy saved, check in on behaviours	Week 2 Update	November 1
Download data from Light Loggers and Plug Meters, uninstall	Campaign Completion	November 8
Run energy awareness quiz	Campaign Completion	November 8
Run post campaign energy awareness survey	Campaign Completion	November 8
Give out prizes and campaign close goodies	Campaign Completion	November 8

