Now House Windsor 5

Resident's Handbook

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OPA

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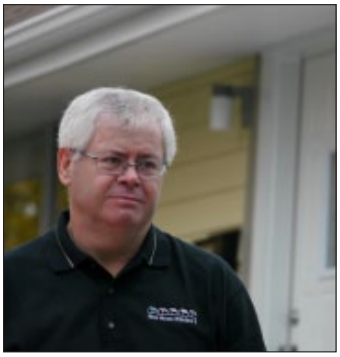
CHC

COMMUNITY HOUSING CORPORATION



Message from Jim Steele, CEO,
Windsor Essex CHC

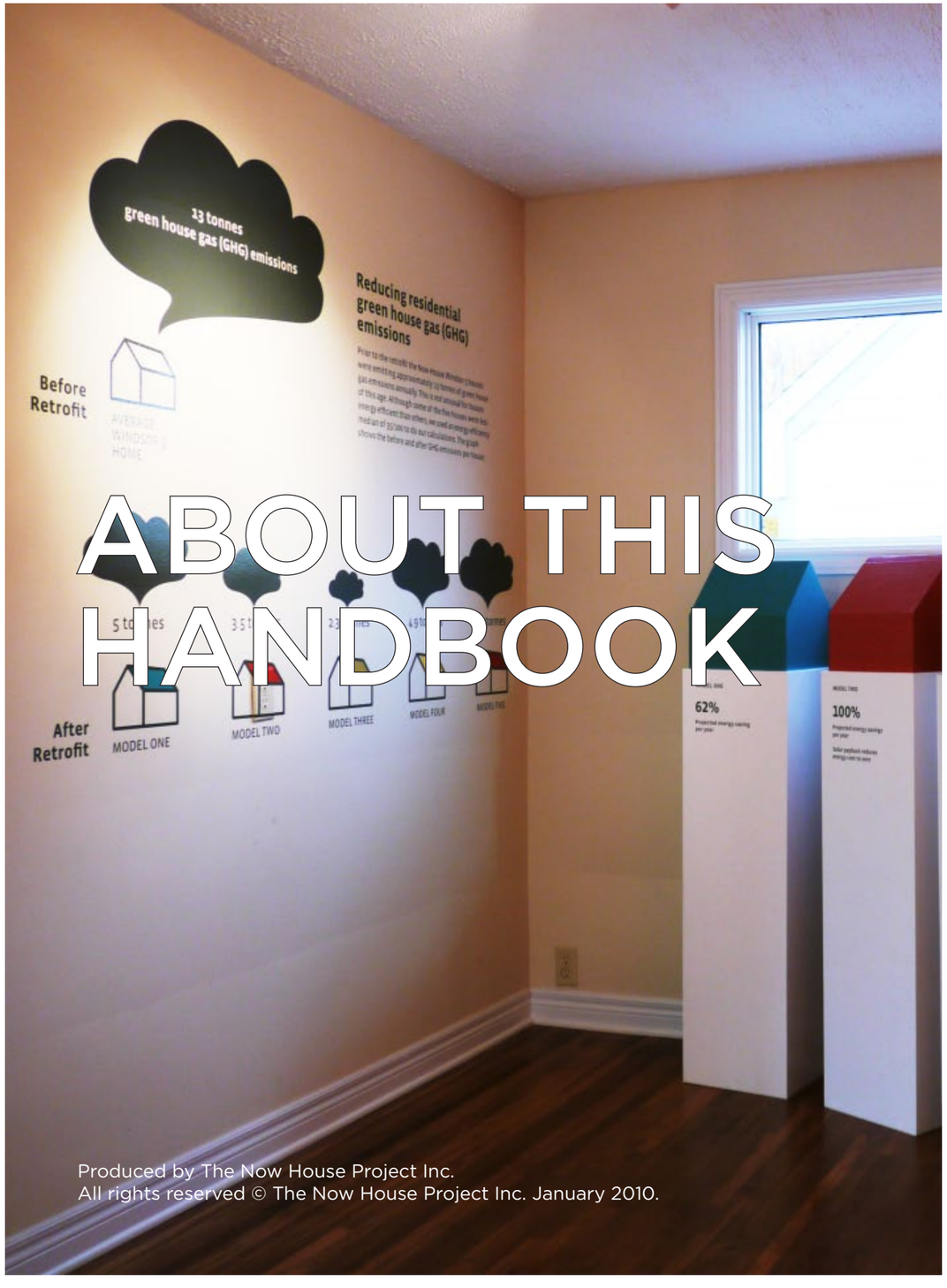
Dear Resident:

Your home was chosen to be part of the Now House Windsor 5. This was a special project undertaken by the Windsor Essex Community Housing Corporation and the Now House Project team. Five houses in the Bridgeview community were retrofitted over the summer of 2009 to improve their energy efficiency, make the homes more comfortable to live in and reduce their impact on the environment.

As a resident of one of the Now House Windsor 5 homes, you play an important part in the success of this project. About 40% of the energy used in a home depends on the people who live there. This handbook describes the changes that have been made to your home to improve its energy efficiency and the steps you can take to use your home in an environmentally responsible way.

We hope you will be an active participant in making this project a success by putting into practice some of the energy-saving tips you'll find inside. Please feel free to share these helpful tips and ideas with your family and friends.

Jim Steele, CEO
Windsor Essex Community Housing Corporation



ABOUT THIS HANDBOOK

This handbook is for you. Feel free to write in it. Keep records in it. Add photos. Give yourself or someone in your family a gold star when you've done something to celebrate. Have fun. Save energy. Save money.

Inside, you'll find a summary of the changes that were made to your house as part of the Now House Windsor 5 project. It also includes the energy savings these improvements are expected to achieve in each of the five homes including yours.

There are lots of tips on how you and your family can save energy and money. It includes checklists and charts so you can track your electricity, gas and water use. The front and back pockets provide a handy space for storing your local recycling calendars, the OPA Every Kilowatt Counts wheel, and other tools and reminders you'll find useful.

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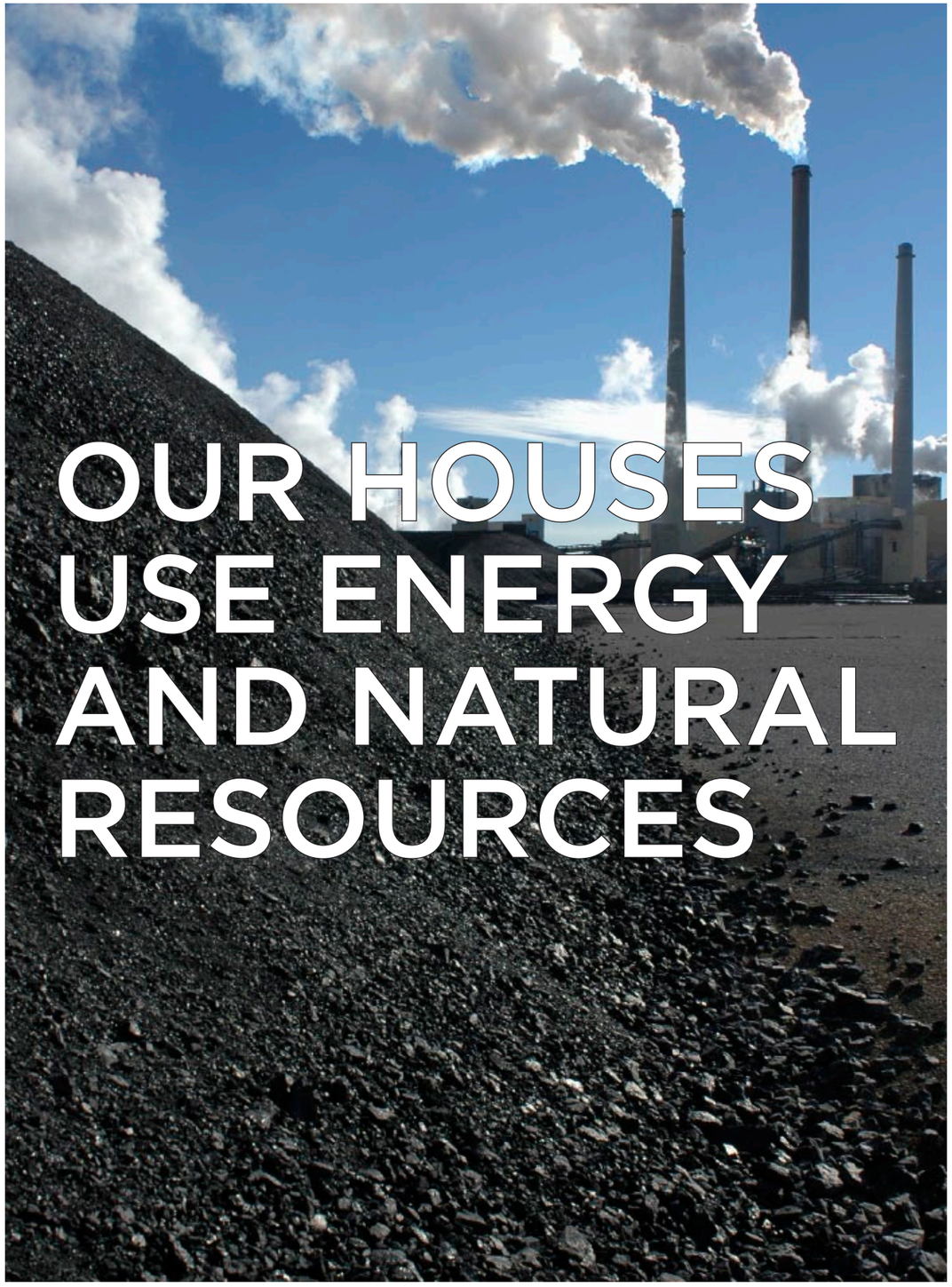


OUR HOUSES USE ENERGY AND NATURAL RESOURCES

We use energy in our homes to provide many comforts and conveniences. Energy provides us with warmth in winter and cooling in summer. It provides hot water for taking showers and doing the dishes. We light our homes with it and cook our dinners with it. All of these activities take energy and come with a cost to us and the environment.

When we use energy for lights or heating, we're burning fossil fuels and that creates green house gas emissions that contribute to global warming.

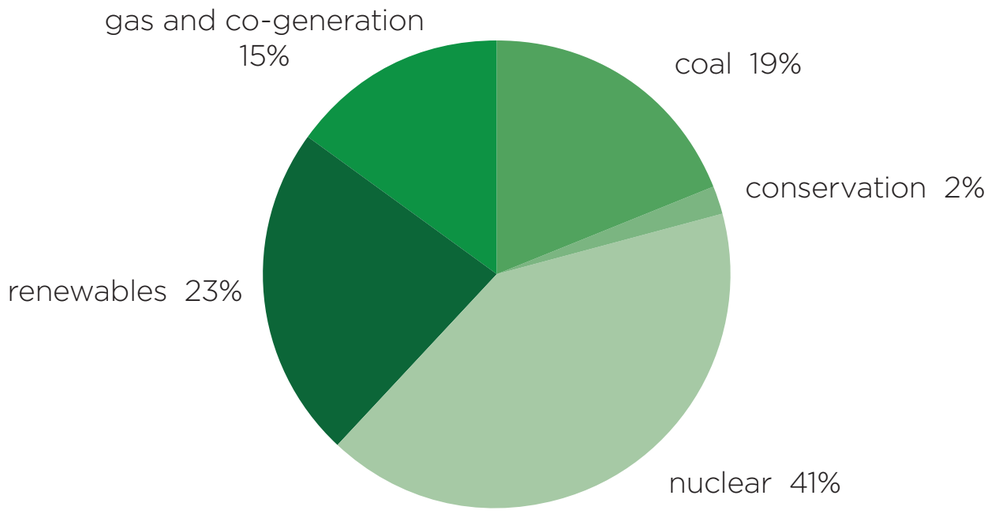
This section of the handbook provides an overview of the types of energy and natural resources we use in our homes.

GAS

Natural gas is used for electricity generation but is also commonly used in heating homes, kitchen stoves and many commercial and industrial applications.

Gas is one of the cleanest fossil fuels, but is still a concern as a contributor to climate change. When burned for home heating or electricity production, natural gas releases CO2, methane and nitrogen oxides which are green house gases.

Ontario Electricity Supply, 2005



Source: Ontario Ministry of Energy

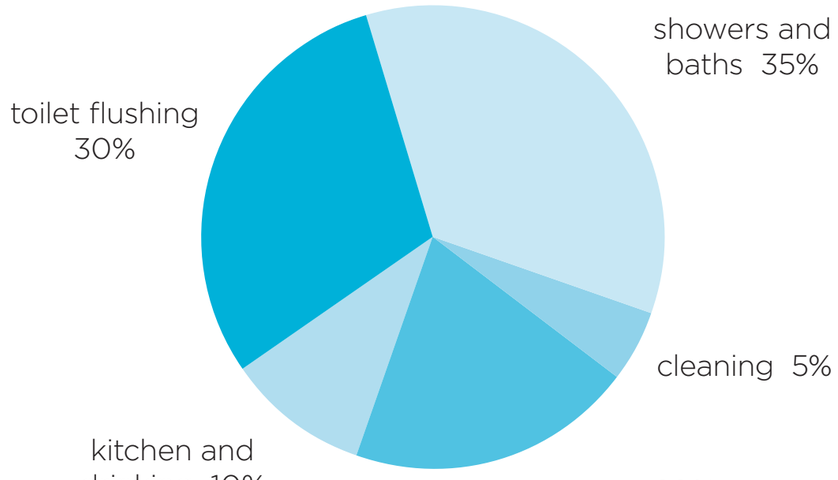
ELECTRICITY

We use electricity in our homes for many things including lighting, heating, cooking, washing clothes, sending emails and watching our favourite TV show.

In Ontario, a large percentage of our electricity is produced by power plants that burn coal and natural gas. Although these sources provide us with an economical electricity source, they emit significant greenhouse gases and smog-causing pollutants.

Using less electricity can help reduce your household expenses and make a positive difference to the environment

Residential water use in Canada



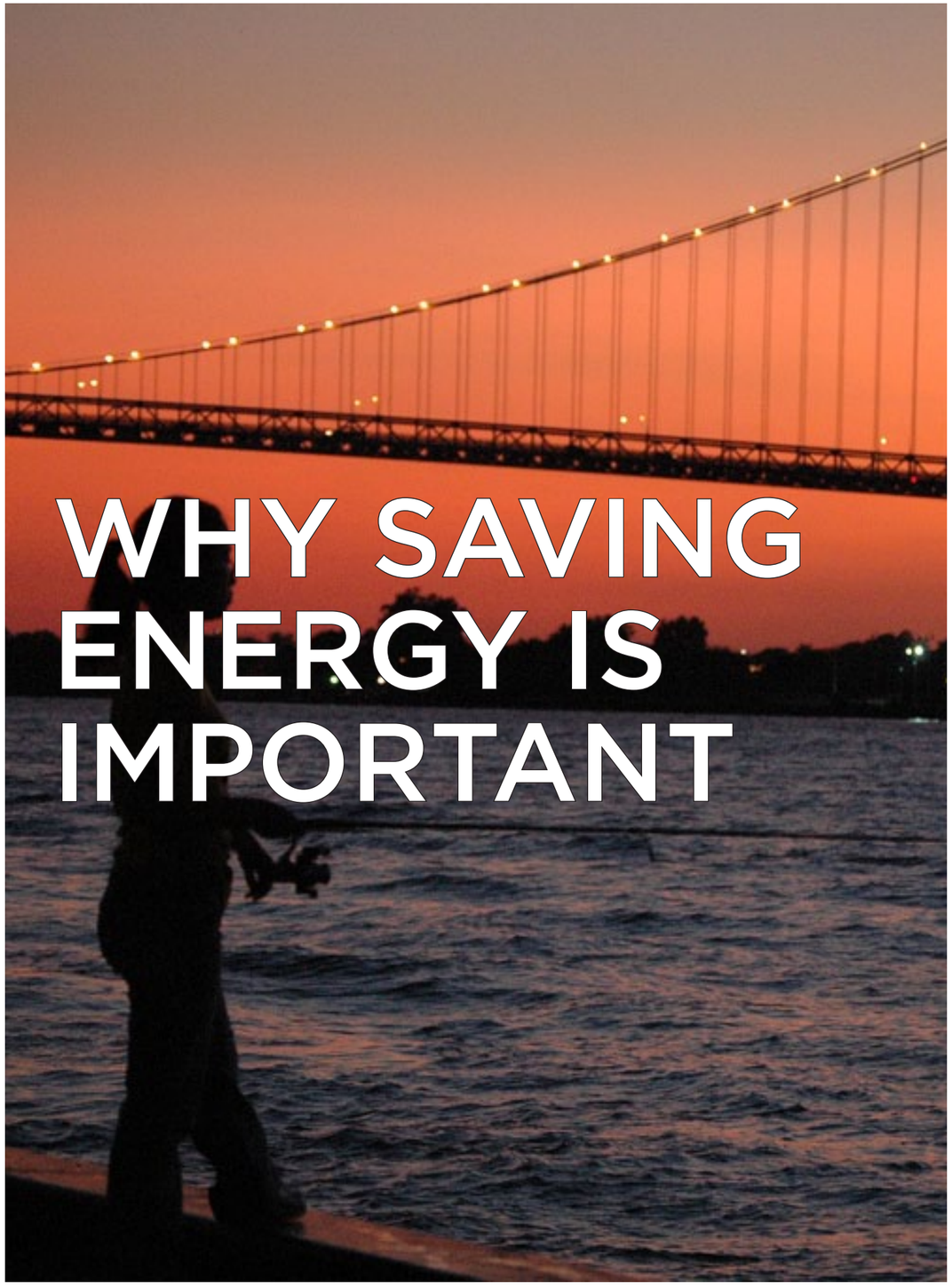
Source: Environment Canada 1999

WATER

Water is essential to all life on earth. We use water for all the things we do in our homes: drinking, preparing food, bathing, and washing clothes.

In 2004, Canadians were ranked one of the largest users of water in the world, using 343 litres of water per day. This is roughly double the usage of water by residential users in Europe.

All of us can play a part in conserving water and ensuring that Ontario's precious water resources can support our needs now and in the future.



Today we're all connected. Our actions in one part of the planet can create reactions in another part of the planet in a matter of days or even hours. What we do in Windsor, Shanghai or Miami has an impact on the planet. That is why many people are looking for ways to use less energy and leave a lighter footprint on the earth.

PEOPLE: Everyone has a part to play. We can make a difference in many small ways by meeting our needs for the present without compromising the ability of future generations to meet their needs.

PLANET: From melting the icecap to endangering the existence of polar bears, global warming is creating problems around the world. When we turn down the thermostat, take shorter showers, drive less, use less packaging, and recycle paper and plastics, we can help stop global warming.

PAY BACK: When we use less gas, electricity and water, we save money and valuable natural resources. When we reduce our energy and water uses, we create fewer green house gases and ensure a sustainable future for our children and future generations.

HOW YOUR HOME HAS CHANGED

As a resident of one of the Now House Windsor 5 homes, you live in one of the very few houses in Canada that has undergone a retrofit to significantly reduce its energy and water use, and dramatically reduce its impact on the environment. Two of the houses are expected to reduce their energy use by over 70%.

In this section of the handbook, you will find pictures and details about the changes made to all five homes as well as those made to your home specifically.

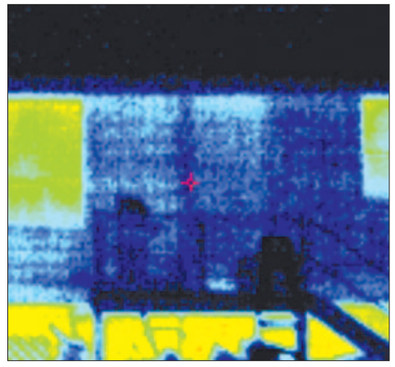
Changes made to all 5 homes

ALL FIVE HOMES RECEIVED THE FOLLOWING:

- Home condition report
- An energy audit
- Infrared imaging
- Air sealing and insulation
- New doors and exterior siding
- ENERGY STAR appliances (except 1275 Rankin Ave.)
- Energy-saving lights
- Low flow water fixtures

ENERGY AUDIT

Before any work began on the Now House Windsor 5 houses, we did a home condition report, an energy audit, and took infrared pictures of each house. The home condition report told us what general repairs would be needed, and the energy audit and infrared images identified where the houses had cracks or gaps that were leaking energy.



AIR SEALING AND INSULATION

Air sealing and insulation are the most cost effective ways to improve energy efficiency. Air sealing was done using caulking, weather stripping and spray foam to seal all air leakage around cracks and holes.

ATTIC

Two inches (5 cm) of foam insulation were sprayed on the floor of the attic and cellulose spray foam was added on top to increase the insulation value to a total of R50.

EXTERIOR WALLS

Ground floor and second floor exterior walls were insulated from the inside. They were prepared for cavity fill spray foam by drilling a series of holes in the walls. Approximately 4” (10 cm) of spray foam were sprayed inside the cavity wall. The holes were then plugged, plastered over and sanded, and the walls painted. The walls now have an insulation value of R24.

BASEMENT

Before insulation, the basement walls were examined and any flaking paint, cobwebs or debris were scraped from the walls, and any cracks were filled with spray foam.

Wood frames were built on the interior of basement walls to hold the spray foam. The walls were then sprayed with 3″ (7.6 cm) of spray foam to achieve an insulation value of R20. The foam insulation was covered with dry wall.

The basement ceiling joists were sprayed with 3″ (7.6 cm) of spray foam to an R20 and also covered with dry wall.

DOORS AND EXTERIOR SIDING

The front and back doors were replaced to provide better insulation and improve your home's energy efficiency.

The old vinyl siding was replaced with cement board siding. Cement siding is extremely durable, long lasting, and resistant to fires, insects and rot.

APPLIANCES

Because old appliances use a lot more energy than new ones, we replaced them with two new electric appliances – refridgerator and washing machine – and two gas appliances – range and clothes dryer.

The ENERGY STAR rated refrigerators use 40% less energy than a conventional model sold less than ten years ago. And the new front-loading washing machine uses about 50% less water and energy than standard top loading machines.

We installed a gas range and clothes dryer as they use less energy than equivalent electric appliances.

LIGHTS

Incandescent bulbs were replaced with compact fluorescent lights or CFLs. These bulbs use 50 to 80% less energy and last 10 times as long. Because electricity use for lighting in the average home accounts for about 20 to 25% of all electricity use, replacing lights with CFLs should reduce your electricity bill.

WATER

All water-related fixtures in your home were replaced with low-flow fixtures. Low-flow shower heads and faucet aerators were installed and are expected to reduce water consumption in your home by up to 50%. They also help to reduce the amount of energy used to heat water. A low-flow toilet was installed and reduces water usage from 26 litres to six litres (6.8 gal to 1.5 gal) per flush.

ADDITIONAL CHANGES MADE TO EACH HOME

In addition to the changes made to each home described in the previous pages, each of the five homes received different heating and cooling systems. Five different approaches were taken so we can measure the energy reduction and cost effectiveness of each approach. We will use this data to help us plan future retrofits of houses in the CHC portfolio.

MODEL ONE: 1307 Rankin Avenue

In this home, the old medium efficiency furnace and hot water tank were replaced with the following high efficiency heating and cooling equipment:

- High efficiency hydronic furnace
- Heat Recovery Ventilator
- Tankless water heater
- High efficiency central A/C.

The **hydronic furnace** uses hot water to heat the air that is then sent through the vents into the house to provide heat.

Because the home was well insulated and air sealed to prevent heat loss, fresh air is no longer flowing into the home. The **Heat Recovery Ventilator (HRV)** ensures air quality by mechanically ventilating the home. The HRV captures heat from stale air in the home before exhausting it to the outside. The HRV draws fresh air from outside and preheats it before releasing it into the home.

The **tankless water heater** provides hot water on demand for use in the hydronic furnace and also provides hot water for domestic water use. A tankless system eliminates standby energy losses normally associated with heating water in a typical 40 – 60 gallon hot water tank.

As some of the Now House Windsor 5 homes used one or more small window air conditioners, a **high efficiency central air conditioner** was installed to improve efficiency.

All five homes will be monitored for a year to determine energy efficiency levels achieved.

MODEL TWO: 1301 Rankin Avenue

Additional energy improvements made to this home include the following high efficiency heating and cooling equipment plus the addition of solar power:

- High efficiency forced air gas furnace
- Heat Recovery Ventilator
- Tankless water heater
- High efficiency central A/C
- Solar photovoltaic system 2.1 kW.

The **tankless water heater** provides hot water on demand for domestic water use. A tankless system eliminates standby energy losses normally associated with heating water in a typical 40 – 60 gallon hot water tank.

As some of the Now House Windsor 5 homes used one or more small window air conditioners, a **high efficiency central air conditioner** was installed to improve efficiency.

Higher energy efficiency was achieved in this home with the addition of an ENERGY STAR rated **forced air gas furnace**.

Because the home is now well insulated and air sealed to prevent heat loss, fresh air is no longer flowing into the home. The **Heat Recovery Ventilator (HRV)** ensures air quality by mechanically ventilating the home. The HRV captures heat from stale air in the home before exhausting it to the outside. The HRV draws fresh air from outside and preheats it before releasing it into the home.

To achieve net zero energy use, which is the goal of a Now House retrofit, the house has to become an energy producer not just an energy user. Now House retrofits use **solar photovoltaic panels (PV)** to convert the sun's power to electricity. The PV panels on this house are grid-tied and the energy they produce will be sold to the local utility.

All five homes will be monitored for a year to determine energy efficiency levels achieved.

MODEL THREE: 1291 Rankin Avenue

Because this home was designed to achieve net zero energy cost, it received the largest number of changes. Energy improvements included:

- High efficiency hydronic furnace
- Heat Recovery Ventilator
- Tankless water heater
- High efficiency central A/C
- Solar thermal system plus storage tank
- Solar photovoltaic system 2.1 kW
- New ENERGY STAR windows.

The **hydronic furnace** uses hot water to heat the air that is then sent through the vents into the house to provide heat.

Because the home is now well insulated and air sealed to prevent heat loss, fresh air is no longer flowing into the home. The **Heat Recovery Ventilator (HRV)** ensures air quality by mechanically ventilating the home. The HRV captures heat from stale air in the home before exhausting it to the outside. The HRV draws fresh air from outside and preheats it before releasing it into the home.

The **tankless water heater** provides hot water on demand for use in the hydronic furnace and also provides hot water for domestic water use. A tankless system eliminates standby energy losses normally associated with heating water in a typical 40 – 60 gallon hot water tank.

As some of the Windsor 5 homes used one or more small window air conditioners, a **high efficiency central air conditioner** was installed to improve efficiency.

In this home, a **solar thermal system** heated by the sun provides heat for heating the home and for hot water use. The sun-warmed fluid flows from the solar thermal system on the roof to a **solar storage tank** in the basement where the heat is transferred to heat water which is then sent to the tankless water heater. On overcast days when not enough heat is produced by the sun, the tankless water heater is used as a back up to provide hot water for home heating and domestic water use.

To achieve net zero energy use, which is the goal of a Now House retrofit, the house has to become an energy producer not just an energy user. Now House retrofits use **solar photovoltaic panels (PV)** to convert the sun's power to electricity. The PV panels on this house are grid-tied and the energy they produce will be sold to the local utility.

All five homes will be monitored for a year to determine energy efficiency levels achieved.

MODEL FOUR: 1283 Rankin Avenue

Additional energy improvements made to this home include the following high efficiency heating and cooling equipment:

- High efficiency forced air gas furnace
- Heat Recovery Ventilator
- Tankless water heater
- High efficiency central A/C.

Higher energy efficiency was achieved in this home with the addition of an ENERGY STAR rated **forced air gas furnace**, air conditioning and tankless water heater.

Because the home is now well insulated and air sealed to prevent heat loss, fresh air is no longer flowing into the home. The **Heat Recovery Ventilator (HRV)** ensures air quality by mechanically ventilating the home. The HRV captures heat from stale air in the home before exhausting it to the outside. The HRV draws fresh air from outside and preheats it before releasing it into the home.

The **tankless water heater** provides hot water on demand for use in the hydronic furnace and also provides hot water for domestic water use. A tankless system eliminates standby energy losses normally associated with heating water in a typical 40 – 60 gallon hot water tank.

As some of the Now House Windsor 5 homes used one or more small window air conditioners, a **high efficiency central air conditioner** was installed to improve efficiency.

All five homes will be monitored for a year to determine energy efficiency levels achieved.

MODEL FIVE: 1275 Rankin Avenue

This home received only the base model changes described earlier in the handbook.

This home will help test the energy reduction achieved by four basic retrofits:

- Air sealing
- Insulation
- Changing lighting to energy efficient compact fluorescent lights
- Adding low flow water fixtures to reduce water and energy use.

All five homes will be monitored for a year to determine energy efficiency levels achieved.

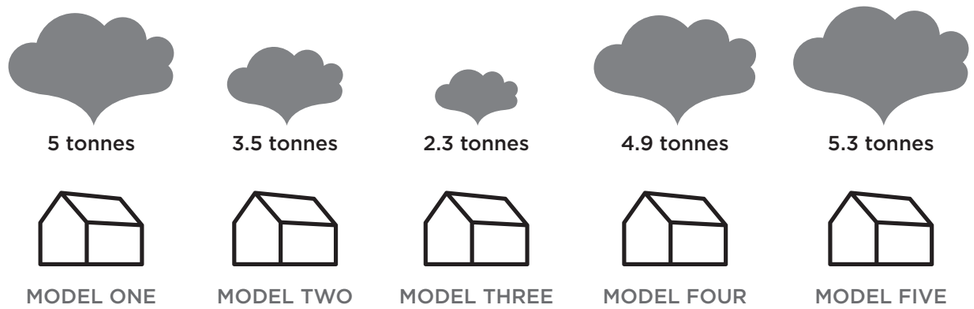
Once that monitoring period is completed, this home will receive the following energy efficiency improvements:

- High efficiency forced air gas furnace
- Heat Recovery Ventilator
- Tankless water heater
- High efficiency central A/C.

Before Retrofit

AVERAGE ANNUAL EMISSIONS PER HOME

REDUCING RESIDENTIAL GREEN HOUSE GAS (GHG) EMISSIONS: Prior to the retrofit each of the Now House Windsor 5 houses was emitting approximately 13 tonnes of green house gas emissions annually. This is not unusual for houses of this age. The graph shows the predicted before and after retrofit GHG emissions per house.



After Retrofit

HOW TO USE IT

While most of the new equipment in your home will be maintained by the Windsor Essex CHC, there are three new devices that residents should know how to operate.

The smart use of a programmable thermostat and the new tankless water heater in your home can help you save energy and money. The special thermostat on the wall of your kitchen and bathroom is connected to the ventilator on your furnace and will help ensure healthy indoor air in your home.

PROGRAMMABLE THERMOSTAT

A programmable thermostat allows you to reduce your energy use for long periods when you are sleeping or away from the house. According to Canada Mortgage and Housing Corporation (CMHC), the average temperature that Canadians set their thermostats in winter is 20°C (68°F) and in summer 22°C (70°F). By turning your thermostat down by -2° in winter and up +2° in summer for eight hours over night or while you're at work, you can create savings of about 10% on your heating and cooling bills.

HEAT RECOVERY VENTILATOR THERMOSTAT

Your home has been equipped with a special HRV thermostat in the kitchen and the bathroom. When you're cooking dinner, set the thermostat on for 20 minutes to draw the moisture out of the room. Before taking a bath or shower, set the HRV thermostat in the bathroom for 20 minutes to ventilate and reduce humidity in the room.

TANKLESS WATER HEATER

Tankless water heaters provide hot water on demand; however, it takes time to heat the water to the target temperature. Just like your old water heaters, any cold water in the tankless water heater pipes needs to be pushed out which means you'll feel cold water before you feel hot water. Although tankless water heaters can provide endless hot water, taking longer showers and washing small loads of laundry will easily consume any energy efficiency savings the tankless heater provides.

GENERAL MAINTENANCE

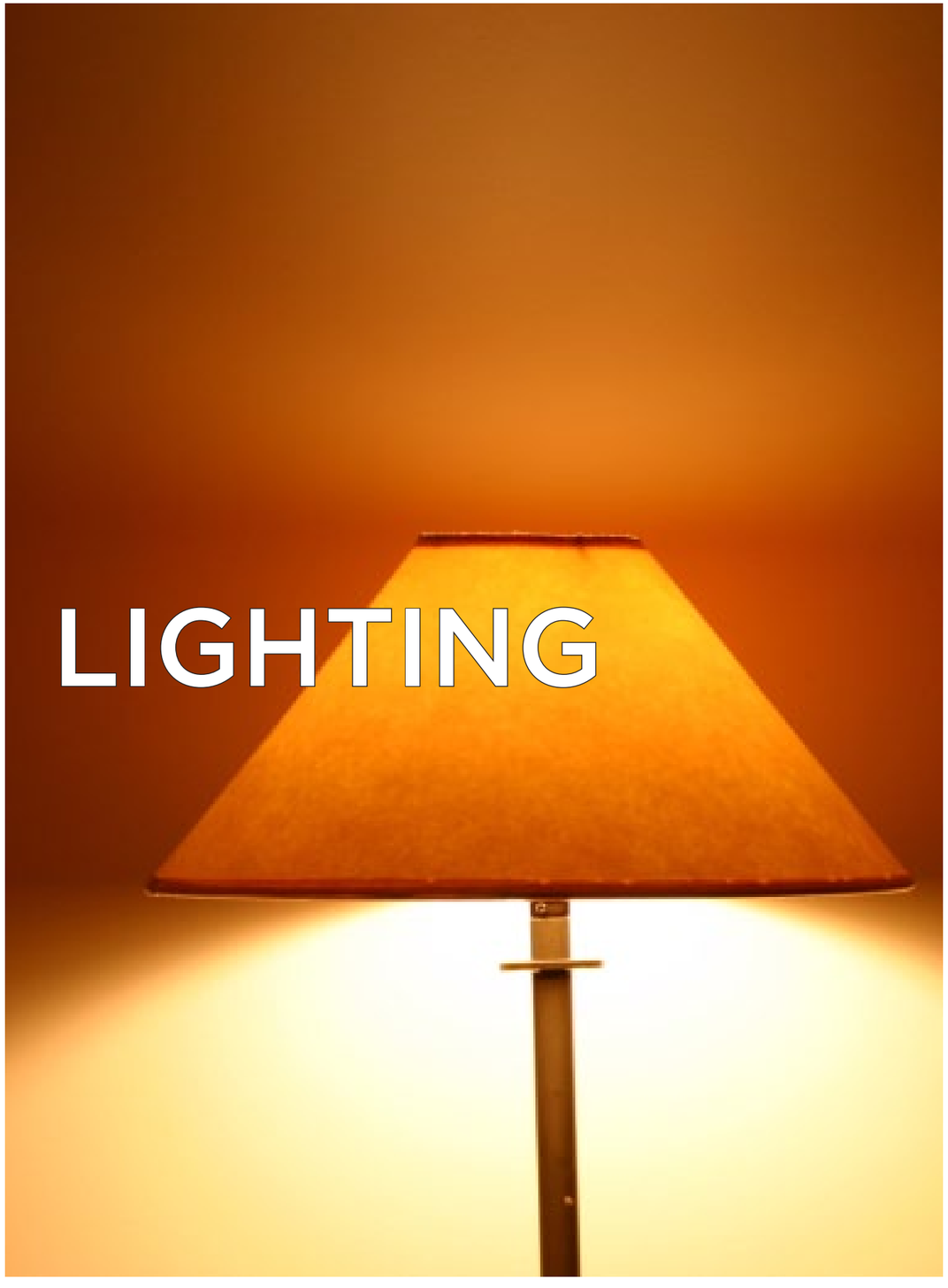
High efficiency equipment generally requires a higher level of maintenance. Most of the maintenance such as furnace filters and cleaning the HRV will be handled by Windsor Essex Community Housing.

TIPS ON ENERGY SAVING

The previous pages describe the many ways your home has been made more energy efficient, comfortable and lightened its footprint on the planet.

As a resident, you too have a great opportunity to make a difference. About 40% of the energy used in your home depends on you and your family.

Use the tips on the following pages to save electricity, gas and water. You'll be saving money and saving the planet too.



Lighting is responsible for about 20% of your electricity costs every month. Fortunately, there are many ways to reduce the number of watts you burn without living in the dark.

CFLS

Your home has been equipped with compact fluorescent light bulbs (CFLs). These bulbs use 75% less energy than standard incandescent light bulbs, but still deliver the same amount of light.

A 15-watt ENERGY STAR CFL bulb produces the same amount of light as a 60-watt incandescent bulb. The incandescent bulb lasts 1000 hours and the CFL lasts 9000 hours. While the CFL costs significantly more initially, over it's lifespan it will save you approximately $30.

ENERGY-SAVING LIGHTING TIPS:

- Install CFLs in areas where the lights are on for long periods of time such as the kitchen, family room and outdoor porch lights.
- Install CFLs in hard to reach areas. Because CFLs last a lot longer than standard bulbs, you won't have to change them as often.
- Use natural daylight from windows whenever possible.
- Turn lights off when you don't need them. When you're leaving a room and no one else is in it, turn out the lights. When you're leaving home, turn out the lights.

RECYCLING CFLS

When you are ready to dispose of a CFL bulb, do not throw it in your household garbage. Each bulb contains a small amount of mercury, which is harmful if it gets into landfill and seeps into the water table or a nearby body of water. Here's how to handle it:

- Place the CFL in a sealed plastic bag
- Check your local Hazardous Waste Collection Centre to find out if it accepts CFLs for drop off; or
- Add the CFLs to your battery and chemical waste for scheduled pick-up drives
- Take to RONA, Home Depot or IKEA stores drop off programs.

IF YOU BREAK A CFL

Because CFLs contain a small amount of mercury, you should follow these steps to clean up a broken bulb:

- Open windows to release the vapours
- Put on a pair of disposable rubber gloves. Don't pick up the fragments with your bare hands
- Don't vacuum or use a household broom
- Use a stiff piece of paper or cardboard to sweep the fragments and place them in a sealed plastic bag (including the piece of cardboard)
- Wipe the area clean with a damp towel and add the towel to the plastic bag
- Add the bag to your battery and chemical waste garbage for pick-up
- Do not throw the broken CFL into your household garbage.

KITCHEN

Kitchens are one of the most energy demanding places in your home. Your home has been equipped with an ENERGY STAR refrigerator and a gas stove, which are designed to save energy. However, you play an important role too. The energy-saving tips on the following pages can help you use your kitchen wisely to save energy and money.

REFRIGERATOR

Apart from your furnace, the refrigerator is your home's biggest energy user. It's important to choose the right size. A refrigerator that is too big for your needs will waste both money and energy.

Your home has been equipped with a 19 cubic foot ENERGY STAR refrigerator. This is an appropriate size for a family of three to four people. These refrigerators will use less energy and save hundreds of dollars in electricity bills over their lifetime.

USING YOUR REFRIGERATOR

- Use a thermometer to help you adjust the refrigerator to the proper temperature. Set the refrigerator compartment for 3°C (37°F). For the freezer compartment set the temperature to 18°C (0°F). Settings colder than necessary will increase energy consumption by nearly 10%.

- Don't open and close the refrigerator door more than you need to. It takes only a few seconds for cold air inside to spill out of the refrigerator, which then requires more energy to cool down the inside again.

- Place frozen food inside the refrigerator to thaw. This will help keep the refrigerator cool and will save energy especially compared to thawing in the microwave, which requires energy.

- Cover goods and liquids stored in the refrigerator. Evaporation of uncovered liquids forces the refrigerator to work harder to remove moisture.

- Wait until food has partially cooled before putting it in the refrigerator to save it from having to work harder to keep the food cold.

GAS RANGE

Your kitchen has been outfitted with a natural gas range, which provides energy saving features such as: good insulation, self-cleaning oven, and infrared broilers that cook faster and save energy and money.

Cooking with natural gas gives you precise cooking control as flames can be set at any intensity with accuracy. Heat is instantly on and off, which eliminates the need to wait for elements to heat up or cool down. Natural gas provides a moist method of cooking which means baked goods and roasts will not dry out.

SAVE MONEY AND ENERGY WITH YOUR NEW GAS RANGE

- Preheating your oven is not necessary, except for baking. When you do need to preheat, 10 minutes is usually enough time to reach temperature.

- Turn off the oven a few minutes before cooking is complete. Let the heat already in the oven finish the job.

- Use the glass door to check progress of cooking. Every time you open the oven door as much as 20% of the heat escapes and the oven has to work harder to replace it.

- Match your pot to the size of the element. The base of a pot should cover the cooking element. If the pot is larger than the element it will take more energy to heat it. If it is smaller than the element, you will waste energy.

- Cook complete meals at once. You can save energy by cooking the whole meal in the oven or under the broiler.

- On the cook top, use as little water as possible in pots to cook food. Or use a steamer or pressure cooker. These methods use less energy and conserve the vitamins and nutrients in the food.

MORE WAYS TO SAVE MONEY AND ENERGY WITH YOUR NEW GAS RANGE

- Organize your baking so the foods that require the highest temperature bake first; then work down to those requiring the lowest temperatures.

- Leave at least 5 cm between pans in the oven for proper heat circulation. Pans should not touch the oven doors, walls or other pans.

- Use minimum heat. After the water is boiling, for instance, turn the heat down to the lowest setting that will maintain a boil.

USING SMALL APPLIANCES TO SAVE ENERGY

Small appliances such as microwave ovens, electric kettles, toaster ovens and electric frying pans use about half the electricity of an electric oven or cook top.

MICROWAVE OVENS

Microwave ovens can perform many cooking tasks better, faster and with less energy than conventional cooking. Here's how to use one:

- Use your microwave to cook smaller amounts of food; the larger portions are better cooked in the oven

- Reheat food in the microwave as it uses less energy than the oven or stovetop

- Food cooks faster when placed on the outer edges of a rotating tray rather than in the centre

- Cooking in a microwave oven won't heat up your kitchen in summer so you save on air conditioning

- Do not use materials such as aluminum foil, stoneware or metal containers in your microwave.

ELECTRIC KETTLE

Kettles heat water more efficiently than a range top or microwave oven. Use a kettle that has an automatic shut-off and a heat resistant handle. Here are some tips on using a kettle:

- Use cold water from the tap not hot water (avoids burning gas in your tankless water heater)

- Don't fill the kettle completely unless you have to

- Clean your kettle often by boiling water and vinegar to remove mineral deposits; water takes longer to boil and wastes energy when hard water mineral deposits coat the element.

TOASTER OVEN

A toaster oven consumes much less energy than a conventional oven. It's faster and ideal for cooking small quantities of food. To operate a toaster oven efficiently using minimum energy, always ensure that there is sufficient room for air to circulate around the appliance.

ELECTRIC FRYING PANS

An electric frying pan requires less electricity than the range top to cook the same quantity of food. To prevent wasting energy, avoid prolonged warming. Many foods do not require a preheated pan.

LAUNDRY

Washing and drying your household laundry uses a lot of energy. Your home has been equipped with an ENERGY STAR front-loading washer and a gas dryer. These energy-saving appliances help to reduce the amount of water and energy you use. You can take your energy and water saving a big step further by following some of the energy-saving tips on the following pages.

WASHING MACHINE

Washing machines use energy for the mechanical operation and for heating water. Your home has been equipped with an ENERGY STAR front-loading washing machine, which uses a lot less hot water than top loading units. It also has settings for cold wash and rinse options, which will help you cut your energy use and costs even further.

USING YOUR CLOTHES WASHER

- Wash full loads whenever possible; several small loads will use a lot more energy
- Wash and rinse in cold water unless soil levels are high. Modern laundry detergents are well suited to cold-water washing; a cold water rinse can be done for every load.

CLOTHES DRYER

Your home has been equipped with an energy-efficient gas clothes dryer. Natural gas offers an economical alternative to an electric dryer and has some energy-saving features. Gas and electric dryers have similar operating mechanisms except for the heating unit. Air in gas dryers is heated by a gas flame. Gas dryers are equipped with push-to-start safety ignitions and thermostats to monitor the internal air temperature. If the dryer temperature exceeds the predetermined limit, the gas shuts off automatically.

USING YOUR DRYER

- Avoid over-drying. Use the automatic controls and select a setting that does not produce really dry clothes.
- Try to organize both your washing and drying so that you are always doing full loads.
- Always clean the filter in the dryer between every load. Not cleaning the lint from the filter will make the dryer work harder and use more energy.

- Do not dry mops or cloths that have been saturated in wax or solvent in your gas dryer because this is a fire hazard.
- Prune overgrown shrubs or plants that may be blocking the dryer vent outlet on the outside of your home.
- In summer, dry your clothes on an outside clothesline.

WINDOWS AND DOORS

Good management of windows and doors can save a lot of energy in winter and in summer. Always be sure your windows are in good repair. If there is a hole or crack in a window, call Windsor Essex CHC to have it repaired.

TIPS FOR MANAGING YOUR DOORS AND WINDOWS

WINTER

- Keep doors and windows tightly closed as much as possible to keep the heat in.
- Your home has a Heat Recovery Ventilator to ensure fresh air, so don't leave windows open in the middle of winter. This will use a lot of energy and can cause water pipes to freeze and burst.
- In winter let the sun shine in. The sun's low angle brings light into your south-facing windows, which is free solar heat.
- Close drapes and blinds during the night or on cloudy days to keep the heat in.

SUMMER

- Keep doors and windows closed as much as possible when air conditioning is on.
- Close blinds and drapes during the day to keep the heat out of the house.
- Open the windows at night to let the heat out of the house (but not if you are air conditioning).

NOTES

Your home has been retrofit with many water-saving devices such as a low-flow toilet and showerhead, faucet aerators and a front-loading washing machine. But, there are still many ways you and your family can make a big difference by reducing your water use.

SHOWER

- Shorten the time you are in the shower from 10 minutes to five minutes or less (will save up to 40 litres each time you shower
- Turn off the water while lathering in the shower
- Recycle unused water. While waiting for hot water to flow when preparing for a shower, catch the cool water in a bucket for use later for plants, pets or cleaning
- Take a five minute shower instead of a bath or reduce the amount of water used in the bath by five centimeters (two inches).

TOILETS

- Reduce the number of times you flush your toilet with multiple uses before flushing
- Do not use the toilet as a garbage can. Tissues and other items should be put in appropriate disposal containers
- Unnecessary flushing even once a day can waste up to 1,000 litres of water per year.

FAUCETS

- Don’t let the water run when you’re brushing your teeth, washing your face or shaving.

DISHWASHING

- When washing dishes by hand, do not wash or rinse with running water. Use tubs or plug the sink.
- Dishwashers use large volumes of water, about 60 litres of water per load. Operate automatic dishwashers at full capacity and/or set the water level for the size of your load.
- If you are considering buying a dishwasher, look for one that is water and energy efficient.

PREPARING FOOD

- Rinse fruit and vegetables in a pan instead of running water continuously and use the leftover water for indoor and outdoor plant watering
- Keep a bottle of drinking water in the refridgerator instead of running the tap for cold water
- Do not thaw food by running water over it
- Use a small amount of water and a lid on a pot when cooking
- Save the water from cooking vegetables for soups, gravies or outdoor plants.

DOING LAUNDRY AND HOUSEHOLD CLEANING

- Your household has been provided with an ENERGY STAR washing machine. It uses about 50% less water than an old top loading washer. Use it for full loads only.

- For regular household cleaning, use a pail or bucket rather than running water. Partially fill the sink or a container when cleaning the kitchen or rinsing cloths.

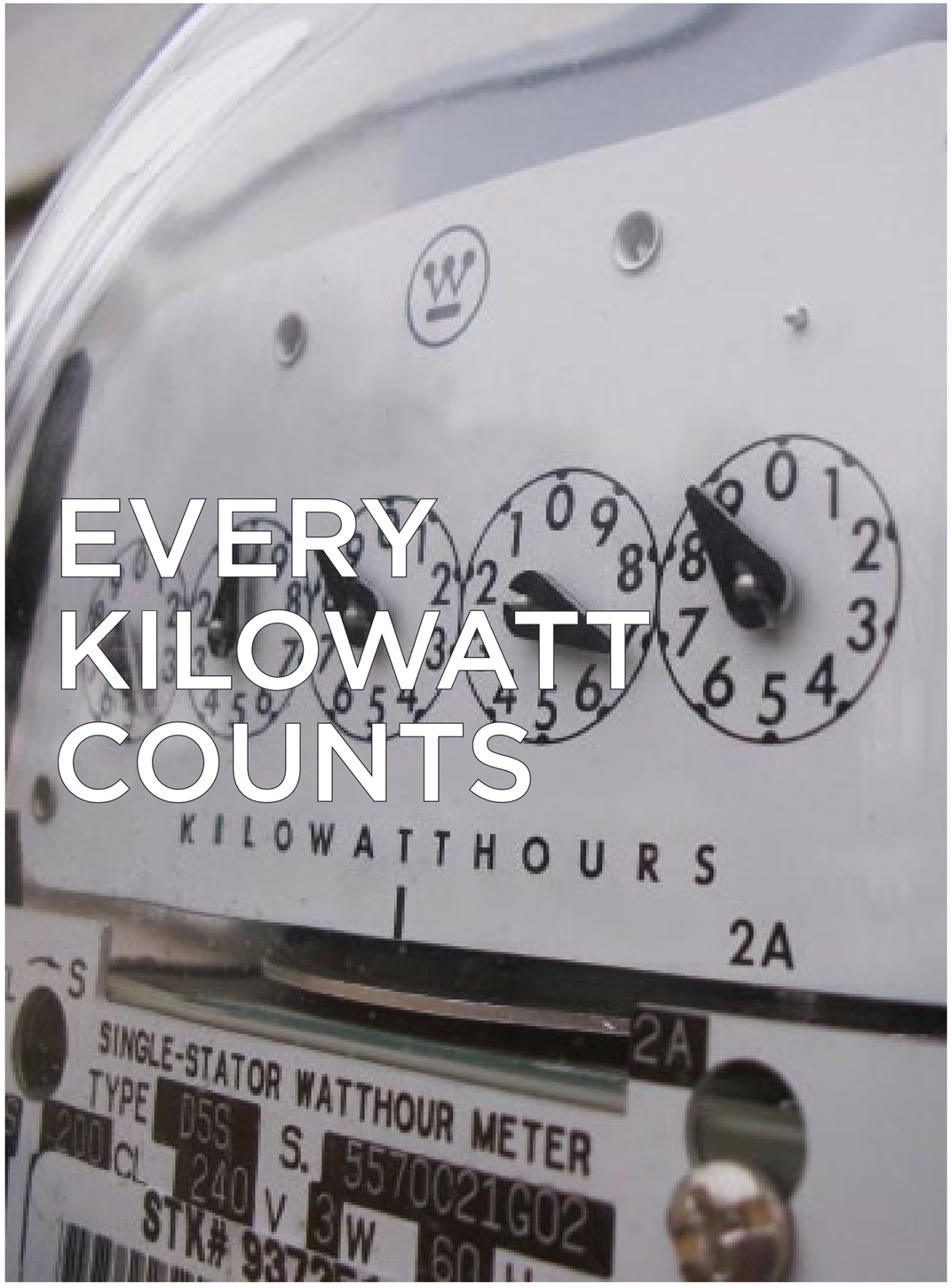
OUTDOOR WATER USE

- Collect rainwater to water gardens and plants and use water that you've saved from indoor use

- Follow outdoor water restrictions in your area for watering the grass

- Do not waste drinking water washing your car. Go to the car wash where the water is recycled.

NOTES



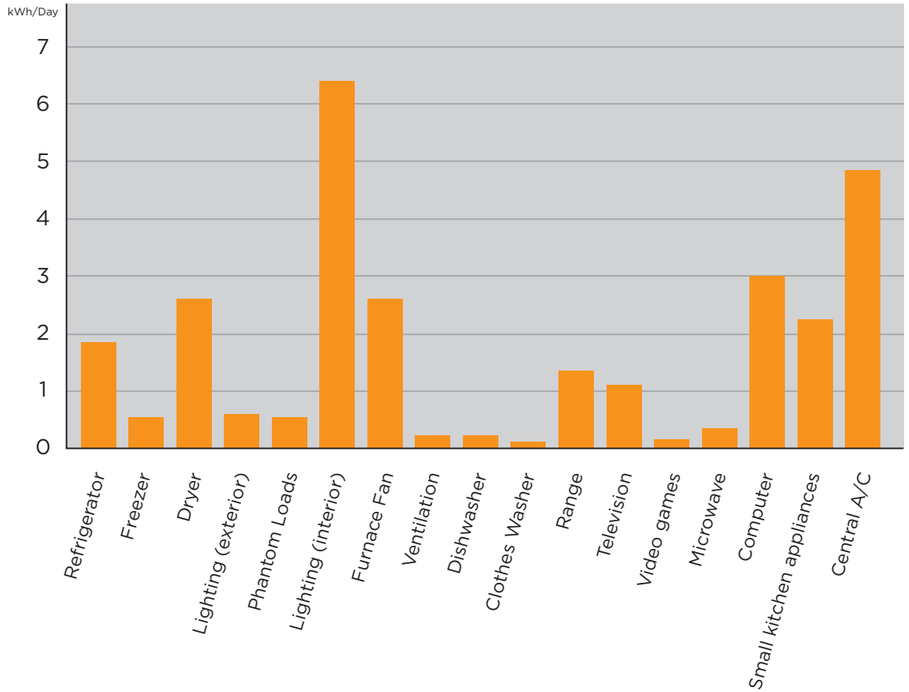
EVERY KILOWATT COUNTS

Sponsored by the Ontario Power Authority the Every Kilowatt Counts program encourages Ontarians to reduce their electricity use. OPA says: “By using electricity wisely, we can better manage our electricity bills and help the environment at the same time.”

TYPICAL WATTAGE USE BY DEVICE

Knowing how many watts an appliance or electronic device uses, can help you plan ways to save electricity in your household. The following chart shows how much electricity these typical appliances use per year.

STANDARD ELECTRICITY USE



PHANTOM LOAD OR STANDBY POWER LOSS

The average house in Canada has 25 or more electrical products – TVs, microwave ovens, air conditioners, cell phone chargers – that cannot be switched off totally without being unplugged. These products draw power 24 hours a day without us normally being aware of it. This power is referred to as standby power or sometimes called phantom load. It accounts for 10% of an average household's annual electricity consumption.

Almost any product with an external power supply, remote control, continuous display (including an LED), or one that charges batteries will draw power continuously. Each device may draw as little as one watt constantly for a year, but, when multiplied times 25 products, it adds up.

HOW TO STOP IT

One way to stop standby power from consuming watts is to unplug all electrical devices before leaving home. This, however, would be time-consuming and inconvenient.

An easier way to limit standby power loss is to plug your electronics into power bars that can be switched off with one or two switches when the electronics are not being used.

REBATE COUPON

To encourage us to reduce electricity use, the Every Kilowatt Counts program offers instant rebate coupons for many energy saving devices.

FROM 50 CENTS TO $45, REBATE COUPONS ARE AVAILABLE ONLINE FOR THE FOLLOWING HOME ENERGY SAVERS:

- ENERGY STAR qualified indoor light fixture
- Light switch timers
- Motion sensor switches
- Heavy-duty outdoor timers
- Pipe wrap for hot water pipes
- Power bars with integrated timers
- ENERGY STAR light bulbs
- Programmable thermostat
- Weatherstripping kits
- Blankets for electric water heaters.

Download and print coupons for yourself, your family and friends.
http://everykilowattcounts.ca/residential/powersavings/coupons.php

TIME OF USE RATES

By 2011, most of our homes in Ontario will be equipped with smart meters that track electricity use and what time of day we use it. This will be key information to help manage our electricity costs and peak demand on the electricity grid.

The Ontario Energy Board has provided this sample chart of potential electricity prices under time of rate pricing. For example, you can see that it will be less expensive to do your laundry after 9 pm on weekdays or on the weekend.

Weekends & Holidays	
All Day	4.4 ¢/kWh
Winter Weekdays (November 1 to April 30)	
7 am to 11 am	9.3 ¢/kWh
11 am to 5 pm	8.0 ¢/kWh
5 pm to 9 pm	9.3 ¢/kWh
9 pm to 7 am	4.4 ¢/kWh
Summer Weekdays (May 1 – October 31)	
7 am to 11 am	8.0 ¢/kWh
11 am to 5 pm	9.3 ¢/kWh
5 pm to 9 pm	8.0 ¢/kWh
9 pm to 7 am	4.4 ¢/kWh

How to track your electricity use

1. In the yellow boxes at the top of the chart ‘TRACK YOUR ELECTRICITY USE’, write in the number of kilowatt hours used by your household during the two-month billing period. You will find that on your electricity bill from Enwin.

2. Then calculate the average number of kilowatt hours you use per day. For example, if you used 1800 kilowatt hours, refer to the 2nd column and locate 1800. The number to the left, ‘30,’ is the average number of kilowatt hours used per day.

3. Set your goals by referring to the chart ‘STANDARD ELECTRICITY USE’ on page 56. Then use the chart ‘WHERE CAN WE SAVE WATTS?’ on page 62.

TRACK YOUR ELECTRICITY USE

kWh/d	60 days	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec
		1800					
36	2160						
35	2100						
34	2040						
33	1980						
32	1920						
31	1860						
30	1800						
29	1740						
28	1680						
27	1620						
26	1560						
25	1500						
24	1440						
23	1380						
22	1320						
21	1260						
20	1200						
19	1140						
18	1080						
17	1020						
16	960						
15	900						
14	840						
13	780						
12	720						
11	660						
10	600						
9	540						
8	480						
7	420						
6	360						
5	300						
4	240						
3	180						
2	120						
1	60						

WHERE CAN WE SAVE WATTS?

	Standard kWh/day	Check where you will save
Refrigerator	1.89	
Freezer	0.72	
Dryer (yours is gas)	2.57	
Lighting (exterior)	0.76	
Phantom Loads	0.72	
Lighting (interior)	6.43	
Dishwasher	0.43	
Clothes washer	0.16	
Range (yours is gas)	1.38	
Television	1.21	
DVD	0.09	
Video games	0.32	
Stereo	0.41	
Cordless phone	0.05	
Microwave	0.33	
Computer	3.04	
Small kitchen appliances	2.37	
Central A/C	4.93	

Our goal for saving electricity is: _____ kilowatt hours per day.

We will save electricity by: _____
_____
_____
_____
_____

When you receive your next electricity bill from Enwin, check to see if you have been successful in reaching your electricity goal and write it below.

We have reduced our electricity use by: _____ kilowatt hours per day.

NOTES

Garbage is a problem in Windsor and most other cities. By making small changes in your buying habits and waste handling, you and your family can help make a difference to this ever growing problem.

We can REDUCE the amount of waste we produce in the first place; REUSE an item or find someone who can use it; RECYCLE the product so that our valuable natural resources are used again and again.

This information is provided from your local recycling calendar. Please refer to it for more details and for specifics on what may be recycled in your area.

REDUCE

- When you shop, look for products with minimal packaging, and packaging that can be reused or recycled
- Go for unpackaged bulk goods and products in refillable containers
- Buy products in large size “economy” or “family” size rather than single use sizes
- Bring your own shopping bags to the store
- Bring your lunch to work in reusable containers rather than plastic bags
- Educate yourself and others about packaging: find out what can be reduced, reused or recycled in your area
- Compost to reduce garbage going to landfill
- Avoid disposables: diapers, napkins, cups, plates and cutlery
- If you think something is over-packaged, tell the store manager or complain to the manufacturer.

REUSE

- Donate your old clothes to charity
- Earn extra cash by having a yard sale
- Use a refillable mug or glass container
- Share your newspapers and magazines and paperbacks with schools, church groups, seniors’ homes
- Donate hard cover books to schools, rehab hospitals, seniors’ homes, etc.
- Use rechargeable instead of disposable batteries
- Rent tools instead of buying them.

RECYCLE

Collection items vary from city to city. Be sure to check your recycling calendar to ensure you are recycling all collection items. The following list is just a guideline of what can generally be recycled:

- Blue box: plastic bottles/no lids, glass bottles/no lids, steel or aluminum cans, beverage cartons, aluminum foil, aerosol cans/no lids, empty paint cans/no lids, juice and pop cans
- Red box: newspapers, telephone books, magazine and catalogues, mixed paper, books and cardboard boxes.

COMPOSTING

Composting is nature's way of recycling. It produces a beneficial soil enhancer for your garden and it reduces the amount of household food and yard waste that goes to landfill sites.

HOW TO START A COMPOST PILE

- Buy a commercial composter or make one out of wire or plastic garden fencing. For a simple, open bin, make a circle about three or four feet in diameter out of three to four foot-high wire or plastic fencing. Put your composting bin in an accessible place.

- Add ingredients. First lay a four inch layer of sticks or stems of coarse plants in the bottom of the bin. Add kitchen wastes, dead plants, grass clippings and chopped leaves to the bin as they come available. Add water as often as needed to keep the material moist but not soggy.

- Turn the pile over from time to time. Lift off the composter or bin and set it aside. Then use a pitchfork to move the pile back into the composter.

- The compost is ready to use when you can no longer recognize the original ingredients. Keep the lid on until you use the compost in your garden to prevent rain from washing out the nutrients.

- Compost these ingredients: Leaves, dead plant material. Fruit and vegetable trimmings. Herbicide-free grass clippings. Manure from horses, cattle, goats, poultry and rabbits. Paper or cardboard, torn into strips or hand-sized pieces.

- Do not use: Meat scraps, fatty, sugary or salty food. Chips or sawdust from treated wood. Clippings from herbicide-treated lawns. Manure from omnivorous animals (dogs, cats, humans).

COMPOSTING KITCHEN WASTE

Composting your kitchen waste is an easy way to produce a rich soil conditioner that is good for your lawn and garden. By composting you will help the environment by reducing the amount of household food going to landfills. You will find a lot of information about composting in your local recycling calendar; however, here are a few easy steps to follow:

- Use a kitchen catcher or compost pail: Place all organic waste such as fruit rinds, vegetable peels, and egg shells in the pail; don't compost salad dressings, vegetable oil, cheese, chicken, meat, fish, bones, or milk

- When full, empty it into a composter in your back yard (See Recycling section for more information).

GRASS AND LEAVES

While disposing of tree trimmings, brush and leaves is still done free of charge, grass clippings in most areas are either not collected at all or there is a disposal charge. Again, check your recycling calendar for more information.

GRASSCYCLING

If you want to do what's best for your lawn, save money, and reduce waste then grasscycling is your best choice. Grasscycling means leaving your grass clippings on your lawn so that valuable nutrients are returned to the soil.

Allow the grass to grow at least three inches, and then cut one inch off. This simple action accomplishes a very important reaction; the longer the grass, the deeper the root system, and a deep root system will help your lawn withstand drought. Grass clippings are a great natural fertilizer. They are 90% water, and decay quickly, returning valuable nutrients back into the soil. This will strengthen your lawn and make it resistant to disease, resulting in a healthier lawn.

SOURCES

The energy-related information included in the Now House Windsor 5 Resident's Handbook was compiled with reference to the websites of the following companies and organizations:

Ontario Power Authority
http://everykilowattcounts.ca
http://www.powerauthority.on.ca

Natural Resources Canada
http://www.nrcan-rncan.gc.ca/com/index-eng.php

ENERGY STAR
http://www.energystar.gov

Ministry of Energy and Infrastructure
http://www.mei.gov.on.ca/en

Whirlpool Canada
http://www.whirlpoolappliances.ca/en/Home/default.html

Watershed Technologies
http://www.watershed.ca

Canada Mortgage and Housing Corporation
http://www.cmhc.ca

The Now House Project Inc.
www.nowhouseproject.com

Produced by:
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www.workworthdoing.com

Printed on FSC certified stock.

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