

## Energy Efficiency Evaluation Report

Moulton, Ray & Rebecca  
 1196 Dwyer Hill Road  
 Ottawa, ONTARIO  
 KOA 0X0  
 File Number: 5513N00214

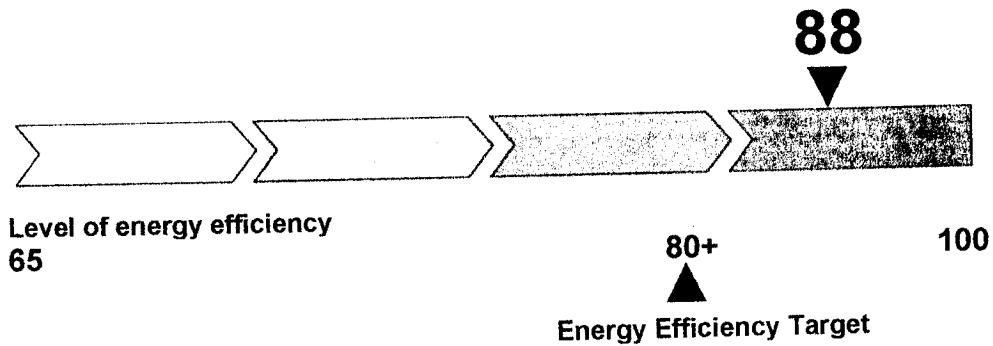
Year Built: 2006  
 Date of Evaluation: May 15 2006  
 Builder Name:

### Congratulations on the purchase of your new house!

This report contains information on how your new house will consume energy. Anyone can claim that a house is energy efficient, but the EnerGuide for New Houses (EGNH) label and this report shows how efficient your house is. Any energy efficiency upgrades that you and your builder decided to include in your house will reduce energy consumption for years to come and will help protect our environment.

### Your House's Energy Efficiency Rating

A qualified energy advisor has assessed the energy efficiency of your house by using Natural Resources Canada's EGNH procedures. **Based on this evaluation, your house has an energy efficiency rating of 88**



The EnerGuide for Houses scale ranges from 0 to 100. It accommodates millions of houses across Canada - from older houses in need of renovation to newer, more energy-efficient ones. A "0" on the scale would represent an uncomfortable house that has major air leakage, no insulation and extremely high-energy consumption. At the other end of the scale, "100" represents a house that is very well insulated, airtight yet well ventilated, and heated by renewable energy sources, such as wind or solar power. Several factors, such as the size of a home's windows and the direction they face, can affect the rating. Even if two houses appear identical, their ratings can be very different if they have different levels of insulation, type of heating equipment, etc

For many older houses, meeting 65 or higher on the scale would be quite an achievement. New houses typically receive a rating of 65 or higher, simply because of improvements in building standards and practices over the years. Relatively few houses achieve a rating of 80 or higher, and those that do represent the most energy-efficient houses on the market. Therefore, the EGNH scale shown above ranges from 65 to 100.

House Characteristics	Typical Rating
New house built to building code standards	65 to 70
Typical new house with some energy efficiency improvements	70 to 74
Significantly upgraded energy-efficient new house	75 to 79
Highly energy-efficient house	80 or more

## Estimated Annual Energy Consumption

Below, you will find the estimated annual energy consumption of electricity, natural gas, propane or oil for your house. These estimates are based on a number of standard assumptions, such as a family of four living in the home, specific thermostat settings, and usage rates for hot water, lighting and appliances.

These assumptions may not reflect your lifestyle but, since they are the same for all houses, they allow you to compare your house's rating with similar-sized houses built in similar regions. The number of occupants and their day-to-day habits and overall lifestyle may significantly influence your house's actual energy consumption and your future savings.

This house, as currently rated, has an estimated annual energy consumption of 57 GJ\*.

\* One GJ is the amount of energy that would be consumed by a 100-Watt light bulb lit continuously for four months.

**Table 1. Estimated Annual Energy Consumption**

	Electricity kilowatt-hours	Natural Gas cubic metres	Oil litres	Propane litres	Total gigajoules
Current estimate	15945	0	0	0	57

### Did you know?

Today, 17 percent of all energy used in Canada goes toward running our homes. By using less energy in your home, you can help reduce the production of greenhouse gas (GHG) emissions that contribute to climate change and harm the environment. Your house produces 13.7 tonnes per year less GHGs than a similar house rated at 68 (which is an average new house built to minimum building code standards).

Through the One-Tonne Challenge, the Government of Canada is challenging all Canadians to reduce the amount of their personal GHG emissions by one tonne, or 20 percent. For more information, visit [climatechange.gc.ca/onetonne](http://climatechange.gc.ca/onetonne) or call 1-800 O-Canada.

## Estimated Energy Consumption by End Use

All houses lose heat to the outdoors during the heating season through air leakage, ventilation (e.g. exhaust fans in bathrooms and kitchen) and the transfer of heat through the basement, walls, roof, windows and doors. Lost heat must be replaced by your main heating device (furnace, boiler, fireplace, etc.). This is called space heating. Generally, space heating, domestic hot water, and lights and appliances make up most of the energy consumption in a house.

Figure 1 shows the breakdown of space heating, domestic hot water, and lights and appliances for your house.

Figure 1. Energy Consumption Estimates by End Use

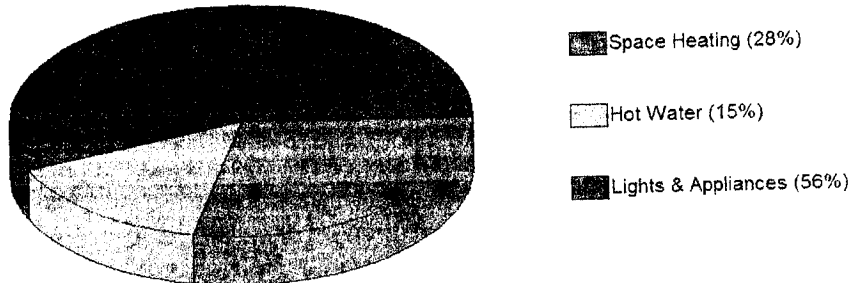
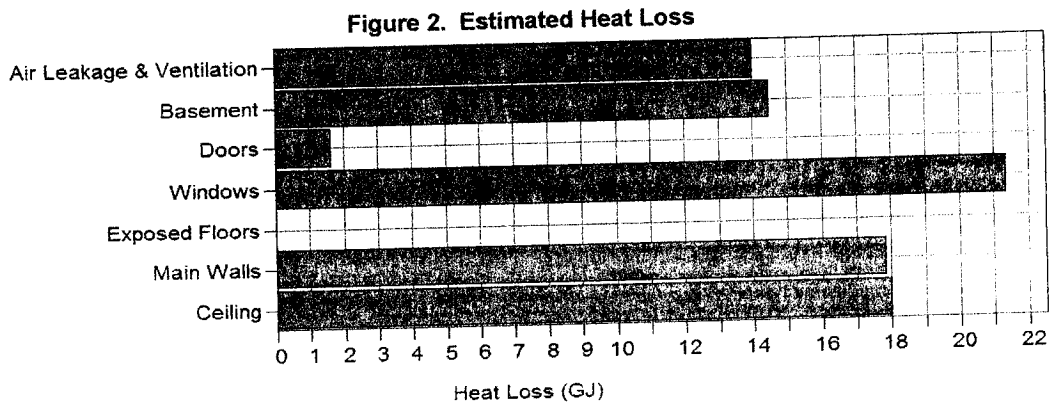


Figure 2 shows how the energy for the "space heating" segment shown in Figure 1 actually gets used in the heating of your home. A long bar indicates where your house will lose more heat; a short bar indicates where it will lose less heat. If you decide to renovate your home, look at the long bars on this graph and consider improving those areas.



### Maintenance tip

The building envelope is made up of a house's exterior walls, basement, exposed floors, ceilings, windows, roofs and doors. As houses age in Canada's severe climate, tiny cracks open in the building envelope. Any future renovations you undertake may also affect your house's building envelope. Since increased air leakage through cracks or holes decreases your house's energy efficiency and the comfort of the occupants, keep this in mind over time so that you can protect your investment.

## Energy Savings Tips for Your New Home

Just like anything else you value, houses need to be maintained with care and repaired whenever problems appear. A well-maintained house will pay you back with reduced energy costs and greater comfort.

### Heating equipment

Have your space- and water-heating equipment serviced annually. If you have a forced-air heating system, clean or replace your furnace filter every month, or as required.

### Ventilation systems

If you have a heat recovery ventilation system, remember to clean the filter, core and grills regularly. Natural Resources Canada's publication entitled *Heat Recovery Ventilator* has a chapter on how to maintain it properly. You can call 1 800 387-2000 to order a free copy or visit [oee.nrcan.gc.ca/publications](http://oee.nrcan.gc.ca/publications) and look under "Heating and Cooling."

### Water heating

Lower your water-heater thermostat setting from 60°C (140°F) to 55°C (130°F). It will save you money on your water-heating bill and help prevent accidental scalding.

### Energy-efficient lighting

When replacing lights, install energy-efficient lighting. Energy-efficient bulbs, such as ENERGY STAR® compact fluorescents, last longer and reduce electricity consumption.

### Energy-efficient appliances, home electronics and office equipment

When purchasing appliances, home electronics and office equipment, look for those displaying the ENERGY STAR® mark, the international symbol for energy efficiency. An ENERGY STAR® labelled computer in "sleep" mode consumes about 80 percent less electricity than it does in full-power mode. ENERGY STAR® labelled home electronics equipment uses less than half as much energy in standby mode (i.e. when turned "off") - without sacrificing features you want. For more information, go to [energystar.gc.ca](http://energystar.gc.ca).

## Notice to Homeowner

Thank you for having your house examined by a qualified energy advisor working with EnerGuide for New Houses (EGNH). The file number relating to the independent energy evaluation is indicated in this report and on the EGNH rating label provided by your builder.

The annual energy consumption figures indicated in Table 1 of this report and on the EGNH rating label are estimates only. They are based on a number of assumptions (listed on page 2 of this report) and depend on factors beyond the control of Natural Resources Canada (NRCAN). NRCAN makes no warranty, expressed or implied, with respect to the energy consumption figures included in this report.

The energy data collected in the course of preparing this report have been provided to NRCAN for the purposes of statistical analysis and quality assurance. NRCAN representatives may contact you during their quality assurance of the EGNH initiative.

The purpose of EGNH is to assess the energy efficiency of new homes. It does not replace a home inspection.

The Government of Canada developed and financially supports the EGNH initiative. This support helps service organizations provide the EGNH service to homeowners and homebuilders.

*(please print)*

Service organization name: Homestead Building Solutions  
Address: RR #1, McDonalds Corners, Ontario

Phone number: 613-278-0467

Date of evaluation: 15/05/2006

House address: 1196 Dwyer Hill Road, Ottawa, ON

EGNH house file number: 5513N00214

The information below must identify the name of the owner of the home at the time the final EnerGuide evaluation is performed. If the homeowner has not taken legal possession of the home from the builder by the date of the evaluation, the builder's authorized representative may complete this section.

*(please print)*

Homeowner name: \_\_\_\_\_

Phone number: \_\_\_\_\_

Signature: \_\_\_\_\_

H2Kv9.3-Jun2005

## Home Builder Agreement

A qualified energy advisor working with EnerGuide for New Houses (EGNH) has examined the house at the address indicated below. The date and file number relating to the independent energy evaluation are indicated below.

By signing below, the builder commits to:

- providing the first owner of the house at the address given below with the EGNH rating label and report (pages 1-5) for this home; and
- having the "Notice to Homeowner" section of the EGNH report signed by the party who owns the home at the time of the evaluation and ensuring that the service organization receives a copy of completed waivers.

The builder also authorizes the service organization to forward the energy assessment data collected as a result of the EGNH evaluation to Natural Resources Canada for the purpose of statistical analysis and quality assurance.

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Phone number: 613-278-0467

House address: 1196 Dwyer Hill Road, Ottawa, ON

EGNH house file number: 5513N00214

Date of evaluation: 15/05/2006

Company name of builder: \_\_\_\_\_

Address: \_\_\_\_\_

Phone number: \_\_\_\_\_

Name of builder representative signing below: \_\_\_\_\_

Builder representative signature: \_\_\_\_\_

# HOUSE REPORT

**HOT2000**  
Natural Resources CANADA  
Version

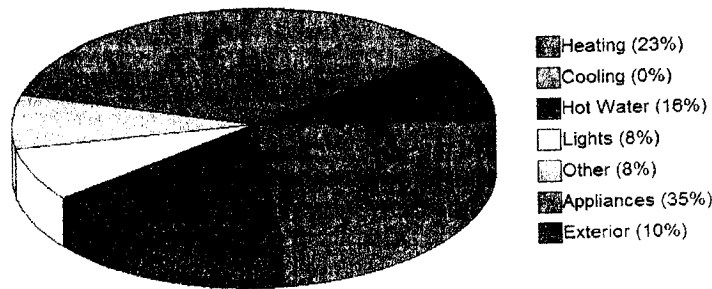


Client: **Moulton, Ray & Rebecca**  
Address: **1196 Dwyer Hill Road**  
City: **Ottawa**  
Province: **ONTARIO**  
Code: **K0A 0X0**  
Phone: **613-224-7000**

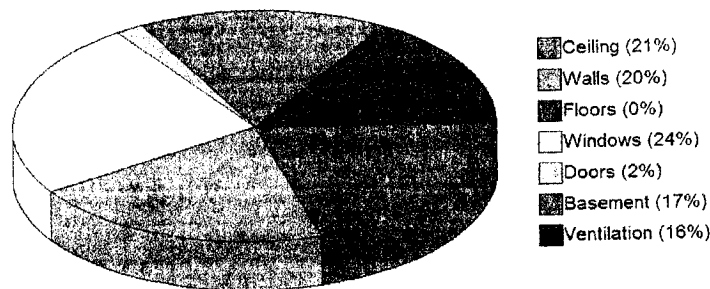
Audit Date: **5/15/2006**  
Auditor: **Ross Elliott**  
File ID: **5513N00214**

Your house was analysed using a computer program developed by Natural Resources Canada. The following charts show the components of yearly energy consumption and heat loss for your home.

## COMPONENTS OF ANNUAL ENERGY CONSUMPTION

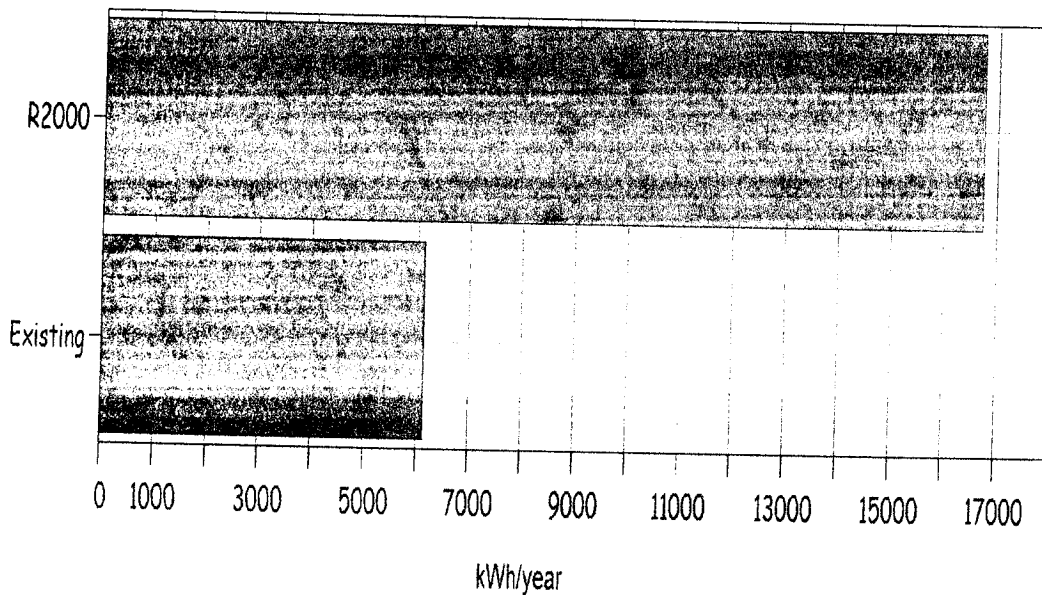


## COMPONENTS OF ANNUAL HEAT LOSS



Your house currently uses approximately 6134.5 kWh for space and hot water heating in an average year. The following chart illustrates the relationship between the energy used by your house and the energy used by an equivalent R2000 home.

**ANNUAL HEATING + HOT WATER ENERGY CONSUMPTION (kWh)**



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*****
*                                     *
*           HOT2000                   *
*         Version 9.31                 *
*           CANMET                     *
*   Natural Resources CANADA           *
*           Jul 22, 2005               *
*****

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File = 5513N00214.HSE

Application type : EnerGuide for Houses

Weather Data for OTTAWA, ONTARIO

Ventilation

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House Volume	Air Change	Heat Loss Mil.BTU	% Annual Heat Loss
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22662.0 Ft3	.179 ACH	9.694	11.85

\*\*\* AIR LEAKAGE AND VENTILATION \*\*\*

Building Envelope Surface Area = 6285.4 Ft2  
 Air Leakage Test Results at 50 Pa. (0.2 in H2O) = .27 ACH  
 Equivalent Leakage Area @ 10 Pa. = 11.7 in2

"As operated" Blower Door C, n 4.89644E-03 .5842

Terrain Description	Height	Ft
@ Weather Station : Open flat terrain, grass	Anemometer	32.8
@ Building site : Suburban, forest	Bldg. Eaves	14.0

Local Shielding- Walls: Heavy  
 Flue : Light local shielding

Leakage Fractions - Ceiling: .300 Walls: .500 Floors: .200

Normalized Leakage Area @ 10 Pa. = .0019 in2/ft2  
 Estimated Airflow to cause a 5 Pa Pressure Difference = 25 cfm  
 Estimated Airflow to cause a 10 Pa Pressure Difference = 40 cfm

\*\*\* F326 VENTILATION REQUIREMENTS \*\*\*

Kitchen, living, dining:	3 rooms @ 10.6 cfm	= 31.8 cfm
Utility rooms:	1 rooms @ 10.6 cfm	= 10.6 cfm
Bedrooms:	1 rooms @ 21.2 cfm	= 21.2 cfm
Bedrooms:	2 rooms @ 10.6 cfm	= 21.2 cfm
Bathrooms:	3 rooms @ 10.6 cfm	= 31.8 cfm
Other habitable rooms:	1 rooms @ 10.6 cfm	= 10.6 cfm
Basement Rooms:		.0 cfm

\*\*\* ANNUAL SPACE HEATING SUMMARY \*\*\*

Design Heat Loss at -13.0 F	= 1.53 BTU/hr/Ft3	= 34673. BTU/hr
Gross Space Heat Loss		= 81.774 Mil.BTU
Gross Space Heating Load		= 81.774 Mil.BTU
Usable Internal Gains		= 23.294 Mil.BTU
Usable Internal Gains Fraction		= 28.5 %
Usable Solar Gains		= 20.953 Mil.BTU
Usable Solar Gains Fraction		= 25.6 %
Auxiliary Energy Required		= 37.526 Mil.BTU
Space Heating System Load		= 37.526 Mil.BTU
Heat Pump and Furnace Annual COP		= 3.067
Heat Pump Annual Energy Consumption		= 11.552 Mil.BTU
Furnace/Boiler Annual Energy Consumption		= .000 Mil.BTU
Annual Space Heating Energy Consumption		= 11.552 Mil.BTU

\*\*\* ANNUAL DOMESTIC WATER HEATING SUMMARY \*\*\*

Daily Hot Water Consumption	= 49.5 Imp Gal /day
Hot Water Temperature	= 131.0 F
Estimated Domestic Water Heating Load	= 15.259 Mil.BTU
PRIMARY Domestic Water Heating Energy Consumption	= 8.031 Mil.BTU
PRIMARY System Seasonal Efficiency	= 190.0 %

\*\*\* BASE LOADS SUMMARY \*\*\*

	kwh/day	Annual kWh
Interior Lighting	3.0	1095.0
Appliances	14.0	5110.0
Other	3.0	1095.0
Exterior use	4.0	1460.0
HVAC fans		
HRV/Exhaust	1.4	504.4
Space Heating	.5	199.9
Space Cooling	.0	.0
Total Average Electrical Load	25.9	9464.3

\*\*\* ENERGUIDE ENERGY CREDITS \*\*\*

Energy Efficient Lighting Credits		
Kitchen		110. kWh
Main hallway		70. kWh
Living room		65. kWh
Total Energy credits included in target		245. kWh

\*\*\* FAN OPERATION SUMMARY (kWh) \*\*\*

Hours	HRV/Exhaust Fans	Space Heating	Space Cooling
Heating	504.4	199.9	.0
Neither	.0	.0	.0
Cooling	.0	.0	.0
Total	504.4	199.9	.0

\*\*\* ENERGUIDE FOR HOUSES ENERGY CONSUMPTION SUMMARY REPORT \*\*\*

Estimated Annual Space Heating Energy Consumption	=	12907. MJ	=	3585.3 kWh
Ventilator Electrical Consumption: Heating Hours	=	1816. MJ	=	504.4 kWh
Estimated Annual DHW Heating Energy Consumption	=	8473. MJ	=	2353.7 kWh
ESTIMATED ANNUAL SPACE + DHW ENERGY CONSUMPTION	=	23197. MJ	=	6443.5 kWh
ENERGUIDE RATING (0 to 100)				88
EnerGuide Required Ventilation Capacity				106.9 cfm
Estimated Greenhouse Gas Emissions		8110. kg/Year		

\*\*\* ESTIMATED ANNUAL FUEL CONSUMPTION SUMMARY \*\*\*

Fuel	Space Heating	Space Cooling	DHW Heating	Appliances	Total
Electricity (kWh)	4089.7	.0	2353.7	8760.0	15203.5

\*\*\* ESTIMATED ANNUAL FUEL CONSUMPTION COSTS \*\*\*

Fuel Costs Library = C:\ALLHOT OLDER VERSIONS\HOT2XP261\DAT\HBS FUELLIB.FLC

RATE	Electricity (Perth05)	Natural Gas (Ottawa05)	Oil (Ottawa05)	Propane (Ottawa97)	Wood (Perth05)	Total
\$	1796.60	.00	.00	.00	.00	1796.60

\*\*\* ESTIMATED FUEL COSTS (Dollars) \*\*\*

	Electricity	Natural Gas	Oil	Propane	Wood	Total
Jan	218.91	.00	.00	.00	.00	218.91
Feb	186.25	.00	.00	.00	.00	186.25
Mar	170.67	.00	.00	.00	.00	170.67
Apr	137.49	.00	.00	.00	.00	137.49
May	116.07	.00	.00	.00	.00	116.07
Jun	111.81	.00	.00	.00	.00	111.81
Jul	114.12	.00	.00	.00	.00	114.12
Aug	113.82	.00	.00	.00	.00	113.82
Sep	111.01	.00	.00	.00	.00	111.01
Oct	135.46	.00	.00	.00	.00	135.46
Nov	170.18	.00	.00	.00	.00	170.18
Dec	210.81	.00	.00	.00	.00	210.81
Total	1796.60	.00	.00	.00	.00	1796.60

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Energy units: MIL.BTU = Million British Thermal Units (3413 BTU = 1 kWh)

The calculated heat losses and energy consumptions are only estimates, based upon the data entered and assumptions within the program. Actual energy consumption and heat losses will be influenced by construction practices, localized weather, equipment characteristics and the lifestyle of the occupants.