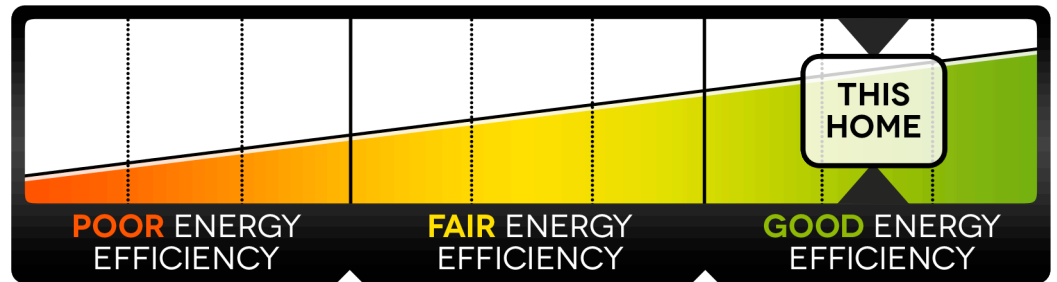


# INTERNACHI HOME ENERGY INSPECTION

FOR 1234 ALL STREETS



ESTIMATED YEARLY ENERGY COSTS: **\$1,202** PER YEAR

Dear Client,

This house has been scored on a scale of 1 to 100. A 100 would represent a home with perfect energy performance whereas a 1 would represent a home that needs significant energy upgrades. You can use this score to compare homes. A higher score generally means a lower energy bill and a more efficient home (with less of an environmental impact).

In order to generate your Home Energy Inspection Report, I conducted a brief walk-through of the home and collected about 45 data points related to energy.

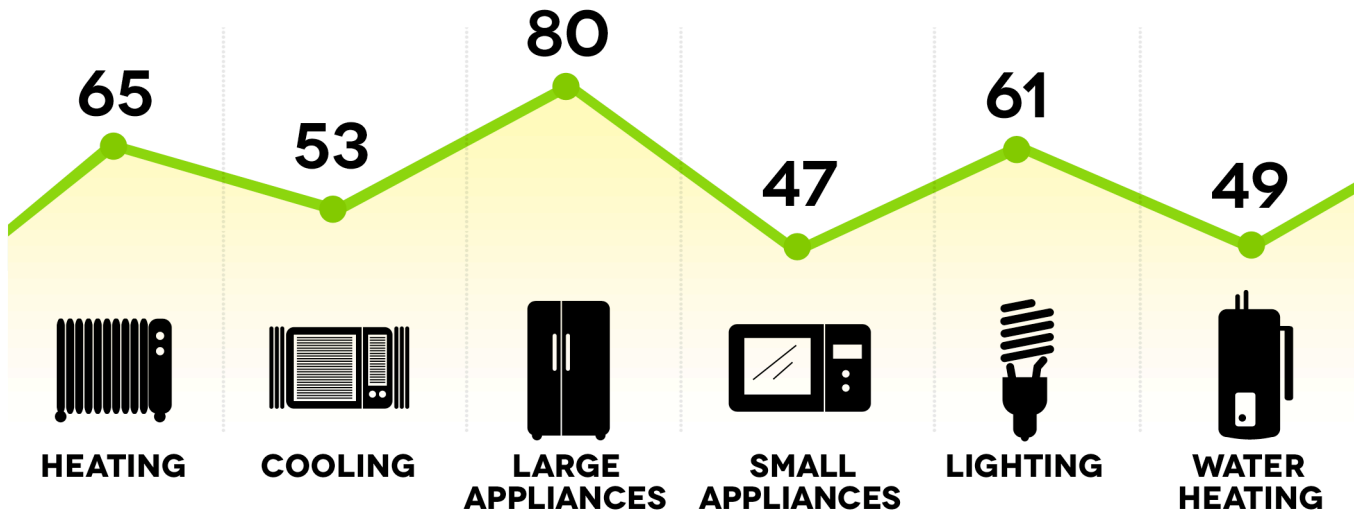
I then used an advanced energy calculator developed by the International Association of Certified Home Inspectors in collaboration with Lawrence Berkeley National Laboratory and the U.S. Department of Energy to:

- estimate the home's yearly energy usage,
- pinpoint potential energy inefficiencies,
- calculate a score based on these estimations, and
- develop recommendations for energy improvements.

On the following pages you will find information about the efficiency of major systems in the home, and recommendations for upgrades.

# OVERVIEW OF MAJOR COMPONENTS

Along with scoring your home as a whole, we have calculated a score for each major component of the home. This information is helpful for determining the source of energy inefficiencies, and can help prioritize upgrades in the future.



## ESTIMATIONS

We have also estimated the operating cost of each component and calculated the potential yearly savings from upgrading that component (recommendations included later in this report).

COMPONENT	ESTIMATED COST	AFTER UPGRADES	POTENTIAL SAVINGS
<b>Heating</b>	\$289	\$247	\$42
<b>Cooling</b>	\$41	\$41	\$0
<b>Large Appliances</b>	\$427	\$307	\$120
<b>Small Appliances</b>	\$132	\$132	\$0
<b>Lighting</b>	\$147	\$51	\$96
<b>Water Heating</b>	\$166	\$87	\$79
<b>Total</b>	\$1,202	\$865	\$337

# DETAILED ENERGY USAGE

All calculations are based on detailed estimations of home energy usage. This table is particularly useful when pricing energy sources.

		CURRENT	AFTER UPGRADES	POTENTIAL SAVINGS	REDUCTION
Whole House	Energy Bill	\$1,202	\$865	\$337	28%
	Electricity	6,584 kWh	4,087 kWh	2,497 kWh	38%
	Natural Gas	543 Therms	459 Therms	84 Therms	16%
	Emissions	18,742 CO2	13,062 CO2	5,680 lb. CO2	30%
Heating	Energy Bill	\$289	\$247	\$42	15%
	Electricity	56 kWh	56 kWh	0 kWh	0%
	Natural Gas	290 Therms	247 Therms	43 Therms	15%
	Emissions	3,494 lb. CO2	2,991 lb. CO2	503 lb. CO2	14%
Cooling	Energy Bill	\$41	\$41	\$0	0%
	Electricity	400 kWh	400 kWh	0 kWh	0%
	Emissions	753 lb. CO2	753 lb. CO2	0 lb. CO2	0%
Hot Water	Energy Bill	\$166	\$87	\$79	48%
	Natural Gas	170 Therms	89 Therms	81 Therms	47.6%
	Emissions	1,986 lb. CO2	1,040 lb. CO2	946 lb. CO2	48%
Large Appliances	Energy Bill	\$427	\$307	\$120	28%
	Electricity	3,393 kWh	1,834 kWh	1,559 kWh	46%
	Natural Gas	83 Therms	123 Therms	-40 Therms	-48%
	Emissions	7,359 lb. CO2	4,894 lb. CO2	2,465 lb. CO2	34%
Small Appliances	Energy Bill	\$132	\$132	\$0	0%
	Electricity	1,290 kWh	1,290 kWh	0 kWh	0%
	Emissions	2,429 lb. CO2	2,429 lb. CO2	0 lb. CO2	0%
Lighting	Energy Bill	\$147	\$51	\$96	65%
	Electricity	1,445 kWh	507 kWh	938 kWh	65%
	Emissions	2,721 lb. CO2	955 lb. CO2	1,766 lb. CO2	65%

## YEARLY HEATING AND COOLING RESULTS

Total Cost	
<b>Cost</b>	\$330
<b>Heating</b>	\$289
<b>Cooling</b>	\$41

Total Energy	
<b>Energy Use</b>	\$746
<b>Heating</b>	\$346
<b>Cooling</b>	\$400

Notes: This house is 0% heated by wood fuel.  
100% of the floor area is heated and 100% cooled.

Heating electricity values include fan or pumping energy for homes that have forced-air or water-based heating systems powered by circulation pumps.

## YEARLY LARGE APPLIANCES AND WATER HEATING RESULTS

Appliance	Total Cost
<b>First Refrigerator</b>	\$109
<b>Stove</b>	\$37
<b>Oven</b>	\$24
<b>Clothes Dryer</b>	\$149
<b>Clothes Washer</b>	\$59
<b>Dishwasher</b>	\$49
<b>Hot Water: Taps and Faucets</b>	\$166
<b>Totals</b>	\$593

Equipment energy is the energy used by motors, heating elements, and burners inside your appliances. This number excludes the energy consumed by your water heater to supply hot water for appliances such as clothes washers and dishwashers (which is included instead in the rows for those appliances).

## YEARLY SMALL APPLIANCES RESULTS

Appliance	Energy Use	Total Cost
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<b>Entertainment</b>	345 kWh \$35
<b>Home Office</b>	361 kWh \$37
<b>Miscellaneous Kitchen</b>	464 kWh \$47
<b>Other Appliances</b>	120 kWh \$12

## YEARLY LIGHTING RESULTS

Room	Energy Use	Energy Costs
<b>All Bathrooms</b>	101 kWh	\$10.3
<b>All Bedrooms</b>	34 kWh	\$3.47
<b>Dining Room</b>	120 kWh	\$12.24
<b>Family Room</b>	77 kWh	\$7.85
<b>Garage</b>	75 kWh	\$7.65
<b>Hall</b>	57 kWh	\$5.81
<b>Kitchen</b>	104 kWh	\$10.61
<b>Living Room</b>	91 kWh	\$9.28
<b>Master Bedroom</b>	34 kWh	\$3.47
<b>Outdoor Lighting</b>	120 kWh	\$12.24

## DETAILED UPGRADE RECOMMENDATIONS

### Upgrade Package Summary:

<b>Estimate Yearly Bill Savings:</b>	\$337
<b>Estimated Lifetime Energy Savings:</b>	\$4044
<b>Estimated Added Cost:</b>	\$184
<b>Maximum Price for 10 Year Payback:</b>	\$2754
<b>Return on Investment:</b>	36%
<b>Upgrade Pays for Itself in:</b>	3 year(s)

### We recommend the following upgrades:

- When replacing your electric clothes dryer, switch to natural gas model
- Replace high use incandescent lamps with compact fluorescent lamps
- When replacing your gas water heater, choose an energy efficient model

- When replacing your clothes washer, choose an ENERGY STAR-labeled model
- Install a programmable thermostat

## WHEN REPLACING YOUR ELECTRIC CLOTHES DRYER, SWITCH TO NATURAL GAS MODEL

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### Economic Benefits:

<b>Estimate Yearly Bill Savings:</b>	\$87
<b>Estimated Lifetime Energy Savings:</b>	\$1044
<b>Estimated Added Cost:</b>	\$160
<b>Maximum Price for 10 Year Payback:</b>	\$870
<b>Return on Investment:</b>	54%
<b>Upgrade Pays for Itself in:</b>	2 year(s)

### Additional Benefits:

Natural gas clothes dryers reduce your home's peak load on the power grid compared to an electric dryer.

### Upgrade Description:

When replacing your electric clothes dryer, select a natural gas model. In many situations, this will reduce your overall energy bill because natural gas tends to cost less than electricity, for the same heating value.

Note: Our calculations bill savings, typical upgrade costs, and cost-effectiveness are for a minimum-efficiency natural gas dryer model. The default upgrade cost provided here assumes that a natural gas connection is available at your clothes dryer. If this is not the case, be sure to include the cost of extending

### Purchasing Tips:

- To use a gas dryer, your laundry room must have a gas hookup, with proper connections and safe venting of the gas's exhaust, in addition to an electrical outlet
- Look for a dryer with a moisture sensor, and use the dryness settings rather than timed drying.
- When replacing your clothes washer, choose a model with high-speed spin cycles. This feature removes more water from clothes, which reduces the energy and time required for drying.

## More Information:

- [General Information from DOE](#)
- [Laundry tips from ACEEE](#)
- [Information from the California Energy Commission](#)

## REPLACE HIGH USE INCANDESCENT LAMPS WITH COMPACT FLUORESCENT LAMPS

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### Economic Benefits:

<b>Estimate Yearly Bill Savings:</b>	\$52
<b>Estimated Lifetime Energy Savings:</b>	\$624
<b>Estimated Added Cost:</b>	\$88
<b>Maximum Price for 10 Year Payback:</b>	\$520
<b>Return on Investment:</b>	52%
<b>Upgrade Pays for Itself in:</b>	2 year(s)

### Additional Benefits:

Fluorescent lamps last several times longer than ordinary incandescent bulbs, which saves you the time and expense of replacing bulbs when they burn out.

### Upgrade Description:

Replace high-use incandescent lamps with compact fluorescent lamps. These units can save up to 75% of the energy used by an ordinary incandescent bulb.

### Purchasing Tips:

- Compare the light output in Lumens of the bulb you are replacing to ensure you are using the appropriate CFL. Most CFLs list their light output and equivalent incandescent wattage on their package.
- CFLs are available in many shapes and sizes, which will allow replacing nearly any incandescent bulb.
- When buying new light fixtures, look for ENERGY STAR qualified models.
- CFLs are a good investment for lights that are used 2-3 hours per day on average or more.

## More Information:

- [ENERGY STAR qualifying lighting product list](#)
- [General information about lighting from DOE](#)

## WHEN REPLACING YOUR GAS WATER HEATER, CHOOSE AN ENERGY EFFICIENT MODEL

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### Economic Benefits:

<b>Estimate Yearly Bill Savings:</b>	\$45
<b>Estimated Lifetime Energy Savings:</b>	\$540
<b>Estimated Added Cost:</b>	\$170
<b>Maximum Price for 10 Year Payback:</b>	\$450
<b>Return on Investment:</b>	26%
<b>Upgrade Pays for Itself in:</b>	4 year(s)

### Additional Benefits:

Efficient gas-fired water heaters may hold their temperature longer following power interruptions and operate more safely.

### Upgrade Description:

When replacing your gas water heater, choose an energy-efficient model with an Energy Factor of 0.62 or higher.

Note: Our calculations bill savings, typical upgrade costs, and cost-effectiveness assume the efficient water heater has an energy factor of 0.62 and recovery efficiency of 0.76. Higher efficiency units are available, and would provide additional energy savings.

### Purchasing Tips:

- The most important measure of efficiency for water heaters is the Energy Factor EF. The higher the EF, the more efficient the water heater.
- Purchase a water heater whose tank is internally insulated with at least R-16. <sup>5</sup>
- A water heater that is too large for your home not only has a higher purchase cost but will increase your energy costs due to excessive cycling and standby losses. The resources below provide good, simple guidance on proper sizing of water heaters. The size, or "capacity", of a fuel-fired water heater should be judged by its first hour rating FHR, not its tank size. Due to larger burners, some gas water

heaters with smaller tanks actually have higher capacities FHRs than models with larger tanks.

- Many types of water heaters are now available, such as "demand" tankless, "indirect" or "integrated", and solar-assisted water heaters. [More Information](#)
- New and/or efficient gas water heaters may have different venting and flue requirements. When replacing your water heater make sure your contractor assesses your existing flue, follows new code requirements for venting water heaters, and obtains necessary permits and inspections. <sup>3</sup>

### More Information:

- [General Information from DOE](#)
- [DOE Water Heating fact sheet](#)
- [Top-Rated Energy-Efficient Water Heaters from ACEEE](#)
- [GAMA consumer's directory click on "Consumers"](#)
- [How to prevent health and safety problems with combustion equipment](#)

## WHEN REPLACING YOUR CLOTHES WASHER, CHOOSE AN ENERGY STAR-LABELED MODEL

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### Economic Benefits:

<b>Estimate Yearly Bill Savings:</b>	\$46
<b>Estimated Lifetime Energy Savings:</b>	\$552
<b>Estimated Added Cost:</b>	\$180
<b>Maximum Price for 10 Year Payback:</b>	\$460
<b>Return on Investment:</b>	24%
<b>Upgrade Pays for Itself in:</b>	4 year(s)

### Additional Benefits:

ENERGY STAR® clothes washers can reduce water use significantly, leave the clothes drier thus reducing drying time and energy consumption, and reduce wear and tear on clothes.

### Upgrade Description:

When replacing your clothes washer, choose an ENERGY STAR-labeled model. ENERGY STAR clothes washers can reduce energy consumption by up to 70% and are available in top-loading and front-loading designs. Some ENERGY STAR models

use up to 50% less water in addition to saving energy.

Note: Our calculations bill savings, typical upgrade costs, and cost-effectiveness are for a model with the lowest efficiency that qualifies for the ENERGY STAR label.

## Purchasing Tips:

- Choose a clothes washer with high-speed spin cycles. This feature removes more water from clothes, which reduces the energy and time required for drying.
- Select a low water-use, high efficiency washer. Front-loading tumble-action washers can cut energy use by up to 70 percent, reduce water consumption significantly, and may actually get clothes cleaner. <sup>1</sup>
- Look for pre-soaking and/or "suds saver" options which conserve energy.
- Clothes washers come with [EnergyGuide](#) yellow and black labels. Use these labels to select the most efficient model for the capacity you have chosen.

## More Information:

- [ENERGY STAR clothes washer product list](#)
- [General Information from DOE](#)
- [Top-Rated Energy-Efficient Clothes Washers from ACEEE](#)

## INSTALL A PROGRAMMABLE THERMOSTAT

### Economic Benefits:

<b>Estimate Yearly Bill Savings:</b>	\$42
<b>Estimated Lifetime Energy Savings:</b>	\$504
<b>Estimated Added Cost:</b>	\$320
<b>Maximum Price for 10 Year Payback:</b>	\$420
<b>Return on Investment:</b>	10%
<b>Upgrade Pays for Itself in:</b>	8 year(s)

### Additional Benefits:

Programmable thermostats can help keep your home more comfortable.

### Upgrade Description:

Install an ENERGY STAR labeled programmable thermostat, and program it to

change the temperature settings when you are away from home and at night. EPA estimates that ENERGY STAR-labeled programmable thermostats can save consumers 10-15% on heating and cooling bills when used properly. Note: Our calculations bill savings and cost-effectiveness assume that the heating-season set-point is decreased 4 degrees F during the day 9 am to 5 pm and at night 11 am to 7 pm, while the cooling-season set-point is increased 3 degrees F during those same periods. Larger set-point adjustments can provide additional bill savings.

### **Purchasing Tips:**

- Some programmable thermostats have a "smart" feature designed to maximize energy savings. These thermostats continually monitor usage patterns in order to determine the best time to turn the system on in order to reach the desired temperature setting, while minimizing energy use.

### **More Information:**

- [ENERGY STAR thermostat product list](#)
- [General Information](#)