

# Introducing Transparency and Rationality into the Home Buying Process A RESNET Policy Proposal October 2013

Published by:



Residential Energy Services Network, Inc.  
<http://resnet.us>

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# Introduction

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## **HERS® Index scores and a new formula that accounts for energy efficiency in assessing housing financing will bring transparency and rationality to the housing market.**

The Residential Energy Services Network (RESNET) is an independent, nonprofit membership corporation that is recognized as the national standards-making body for building energy efficiency rating and certification systems in the United States.

Founded in 1995 by representatives of the national mortgage industry; the National Association of State Energy Officials; and Energy Rated Homes of America, RESNET's mission is to develop national standards for home energy ratings and to create a market for home energy rating systems and energy mortgages.

The lack of information available to consumers regarding the energy performance of homes is a significant issue for American homebuyers as well as U.S. economic strength and national energy security. To address this issue, RESNET supports a mandatory requirement for Home Energy Rating System (HERS) Index Scores for all homes, new and existing, financed through a federal mortgage program, such as Fannie Mae, Freddie Mac, the Federal Housing Administration (FHA) or the Department of Veterans' Affairs (VA). RESNET believes this will lead to greater transparency in the marketplace and allow homebuyers and mortgage financiers to include energy efficiency and have a better understanding of the energy performance of the home.

A second, equally important problem affecting American homeowners are current mortgage underwriting practices that ignore energy (and cost) saving features in homes. This lack of rationality in the mortgage process creates obstacles for homeowners with moderate to middle incomes to finance energy efficiency improvements, which would save them significant amounts of money over the long term. RESNET fully supports the initiative put forward by the Sensible Accounting to Value Energy (SAVE) Act, which proposes a new formula for determine housing affordability. Action by Congress is not necessary to implement this. This could be handled by an administrative order or by the private sector itself.

The new calculation will account for a home's expected energy cost savings when calculating the value and affordability of energy efficient homes. The adoption of a new formula will bring rationality and a greater flexibility as to how mortgages are calculated in the U.S. housing market.

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# A. Problem: A Challenging Climate for Homebuyers and Increasing the Energy Efficiency of America's Housing Stock

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***A lack of transparency and rationality in the housing market and mortgage industry is hurting homeowners and buyers and retarding the improving the energy efficiency of homes.***

Increasing energy costs and a struggling economy are forcing Americans to change the way they purchase and finance their homes. Most homebuyers are already aware that buying a house means more than just paying the mortgage. What they want to know is the true affordability of homes they are viewing, which also means taking into consideration what the running costs would be.

For homeowners, as money gets tighter, they are looking for ways to cut costs, including solutions that help reduce their energy bills. The money saved through energy efficiency improvements can then be put towards paying off their mortgages.

RESNET has established that the main barriers to achieving these goals are the lack of transparency and rationality in the real estate and mortgage industries. These two sectors fail to appreciate the value of energy efficient features in homes, and the energy savings that they deliver. This makes it difficult for homebuyers to compare homes based on energy performance and in the case of homeowners, to finance energy efficiency improvements to their existing homes.

- Recent studies show that mortgage default risks are, on average, 32 percent lower for energy efficient homes with lower HERS Index scores.
- Residential buildings are responsible for the largest primary use of energy in the United States at 20 percent.
- Energy efficiency improvements add value to existing homes.

The failure to acknowledge the benefits of energy saving features affects not only homeowners and buyers, but also has a direct economic impact on the construction, remodeling, and manufacturing sectors. These industries, already struggling in a weak economic climate, are unable to benefit from any increase in business that would otherwise be generated by homeowners investing in energy efficient retrofits.

Since homes represents a significant use of primary energy in the U.S. it is also a lost opportunity in terms of achieving significant energy savings.

Other sectors such as automobile and home appliance manufacturers, for example, understand that consumers are increasingly engaged in comparison-shopping for products based on their efficiency. Whether it is MPG (miles-per-gallon) stickers for cars or Energy Guide labels for appliances, these industries have responded to consumer demand for transparency (see Appendix 1).

The European Union recognized this need for transparency in the housing market. All member nations have required that a building must receive an energy rating and issued a rating label at the time of sale or new occupancy. This requirement has not disrupted the housing market. For an example of transparency in the housing market in France see Appendix 3.

This trend is beginning to emerge in the U.S. Already communities in Arkansas, Colorado, Kansas, Massachusetts and New York require that new homes are rated and display the homes' HERS Index Score at the time they go on the market.

## 2. Proposed Solution: The Energy Rating and Labeling of Homes on the Market and a New Formula for Determining Housing Affordability

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### *The HERS Index Score allows for informed home buying.*

Requiring a HERS Index Score for all homes financed through federal mortgage programs like Fannie Mae, Freddie Mac, FHA and VA will create real transparency for homebuyers.

Currently over 250,000 homes are rated and issued a HERS Index Score each year. Over 1.3 million homes in the nation have been issued a HERS Index Score.

Already communities in Arkansas, Colorado, Kansas, Massachusetts and New York require that all new homes are energy rated and post the HERS Index Score at the time of listing.

Over 150 state and local governments across the United States from Fayetteville, Arkansas to Boston, Massachusetts are making HERS Index Scores a performance compliance option as a part of their building energy code.

In addition Multiple Listing Services (MLS) in Colorado, Illinois, Minnesota, Nebraska, Oklahoma and Washington includes a HERS Index Score in their listings. The MLS is a critical tool is transparency in the market place. Realtors use it to identify homes for prospective buyers and appraisers in identifying comparable properties for the appraisal.

The HERS Index, created by RESNET, is the nationally recognized measuring system for inspecting and calculating a home's energy performance. Based on the results of a HERS energy rating, a home is graded by a HERS Index Score that indicates how energy efficient it is compared to other, similar homes. By comparing HERS Index scores for different houses, buyers can make more informed decisions about the affordability of homes they are viewing (see Appendix 2). In many ways, it is similar to the auto industry's miles-per-gallon (MPG) sticker or the Energy Guide for appliances.

- A HERS Index Score is calculated through a HERS energy rating, which measures a home's energy performance.

- The data is compared against a reference home – a designed model home of the same size and shape as the actual home. This reference home is assigned a HERS Index Score of 100 and conforms to current state energy codes.
- Homes with scores lower than 100 are deemed more energy efficient than the reference home (and therefore the state energy code), while those with scores above 100 are classified as not being energy efficient.
- The Department of Energy has determined that a typical U.S. resale home scores 130 on the HERS Index, making it 30 percent less energy efficient than the reference home.

Home Energy Ratings are conducted by home energy performance specialists who are trained, tested and certified according to the national standards established by RESNET. Home Energy Raters must comply with stringent standards of practice and code of ethics. They are also subject to quality control oversight and must follow a consumer complaint resolution process.

Mandating the energy rating and labeling of a home's energy performance for homes financed through federal supported mortgages does not require Congressional action. This can be implemented through administrative action since the federal government now owns Fannie Mae and Freddie Mac.

Government action, however, is not necessarily required. In the 1990's the mortgage industry mandated a home and terminate inspection as a prerequisite to a home receiving mortgage financing. Since energy is the highest cost of housing outside of the mortgage loan the requirement for transparency of the energy performance of a home can be done by the mortgage industry.

### *Introducing energy efficiency into the equation when determining housing affordability.*

A formula that takes into account energy savings as well as fixed costs would provide a more accurate guideline by which to determine housing affordability. The formula would be as follows:

**Principal + Interest + Taxes + Insurance – Monthly Energy Savings (PITI-ES)  
= TOTAL COST**

The University of North Carolina's Center for Community Capital and the Institute for Market Transformation (IMT) released a report titled Home Energy Efficiency and Mortgage Risks on March 19, 2013, which sheds new light on the role played by energy efficiency in determining the risk factor for financing homes.

The report clearly shows that by making energy efficient upgrades to their homes, homeowners were able to save a significant amount of money, which they could then use to pay down their mortgages.

It was found that:

- Default risks are 32 percent lower, on average, for energy efficient homes as compared to standard homes.
- Borrowers financing energy efficient homes were one-quarter less likely to prepay their mortgages.

The results were consistent across a wide variety of factors including:

- Size of home
- Age of home
- Median neighborhood income
- Borrower credit score
- Loan – to – Value Ratio
- House value
- Loan Type

The report was based on a study that examined loan performance data, supplied by CoreLogic, the lending industry's leading source for such information. A sample of 71,000 ENERGY STAR and non-ENERGY STAR-labeled single-family home mortgages rated by certified RESNET Home Energy Raters, compiled from across 38 states and the District of Columbia, were examined, taking into account factors such as loan, household and neighborhood characteristics. RESNET supplied both the addresses and the homes' HERS Index scores to the University of North Carolina for the purposes of this study. The report also showed that lower HERS Index Scores translated into even lower default risks.

The Home Energy Efficiency and Mortgage Risks study can be downloaded at <http://www.resnet.us/library/lower-mortgage-risks-with-energy-efficient-homes/>

One way for consumers to finance energy efficient improvements at competitive mortgage rates (rather than high commercial credit ones) would be through energy efficient mortgages. Although these have been available for decades they have not been used due to the following reasons:

1. Fully valuing the monthly energy savings in the mortgage loan.
2. Tighter mortgage qualification rules (which do not recognize energy efficiency).
3. Lack of information about the link between energy efficient homes, lower energy costs and mortgage default risks.
4. The complicated process involved in applying for – and getting - an energy efficient mortgage.
5. Poorly developed lender guidance and benefits.

Crediting energy efficiency improvements when determining housing affordability could help make energy efficient mortgages far more accessible to consumers than they are now.

The SAVE Act, introduced by Senators Bennet (D-CO) and Isakson (R-GA) on June 6<sup>th</sup>, 2013, proposes to include a home's expected energy savings into the equation when determining the value and affordability of energy efficient homes. This will go a long way to improving federal mortgage underwriting practices as they now stand.

Congressional action is not, however, required to implement this change. This could be accomplished by administrative action.

Along with the SAVE Act, the results of the report issued by the Center for Community Capital and IMT, can help form the basis for a change in how mortgages are calculated and housing affordability is determined.

### 3. Benefits: Greater Transparency and Rationality in the Housing Market

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*HERS Index Scores and a new mortgage formula will deliver transparency and rationality to the housing market.*

Introducing HERS Index Scores and energy savings into the home buying process will not only benefit buyers and homeowners, but also those industries associated with the housing market. In addition, a new formula for determining housing affordability that accounts for energy efficiency savings will significantly improve the accuracy of current mortgage pricing as well as increasing underwriting flexibility:

**Principal + Interest + Taxes + Insurance – Monthly Energy Savings [PITI-ES]  
= TOTAL COST**

Some of benefits of these measures will include:

- Driving job growth in the construction and manufacturing sectors.
  - Energy efficient homes would become more affordable, which would increase demand. This would directly benefit the construction, remodeling, and manufacturing sectors.
  - The SAVE Act is expected to create 83,000 jobs and provide \$1.1 billion in energy savings.
- Enabling homebuyers to make informed buying decisions when comparison-shopping for homes based on energy performance.
  - Homebuyers would better understand the affordability and running costs of homes they are considering buying.
- Allowing homeowners to obtain the underwriting flexibility needed to finance the modest additional cost of energy efficiency features.
  - This would give homeowners access to money-saving benefits of energy efficiency without increasing the cost of homeownership.
  - The result would be increased affordability for moderate to middle income borrowers.
- Allowing homebuilders and owners to recover the cost of energy efficiency investments at the closing table.
- Creating more secure mortgages.
  - Homeowners could put the money saved on energy bills towards their mortgage payments.
- Lower energy bills for homeowners.

- On average, U.S. homeowners pay approximately \$2,500 on annual home energy bills.
  - Investing in energy efficiency upgrades could reduce a homeowner's energy bills by up to 30 percent.
- Reducing U.S. energy consumption, dependence on imported energy and environmental pollution.
    - A typical household will waste 30 percent more energy annually than one that is energy efficient.
- No government funding required at either state or federal level.
    - The Federal Reserve System places the current value of U.S. housing stock at approximately \$14.5 trillion. Even if only 2 percent of that were used to fund energy efficiency improvements, it would still cost nearly \$300 billion – far beyond the funding capability of state or federal organizations.
    - By making it easier for homeowners to get energy mortgages, and benefit from energy savings within their current mortgages, energy efficiency improvements can be financed through the marketplace.

Bringing transparency and rationality to the housing market is long overdue. Inflexible mortgage underwriting and appraisal procedures place obstacles in the paths of homeowners who want to invest in cost-saving energy efficient improvements. In addition, while consumers across the United States are able to make informed buying choices for appliances and cars based on energy performance, it is far more difficult for them to do so when purchasing a home.

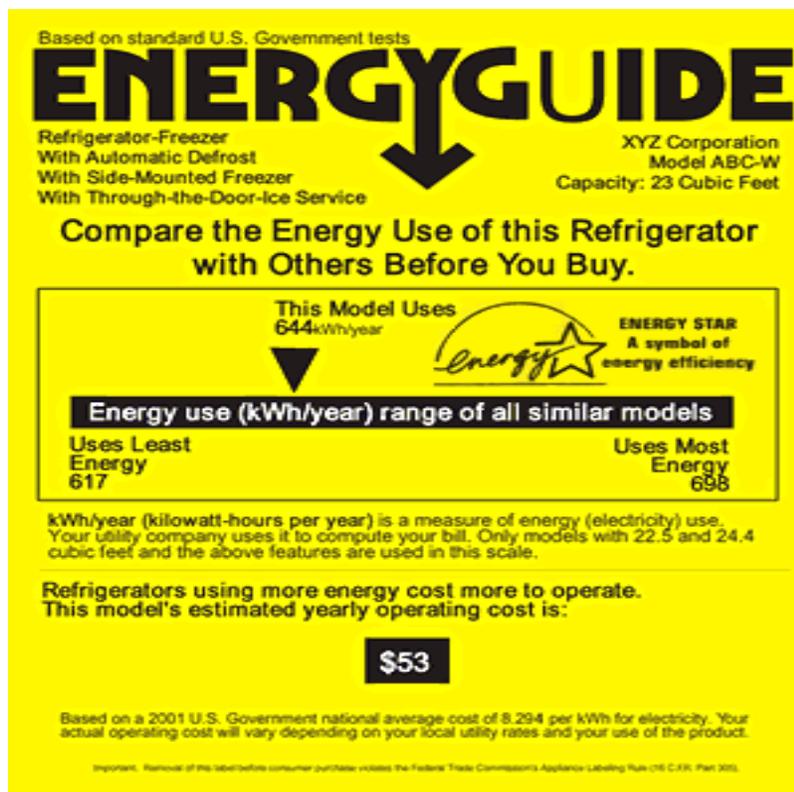
RESNET strongly supports the introduction of these measures and believes their positive effects should not be underestimated. Consumers will benefit from improved quality of life and increased financial savings, leading to growth in the economy. The construction, remodeling, and energy efficiency sectors in particular, would profit from business growth and job creation. And, last but not least, it would allow the United States to reaffirm its status as a leading partner in global energy efficiency issues.

# Appendix 1: ENERGYGUIDE and MPG Labels

## EnergyGuide labels for home appliances.

All major home appliances must meet the standards set by the Appliance Standards Program, which was developed by the U.S. Department of Energy (DOE). Manufacturers have to put their products through a set of standard test procedures to determine their energy use and efficiency. The test results are shown on the yellow EnergyGuide label, which manufacturers are required to display on many appliances. The EnergyGuide label allows consumers to see:

- An estimate of how much energy the appliance uses
- A comparison with the energy use of similar products
- Approximate annual operating costs



# Miles-per-gallon (MPG) fuel economy measurement for new cars.

The miles-per-gallon label is an estimate of the distance in miles that a vehicle can travel on one gallon of fuel. Automobile manufacturers will use this statistic to market their vehicles based on fuel efficiency. Car manufacturers will generally conduct their own series of tests to measure fuel economy using pre-production vehicle prototypes. The tests are carried out under controlled conditions using a standardized test procedure as specified by federal law. The results are sent to the Environmental Protection Agency (EPA). The EPA will review the results and normally confirm 10-15 percent of them by conducting their own tests at the National Vehicles and Fuel Emissions Laboratory.



**PRIUS 4-DOOR    HYBRID GAS/ELEC SDN**

VIN:  MODEL/YEAR: 1222A/2001  
 COLOR: ELECTRIC GREEN /GRAY (06R4/95)

**STANDARD FEATURES**

<p><b>MECHANICAL &amp; PERFORMANCE</b></p> <ul style="list-style-type: none"> <li>- 1.8L, 4CYL, TWIN-CAM, 16VALVE ENGINE</li> <li>- TOYOTA HYBRID SYS., INCLUDES HYBRID TRANSAKLE, INVERTER &amp; HV BATTERY</li> <li>- 2 PERMANENT MAGNET MOTOR GENERATORS</li> <li>- FRONT WHEEL DRIVE</li> <li>- ELECT. CONTROLLED CONTINUOUSLY VARIABLE TRANSMISSION (CVT)</li> <li>- POWER RACK AND PINION STEERING</li> <li>- POWER FRONT DISC BRAKES</li> <li>- INDEPENDENT FRONT SUSPENSION</li> <li>- MACPHERSON STRUT TYPE</li> <li>- 175/65R14 RADIAL TIRES</li> </ul> <p><b>SAFETY</b></p> <ul style="list-style-type: none"> <li>- REGENERATIVE ANTI-LOCK BRAKE SYSTEM (ABS)</li> <li>- DRIVER/PASSENGER AIR BAG (SRS)</li> <li>- 3-POINT SEAT BELTS WITH PRETENSIONERS &amp; FORCE LIMITERS</li> </ul>	<ul style="list-style-type: none"> <li>- KEYLESS ENTRY AND SECURITY SYSTEM W/ ENG IMMOBILIZER</li> </ul> <p><b>EXTERIOR</b></p> <ul style="list-style-type: none"> <li>- ALUMINUM ALLOY WHEELS (4)</li> <li>- REAR SPOILER</li> <li>- COLOR-KEYED BUMPERS, DOOR HANDLES, AND DUAL POWER OUTSIDE MIRRORS</li> </ul> <p><b>COMFORT &amp; CONVENIENCE</b></p> <ul style="list-style-type: none"> <li>- AUTOMATIC CLIMATE CONTROL</li> <li>- LIQUID CRYSTAL VEHICLE INFORMATION DISPLAY</li> <li>- POWER WINDOWS AND DOOR LOCKS</li> <li>- AM/FM CASSETTE W/4 SPEAKERS</li> <li>- FRONT CUPHOLDER</li> <li>- CABIN FILTRATION SYSTEM</li> <li>- CENTER CONSOLE BOX</li> <li>- INTERMITTENT WINDSHIELD WIPERS</li> <li>- ADJUSTABLE FRONT HEADRESTS</li> <li>- REAR WINDOW DEFOGGER W/TIMER</li> </ul> <p style="text-align: center;">*** FULL TANK OF GAS ***</p>
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**MANUFACTURER'S SUGGESTED RETAIL PRICE    \$19,995.00**

**OPTIONAL EQUIPMENT**

FE 50 STATE EMISSIONS	70.00
CF. CARPET FLOOR MATS	

Compare this vehicle to others in the **FREE FUEL ECONOMY GUIDE** available at the dealer.

CITY MPG

# 52



HIGHWAY MPG

# 45

Actual Mileage will vary with options, driving conditions, driving habits and vehicle's condition. Results reported to EPA indicate that the majority of vehicles with these estimates will achieve between

44 and 60 mpg in the city, and between 38 and 52 mpg on the highway.

\*INFORMATION NOT AVAILABLE AT TIME OF VEHICLE PRODUCTION.

2001 PRIUS 4-CYL., 1.8 LITER DISP., VVT-I, DOHC, EFI ENGINE, AUTOMATIC VARIABLE GEAR RATIO TRANSMISSION.

Estimated Annual Fuel Cost: \$ 421

For Comparison Shopping, all vehicles classified as **COMPACT** have been issued mileage ratings ranging from \*\* to \*\*\* mpg city and \*\* to \*\*\* mpg highway.

DELIVERY, PROCESSING AND HANDLING FEE    455.00

**TOTAL    \$20,520.00**

TOYOTA'S LIMITED WARRANTY COVERS TRACTION BATTERY/SPECIFIC HYBRID COMPONENTS 8 YEARS/100,000 MILES; COMPREHENSIVE 3/36,000; POWERTRAIN 5/60,000; CORROSION PERFORATION 6/UNLD. SEE WARRANTY INFORMATION BOOKLET FOR SPECIFIC INFO.

An extended service contract may be available for this vehicle. Ask dealer for details.

238K60 377 WC E0568 0000 128

DEALER NAME/ADDRESS:    SHIP TO:

PORT/PLANT:    PORTLAND

22019

Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service, gasoline, license and title fees, applicable federal, state and local taxes and dealer and distributor installed options and accessories are not included in the manufacturer's suggested retail price.

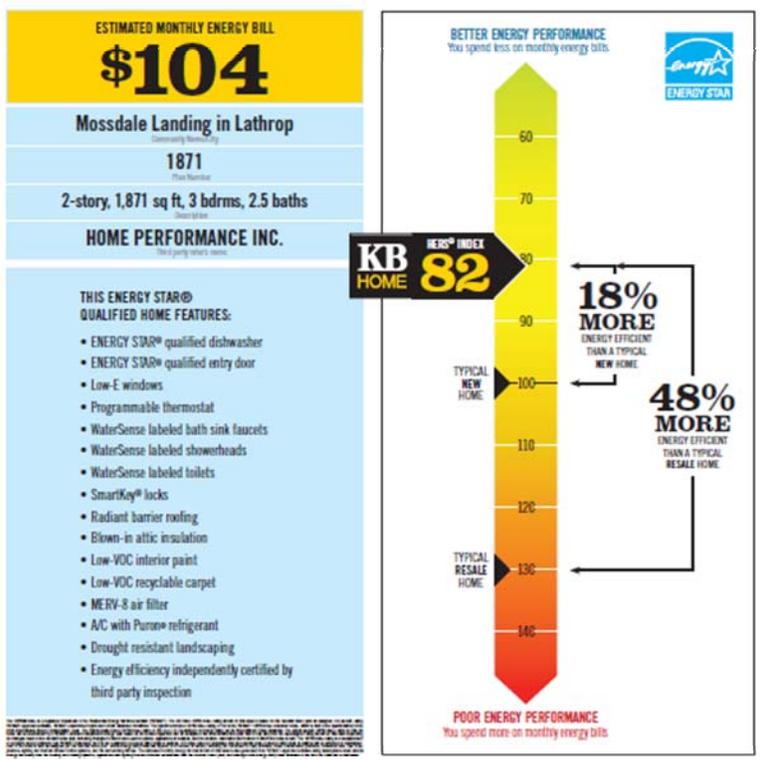
# Appendix 2: HERS Index Scores

To calculate a home's HERS Index Score, a certified RESNET Home Energy Rater conducts a home energy rating and compare the data against a 'reference home' – a design modeled home of the same size and shape as the actual home, so the HERS Index Score is always relative to the size, shape and type of house you live in. Essentially, the lower the number, the more energy efficient the home.

The U.S. Department of Energy has determined that a typical resale home scores 130 on the HERS Index while a standard new home is rated at 100.

- A home with a HERS Index Score of 70 is 30% more energy efficient than a standard new home.
- A home with a HERS Index Score of 130 is 30% less energy efficient than a standard new home.

Developed by the Residential Energy Services Network and introduced in 2006, the HERS Index is the industry standard by which a home's energy efficiency is measured.



# Appendix 3: Example of Transparency of Energy Performance of Home for Sale in France

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Home energy performance labeling has been a standard practice in Europe for a number of years. They are typically found alongside all the other information given regarding homes for sale.

The following are real estate listings in France. The bottom left of each listing is the home energy rating issued to the property.



**SPLENDIDE PROPRIÉTÉ: 670 000€**

Dans un village résidentiel cette belle demeure parfaitement rénovée offre beaucoup d'avantages. Accès immédiat à l'autoroute A13, vous serez à **Paris en moins de 45 minutes** et en moins de 10 minutes à la gare de Vernon. Vous serez séduit par l'authenticité et le raffinement de la bâtisse principale d'environ 200 m<sup>2</sup>. Les deux maisons d'amis de 52 et 28 m<sup>2</sup> offrent un hébergement supplémentaire important. **Magnifique parc arboré de 8467 m<sup>2</sup>.**

Réf: 2001133

**Energy Rating: A**

Classe	Consommation (kWh/m <sup>2</sup> /an)
A	≤ 45
B	46 - 55
C	56 - 65
D	66 - 75
E	76 - 85
F	86 - 95
G	96 - 105

