HOME ENERGY PERFORMANCE AUDIT

Audit generated by Home Energy Performance – Mobile Software by Qreative Medias Ltd.

Date: 28/02/2011 Audit ref: Report 1 Audit type: Full Performance Audit	Building type: House Total Heated Floor Area: 2000 ft² (square foot) Region: Michigan(MI)

This report presents the results of an audit carried out by using the software Home Energy Performance. This score is calculated according to the parameters entered during the audit. The rating of the home audited ranges on a scale from A + (highest efficiency) to G- (the lowest rating).

For two homes with the same floor area, if the dwelling is rated from D to G, some retrofit work should be considered to reduce widely the energy bills. If the home is rated between A and C, the home is more efficient than average, which is an asset in the event of resale or rental. More the house is close to G more it is possible to improve it and gain value on it.

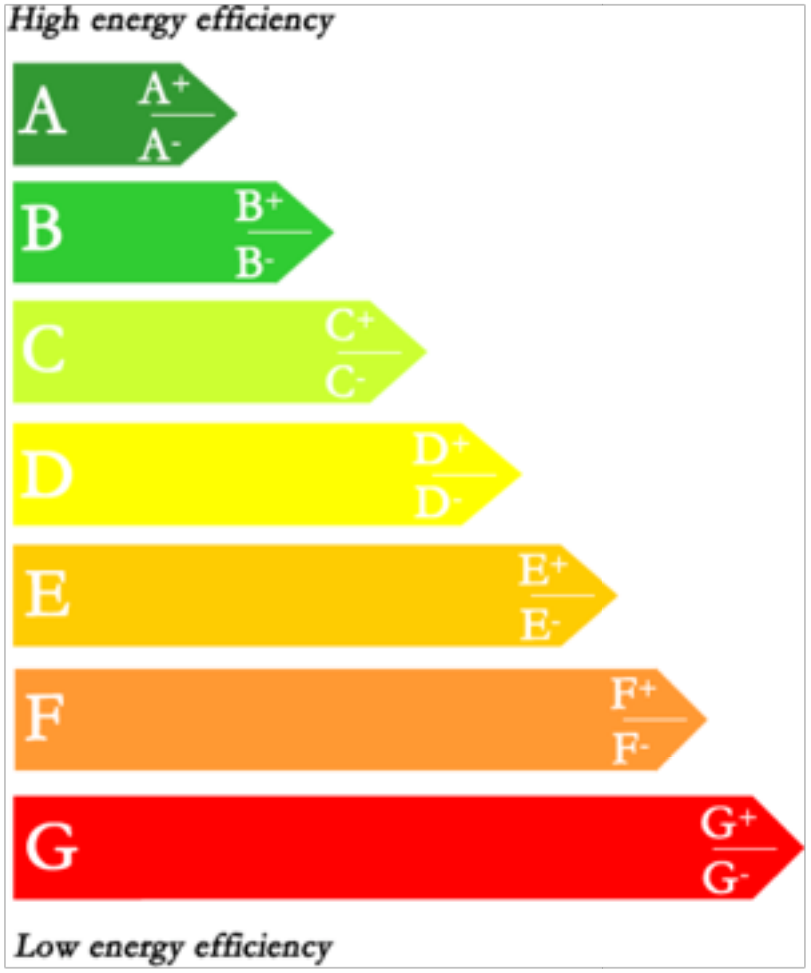
Housing audited using Home Energy Performance generate a score with an accuracy that can be considered as Good with a "Quick Audit" and Excellent with a "Full Audit". Accuracy in regards to local regulations. These PDF reports and energy labels can be used as reference document for project specifications, preparation of sales property, prospect, or planning a retrofit project.

The rating displayed is compliant with the local regulations. For US, the application has been developed from the recommendations of the Environmental Protection Agency's ENERGY STAR program and the U.S. Department of Energy's Building America Program. For European countries and the United Kingdom, the application has been developed from the directive 2002/91/EC of the European Parliament and of the council of 16 December 2002 on the energy performance of buildings. For Australia, Asia and Americas, the rating is generated under local recommendations.

The regulation imposes today an audit to be certified must be performed by a professional surveyor. If you need a regulatory outcome, you should call a professional. This report cannot be considered as certified. For even more personalised advices and recommendations, HEP is also a community, a forum and a news channel. You will find us as "Home Energy Performance" on Facebook, Linkedin and Twitter our news broadcast "HomeEnergyPerf".

Energy Efficiency Rating

The Energy Efficiency Rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is.
On average, the rating score assessed in your Region is E+.



RATING

The building audited is rated:
B (B+)
31

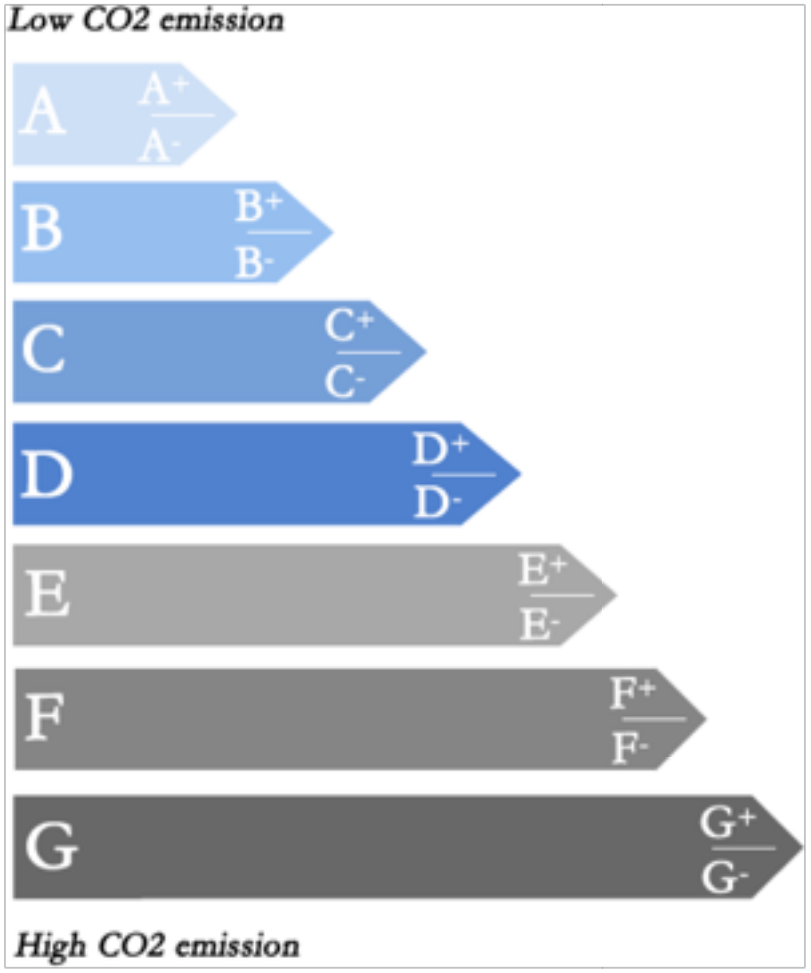
For two homes with the same floor area, if the dwelling is rated from D to G, some retrofit work should be considered to reduce widely the energy bills and secure the asset value.
If the home is rated between A and C, the home is more efficient than average, which is an asset in the event of resale or rental. More the house is close to G more it is possible to improve it and gain value on it.

These ratings have been generated by Home Energy Performance, Mobile application. These ratings are not certified. The regulation imposes today an audit to be certified must be performed by a professional surveyor. If you need a regulatory outcome, you should call a professional.

The result depends of your Region. For US, the rating is generated under the recommendations of the Environmental Protection Agency's ENERGY STAR program and the Department of Energy's Building America Program.
For European countries and the UK, the rating is generated under the directive 2002/91/EC.
For Australia, Asia and Americas, the rating is generated under local recommendations.

Environmental Impact Rating

The Environmental Impact Rating is a measure of a home's impact on the environment in terms of Carbon Dioxide (CO2) emissions.
The higher the rating the less impact it has on the environment.



RATING

The building audited is rated:
C (C+)

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The result depends of your Region. For US, the rating is generated under the recommendations of the Environmental Protection Agency's ENERGY STAR program and the Department of Energy's Building America Program.
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For Australia, Asia and Americas, the rating is generated under local recommendations.

Energy Performance Audit: About the building audited

Profile
Region: Michigan(MI)
Climate: Temperate continental
Altitude: < 400m
Building Type: House
Total heated floor area: 2000 ft² (square foot)

Building
Common party walls: Attached on 3 sides
Shape of the building: Compact
Number of heated floors: 2
Average ceiling height: 260cm
Wall structure type: Dense concrete (35 to 45cm), Plain Brick (30 to 40cm), standard Perforated brick (15 to 20cm), Double brick with cavity (20cm), Stone (40 to 60cm), Wood (15cm)
South facing: Large south side unglazed
South Facing Shading: No shaded South side (Full exposure to sunlight)
Conservatory: On North side with Double glazing

Insulation
Roof: Insulation 40cm (16 inches)
Wall: External insulation 15cm (6 inches)
Windows: Triple glazing
Window Shutters: None
Door: Solid door insulated or protected by an airlock
Ventilation: Double-flux controlled forced-draught ventilation
Bottom Floor: On underground cellar
Floor & Thermal bridges: Concrete floor and thermal bridges

Energy: Consumption & Production
Central heating:: District heating by mixed gas / fuel and sustainable energy
Programming and Control: External probe control, programming timer
Insulation: Insulated water heater and boiler, uninsulated pipes
Secondary heating: Heat pump
Back-up heating: Ethanol / Alcohol
Hot Water: Solar + High efficiency heat pump
Air conditioning: High efficiency geothermal heat pump, little use
Sustainable energy: Small domestic-sized Wind power (production over 1000kWh per year)

Recommendations to improve the building audited

The following points penalise the Rating of this home. We recommend you should review the following features of your building to improve this Home Energy Performance and therefore reducing the bills & costs, improving the asset value and decreasing the impact on the environment.	As from the information entered, we highlight the features that are improving the Home Energy Performance of your building.
- Average ceiling height - Back-up heating - Air conditioning	- Common party walls - South Facing Shading - Roof - Wall - Windows - Ventilation - Bottom Floor - Central heating - Programming and Control - Hot Water - Sustainable energy

Home Energy Performance News and community

The team HEP publishes a continuous media broadcasting on Twitter and also runs Facebook & Linkedin pages to allow all users to share their projects, ask questions, etc. ...
Home Energy Performance offers a Facebook page "Home Energy Performance", Linkedin "Home Energy Performance", and a media-news on Twitter "HomeEnergyPerf".

Information, discussion, question, community:

Connect with us on Facebook: Home Energy Performance

Live 24/7 News from the team of Home Energy Performance:

Follow us on Twitter: HomeEnergyPerf Home Energy Performance supports the Energy Star program and the Energy Saving Trust.

About the Home Energy Performance Mobile Application

HEP is a software for mobile devices that simplify the home energy audit.
Our application Home Energy Performance is meant to be an everyday tool for professionals who demand a reliable, quality and fast tool to allow a strong added value to their products, design projects or real estate clients.

Everyday, thousands of demanding Professionals and Homeowners use HEP: Architects, Real Estate Agents, Builders, Installers ... small or large businesses.

HEP is sold in many countries, we regularly update the software to ensure our users the reliability of the documents generated in regards to the local regulations but also to integrate new features & ergonomics.

Installers, Architects, Interior Designers, Owners, Real Estate Professionals, the importance of being aware of issues concerning "Green and passive house" allows you to make the most of the market developments in coming years.

With the increase of 100% of household energy bills since 2000 and a similar trend expected for the next 10 years, taking into account the Energy Saving Housing will not only secure the value of the asset, but in short term to reduce the gas and electricity bill.

In the current economic climate, it makes sense to ensure that the operating costs of the house where you live, you're about to buy, or you design are as low as possible. This can also reduce emissions of carbon dioxide.
You should know that even today we see newly built homes that result in poorly rated Energy Score, which will result in retro-fit investments of several thousand Dollars/Pounds the next 10 years just to keep up with the new market standards.
In most countries, as part of agreements on climate change, from 2014/2015, new homes will be Energy Rated "A, B or C".
This means that the attractiveness of tens of millions of existing homes will be challenged by these newly built efficient housing and adapted to modern lifestyles.

About the building's performance ratings

The ratings in the audit provide a measure of the building's overall energy efficiency and its environmental impact, calculated in accordance with a national methodology that takes into account factors such as insulation, heating and hot water systems, ventilation and fuels used.

The average Home Energy Performance rating in your country is band E.

Not all buildings are used in the same way, a Home Energy Performance Audit use 'standard occupancy' assumptions which may be different from the specific way the use of the building. We therefore recommend to provide a global audit by performing a Consumption Audit, also included in the software Home Energy Performance.

Different methods of calculation are used for homes and for other buildings.

Buildings that are more energy efficient use less energy, save money and help protect the environment. A building with a rating of A+ would cost almost nothing to heat and light and would cause almost no carbon emissions.

The recommendations of this report describe how close this building could get to A+ if all the effective recommended improvements were implemented.

About the impact of buildings on the environment

One of the biggest contributors to global warming is carbon dioxide. The way we use energy in buildings causes emissions of carbon.

The energy we use for heating, lighting and power in homes produces over 25% of the total carbon dioxide emissions.

The average household causes about 6 tonnes of carbon dioxide every year. Adopting the recommendations in this report can reduce emissions and protect the environment.

You could reduce emissions even more by switching to renewable energy sources.

In addition there are many simple every day measures that will save money, improve comfort and reduce the impact on the environment, such as:
• Check that your heating system thermostat is not set too high (in a home, 21°C in the living room is suggested) and use the timer to ensure you only heat the building when necessary.
• Make sure your hot water is not too hot - a cylinder thermostat need not normally be higher than 60°C.
• Turn off lights when not needed and do not leave appliances on standby. Remember not to leave chargers (e.g. for mobile phones) turned on when you are not using them.

Further sources of information:
CE 30 Domestic heating by gas: boiler systems.
CE 101 Domestic energy efficiency primer.
Energy Efficiency Commitment BREDEM calculation of energy saving matrix, BRE.
Domestic Energy Fact File, BRE.
Family Expenditure Survey, 2003-2004, ONS.