

# Energy Performance Certificate

# Scotland

Non-Domestic buildings and buildings other than dwellings

**Firhill Court, 150 Firhill Road, Glasgow G20 7BB**

**Date of assessment:** 18 February 2015  
**Date of certificate:** 16 June 2015  
**Total conditioned area:** 8127.03m<sup>2</sup>  
**Primary energy indicator:** 1272 kWh/m<sup>2</sup>/yr

**Reference Number:** 9152-3802-3453-0800-8891  
**Building type:** Universities/college  
**Assessment Software:** EPCgen, v4.1.e.5  
**Transaction Type:** Marketed sale

## Building Energy Performance Rating

Excellent



Net Zero Carbon or better

(0-15)

A

(16-30)

B

(31-45)

C

(46-60)

D

(61-80)

E

(81-100)

F

(100+)

G

Current

225

Potential

79

Very Poor

**Approximate Energy Use:**

436 kWh per m<sup>2</sup> per year

**Approximate Carbon Dioxide Emissions:**

225.18 kgCO<sub>2</sub> per m<sup>2</sup> per year

The building energy performance rating is a measure of the effect of a building on the environment in terms of carbon dioxide (CO<sub>2</sub>) emissions. The better the rating, the less impact on the environment. The current rating is based upon an assessor's survey of the building. The potential rating shows the effect of undertaking all of the recommended measures listed below. The Recommendations Report which accompanies this certificate explains how this rating is calculated and gives further information on the performance of this building and how to improve it.

## Benchmark

A building of this type built to current building regulations at the date of issue of this certificate would have a building energy performance rating of:



C

## Recommendations for the cost-effective improvement of energy performance

1. Replace tungsten GLS lamps with CFLs: Payback period dependent on hours of use.
2. Add time control to heating system.
3. Consider replacing T8 lamps with retrofit T5 conversion kit.
4. Add optimum start/stop to the heating system.

There are additional improvement measures applicable to this building. Refer to the Recommendations Report.



The Green Deal may allow you to make your building warmer and cheaper to run at no up-front capital cost. See your Recommendations Report for more details.

**THIS PAGE IS THE ENERGY PERFORMANCE CERTIFICATE WHICH MUST BE AFFIXED TO THE BUILDING AND NOT BE REMOVED UNLESS REPLACED WITH AN UPDATED CERTIFICATE.**

## Background

This section provides additional information regarding the building and your energy assessment.

Building type:	C2 Residential Institutions - Universities and colleges
Total useful floor area:	8127m <sup>2</sup>
Main heating fuel:	GridSuppliedElectricity
Building Environment:	HeatingandNaturalVentilation
Renewable energy source:	Heat pumps
Electricity:	Grid supplied

The Recommendations Report provides additional information in support of your Energy Performance Certificate. It was produced in line with the Government's approved calculation methodology and is based upon output from DesignBuilder Software Ltd, DesignBuilder SBEM, v4.2.0, SBEM, v4.1.e.5.

This calculates energy used in the heating, hot water provision, lighting and ventilation of your building. Different fuels produce different amounts of carbon dioxide for every kilowatt hour (kWh) of energy used. The calculation methodology therefore applies fuel emission factors to energy use for each fuel used to give an overall rating for your building. This assessment covers all fixed building services but excludes energy used in portable appliances, office equipment and for industrial processes.

As buildings can be used in different ways, energy use is calculated using standard occupancy assumptions which may be different from the way you use your building. The rating also uses national weather information to allow comparison between the performance of similar buildings in different parts of Scotland.

Further information on the assessment process and approved software tools can be found online at: [www.scotland.gov.uk/epc](http://www.scotland.gov.uk/epc).

## Recommendations for improvement

This section lists the improvement measures recommended on your Energy Performance Certificate and further action you can take to improve the performance of your building. These measures have been checked by your assessor as being appropriate for your building and are listed under four headings: short payback period, medium payback period, long payback period and other improvement measures.

The calculation tool has automatically produced a set of recommendations which are reviewed by your assessor to ensure that they are relevant to the building and its use. The assessor may add or remove recommendations and may also have commented on the recommendations based upon their professional knowledge and expertise. This may include inserting additional recommendations or measures under 'other recommendations' (see below).

Note that these recommendations do not include advice on matters relating to the operation and maintenance of your building as such cannot be identified or represented within the calculation process.

### Implementing improvements - legal disclaimer.

The advice provided in this Recommendations Report is intended to be for information only. Recipients of this report are advised to seek further professional advice before making any decision on how to improve the energy performance of the building.

**Recommended measures with a short payback period (less than 3 years)**

Recommendations (short payback)	Potential Impact
Replace tungsten GLS lamps with CFLs: Payback period dependent on hours of use.	LOW
Add time control to heating system.	MEDIUM
Consider replacing T8 lamps with retrofit T5 conversion kit.	LOW
Add optimum start/stop to the heating system.	MEDIUM
The default heat generator efficiency is chosen. It is recommended that the heat generator system be investigated to gain an understanding of its efficiency and possible improvements.	LOW
Some walls have uninsulated cavities - introduce cavity wall insulation.	MEDIUM

**Recommended measures with a medium payback period (3 to 7 years)**

Recommendations (medium payback)	Potential Impact
Some windows have high U-values - consider installing secondary glazing.	MEDIUM
Introduce HF (high frequency) ballasts for fluorescent tubes: Reduced number of fittings required.	LOW
Add local temperature control to the heating system.	LOW
Add weather compensation controls to heating system.	MEDIUM
Add local time control to heating system.	MEDIUM
Carry out a pressure test, identify and treat identified air leakage. Enter result in EPC calculation.	MEDIUM
Some glazing is poorly insulated. Replace/improve glazing and/or frames.	MEDIUM
Consider installing an air source heat pump.	HIGH

**Recommended measures with a long payback period (more than 7 years)**

Recommendations (long payback)	Potential Impact
Consider installing a ground source heat pump.	HIGH
Some floors are poorly insulated - introduce and/or improve insulation. Add insulation to the exposed surfaces of floors adjacent to underground, unheated spaces or exterior.	MEDIUM
Consider installing building mounted wind turbine(s).	LOW
Consider installing solar water heating.	LOW
Consider installing PV.	LOW

## Other measures

This section lists other measures selected by your assessor based upon an understanding of the building and/or a valid existing Recommendations Report.

**Your assessor has not identified other measures for this building.**

## Payback period:

Payback periods are based upon data provided by Good Practice Guides and Carbon Trust energy survey reports and are average figures calculated using a simple payback method. It is assumed that the source data is correct and accurate, using up to date information.

They should be considered indicative. The figures have been calculated as an average across a range of buildings and may therefore differ from the actual payback period for the building being assessed. It is recommended that the cost effectiveness and payback of each suggested measure be further investigated before making any decision on how to improve the energy efficiency of your building.

## Carbon Impact:

Each measure is assigned a low, medium or high potential impact on the energy efficiency of your building. This relates to their potential to reduce carbon dioxide emissions arising from energy used in your building. For automatically generated recommendations, the carbon impact is determined by the approved software but may be adjusted by your assessor based upon their knowledge of the building. The impact of 'other recommendations' is determined by the assessor.

## Comparative assessment - Feed-in Tariff

Eligibility for standard tariff for solar PV under the DECC Feed-in Tariff initiative is contingent on a minimum energy efficiency requirement being met. This requires a building to have an EPC band of D or better. Further information can be found at: [www.decc.gov.uk/fits](http://www.decc.gov.uk/fits) This requirement is based upon the means of determining EPC band which is used in England & Wales.

**If calculated using this process, but using Scottish climate data, your building would currently have an EPC band of A+ (and a rating of -7777).**

## About this document

This report and the accompanying Energy Performance Certificate are valid for a maximum of ten years. These documents cease to be valid where superseded by a more recent assessment of the same building carried out by a member of an Approved Organisation.

Your Energy Performance Certificate and this Recommendations Report for this building were produced following an energy assessment undertaken by an assessor accredited by Quidos Ltd ([Information not provided by the user](#)), an Approved Organisation Appointed by Scottish Ministers. The certificate has been produced under the Energy Performance of Buildings (Scotland) Regulations 2008 from data lodged to the Scottish EPC register. You can verify the validity of this document by visiting [www.scottishepcregister.org.uk](http://www.scottishepcregister.org.uk) and entering the report reference number (RRN) printed at the top of this page.

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If you have any concerns regarding the content of this report or the service provided by your assessor you should in the first instance raise these matters with your assessor and with the Approved Organisation to which they belong. All Approved Organisations are required to publish their complaints and disciplinary procedures and details can be found online at the web address given above.

### Use of this energy performance information

This Certificate and Recommendations Report will be available to view online by any party with access to the report reference number (RRN) and to organisations delivering energy efficiency and carbon reduction initiatives on behalf of the Scottish and UK Governments. If you are the current owner or occupier of this building and do not wish this data to be used by these organisations to contact you in relation to such initiatives, please opt out by visiting [www.scottishepcregister.org.uk](http://www.scottishepcregister.org.uk) and your data will be restricted accordingly. Further information on this and on Energy Performance Certificates in general can be found at [www.scotland.gov.uk/epc](http://www.scotland.gov.uk/epc).

## Opportunity to benefit from a Green Deal on this property

The Green Deal may enable tenants and owners to make improvements to their property to make it more energy efficient, without having to pay for the work upfront. Under a Green Deal, the cost of the improvements is repaid over time via a credit agreement. Repayments are made through a charge added to the electricity bill for the property.

You can choose which improvements you want and ask for a quote from an authorised Green Deal provider. They will organise installation by an authorised Green Deal installer. If you move premises, the Green Deal charge stays with the property and the repayments pass to the new bill payer.

To find out more about the Green Deal visit [www.energysavingtrust.org.uk/scotland](http://www.energysavingtrust.org.uk/scotland) or contact 0808 808 2282.

## Opportunity to improve resource efficiency

Resource Efficient Scotland, a Scottish Government programme managed by Zero Waste Scotland, provides free, specialist advice and on-site support to help businesses and other organisations cut their energy, water and raw material costs.

To find out how you could benefit from improved resource efficiency visit [www.resourceefficientscotland.com](http://www.resourceefficientscotland.com) or contact 0808 808 2268.