

Open Data User Group (ODUG)
Energy Performance Certificate Data – A case for Open release
July 2013

Name of dataset: Energy Performance Certificates (EPC)

Summary

EPC data is collected for domestic and non-domestic properties during the sale (or rental) process and is collated on behalf of DCLG & DECC into the EPC Register by Landmark Information Group¹.

Today, no bulk file is generally available for EPC data with only a single lookup service publicly available. This prevents innovative organisations and individuals from creating ‘data mashups’ of energy efficiency with building address and other information.

With the launch of the Green Deal and the intention of start-ups and existing data service providers to help match up properties to providers of energy efficiency services, the lack of EPC data proves a limiting factor to a number of start-up organisations and major industries such as Utilities, Real Estate and Real Estate technology. Making the data available would drive innovation, efficiency and economic benefit in a number of areas. It would also assist with the National Carbon Agenda by tackling the 40% of energy consumption made by buildings.

The Open Data User Group recommend that DCLG & DECC work with Landmark Information Group to make EPC data for domestic and non-domestic properties available in a bulk format for download.

Context

Background

As a piece of information, the Energy Performance Certificate (EPC) can best be described as an energy efficiency rating for a building in a similar vein to the energy efficiency stickers that consumers would see on white goods.

This business case refers to two requests for EPC data from the Open Data Community. The first², asks for the release of bulk, downloadable data for all residential properties.

The second³ request asks for bulk, downloadable data for all Commercial (non-domestic) properties.

While the requests differ in some aspects, the general theme asks for the data to be made available for economic, social and environmental reasons.

¹ <https://www.epcregister.com/reportSearchAddressTerms.html?redirect=reportSearchAddressByPostcode>

² <http://data.gov.uk/data-requests/environmental-performance-certificates>

³ <http://data.gov.uk/data-requests/display-energy-certificates>

Domestic

Energy Performance Certificates were mandated for Domestic properties by the introduction of Home Information Packs (Part 5 of the Housing Act 2004) in England & Wales. In May 2010, the requirement for a full HIP (Home Information Pack) was suspended (and then repealed in January 2012) by the Government with the exception of the EPC. EPC data is collected as part of the property selling process for domestic properties by registered Domestic Energy Assessors (DEA). As part of this process, the floorplan is also collected. EPC data and floorplan are then published by Estate Agents on marketing literature (and online) as image files (JPEG).

This means that the domestic EPC data is already publicly available (albeit not in a single, national file) to the buyers and sellers of properties. However, if a property has not been sold in recent years, no EPC data will exist.

The collection of the EPC by a Domestic Energy Assessor normally costs around £25. By adding floorplans, the fee charged is increased to around £40. There is an obvious benefit for the DEA with the added value for Estate Agents and property websites of being able to access floorplans and EPCs from a single source.

The use of Domestic EPC data is currently very limited. It is only used within the property buying process but should certainly be used more heavily as part of the utilities (more specifically, Green Deal) and insurance markets. However, this is not possible without a bulk, open supply of data. DCLG have made an attempt to change this (via EPC Advisor⁴), but their website requires users to know their EPC reference number.

Non-Domestic

Non-domestic buildings and occupied spaces are also required to have an EPC within 28 days of any marketing activity beginning for the sale or rent of these buildings & spaces.

For non-domestic properties, the EPC is required at the point of construction, sale and rent and must be conducted by a registered non-domestic energy assessor. The eventual EPC rating must be lodged in the EPC register (maintained by Landmark Information Group) and, for all public buildings with a floor area greater than 500m², must be displayed prominently.

This Display Energy Certificate (DEC) for operational efficiency is a requirement of European Union Directive 2002/91/EC (which was transposed into British Law by the Housing Act 2004) and The Energy Performance of Buildings (Certificates and Inspections) (England and Wales) regulations 2007.

Currently, the EPC data for non-domestic buildings is used only as part of the property buying/rental process but could be more widely used within the utilities space, building improvements / facilities and commercial insurance.

⁴ <https://www.epcregister.com/epcadviser.html>

Current Data Access

EPC data is held by Landmark Information Group on behalf of the Department of Communities & Local Government (DCLG) and Commercial EPC data is made available on a transactional basis via the non-domestic EPC Register website (<https://www.ndepcregister.com/>).

The stated intentional use for the information on the NDEPC register website is:

- to help owners & occupiers make their building more efficient
- to allow potential buyers and tenants to compare the energy efficiency of different buildings

These usage cases clearly point towards an intention to encourage energy efficiency improvements in commercial buildings and to assist companies in making wise decisions when choosing offices or other property.

Domestic EPC data is freely available to all parties involved in the process of selling or buying a home but is not available in the same way as the non-domestic property data. Non-domestic EPCs are available for a fee of £9,000 each.

The Energy Performance of Buildings Regulations (2012)^{5, 6} require the Government (DCLG) to make bulk EPC data available on a discretionary basis, at a small charge, to 'authorised recipients' including public bodies, education establishments, social housing providers and other interested stakeholders.

However, there is no open bulk EPC data file available to app developers and other interested parties for either Domestic or non-Domestic properties. This is preventing the data industry from truly making EPC data meet the intended uses listed above.

Challenges Caused by lack of Open Data

The request for open, non-domestic EPC data was originated by a start-up organisation mentored by the Open Data Institute. Honest Buildings intend to use the data to expand their offering of a network for building owners and solution providers in the EU (with the UK being a major focus). Their intent is to offer an easy way for businesses looking for services to improve their energy efficiency and those providers of such services to find one another. The Honest Buildings interface allows for structured communications in a similar way to social networks such as LinkedIn – putting relevant members in touch with one another via an approved connection.

Today, the energy efficiency benefits are not attainable in the UK due to the lack of reliable, open energy efficiency data for all major business premises. Various other potential services are also reliant on the availability of this data (for example; heat maps of building efficiency, property comparison tools and so on).

⁵ <http://www.legislation.gov.uk/ukxi/2012/809/contents/made>

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/5981/2121747.pdf

In the domestic arena, the implementation of the Green Deal should mean a huge improvement in the efficiency of UK homes. However, without reliable EPC data, it is difficult for service providers to find the properties that would present the greatest ROI for their residents. Whilst various data services exist to approximate the energy efficiency of a domestic property, the EPC would enhance these offerings and open up opportunities for new data services and applications. Today, this is not possible and the potential benefits of the Green Deal may not be met.

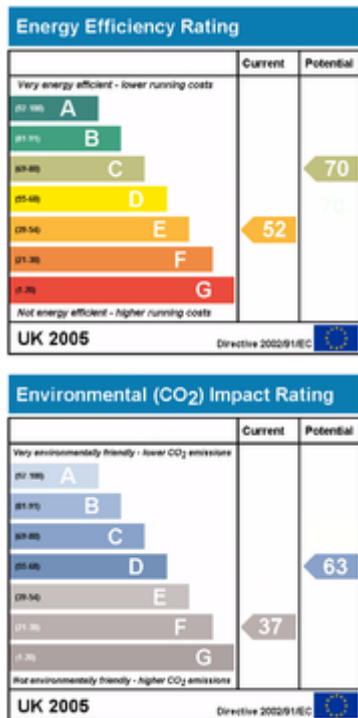


Figure 1. An example of an EPC rating (Wikimedia Foundation, Inc., 2012).

Benefits of open release

The two requests from the Open Data community ask for downloadable, regularly updated bulk files of EPC data (along with relevant linked data such as address, floor area and so on) to be made available under the Open Government License on a zero-fee basis.

With the request for non-domestic data coming from an organisation mentored by the Open Data Institute, the opportunity for commercial gain is clear.

The business needs and opportunities on the domestic side are not fully understood today; but with the Green Deal now active, there could be a clear opportunity for innovation within the utilities industry, Green Deal providers and the general public to benefit from data release (as well as the property industry).

Domestic Property

With the EPC required for all property sales, a number of organisations have already invested heavily in the abandoned Home Information Packs including property websites and individual estate agents. With a significant spend on a process that is now abandoned, the

current value of EPCs is minimal to estate agents. Research for this case⁷ has found that there is a perception in the industry that few buying decisions are swayed by the EPC rating.

However, an area of value flagged up during research for this business case is the fact that the EPC is often accompanied by the floor area (and floor plan) of the property. This information is obviously key to home buyers and is also of use within a number of business areas.

For property owners (or those looking to buy a property), the EPC & floor plan could be a valuable asset when exploring the potential for improving the efficiency of their properties via the Green Deal. For Green Deal providers and Utilities organisations, having the EPC and Floor Plan data (aligned with other datasets) can enable a much more proactive approach to improving energy efficiency and reducing energy bills.

For example, marketing to customers living in properties of a certain size, age and efficiency would be possible if a full EPC dataset were made available. This could also help link Green Deal suppliers to particular properties to save time and effort for residents.

Today, organisations working with property information often need to estimate the energy efficiency of a building as the EPC data is not available to them. This often requires them to collect and match data on address, property type, age, utility type (e.g. gas) and then make various assumptions to get to a likely energy efficiency rating. If EPC ratings were available openly, the data products already being produced could be improved dramatically, leading to more usage in industries such as Utilities, Insurance and others. This could lead to environmental benefits across the board if buildings of all types become more energy efficient. There would also be clear commercial benefits.

One estimate for the value of domestic EPC within the Green Deal space would give a value of around £29 million for a database of all UK properties with an EPC attached. This assumes the number of properties as listed in Royal Mail PAF with the EPC elements meaning each record is worth £1. Obviously, these figures are an estimate and further detail cannot be provided due to commercial confidentiality of the source. However, it does indicate that EPC data would enable high volumes of data-based revenue.

Non-Domestic Property

Currently, the download system provided by Landmark is the only method of procuring EPC information for non-domestic property.

The usage case suggested by the requestor for EPC data (Honest Buildings) is to add the data to their existing online portal where individuals and companies would be able find individual buildings alongside the information from the EPC register such as floor area, EPC rating, recommendation report and so on. This is simply not possible without a bulk download of the data.

⁷ Interview with representative of RightMove.

This would then allow organisations looking for business premises to compare the available stock to find one with good energy efficiency and would also enable organisations involved in the Facilities industry to bid for business more easily. For example, an organisation may want to fit new air conditioning systems to improve the energy efficiency of their property. The services of Honest Buildings would be enhanced by the availability of all EPC data.

It would also help business property owners to ensure that buildings meet the requirements of the Energy Act 2011 by the 2018 deadline (when the letting of buildings not meeting the minimum requirements will be outlawed).

DCLG Research into further benefits

In 2010, DCLG consulted on how to make better use of EPC data and certificates. Their response summary⁸ lists a number of interesting opinions such as:

- A desire from respondents to see the address level data made more widely available (Question 2.1).
- Current and proposed safeguards are too restrictive and prevent EPC data from helping tackle energy waste as well as preventing use within the Private sector (Question 2.3).
- 93% of respondents wanted a public list of buildings that displayed their energy certificates (Question 2.4).
- The Government made clear that they would release EPC data for non-domestic properties publicly. However, this has clearly not yet been achieved in an 'Open' sense.

The feedback also mentions the suggestion to mandate EPC for domestic rentals. While this on its own doesn't improve energy efficiency, aligning an EPC rating (and improvements) to landlord insurance or other services could be positive. While the government chose not to take this forward, the general aim to improve energy efficiency through transparency is supported.

Also, 93% of respondents agreed that EPC display should be extended to more non-domestic buildings and this appears to be happening today. However, the data for these commercial and public buildings is not publicly available in a bulk form. A mandatory requirement to lodge air conditioning reports is also covered by Question 7 which was subsequently introduced. Ensuring that this data is included in any open release would have obvious benefits for improving this element of energy efficiency in public and commercial buildings.

Potential Cost v Benefit

As part of the Home Information Pack programme, many participants in the real estate industry (especially estate agents and related organisations) invested heavily in staff training and technology to handle EPCs and other elements. One organisation suggested that they invested £7 million in setting up their HIP capabilities.

⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8556/37907201.pdf

Obviously, this cost was not purely for EPC capability but gives an example of the investment already made into this data by market participants.

With EPC data still required by European Law for all house sales, there are still costs for producing this data but with a limited return on this investment as the data is not widely available.

Information on the costs to Landmark Information Group for holding and processing EPC data were not available at time of writing but a six figure estimate would seem appropriate when compared to other data services.

Also unavailable was information on the total fees paid to Landmark Information Group by the public bodies involved and any costs for users of the data (other than the fee of £9,000 for an individual non-domestic EPC record). While the contracts had been published following an FOI request⁹, the financials were redacted.

Any accurate estimates on potential costs to those who have already invested in the closed EPC systems is difficult to produce. Costs to Landmark would be low as the technology and processes to make the data open would likely already be available to them.

However, making the data open via API and/or a regularly updated download is unlikely to be above 5 figures per annum.

For those organisations using domestic EPC data today, the costs to their business are difficult to predict as an Open source of data could introduce competition into the real estate market where most of them operate.

For non-domestic EPC users, the removal of the £9,000 fee will create savings as well as the emergence of new organisations making use of the data in innovative ways.

The benefits to commercial organisations could be wide ranging. On the domestic side, access to EPC data could encourage more households to improve their energy efficiency thanks to simple online calculators and comparison services (much like the ease of switching energy provider today). The increase in business for firms offering energy efficiency services could be significant for jobs & the wider economy.

With non-domestic EPC data, there will be similar benefits in terms of improving energy efficiency and supporting the companies who provide these services.

Other benefits that should be explored include the impact of EPC rating on house prices. This link has often been disputed with research pointing in both directions. One recent piece of research by Cambridge University did point towards higher prices for more efficient

⁹ <http://www.energy-performance-certificates.org/blog/contract-between-clg-and-landmark-epc-register-revealed>

homes¹⁰ however; other items by Consumer Focus¹¹ and others have disputed the influence that EPC has on home buyers.

If the report by Cambridge University is found to be correct, then there could be a positive influence on home owners using the Green Deal to improve their EPC and thus their sale price. Estimates of the benefit to Green Deal providers are difficult to suggest at this stage though. A DECC study referenced by the Guardian¹² also suggests benefits to house price but without open access to EPC data, it is difficult for other parties to verify studies such as these.

Another area that could bring financial benefit would be in new apps and services to search for houses (or commercial property) by energy rating as well as the usual search categories such as proximity to schools, local crime levels and transport links. However, the level of any benefit is difficult to estimate.

Recommendation

ODUG recommends releasing EPC information, for both domestic and commercial properties, under an Open Government License, free of charge to benefit innovation and efficiency in various industries and to improve transparency to the general public.

While Landmark Information Group are the data custodians on behalf of the Public Sector, this decision falls upon DECC & DCLG. Input may also be required from OFGEM to ascertain the commercial value of EPC as part of the Green Deal programme.

For details on desired data format and other pertinent information, please see Annex A.

1. Key Benefits

Rate the data release goals in the scope of ODUG key benefit areas.

Key Benefits

	1	2	3	4	5
Efficiency				x	
Environmental					x
Growth			x		
Social			x		
Transparency	x				

2. Data Theme fit

¹⁰ <http://www.enterprise.cam.ac.uk/news/2013/7/link-between-energy-efficiency-and-property-values/>

¹¹ <http://www.consumerfocus.org.uk/news/energy-performance-certificates-failing-to-influence-homebuyers-and-tenants>

¹² <http://www.guardian.co.uk/environment/2013/jun/17/green-deal-makeover-boost-property-values>

Data Theme fit

Rate the Data Request in relation to the key themes identified by ODUG.

	1	2	3	4	5	6	7	8	9	10
Land & Property										x
Environment									x	
Social						x				
Orgs. & Companies								x		
Education	x									
Transport	x									
Financial			x							
Health		x								
	Not at all		Some	Applies	Fully	applies	Single goal			
						s				

Annex A – Suggested Data Fields & Update Schedule

For both domestic and non-domestic EPC data, the following key fields should be made available:

- Current EPC rating
- Potential EPC rating
- Address of Property (containing Postcode and ideally a UPRN)
- Total Floor Area in Square Metres
- Air conditioning details on non-domestic properties
- Recommendation report – key improvement suggestions