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BUILDING ENERGY LABELLING SYSTEM IN SCOTLAND

A report by the Energy Saving Trust

May 2018

All views expressed in this report are solely of the Energy Saving Trust and should in no way be attributed to The Scottish Government.

About the Energy Saving Trust

The Energy Saving Trust is the UK's leading impartial organisation helping people save energy, reduce carbon emissions and use water more sustainably. We do this by directly supporting consumers to take action, helping local authorities and communities to save energy, using our expert insight and knowledge, providing quality assurance for goods and services and by working in collaboration with national and international governments and organisations.

This work was carried out by the Energy Saving Trust with support from the British High Commission in Ottawa. The report draws on various sources of data from the Energy Saving Trust and other organisations working in the UK.

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Executive Summary

On the 15-17 January 2018, a delegation from Natural Resources Canada (NRCan) undertook a study visit to Edinburgh, organised by the Energy Saving Trust. The purpose of the study visit was to learn about Scotland's mandatory building energy labelling programme. In Scotland there is a legal requirement to provide an Energy Performance Certificate (EPC) to potential buyers or tenants whenever a property is built, sold or rented. The aim of the study visit was to develop NRCan staff members' understanding of how an established mandatory labelling scheme works in practice, and how energy labelling can support wider policies and programmes to save energy and reduce carbon emissions from buildings. This report outlines various aspects of the system in Scotland and it is hoped it will be a valuable resource for the Canadian federal and provincial administrations, when implementing a similar system of their own.

This report focuses on Scottish building energy labelling in the residential sector (a brief summary of the building energy labelling system in the non-domestic sector is included as Appendix 1). To support this executive summary, the report begins with a brief account of how EPCs work in Scotland, followed by a summary of learnings for Canadian policy makers.

The report then provides a detailed account of Scotland's EPC system, beginning by explaining the policy context to the introduction of EPCs in Scotland. The technical details of the assessment methodology used in producing an EPC rating is then discussed, followed by a section on EPC delivery in Scotland, which explains the processes and stakeholders involved. The later sections move on to discuss the storage of EPC data on a central register and the benefits associated with having access to such a large data set. The report discusses a number of government programmes and advice services which are supported by EPC data. The final section summarises some key insights and lessons which can be taken from the Scottish EPC system.

The Scottish building energy labelling system

Scotland's mandatory Energy Performance Certificate (EPC) scheme was introduced between 2006 and 2008 in response to a European Union (EU) wide directive requiring energy labelling of all buildings at point of sale or rental. Parallel EPC systems were introduced in other parts of the UK at around the same time. In Scotland, EPCs are a central part of a wide and ambitious policy programme promoting home energy efficiency. There are two main policy drivers: 1) national climate change mitigation targets; and 2) the need to reduce fuel poverty as, currently, 26% of Scottish households need to spend more than 10% of their income to adequately heat and light their home.

An EPC is required in nearly all circumstances when a home is put on the market or when there is a change of tenancy, with the certificate shown to potential buyers or renters. Based on an in-home energy assessment carried out by a qualified assessor, the EPC provides information on the energy efficiency of the home and potential energy saving improvements. The headline energy rating, given on a scale from A to G, also has to feature in property advertisements. The A to G energy performance rating is an asset rating based on a modelled energy cost per square meter (with A rated homes being the most energy efficient). In other words, the headline rating allows home owners to consider how much a home will cost to heat and light as compared to other homes of the same size. It assumes

that different homes of the same size are all occupied in the same way (number of occupants, patterns of energy usage etc.).

The EPC regime in Scotland is delivered by a large number of different stakeholders. These include Approved Organisations and their members, Energy Assessors, who deliver EPC assessments. The Scottish Government is responsible for the legislation and regulation around the system while also playing a quality assurance role, regularly auditing the approved organisations and their assessors. The Energy Saving Trust administers the EPC register, a central database where every EPC is lodged and uses EPC data in providing householder advice and planning and delivering programmes.

The impact of EPCs

The real estate industry reaction to the original introduction of the certificates was muted and EPCs are now a well-accepted part of real estate transactions. Data suggests householders find EPCs useful, but the certificates do not have a high profile. Across the UK, the latest data shows that 58% of people are aware of EPCs, but only 7% claim to know their home's rating. However, while the direct impacts of EPCs on the real estate market may be limited, EPCs play a key role as part of a wider policy and regulatory landscape for energy efficiency. The report also explains these wider impacts, as we discuss below.

Use of Building Energy Labels within regulations, support and advice programmes

EPC ratings provide a consistent, recognised framework which is being used widely in Scottish policy. Scottish Government has set a 2020 minimum energy efficiency standard for social housing. And in May 2018 the Government proposed to use EPC ratings to set minimum standards across all homes, with an aim that all homes should achieve at least an EPC 'C' standard by 2040, where technically feasible and cost-effective.

The regulated EPC assessment process also supports the delivery of government support programmes. For example, Scottish home owners can access an interest free loan for energy improvements. They are only able to apply for improvements recommended in 'an acceptable energy report,' one of which is an EPC. In addition, there is a requirement that a post-improvement EPC is provided for all homes which benefit from the loans, to show how the home's energy performance has improved.

The EPC document provides advice directly to home buyers or renters on energy saving improvements. But the Scottish experience shows how building energy labelling can also support the wider provision of advice on energy efficiency. EST administers the Home Energy Scotland (HES) programme on behalf of the Scottish Government. HES is a comprehensive advice service offering help and support and a 'single point of contact' for all households in Scotland, particularly people struggling with energy bills. It provides free, impartial advice on energy saving, renewable energy, sustainable transport and waste prevention. In 2016-17 for example, HES handled 300,000 telephone and face-to-face advice interactions, up to 6%¹ of Scotland's population each year. The HES advisors are able to access each caller's EPC and talk through the recommendations. For callers whose home does not yet have an EPC, EST has developed an online 'Home Energy Check' which provides a rapid self-assessment of potential energy saving measures, with outputs similar to the EPC.

EPCs providing data for delivery of programmes

¹ The phrase 'up to' has been used because some people contact the service more than once each year.

More than 50% of Scottish homes now have an EPC and Scotland's EPC register therefore now constitutes a huge dataset on home energy performance. Energy efficiency programmes have been run in Scotland for many years. As more measures are installed, it becomes increasingly important to target the homes where support is most urgently needed.

Building from the EPC data, the Energy Saving Trust has developed **Home Analytics** which provides address level data on the energy performance of Scotland homes. Critically, by using statistical modelling techniques, Home Analytics is able to present a view of the energy performance of even those Scottish homes that do not yet have an EPC. And by linking to census and other datasets, Home Analytics includes data on likely household characteristics (e.g. likelihood of being on a low income). An online GIS (mapping) portal makes it possible to visualise data.

Home Analytics is used in programme planning by the Scottish Government, and particularly by local authorities (town/city councils) who develop local energy efficiency and renewable energy plans and programmes, enabling them to allocate funding most efficiently.

Future Directions

The final section of this report explores future directions for EPCs in Scotland. The Scottish Government is always looking to improve the operation of the EPC system. EPCs began as a tool to provide a simple comparative guide to energy performance of different homes at point of sale or rental. Now, with the planned use of EPCs as the basis for ambitious minimum standards for homes, Scottish Government is focusing on improving the robustness and accuracy of the system. Quality assurance of the data submitted to the EPC Register is one area where Scottish Government has already commissioned work to make improvements. This will be achieved by increasing the use of verification and quality checks within the EPC register, using algorithms to identify when EPCs seem likely to contain erroneous data.

The EPC is well integrated with Scottish energy saving advice through HES. To date, the majority of advice has been provided by telephone. However, in the future there is scope for EPCs to be integrated with dynamic online advice services. EST hopes to see Scotland's EPCs evolve to provide an online home energy route map. This will enable every householder to explore how their home can reach the highest possible standard of energy performance, making it easy for them to see and to take the necessary steps in terms of home improvements.