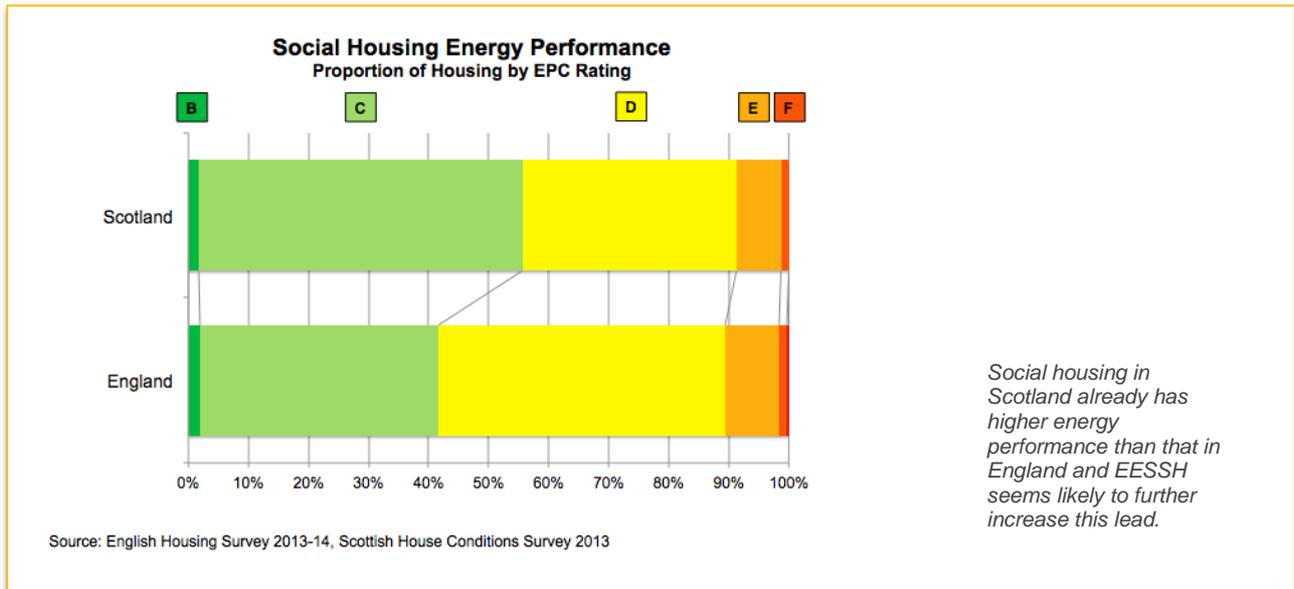


# STA Scotland: Meeting EESSH with solar

## How solar can assist social landlords to meet the new Scottish Energy Efficiency Standard for Social Housing

Stuart Elmes, STA Scotland, May 2015



[According to the Scottish Government](#) 39% of Scottish households are in fuel poverty and 10.5% are in extreme fuel poverty. The figures have been rising in recent years due to increases in the price of fuel, though the most recent statistics are for 2013 and recent falls in oil prices may improve the statistics somewhat.

### Fuel Poverty

A household is in fuel poverty if it would be required to spend more than 10% of its income (including housing benefit or income support for mortgage interest) on household fuel use. A household is in extreme fuel poverty if the figure is higher than 20%.

The fuel use is calculated not actual so this is different from saying that households actually use this much of their income, it is saying that they would need to spend this much to keep their home at the temperature assumed in the model. A household may spend less by maintaining temperatures below the assumed values in the model, and by using less hot water and electricity.

Westminster and Holyrood differ on how to calculate fuel poverty. Scottish figures estimate the proportion of households rather than the proportion of the population in fuel poverty.

<b>Proportion of the Population in Fuel Poverty</b>	
N Ireland	42%
Wales	29%
Scotland	25%
England	15%

Source: DECC

[According to the Department of Energy and Climate Change](#) (DECC) under their different methodology, the fuel poverty rates across the UK are as follows:

The figures are influenced by a number of factors including the energy efficiency of the housing stock, the proportion of off-gas-grid houses, as well as household incomes. The large proportion of homes in N Ireland using solid fuel is given as the explanation for the high prevalence of fuel poverty in this region.

## EESSH

The UK-wide [2011 Energy Act](#) gave powers to the government to set a minimum energy performance for all rented houses and commercial buildings in the England and Wales (Chapter 2) and in Scotland (Chapter 3).

In England and Wales, all rented properties (domestic and non-domestic) will have to have energy performance certificate (EPC) level E or above for new lettings or renewals after 1 April 2018, and to be let at all from 1 April 2020. The rules were enacted as the [Energy Efficiency \(Private Rented Property\)\(England and Wales\) Regulations 2015](#). The regulations also place a requirement on a landlord to acquiesce to a reasonable request from a tenant for energy efficiency improvements to the property from 1 April 2016. The government had proposed setting a trajectory to further increase the requirement to EPC level D in 2022 and level C in 2026 but has decided instead to review the operation and effect of the regulations in 2020.

Scotland has yet to enact a similar mandatory requirement for private landlords. [Proposed legislation](#) due to come into force in summer 2016 requires the owner of a commercial building larger than 1,000 m<sup>2</sup> that does not equal or exceed the energy performance of a property built to 2002 regulations to provide the buyer or tenant with a plan for its energy upgrade. However, it seems like there's no intention to force landlords to actually do anything beyond preparing the plan because there is an option for the landlord to provide energy monitoring instead of implementing measures from the plan.

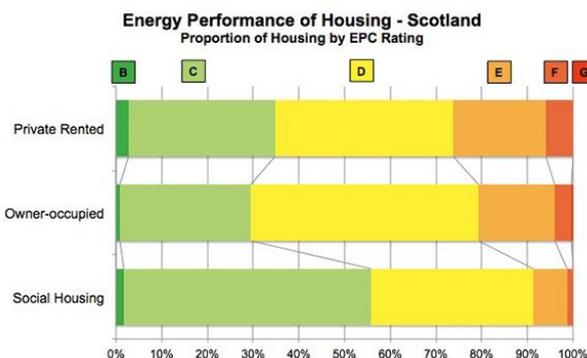
<b>Minimum Efficiency Scores Under EESSH</b>		
House Type	Heating Type	
	Gas	Electric
Flat	69	65
Four-in-a-block	65	65
Houses (not detached)	69	65
Detached Houses	60	60

Minimum EPC score as calculated with rdSAP 2009

Scotland's Energy Efficiency Standard for Social Housing (EESSH) raises the bar significantly for social landlords (housing associations and local authorities). By the end of December 2020, no house in Scotland under their management will have a lower EPC rating than C or D, with the exact target depending on the house type.

The requirement is defined as an EPC score from [rdSAP 2009](#) (reduced data Standard Assessment Procedure), with the minimum scores set as follows:

## The Energy Performance of Social Housing Stocks



Source: Scottish House Conditions Survey Key Findings 2013

Image: [www.solarblogger.net/2015/05/how-energy-efficient-is-uk-housing-stock.html](http://www.solarblogger.net/2015/05/how-energy-efficient-is-uk-housing-stock.html)

The diagram shows the proportion of housing in each EPC band in Scotland for each of private rented, owner-occupied and social housing.

Social housing is significantly more energy efficient than either private rented or owner-occupied homes. More than 50% of social housing homes achieve an EPC rating of C or better and more than 90% achieve D or better.

EPC bands are arranged as shown below.

EESHS imposes an EPC score target in the range of 60 – 69 depending on the type of home, which puts the standard at the higher end of a D rating and (only) just into C for gas heated flats and houses (except detached houses).

The Scottish government estimates that 64% of social housing is already at a level of performance that complies with EESHS, which leaves 218,000 housing units in need of some level of upgrade.

The table shows the spread of social housing units in Scotland by EPC band. The implication is that the majority of these 218,000 homes in need of upgrade are already in the D band and will only require an uplift of a few (10 or less) EPC points to achieve the target.

<b>EPC Band</b>	<b>EPC Points</b>	<b>Social Housing Units in Scotland</b>	<b>Proportion of Housing Units</b>
A	92-100	0	0%
B	81-91	10,000	1.6%
C	69-80	329,000	54.1%
D	55-68	216,000	35.5%
E	39-54	45,000	7.4%
F	21-38	8,000	1.3%
G	1-20	0	0%
	<b>TOTAL</b>	<b>608,000</b>	<b>100%</b>

### The Opportunity for Solar

The benefit to the EPC score of a property from retro-installing solar heating and/or solar photovoltaics is shown in the table below.

<b>Improvement</b>	<b>Roof Area</b>	<b>Increase EPC Score</b>
Solar thermal (gas)	4 m <sup>2</sup>	+3
Solar thermal (electric)	4 m <sup>2</sup>	+6
Solar PV 1 kWp	7 m <sup>2</sup>	+5
Solar PV 2 kWp	14 m <sup>2</sup>	+10
Solar PV 3 kWp	21 m <sup>2</sup>	+15
Solar PV 4 kWp	28 m <sup>2</sup>	+20

Source: [www.solarblogger.net/2015/05/the-impact-of-solar-pv-and-solar.html](http://www.solarblogger.net/2015/05/the-impact-of-solar-pv-and-solar.html)

A solar thermal or solar photovoltaic system is an ideal way for social landlords to achieve EESHS targets in a cost-effective way while ensuring minimal disruption to residents.

Solar thermal can be installed as part of a heating upgrade or hot water cylinder replacement at greatly reduced cost compared to a standard retrofit.

Solar PV can be installed at any time with most of the work taking place on the exterior of the building.

Government support is available to social landlords that install solar thermal (domestic Renewable Heat Incentive) and solar PV (Feed in Tariff). These support schemes can make the installation effectively cost-less for the landlord.

Solar energy could benefit the 218,000 homes that must meet the EESHS requirements by 2020 and help social landlords meet their obligations at minimal cost and with a low level of disruption to tenants.

About the Author: *Stuart Elmes is founder and CEO of [Viridian Solar](#) and on the Board of Directors at the Solar Trade Association.*