**RSN DRAFT**

**REVITALISING RURAL – REALISING THE VISION**

## Energy Infrastructure and Renewables

### Why it matters

Rural communities and businesses depend day-in, day-out on having reliable and affordable energy supplies, whether that is for lighting, for heating or to power home appliances, office equipment and workshop machinery. This matters more than ever, at a time when the approach to generating, distributing and using energy has, perhaps, never been higher up the policy agenda.

Net zero policies to decarbonise the economy imply both challenges and opportunities for rural areas. Despite the drive for energy efficiency, demand for electricity is expected to grow, not least as consumers switch to driving (chargeable) electric vehicles. One question which arises is the capacity and robustness of local infrastructure in electricity distribution networks in rural areas.

Inevitably, onshore wind farms and solar farms are now and will be predominantly sited in rural locations. They are expected to expand in scale, as the nation continues seeking to derive more of its energy from renewable sources.

At the same time, there are long standing issues for properties (mostly found in rural settlements) which are off the mains gas grid and which rely on heating sources such as LPG, electricity, oil and solid fuels. These will need to be addressed appropriately in a low carbon future.

Public charging points for electric vehicle must become far more widely available in rural locations. Unless they are, rural drivers will be discouraged from going electric and any driver of an electric vehicle will find it hard to use away from larger population centres or main transport corridors.

### The national policy context

Key elements of national policy include:

- CO2 emissions reduction targets – the Climate Change Act 2008 set an initial target for the UK to reduce its greenhouse gas emissions by 80%[1]. In 2019 that ambition was raised, when Government set a statutory target for the UK to become net zero by 2050. The Committee on Climate Change monitors progress and advises Government about actions needed to achieve this target, not least in the power generation sector.

- Energy Company Obligation – under the 2018-22 version of this policy, known as ECO3, more vulnerable households are eligible to apply to have installed energy efficiency measures which cut carbon emissions and tackle fuel poverty. 15% of these measures are expected to be delivered in rural areas. ECO3 is funded through a charge on the energy supply industry, so will ultimately be reflected in consumers' bills.

[1] Carbon dioxide (CO2) is the most common greenhouse gas emission, but there are others such as methane.

- The Green Deal – is an official advice service, providing information to homeowners about energy saving measures, approved suppliers and available grant funds. These include the Renewable Heat Incentive, which offers grants to encourage the take-up of certain renewable home heating technologies.

- Electric vehicle charge points – the Electric Vehicle Homecharge Scheme offers grants up to 75% of the installation cost for a charge point at a residential address. Businesses and other employers can apply for vouchers towards installing charge points at their premises under the Workplace Charging Scheme. Highways England is investing so that motorways and trunk roads will have a public charge point at 20 mile intervals (or less).

- The Road to Zero strategy – underlying this are Government aims to bring about cleaner road transport, by incentivising the production and take-up (by consumers) of low or no emissions vehicles. All new cars and vans are expected to be zero emission by 2040 (and half of them so by 2030).

**The rural dimension**

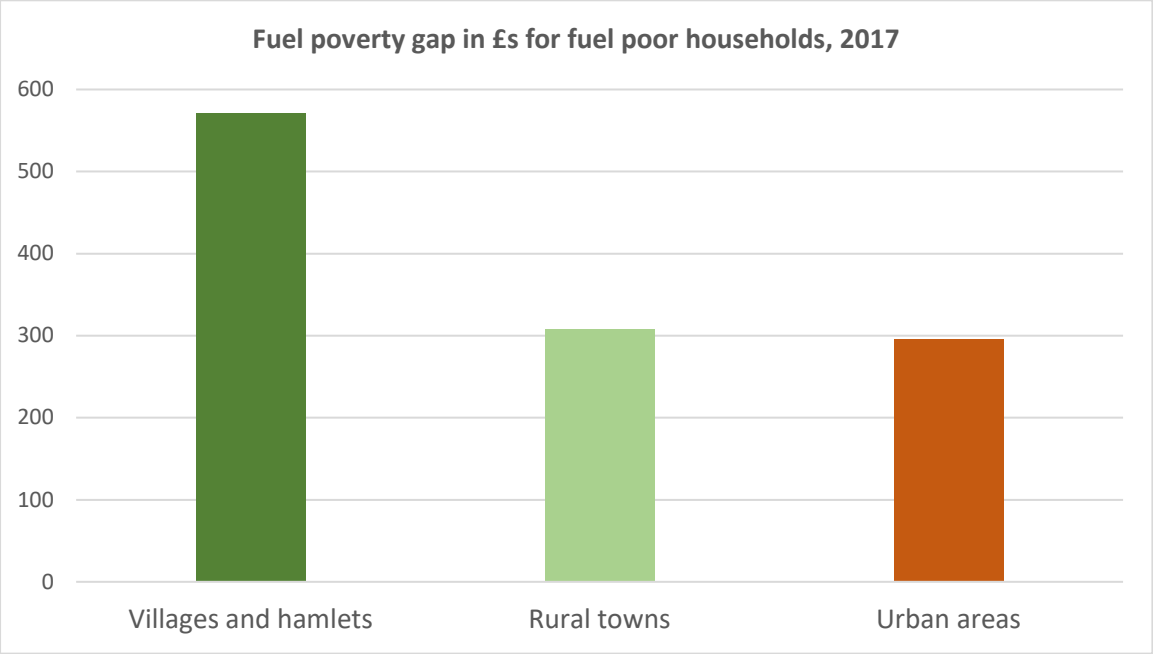
The power generation sector has been by far the main contributor to recent reductions in the UK's emission of greenhouse gases[2]. Over the five year period from 2013 to 2018 emissions from the power generation sector have decreased by 56%. By comparison emissions from buildings remained virtually unchanged and emissions from transport (excluding aviation) increased by 4%.

In 2010 some 36% of all households in rural areas were located off the mains gas grid[3]. The comparable figure for urban areas was 8%. The chart below shows that this issue is one that is especially relevant for the smaller rural settlements.


[2] From *2019 Progress Report to Parliament*, Committee on Climate Change (2019)
[3] From *Statistical Digest of Rural England 2013*, Defra and Government Statistical Service (2013)

Although these rural figures are somewhat dated, figures up to 2018 for England as a whole show that there has been little change. Similarly, mapped data for 2018 shows that areas with more than 25% of properties off the gas grid are most notable across the South West, East Anglia, The Marches and the northern uplands[4].

In 2017 some 434,000 or 10% of households in rural areas were classified as being fuel poor[5] (that is, they faced high fuel costs which could leave them below the official poverty line). This is a reduction from the 12% of fuel poor rural households five years earlier (in 2012). However, the 'fuel poverty gap' is especially large for those households in smaller rural settlements i.e. the extra income they would need annually to move them out of fuel poverty.




Local authority areas classified as Predominantly Rural are the location for 60% of England's renewable energy capacity[6] (almost three times their share of England's households). This equates to 16,555 Megawatts or MW of generating capacity. The table below also gives figures for the three main onshore renewable energy sources – photovoltaics, onshore wind and plant biomass.

**Installed energy capacity, in MW, from renewable sources in 2018 (per cent of England total)**

| Type of local authority area | Households | Photovoltaics | Onshore wind | Plant biomass | All renewable sources |
|---|---|---|---|---|---|
| Predominantly Rural | 22% | 60% | 64% | 87% | 60% |
| Urban with Significant Rural | 13% | 16% | 14% | 3% | 17% |
| Predominantly Urban | 65% | 24% | 22% | 10% | 23% |
| England totals | 100% | 100% | 100% | 100% | 100% |

[4] From *Sub-National Electricity and Gas Consumption*, BEIS (2019)
[5] From *Statistical Digest of Rural England 2020*, Defra and Government Statistical Service (2020)
[6] Secondary analysis of data from *Renewable electricity by local authority*, BEIS (2019)

There were just over 11,000 locations in the UK which had public charging points for electric vehicles by February 2020[7]. These charging points had almost 31,000 charging connectors (a figure which had increased by 843 in the previous month). No rural analysis has been found, though of interest is that more than a quarter are in the Greater London area. Taking the two most rural of English regions, 8% (2,469) of connectors are in the South West and 6% (1,937) are in the Eastern region.

**Policy solutions**

TO BE IDENTIFIED AND ADDED AT A LATER PROJECT STAGE: three or four practical policy ideas.

BW, v 1.1 (27th February 2020)

[7] From *Zap-Map*, website accessed February 2020 (www.zap-map.com)