

National Energy Action (NEA) briefing for Westminster Hall Debate on the Clean Growth Strategy and improving energy efficiency in homes and buildings - Thursday 8th March at 13.30



Summary of key points in this briefing to raise in the debate:

- Please welcome the UK Government acknowledging the importance of increasing energy efficiency
- Please raise the reduced scale of delivery in this area
- Please raise the need to better target remaining resources and urgently address key gaps in provision
- Please note why low income households are not able to heat their homes more sustainably
- Please ask for urgent clarity in the Private Rented Sector
- Please underline the key role of infrastructure funds

About NEA and why this debate is needed

NEA works to end fuel poverty and tackle exclusion in the energy market across the UK and locally. As well as research, national and local advocacy; a key focus of NEA's work is to deliver practical solutions to improve the quality of life for those living in cold homes¹. To achieve this we aim to improve access to energy and debt advice, provide training, support energy efficiency policies, local projects and co-ordinate other related services which can help change lives. NEA also provides the secretariat for the All-Party Parliamentary Fuel Poverty & Energy Efficiency Group to raise awareness of the problem of fuel poverty and the policies needed to eradicate it².

Global investment in energy efficiency is growing every year, having already reached \$221 billion in 2015, an increase of six per cent on the year before³. In the UK, investment in domestic energy efficiency is falling and whilst the impact of high energy costs⁴ and living in cold, damp homes are well documented they continue to cause shocking levels of unnecessary suffering and premature

mortality. NEA's recent joint briefing⁵ with E3G highlighted that the UK has the sixth highest rate of excess winter deaths in Europe and cold homes kill an average of 9,700 people a year, the same amount who die from breast or prostate cancer. As well taking action to address high energy prices⁶, NEA underlines UK homes are amongst the least energy efficient in Europe and this is a key cause for these deaths. Crucially, this situation is entirely preventable⁷.

❖ ***Please welcome the UK Government acknowledging the importance of increasing energy efficiency***

During the Coalition Government, NEA welcomed the energy efficiency based Fuel Poverty (England) Regulations 2014 which are a legal requirement the UK Government is still bound by⁸. More recently, NEA also welcomed that these existing commitments were reaffirmed in both the Conservative Manifesto⁹ and the Clean Growth Strategy¹⁰. All other major political parties also set out ambitious plans for ending fuel poverty and dramatically improving energy efficiency in their General Election Manifestos¹¹. This cross-party consensus is hugely welcome and is fundamental if the ambition to ensure all fuel poor homes achieve a minimum energy efficiency rating of Band C by 31 December 2030 is to be realised. More broadly, strong political consensus, stringer regulation and, where appropriate, the reintroduction of central investment will also be required if the UK Government is to meet the interim fuel poverty milestones, improve the worst of the Private Rented Sector or the whole of the UK housing stock is to be brought up to the same energy efficiency performance as a modern home¹² by 2035, a further aspiration contained within the Clean Growth Strategy.

Beyond ending the individual suffering caused by fuel poverty, meeting these welcome statutory goals and aims will prompt significant wider benefits. This was also affirmed in the recent Clean Growth Strategy which recognises delivering the energy efficiency based fuel poverty targets and improving the energy efficiency of housing overall will contribute towards achieving other important UK Government objectives; a successful industrial strategy¹³, supporting small business growth in every region and achieving carbon emissions reductions¹⁴. These key actions will also help improve local air quality¹⁵, reduce health and social care costs¹⁶ and provide real benefits to households who are badly struggling financially¹⁷. Overall, NEA seeks to underline our support to the UK Government that the greater deployment of cost effective¹⁸ energy efficiency improvements are a prominent theme within the UK Government's Clean Growth Strategy. As noted further below, there are however key actions which must be taken urgently and domestic energy efficiency should be regarded as a hugely important infrastructure priority¹⁹.

❖ ***Please raise the reduced scale of delivery in this area***

Whilst the UK Government (and, as noted below, the National Infrastructure Commission) recognise the benefits of enhancing energy efficiency, the delivery of home energy efficiency improvements has dramatically slowed since 2012, particularly in England but also across the rest of the UK²⁰. According to the Committee on Fuel Poverty (CFP)²¹, the Climate Change Committee (CCC)²² and think tanks such as Policy Exchange²³ current resources are less than half of what is required to meet fuel poverty commitments in England alone. The latest CFP annual report published on 17th October 2017 estimates that if the current remaining investment is netted off, beyond March 2019, £14.4 billion of additional funding will be required to install the necessary energy efficiency measures in fuel poor households in England. As noted below, whilst it is welcome the Government's stated intention is to shift the current programmes towards making a bigger difference for fuel poor households; in isolation this will not provide the required investment to meet current statutory targets or the near-term milestones²⁴. Currently only 10% of fuel poor households meet the band C requirement in England and whilst progress is being made towards two fuel poverty strategy 'milestones' based on current delivery there will still be around 175,000 fuel poor households living in Band F and G properties in England by 2020. Many of the fuel poor households in the worst Band F and G properties will be suffering from the worst extremes of fuel poverty and have annual fuel needs well in excess of £1,000 per year above those not living in poverty²⁵. The current situation is so acute we have warned an end to fuel poverty in England is currently unlikely to happen in the average lifetime of a baby born today²⁶. Against this backdrop, it was disappointing the UK Government failed to identify any new sources of central investment which could improve household efficiency in the recent Budget.

❖ ***Please raise the need to better target remaining resources and urgently address key gaps in provision***

The Energy Company Obligation (ECO) is currently the only remaining domestic energy efficiency delivery mechanism in England. Whilst NEA supports the commitment in the Clean Growth Strategy to extend the levy funded scheme out to 2028 (with a review in 2022), the 'notional annual spend' on the overall programme has reduced from the original £1.3bn to £640 million. Not only has this policy been significantly reduced in scale, there has also been a lengthy delay to make ECO a much better targeted scheme. This is despite the 2015 Fuel Poverty Strategy for England and current Ministers stating the Government would target this support on those that need the most help. The delay to a better target ECO policy has already lead to a large shortfall in activity of around £1bn lifetime savings for the poorest households with the highest energy costs over the current 18 month *ECO transition* period. Ministers have yet to confirm how the new phase of ECO from September 2018 will fully focus on those in or at risk of fuel poverty. NEA stresses its supports for the extension of ECO scheme out to 2028 is contingent on the UK Government honouring their clear commitment to target this support on those that need the most help from September 2018.

In addition, to the delays to better target this policy (a recommendation the Committee on Fuel Poverty and Climate Change Committee has frequently referenced²⁷), a new scoring system for gas boilers within the ECO transition means there is a big gap in provision for low income or vulnerable consumers who cannot afford to repair or replace existing gas heating system. If a household faces financial barriers to repairing or replacing their faulty heating appliance, there is virtually no support provided nationally²⁸ and no repairs have been undertaken to gas boilers under ECO since April last year. The prolonged loss of space heating in particular has the potential to detrimentally impact on a household's health and wellbeing, especially during the recent harsh winter and amongst occupants most vulnerable to living in a cold home. A broken or unsafe gas appliance is also likely to prompt the use of secondary heating appliances. Using electric portable heaters is recognised as one of the most expensive forms of heating²⁹. Alternatively, alongside poor ventilation, use of combustion room heaters such as LPG and solid fuel fires can significantly increase carbon monoxide (CO) exposure risk³⁰. Furthermore, older and unsafe boilers are less energy efficient³¹, increase carbon emissions³² and lead to heightened risks for nearby neighbours also as a result of CO poisoning³³ or potentially, in extreme situations, fires and gas explosions³⁴. In this context, NEA stresses the overlooked opportunity to provide emergency support in the Autumn 2017 Budget will have had hugely damaging consequences this winter (particularly in the recent cold snap³⁵) and should be reviewed urgently alongside the Department of Health and Social Care (DHSC)³⁶.

❖ ***Please note low income households are not currently able to heat their homes more sustainably***

NEA recognises the intent in the Clean Growth Strategy is to shift delivery away from gas boiler replacements towards alternative renewable or low carbon heating systems. NEA has recently trialled many innovative technologies³⁷. Despite this potential, NEA is concerned that the Government's current approach is too dependent on new commercial capitalisation models entering the market (similar to the FiT's 'rent-a-roof' model). These are unlikely to provide equal access to low income off gas households to heat their homes more sustainably in time to meet the first fuel poverty milestone by 2020 or within the remaining period the Renewable Heat Incentive (RHI) is budgeted for, up to 2021. NEA has therefore argued that out of the current RHI budget an annual ring-fence could be created for fuel poor households off the gas network who cannot afford the upfront costs of renewable heat technologies and potentially provide a small on-going operational subsidy to ensure these households are compensated for any increase in fuel costs or maintenance costs.

As with the better targeting of the ECO policy, this recommendation was also made by the Climate Change Committee (CCC)³⁸ in their advice to the UK Government on how to meet carbon budgets and mitigate impacts on fuel poverty levels. NEA's recent research into heat decarbonisation and social equity also noted this approach would be far more cost-effective overall³⁹. NEA also believes this dual approach would be a much more balanced and reliable way for these differing programmes (ECO and RHI) to directly support the attainment of the fuel poverty targets to improve the energy efficiency of fuel poor homes to band E by 2020 and the subsequent milestones and the final 2030 target. In addition, from 2018, it is hoped that ECO resources should be used to provide targeted insulation improvements to these households to ensure they have access to the RHI policy. The latter will be made even more feasible when enhanced data sharing is introduced which can reduce policy costs and help the most vulnerable households access this support.

❖ ***Please ask for urgent clarity in the Private Rented Sector***

NEA welcomes the Clean Growth Strategy's recognition that privately rented homes are causing the greatest hardship and the most acute risks for their residents⁴⁰. 35% of all fuel poor households in England are in this tenure, over 850,000 households, including almost 500,000 children⁴¹. The least efficient privately rented homes also contain households who have fuel poverty gaps in excess of £1,030 meaning they need to spend £1,000 per year above those not living in poverty⁴². The UK Government therefore rightly notes the imminent need to improve these conditions and meet the minimum energy performance standards which come into force from April this year⁴³. This will also support the need to ensure no fuel poor households live in these same EPC bands by 2020. NEA and a wide range of organisations welcomed these necessary statutory requirements. There has however been significant delays to implementing this policy fully⁴⁴ and whilst NEA welcome recent Government proposals to force landlords to improve the energy efficiency of their properties in time for new minimum standards due to come into force in April, Ministers appear to have followed the recommendations of the Residential Landlords Association (RLA) and reduced the cap on landlord spending from £5,000 down to £2,500. The lower cap means only 139,200 households in England and Wales will benefit from better insulation by April 2020. NEA also estimates over 50,000 children living in the deepest fuel poverty won't be helped by 2020 and will still be living in unacceptable housing conditions. Astonishingly, HMO properties will also not be fully covered by national standards for PRS⁴⁵ despite an NEA survey which highlighted these worst rental properties have such inadequate heating and insulation that it is impossible to keep them warm and free from damp⁴⁶.

❖ ***Please underline the key role of infrastructure funds***

In October 2017, NEA warmly welcomed the publication of the National Infrastructure Commission's (NIC) interim National Infrastructure Assessment (NIA). Alongside the UK Government's recent Clean Growth Strategy, the interim NIA rightly identifies the need to urgently address the energy wastage in UK homes and states dramatically enhancing energy efficiency must be a key national infrastructure priority. NEA seeks to ensure domestic energy efficiency is retained as a key priority within the final National Infrastructure Assessment which will be published in July.

This approach is currently supported by a growing number of Non-Departmental Public Bodies, academics, industry and NGOs⁴⁷. NEA is also an active member of the Energy Efficiency Infrastructure Group. NEA has helped produce a new report by Frontier Economics which recommends a comprehensive Buildings Energy Infrastructure Programme to achieve major energy savings across the UK. Key recommendations include introducing a new target for all low-income households achieving a C rating by 2030 and subsidies for all low-income home-owners to make energy efficiency renovations to their properties. Despite these aspirations largely being committed to within the Clean Growth Strategy, there is now a large gap between action to deliver warm and efficient homes, and the ambition to do so, which needs to be urgently filled.

To achieve this we recommend funding a coordinated programme of locally-led, area-based schemes supporting low income households with home energy performance improvements in every local authority area – alongside a UK-wide referrals network to nationally available 'safety net' grant support for households who miss out on, or cannot wait for, area-based schemes to reach them. This combination of area schemes and safety net has been the hallmark of energy efficiency delivery for low income households in the devolved nations of Northern Ireland, Scotland and Wales in recent years. On the 'safety net', the commitment in the Clean Growth Strategy to extend at least the current level of support provided by the Energy Company Obligation for low income households beyond 2022 until 2028 is welcome and could complement a programme of area-based schemes well if significant flaws with the current customer journey were addressed⁴⁸. However, it is clear that without the suggested area-based schemes, ECO alone is insufficient in scale to meet the Clean Growth Strategy's ambitions. As well as leveraging private investment from green finance, utility providers, energy networks, home owners and landlords; the UK Government also needs to support the strong case for the re-introduction of adequate public investment in residential energy efficiency to make this happen.

The most appropriate long-term funding stream is public infrastructure capital – as opposed to revenue expenditure – which must be made available for this vital area. In the short-term, this will require BEIS to enhance co-operation from HM Treasury and other Government departments such as the Ministry of Housing, Communities & Local Government (MHCLG) and the Department of Health & Social Care (DHSC). All of the UK Government must be committed to this cause to realise the full benefits. Whilst NEA recognises there are limitations to public spending and the scale of investment required to meet statutory targets are significant we stress that the counterfactual costs of not meeting national targets are many times greater; just the cost to health services of treating the morbidity associated with cold homes would be sufficient to meet the shortfall in current investment.

In addition, NEA has not attempted to monetise the following set of benefits that could be achieved with the introduction of adequate investment in this area: The direct value of reductions in bills and energy arrears for households or how this would increase spending within poorer communities; the avoided cost of reducing carbon emissions or improving air quality via alternative actions; the avoided costs of investment in non-efficient forms of embedded power generation which can increase local air pollution; The value of reductions in rent arrears, void periods for landlords⁴⁹ and higher stamp duty yields to HMT Treasury; Uplifts in VAT yields to HMT Treasury for energy efficiency measures compared to the lower rates applied to VAT on gas and electricity or the the positive impact of reducing inflation, gas imports and the effect on the UK's balance of payments; The extent of the creation of a healthier workforce and jobs from a more buoyant energy efficiency industry or the value to the UK economy of wider benefits such as upskilling workforce; The value of avoided costs to energy consumers of reducing network reinforcement by Distribution Network Operators⁵⁰. In turn, the positive impacts of also reducing civil utility works taking place in UK streets; More comfortable internal temperatures in homes will lead to fewer premature winter deaths and despite being unpalatable premature mortality has a clear cost⁵¹; The reduced costs to mental health and social care as reductions in bills can lead to less stress and better mental health for occupants and keep people living in their homes longer; The cost effectiveness of free interventions such as advice which can also create less damp and mould growth within homes which in turn reduces respiratory problems at little or no cost. Whilst NEA would stress the UK Government need to take responsibility for fully monetising these benefits, they highlight why ending cold homes must be a priority. No other form of investment can deliver so much.

Recent news articles related to energy efficiency and ending cold homes

- ❖ **UK weather: Big freeze death toll could rise above 2,000 as it emerges Met Office warned ministers a month ago** (The Telegraph)
- ❖ **England sees funding fall for energy-efficient homes** (BBC news)
- ❖ **Fuel poverty crisis: 3,000 Britons dying each year because they can't heat their homes, study shows** (The Independent)
- ❖ **Charity issues warning over cold weather deaths as 'Polar Vortex' hits UK** (Evening Standard)
- ❖ **A record number of deaths related to the cold in the UK are classified as 'AVOIDABLE'** (The Express)
- ❖ **People left without heating due to spending cuts, says fuel poverty group** (The Guardian)

¹ Throughout 2016-17, NEA awarded £18 million of grants to support new & innovative approaches to tackling fuel poverty in local communities, helping to deliver 44 Projects in 2166 households. We have trained a massive 5325 people who will cascade their knowledge to an estimated 1.34 million people. Through Warm Zones we have also delivered energy efficiency measures to 4303 households. For more information visit: www.nea.org.uk.

² For more information visit: www.nea.org.uk/fpeeg/about-fpeeg/

³ International Energy Agency (2016) Energy Efficiency Market Report https://www.iea.org/eemr16/files/medium-term-energy-efficiency-2016_WEB.PDF

⁴ The greatest impacts of rising energy costs are still disproportionately felt by some of the most vulnerable people in our society. Between 2004 and 2014 average annual domestic gas prices soared by over 125% and domestic electricity prices increased by over 75%. In the last year all major suppliers have announced further price increases. For the majority of energy customers on poor value tariffs, one solution is to switch. However, many low income and vulnerable customers are excluded from benefiting from the competitive energy market and subsequently languish on the most expensive tariffs. Whilst some early progress has been made following the Competition Market Authority (CMA)'s Energy Market Investigation to correct these issues, NEA believes further action is required to safeguard customers, particularly the most vulnerable.

⁵ The joint research revealed that the UK has the sixth-worst long-term rate of excess winter mortality out of 30 European countries. Over the last five years there has been an average of 32,000 excess winter deaths in the UK every year. Of these, 9,700 die due to a cold home – the same as the number of people who die from breast or prostate cancer each year. The new analysis was released on Fuel Poverty Awareness Day the national day highlighting the problems faced by those struggling to keep warm in their homes. To read the press release and the full cop of the report visit: <http://www.nea.org.uk/media/news/230218/>.

⁶ NEA welcomed the introduction in April 2017 of a price cap for Pre-Payment Meter customers and NEA also supports the new Vulnerable Customer Safeguard Tariff. We estimate however that over half a million households will miss out on potential energy bill savings of £260 this winter because they will not receive a Warm Home Discount (WHD) rebate or be safeguarded under Ofgem's proposed Vulnerable Customer Safeguard Tariff this year. These households are mostly working-age, fall into the lowest income deciles and are already facing thousand pound gaps between their incomes and the essential cost of living. NEA would therefore urge BEIS, Ofgem and suppliers to maximise data-sharing powers under the Digital Economy Act and urgently set out the regulations to improve identification and targeting of low income households at risk of fuel poverty. Suppliers can also do more to identify and prioritise their low income customers this winter. For example, suppliers could voluntarily apply the safeguard tariff to low income and vulnerable customers on standard variable tariffs who miss out on the WHD.

⁷ Still the Cold Man of Europe – briefing, Association for the Conservation of Energy, October 2015

⁸ The Fuel Poverty (England) Regulations 2014: <http://www.legislation.gov.uk/ukxi/2014/3220/made>

⁹ The Conservative and Unionist Party Manifesto 2017, Forward, Together: Our Plan for a Stronger Britain and a Prosperous Future, 'Fair Energy Markets', page 60.

¹⁰ The Clean Growth Strategy, Leading the way to a low carbon future, HM Government, page 77.

¹¹ The General Election campaign period highlighted strong support for ambitious action on fuel poverty and the respective manifestos highlighted a strong cross-party consensus on the need for greater investment to improve energy efficiency. For a detailed breakdown of the respective manifesto commitments please contact peter.smith@nea.org.uk.

¹² EPC certificates compare current ratings of properties to see which are more energy efficient. They help tenants, landlords or home owners find out how they can save energy and money by installing improvement measures. The EPC certificate shows how much the average household would spend in this property for heating, lighting and hot water. It's graded from A to G, with A meaning an energy efficient, well-insulated, probably modern home, and G meaning a draughty old building where the wind rattles the walls. Typically, an older property with no retrofitted energy-saving technology will be around a D grade and an A-C rated home, the average new home built in England, requires about half as much energy per square meter as the average existing home. Previous research from Consumer Focus also found that on projected rates of house building, the previous Allowable Solution fund could have provided around £190 million pa nationally, enough to improve the energy efficiency levels of 397,000 low income households' homes, up to EPC C by 2025.

¹³ Draft National Infrastructure Assessment, National Infrastructure Commission, October 2017.

¹⁴ Committee on Climate Change, Next steps for UK heat policy, October 2016.

¹⁵ The Fuel Poverty Action Plan, Greater London Authority (GLA), June 2017.

¹⁶ Age UK. 2012. The cost of cold: Why we need to protect the health of older people in winter.

¹⁷ NEA estimates that some families in fuel poverty are facing an income shortfall of up to £9,331 per year (£778 per month) to cover basic essentials, including energy. As noted below, NEA has also warned many low income households could miss out on energy rebates and the proposed new safeguard price cap. The findings are included as part of our "Bridging the Gap" report which highlights the scale of the impossible choices families will be making this winter.

¹⁸ The Government determines cost-effectiveness using Marginal Abatement Cost Curves and this ranks specific household interventions (such as wall insulation) based on their cost-effectiveness for abating greenhouse gas emissions. The MACC allows decision makers to assess how much progress is already being made and subsequently consider what it would cost (or save) to make more (or less) progress from that point. The same approach to constructing MACCs for climate change or overall energy efficiency policy can also be applied to fuel poverty and BEIS have established FP-MACCs to assess, at different points in time, what the most cost-effective interventions are and how much progress these interventions could potentially make towards fuel poverty objectives¹⁸. The measures included within the current FP- MAC curves highlight meeting fuel poverty targets can be done cost effectively and will generate positive savings for society. However the cost of deploying these energy saving measures are largely outside the control of households in fuel poverty – given the capital investment that would be required to improve their energy efficiency - and instead people rely on trading off the temperatures at which they live against other necessities, exacerbating health related issues.

¹⁹ NEA is an active member of the Energy Efficiency Infrastructure Group, an alliance of organisations supporting a 20 year national infrastructure programme to bring all UK homes up to a decent standard of energy efficiency, warmth and comfort without increasing energy bill. It includes: CBI, Energy UK, Eon, Institute of Civil Engineers, Royal Institute of Architects, MIMA, E3G, Policy Exchange, IPPR, Bright Blue, National Energy Action, Association for Conservation of Energy, UK Green Building Council, Sustainable Energy Action, National Insulation Association, Rockwool, Kingspan, Kingfisher, Saint Gobain, SIG, GGF, Superglass, Arup, Brufma, Willmott Dixon, Npower and WWF. See www.theeeig.co.uk.

²⁰ According to the Committee on Climate Change, progress has stalled, with insulation rates having fallen by 90% since 2012 An independent assessment of the UK's Clean Growth Strategy - From ambition to action, 15 February 2018.

²¹ This breakdowns as £1.9bn to meet the 2020 EPC E milestone, a further £5.6bn to meet the 2025 EPC D milestone and a further £12.3bn to meet the 2030 EPC C target.

²² Addressing fuel poverty and meeting carbon budgets go hand in hand (CCC), 7 October 2014.

²³ Warmer Homes - Improving fuel poverty and energy efficiency policy in the UK, 2015, Policy Exchange

²⁴ Upgrading as many fuel poor homes as is reasonably practicable to Energy Performance Certificate Band E by 2020 and to Band D by 2025

²⁵ The median annual income of a fuel poor household in England after housing costs is £10,118. This is £2,815 below the poverty line.

²⁶ See reference 31.

²⁷ CCC, Energy prices and bills - impacts of meeting carbon budgets, March 2017 noted that if the insulation and low-carbon heat installations required to meet the carbon budgets can be successfully targeted at the fuel poor then around three-quarters can be lifted out of fuel poverty by 2030. However, meeting the Government's goal of improving fuel poor homes to efficiency band C by 2030 would require roughly doubling the funding currently provided under the Energy Company Obligation. CCC, Report to Parliament – Meeting Carbon Budgets: Closing the policy gap, 29 June 2017.

²⁸ Whist ECO continues to provide some limited support for gas boilers, from a high of 85,000 boilers installed from the three months October to December 2013, only 13,037 boilers were installed in the five months from April to August 2017, only c. 5,500 were gas boiler replacements, less than 6% of what they were at the start of ECO in 2013. There have currently been no repairs under the scheme since April 2017.

²⁹ Ofgem noted earlier this year that there are around 1.8m electric heating households in England (8%) with higher proportions in Scotland, 0.3m (13%), and lower proportions in Wales, where there are less than 100,000 (5%), homes using electric heating. A substantial minority (0.5m) use direct-acting heating systems without storage functionality, which instead generate heat instantly when needed, and use electricity at that time. The majority of these are electric room heaters which are high energy inefficient. Households that use electric heating tend to be of lower income. In England, around a third have incomes of less than about £14,500. This combined with higher costs of heating, means these households are more likely to be fuel poor.

³⁰ Carbon monoxide (CO) is a poisonous gas that in homes is caused by unsafe or the misuse of gas, oil and solid fuel appliances, along with poor ventilation. Limited research (e.g. Ezratty et al., 2011, Kokkarinen et al., 2014) suggests that those on low incomes and who struggle to afford heating costs may be more vulnerable to CO poisoning. Between 2015-2017 NEA worked with the Gas Safety Trust and GDNs to further investigate this relationship between CO exposure risk and household vulnerability. NEA would be happy to share the findings of our most recent report; "Understanding Carbon Monoxide Risk in Households on Low Incomes and in Vulnerable Situations".

³¹ In a typical semi-detached home, upgrading heating controls and replacing a gas boiler that is around 80 per cent efficient (D rated) with a new boiler will save around £85 a year, whereas replacing a boiler that is 70% efficient (G-rated) could save over £300 a year. (This is based on a 70 per cent or below efficient boiler with no heating controls being replaced by an at least 90 per cent efficient boiler with heating controls.) Households which have the worst performing boilers could save even more than this. Heating and hot water accounts for about 60 per cent of what a household spends in a year on energy bills, so an efficient boiler makes a big difference, especially to those households which are struggling to pay their energy bills.

³² Replacing a boiler could save between 0.3 and 1.5 tonnes of CO₂ each year depending on the efficiency of the boiler being replaced. 1.5 tonnes of CO₂ is the equivalent of a return flight from London to San Francisco. Boiler replacement will also have a positive impact on air quality.

³³ The National Health Service estimate that every year in the UK, more than 200 people go to hospital with suspected carbon monoxide poisoning, which leads to around 50 deaths.

³⁴ For example an old disused back boiler can explode if they are left unused and empty. *Woman's coffee table saves her from being chopped in half when central heating boiler explodes like a bomb*, 14 January 2015.

³⁵ British Gas, the UK's largest home energy supplier, said on Saturday 3rd March it had received more than 136,000 boiler breakdown reports during the cold weather period and yet there have been virtually no repairs to gas boilers carried out under the only remaining energy efficiency scheme in England (the Energy Company Obligation, ECO) since it began last April.

³⁶ As well as the devastating impacts cold homes have on their occupants lives, this problem extends to all of us; queues at GPs and A&E as well as delaying the discharge of vulnerable patients from hospital. Tackling cold homes as a contributor to excess winter mortality brings multiple benefits and is already recognised as a priority by the National Institute for Health and Care Excellence. NICE states that excess winter deaths attributable to cold homes are avoidable; that these deaths are just one part of a story that encompasses opportunities to improve public health while saving the NHS £1.36bn in England alone. This estimated saving currently excludes relieving pressures on social care services and NICE also notes that there are further fuel poverty and climate change benefits to fixing cold homes

³⁷ In January 2016, NEA announced the first projects to be funded under a £26.2 million health and innovation programme which brings affordable warmth to over 6,000 low income and vulnerable households in England, Wales and Scotland. The programme was split into three distinct funds; two programmes delivered by NEA – the Technical Innovation Fund and Warm and Healthy Homes Fund and the third delivered by NEA's subsidiary Warm Zones c/c. The Technical Innovation Fund specifically aimed to facilitate community-level trials of innovative solutions utilising measures not traditionally within the scope of current retrofit or energy efficiency programmes. Grant recipients have installed a range of technologies and are now working with NEA to ensure that robust monitoring and evaluation takes place. Alongside our partners we hope the trials provide low income and vulnerable groups the opportunity to be early adopters of the following innovative measures; hybrid and ground source heat pumps, new approaches to park home insulation, district heating, domestic CHP and biomass, new heating control systems; voltage performance optimisation units, heat stores, battery stores and heat recovery systems. There are also several projects that have trialled smaller complimentary technologies with the potential to reduce energy consumption or improve comfort. NEA are committed to ensuring the findings of this work feed into national policy making and we responded to the National Infrastructure Commission (NIC)'s Technology Study call for evidence and a Smart, Flexible Energy System, the Department of Business, Energy and Industrial Strategy (BEIS)'s and Ofgem's call for evidence. Both responses drew on early learnings from the aforementioned Technical Innovation Fund as well as evidence from other programmes and initiatives.

³⁸ Ibid ref 20

³⁹ Heat Decarbonisation: Potential impacts on social equity and fuel poverty, Maxine Frerk, Grid Edge Policy; Dr Keith MacLean, Providence Policy, September 2017.

⁴⁰ Fuel Poverty and Houses in Multiple Occupation, produced by Future Climate and National Energy Action, 2016.

⁴¹ Latest fuel poverty detailed tables 2017, Department for Business, Energy & Industrial Strategy Fuel poverty statistics, 29 June 2017.

⁴² The median annual income of a fuel poor household in England after housing costs is £10,118. This is £2,815 below the poverty line.

⁴³ From April 2018, landlords will not be able to rent out properties with energy efficiency ratings below EPC Band E (exemptions apply). The regulations apply to the domestic private rented sector in England and Wales. This is defined in section 42 of the Energy Act 2011 as properties let under an assured tenancy for the purposes of the Housing Act 1988, or a tenancy which is a regulated tenancy for the purposes of the Rent Act 1977. A high percentage of fuel poor households also live in the worst properties in the deepest fuel poverty are renting from private landlords, they must be prioritised for assistance.

⁴⁴ Seven years after Parliament voted to address this scandal, private landlords are still failing to act and are resisting measures to improve conditions in the worst of the sector. NEA recently warned the upcoming regulations – which come into force in April – will offer no protections for the most vulnerable children living in Houses of Multiple Occupation (HMOs). See: <http://www.nea.org.uk/media/news/430000-poorest-children-england-wales-live-dangerously-cold-homes/>.

⁴⁵ The regulations apply to the domestic private rented sector in England and Wales. This is defined in section 42 of the Energy Act 2011 as properties let under an assured tenancy for the purposes of the Housing Act 1988, or a tenancy which is a regulated tenancy for the purposes of the Rent Act 1977.

⁴⁶ Fuel Poverty and Houses in Multiple Occupation, produced by Future Climate and National Energy Action, 2016.

⁴⁷ A range of organisations have noted this key opportunity; Better Homes: Incentivising Home Energy Improvements, Hall and Caldecott 2016, p27; Too Hot to Handle? How to decarbonise domestic heating, Howard and Bengherbi 2016, p.14; A report on initial positions, Committee on Fuel Poverty 2016, p4; After the Green Deal: Empowering people and places to improve their homes, recommendation 5, Rosenow and Sagar 2015; Effective Policy Efficient Homes, Confederation of British Industry (CBI) 2015, p2 and CCC, Meeting Carbon Budgets – 2016 Progress Report to Parliament, June 2016. More recently that investment in energy efficiency targeted at fuel poverty must double.

⁴⁸ NEA continues to highlight the need to end client capital contributions and provide some guarantee of assistance to the most vulnerable household. There are also increasing concerns about the failure of some suppliers to join up their mandated obligations to improve services for their most vulnerable customers. One illustrative concern is that as engineers visit homes as part of the smart meter roll-out they will have to turn off any unsafe gas or electrical appliances as part of the roll-out. Whilst it is welcome that qualified engineers condemn unsafe appliances one risk to health and safety can be replaced by another if there is no guidance or support available to fix or replace these appliances in low income homes. NEA are not clear there is an adequate policy to close this worrying gap in support or the extent to which suppliers are routinely referring eligible vulnerable households onto existing related support like free gas safety checks or new boilers under ECO.

⁴⁹ "Touching the voids report: The impact of energy efficiency on landlord income and business plans The report is available here: <http://www.sustainablehomes.co.uk/touching-the-voids-report>.

⁵⁰ In 2015, NEA and Agility ECO produced a report investigating the possibility to divert budgets currently allocated to load-related network upgrades into local schemes that improve energy efficiency. In the report this concept is explained fully and is referred to as Alternative Investment Strategy (AIS). Specifically, the report looks to analyse the "Size of the Prize" on Northern Power Grid's network, the economic feasibility of investment in local energy efficiency and how this compares to conventional network reinforcement and practical feasibility. To read the report visit: <http://www.northernpowergrid.com/downloads/1704>.

⁵¹ For example burial fees and exclusive rights to burial in a particular plot, cremation fees, including the cost of the doctor's certificate, funeral director's fees, flowers, coffin travel to arrange or go to the funeral, the costs for moving the body within the UK. An indication of the scale of these to a surviving family member or society are that a direct cremation costs c. £1,600, a cremation using a funeral director £3,214 and a burial using a funeral director costs £4,136. Whilst some costs are covered for low income households via a state Funeral Payment, often this is paid for on credit or often loans from a more affluent family member. This in turn inhibits a low income families spending.