

Impacts of Fuel Poverty

North Lincolnshire Public Health Intelligence Team 2022

North Lincolnshire JSNA

Version 5.0

Approved: FINAL VERSION

**North
Lincolnshire
Council**

www.northlincs.gov.uk

Context

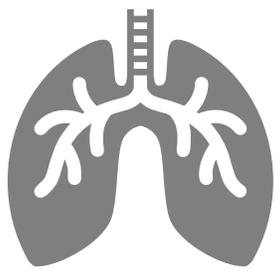
- Global gas prices have risen dramatically following Russia's invasion of Ukraine and the reduction of gas flows into Europe from Russia, increasing the risk of fuel shortages over the coming winter months. In addition to this, electricity prices have also increased resulting from nuclear generation issues in France pushing the wholesale cost of importing power from France up in addition. (Ofgem, 2022b).
- In April 2022 the price cap for domestic consumers in the UK rose by 54% to £1,971 per year for direct debit customers affecting approximately 22 million households. (Ofcom, 2022a).
- The governments Energy Price Guarantees states "The Energy Price Guarantee will ensure that a typical household in the United Kingdom pays around £2,500 a year on their energy bill, depending on their use, for the next 2 years, from 1 October 2022." [Government introduces new Energy Prices Bill to ensure vital support gets to British consumers this winter - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/government-introduces-new-energy-prices-bill-to-ensure-vital-support-gets-to-british-consumers-this-winter)
- The wholesale price for gas this winter has more than doubled since the last price cap announcement in February. From around 197p/therm at the start of February to 556p/therm in mid-August. An increase of over 180%. The wholesale price for electricity for delivery this winter has more than tripled over the same time. From around £188/MWh at the start of February to £618/MWh in mid-August. An increase of 235%. [Energy price cap explained | Ofgem](#)
- The government has announced some support including 'a £150 council tax rebate for certain properties, a £400 energy bill discount for all domestic energy customers, and an additional "cost of living" payment for people on means tested benefits' (Mahase, 2022). Nevertheless, this is not expected to be enough to cover the increase in energy prices, meaning that many more people will fall into fuel poverty.

This briefing report seeks to answer the following questions:

- What is fuel poverty?
- What actions are people taking because of the rising cost of living?
- What impacts does living in fuel poverty have upon vulnerable groups?
- Who is likely to be affected by fuel poverty in North Lincolnshire?
- In which areas of North Lincolnshire are residents most likely to be fuel poor?

Key Points

- In 2020, 12,385 (16.3%) households in North Lincolnshire were in fuel poverty. This compares with 13.2% the England average.
- In 2019 it was estimated that cold related illnesses cost the NHS at least £2.5billion each year.
- There is a strong correlation between deprivation and fuel poverty with higher prevalence of fuel poverty in North Lincolnshire corresponding with more deprived areas.
- Certain groups are more likely to experience adverse health impacts as a result of fuel poverty including children, the elderly and people living with a long-term disability or illness.
- Children living in fuel poor homes are at risk of suffering of developing lifelong physical health implications as well as lowered educational attainment. This can contribute towards an intergenerational cycle of poverty.
- People living with disabilities or long-term health conditions are likely to be disproportionately affected by rising fuel costs in order to maintain their quality of life. In addition, people living with disabilities or long-term conditions, are more likely to face challenges in gaining and retaining employment. They are also more likely to require specialist travel arrangements, be employed on low wages and to need to work part time which affects their earning potential.
- Elderly people are more at risk if they live in an older property which is less likely to be energy efficient. Living in a cold home can have a significant adverse affect on an older persons respiratory and circulatory systems as well as causing muscle stiffness making falls more likely.



Living in a cold and damp home can put a child at risk of suffering from lifelong pulmonary function deficit

£2.5 Billion

Annual cost to NHS of treating cold related ill health



33% of the working age population reported having a **long-term health condition** in 2020/21

12,385 (16.3%)

Households in fuel poverty in North Lincolnshire in 2020



1 in 5 of the working age population reported having a **disability** in 2020/21

1.7 Million

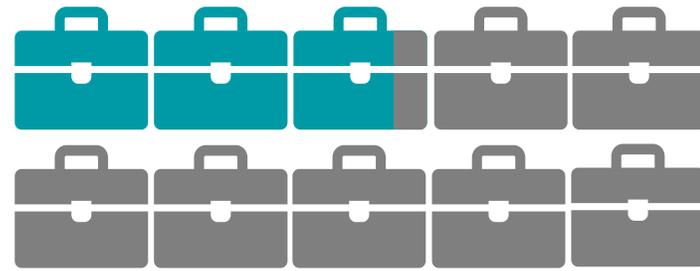
School days missed annually across the EU due to conditions caused by damp and mould

Expenditure on food and clothing decreases to pay for heating.



18°C

Minimum temperature to reduce respiratory mortality and morbidity



28.4% disability employment gap

What is Fuel Poverty?

- Fuel Poverty relates to households that have to spend a high proportion of their household income to keep their home at a reasonable temperature.
- Affected by three key factors:
 - household income; fuel costs; energy consumption (dependant on dwelling energy efficiency)
- In England, the 2021 Low Income Low Energy Efficiency (LILEE) indicator defines fuel poverty as a household living in a property with an energy efficiency rating of band D,E, F or G and with a disposable income (income after housing costs and energy needs) that is below the relative poverty line (relative poverty being defined as having an income 60 per cent below the median national household income)
- This means residents of properties rated A – C for energy efficiency cannot be deemed fuel poor regardless of their ability to afford adequate heating. [Official figures are therefore likely to underestimate actual levels of fuel poverty.](#)

National and Local Authority Fuel Poverty

Department for Business, Energy and Industrial Strategy: Sub-regional Fuel Poverty England 2022 (2020 data) modelled data shows that:

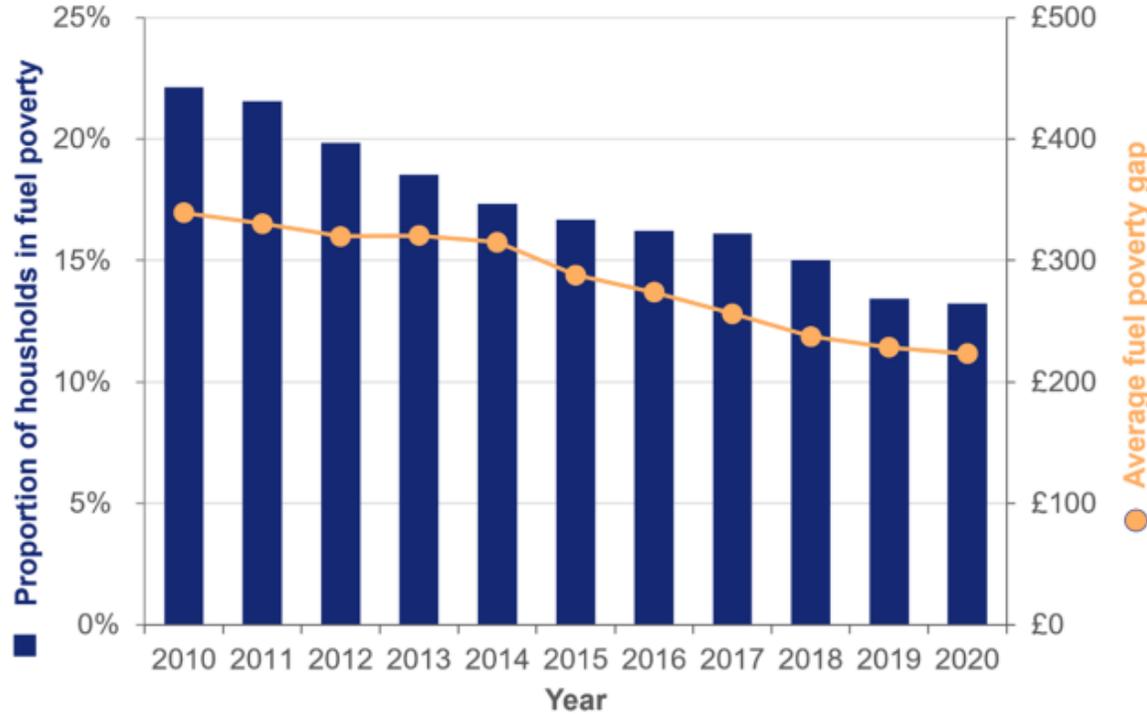
- In England nearly 3.2 million households (13.2%) were in fuel poverty
- In Yorkshire and the Humber region 0.4m households (17.5%) were in fuel poverty, with:
 - 12,385 households (16.3%) in North Lincolnshire
 - 13,353 households (17.8%) in North East Lincolnshire
 - 22,581 households (14.7%) in East Riding of Yorkshire
 - 25,209 households (20.8%) in Kingston upon Hull

(Citizens Advice, 2022)

Fuel Poverty Trends

- National fuel poverty has fallen from 22.1% in 2010 to 13.2% in 2020*
- In the same time the average amount needed to lift a fuel poor household out of fuel poverty has decreased from £339 in 2010 to £223 in 2020*
- Whilst the Government predicts fuel poverty will continue to fall (House of Commons Research Briefing, Fuel Poverty, May 2022) the National Energy Action charity estimates that the Covid-19 Pandemic and cost of living increases have driven a rapid rise in fuel poverty to an estimated 23.4% in spring 2022 and potentially higher by January 2023 depending on the level of Government intervention.
- **An equivalent 10.2% (2020-2022) increase in North Lincolnshire would lead to an additional 17,620 (45,780 in total) residents living in fuel poverty**

Fuel poverty trends in England 2010-20



* Source: Department for Business, Energy and Industrial Strategy: Trends in Fuel Poverty England (LILEE) 2022 (2010 to 2020 data)

Opinions and Lifestyle Survey July 2022

ONS: What actions are people taking because of the rising cost of living? Opinions and Lifestyle Survey July 2022

- Most common impacts observed from cost of living crisis:
 - increase in the price of food (94% of respondents)
 - increase in the cost of gas and electricity (82%)
 - increase in the price of fuel (77%)
- The most common actions taken for those seeing a rise in the cost of living are:
 - spending less on non-essentials (57%)
 - using less gas and electricity (51%)
 - cutting back on non-essential journeys (42%)
 - cutting back on food and essentials (35%)
 - using savings (23%)
 - using more credit (13%)



(Office for National Statistics, 2022)

Cost of Living Crisis

Citizens Advice Dashboard [CA cost of living data dashboard | Flourish](#)



- Proxy for acute need
- Advice regarding energy, charitable support and food banks predominate.
- In 2022 cost of living advice exceeded other advice for people with disabilities or long term conditions.
- [Most common debt advice relates to energy.](#)
- Debt advice for people who can't top up prepayment meters has increased significantly during the cost of living crisis compared with before.
- The proportion of help for debt in a negative income has increased across all groups but particularly for single parents, minority ethnic groups, disabled and self-employed people.
- Numbers being referred to food banks has more than doubled since 2019 particularly for adults with children, minority ethnic groups, under 35s and owner occupiers.

Cold Homes

- Homes that are cold due to fuel poverty exacerbate existing health inequalities
- Cold homes can cause and worsen respiratory conditions, cardiovascular diseases, poor mental health, dementia, hypothermia and problems with childhood development. In some circumstances, health problems may be exacerbated to a degree that they may cause death.
- In 2019 it was estimated the NHS spends at least £2.5 billion per year on treating illnesses that are directly linked to cold, damp and dangerous homes
- Certain households are more likely to be in fuel poverty including those living on low incomes, with dependent children, that are home to people with disabilities and minority ethnic households
- Certain groups are more likely to experience the health impacts of fuel poverty including older adults, children and households home to people living with chronic illness and disability



Icons open source from [Health icons](#)

Groups Most Impacted by Fuel Poverty

Groups most likely to be in fuel poverty (2020) (ranked by product of prevalence and gap)			
Group	Category	Fuel poor %	Mean fuel poverty gap £
Fuel poverty energy efficiency rating	G	26.0	1566
Employment status	Full-time education	40.1	255
Income decile	1st decile - lowest income	46.5	215
Main fuel type	Electricity	22.6	432
Gas grid connection	No	19.4	477
Gas payment method	n/a = No gas	19.4	455
Dwelling type	Converted flat	22.0	358
Age of dwelling	Pre 1919	21.7	331
Rurality	Rural	13.5	501
Wall insulation type	Solid uninsulated	22.5	292
Declared and assumed benefits	Yes	29.1	216
Electricity payment method	Prepayment	30.6	202
Tenure	Private rented	25.0	238
Age of oldest person	16 - 24	28.8	205
Age of youngest person	11 - 15	19.2	272
Household composition	Lone parent with dependent child(ren)	26.5	170
Floor area	Less than 50 sqm	15.4	271
Ethnicity	Ethnic minority	19.1	171
Vulnerability	Vulnerable	14.3	221

- Highest prevalence of fuel poverty amongst **lowest income households** (46.5%) and those in **full-time education** (40.1%)
- Highest fuel poverty gap amongst properties with energy rating G (£1566)
- High fuel poverty gap amongst **rural properties** (£501) and those with **no access to mains gas** (£477)
- Occupants of the oldest dwellings are most likely to be fuel poor compared to newer properties
- Occupants of **private rented property** and households with **electric pre-payment meters** are likely to be excessively impacted by fuel poverty
- Younger people more likely to be impacted than older people
- Households with a **lone parent of dependant children** more likely to be fuel poor than other household compositions
- **Ethnic minority** households are more likely to be fuel poor than white households
- There will be considerable group overlap which will exacerbate poverty amongst those experiencing multiple risks

Fuel Poverty and Children – Physical Health

- Living in a cold home can have a detrimental impact upon a young child's physical development. A young child will need to use more energy to keep themselves warm to avoid becoming hypothermic, as opposed to using it for growth and development, which is essential at this age (Barrett et al., 2021, p.229). A child's lungs are particularly vulnerable during early childhood and living in a cold and damp home can put the child at risk of suffering from lifelong pulmonary function deficit (Barrett et al., 2021, p.229). Some families may attempt to retain heat, by keeping windows and doors closed, although this can be counterproductive and instead contribute to the growth of mould and an infestation of dust mites (Barrett et al., 2021, p.229). Gehrt et al. (2021) explain that mould and dampness in children's homes as well as reduced ventilation, has direct links to declines in children's health with conditions including asthma, allergies and eczema, as well as upper and lower respiratory conditions (p.564). Together these factors can lead to insufficient weight gain as well as an increase in hospital admissions (Anderson et al., 2012, p.40).
- Research undertaken by Pierse et al. (2013) found that the lung function of children with asthma was most greatly affected when exposed to temperatures below 12°C; with bedroom temperature appearing to have a more significant impact than living room temperature (p.922). The World Health Organization (2018) stated that heating a cold home to a minimum temperature of 18°C would have a moderate impact on the reduction of respiratory mortality and morbidity (p.36).
- A further impact of fuel poverty is that some families may face a choice between heating their homes and other basics including food and clothing (Geddes et al., 2011, p.31). Research undertaken by Bhattacharya et al. (2003) found that during colder months, household expenditure on food would decrease by a similar amount as the increase seen in the amount spent on heating fuel (p.1153). "Poor families will face the choice to "heat or eat": either less money can be spent on basics such as a sufficient, healthy diet (with obvious health impacts such as obesity or malnutrition), or less can be spent on heating their homes to a reasonable temperature (Geddes et al. 2011, p.31).

Fuel Poverty and Children – Mental Health

- Children living in overcrowded or poor housing are more likely to suffer from mental health issues including depression and anxiety and this is likely to continue into later life (Harker, 2006, p.9). A study by NATCEN found that adolescents who had spent long periods of time living in homes which lacked affordable warmth were more likely to have multiple mental health needs, 28%, compared to just 4% of those who has always lived in affordably heated homes as children (Liddell & Morris, 2010, p.2993).
- It is not only children's mental health that may suffer as a result of living in a cold home, but also that of their parents. Mohan (2022) explains that fuel poverty can have a significant impact upon their parents too due to pressures to provide their children with the best possible care when they are unable to afford rising energy costs (p.121). However, ultimately this can further impact the health of their children since adversity in childhood can lead to lifelong challenges (Straatmann et al., 2020, p.1). This can contribute towards an intergenerational cycle of poverty where adverse childhood experiences impede a child's education and future employment prospects, leading to the similar experiences for their own children (Hardcastle et al., 2018, p,113).
- Children may also be more likely to be subjected to bullying at school, due to a potentially dishevelled look, resulting from the challenges of trying to dry washing in a cold home (Whitehead et al., 2022). In addition, some families may have to make sacrifices in order to stay warm in the winter, which may include not being able to afford to provide their children with 'good nutrition, educational essentials, toys, birthday parties, and Christmas presents' (Marmot et al., 2022, p.378). These can impact upon a child's mental health and their ability to have a happy and healthy childhood, especially if they feel that they are not able to fit in with their peers (Banerjee & Bittmar, 2008, p.29).

Fuel Poverty and Children - Education

- Living in fuel poor homes can have a negative impact upon a child's access to education. On average, 1.7 million school days are missed across the European Union [EU] each year because of conditions linked to damp and mould in their homes (Gehrt et al., 2021, p.568). Children living in the UK are estimated to miss more school days, due to these conditions, than any other member of the EU, with rates more than 80% higher than the EU average (Gehrt et al., 2021, p.568).
- The Ministry of Housing Communities and Local Government (2020) states that 'in the 2 years to March 2019, an average of 3% of households in England had damp in at least one room of their home'. This highlights the volume of children who could potentially experience ill health resulting from poor housing conditions. Unfortunately, with the number of households set to be affected by fuel poverty increasing, so too is the number of children who will miss school due to ill health, caused by their living conditions.
- Research undertaken by the Department for Education (2016) concluded that pupil absence from school, regardless of the reason for absence, had 'a statistically significant negative link to attainment' (p.22). Low educational attainment is likely to negatively impact upon an individual's future prospects, due to a strong correlation between low educational attainment and higher levels of unemployment (Gregg, 2001, p.F626).
- Furthermore, due to lack of warmth, families are more likely to cluster into fewer rooms, which are heated, meaning that children will be less likely to have somewhere quiet to complete their homework (Liddell & Morris, 2010, p.2993). With the completion of homework activities found to support a number of skills including self-reflection, self-regulation and time management, in addition to enhancing learning, it is important that children are able to concentrate in order to achieve quality study time (Ramdass & Zimmerman, 2011, pp.194-215).

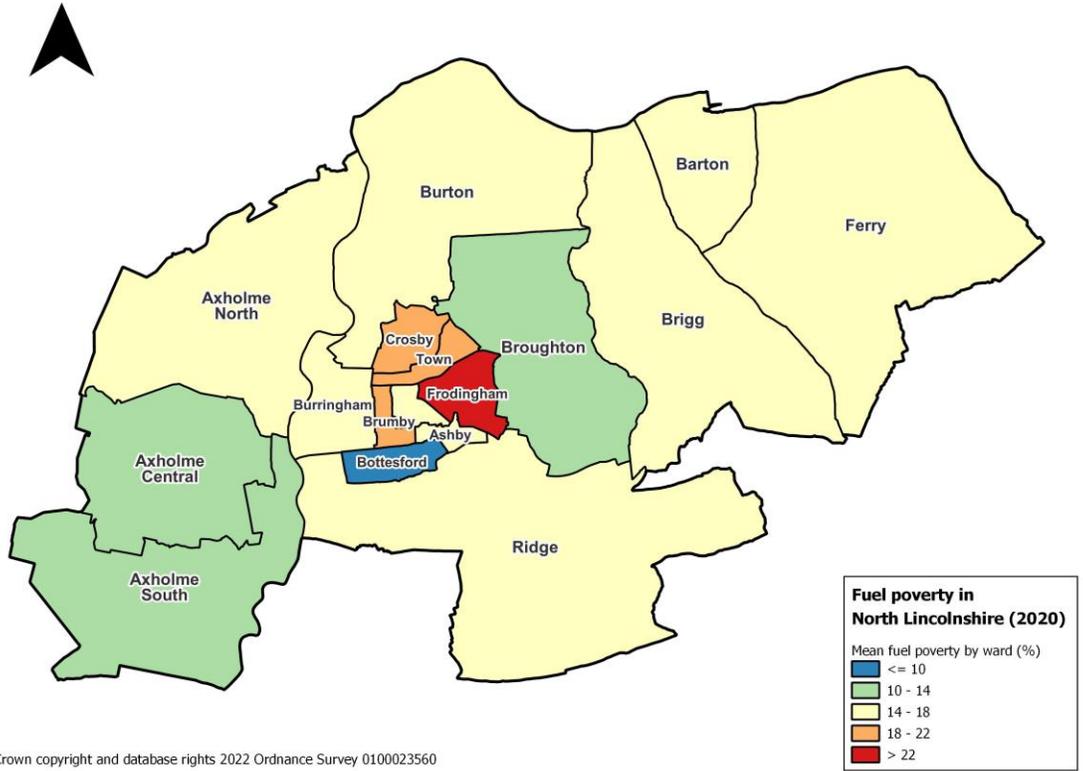
Fuel Poverty and People with a Long-Term Disability or Illness

- 33% of the working age population (ages 16 to 64) reported having a long-term health condition in 2020/21, and 20% reporting having a disability (Department for Work & Pensions, 2022).
- People living with a long-term disability or illness can be disproportionately impacted by rising fuel costs due to their conditions. Snell et al. (2015) interviewed participants with varying needs and considered how they may have increased energy needs to maintain their quality of life, and to protect their health, than non-disabled people, such as to power essential medical equipment, heating to prevent muscle stiffening or additional laundry due to incontinence (p.236).
- In addition to this, people living with long-term disabilities or illness may be physically unable to work or may only be able to work part-time, which can have a detrimental impact on their earning potential (Mould & Baker, 2017, p.25). The Department for Work and Pensions (2022) states that 'disabled workers move out of work at nearly twice the rate (8.8%) of non-disabled workers (4.9%)' and that disabled workers out of work move into employment 'at nearly one-third of the rate (11.0%) of workless non-disabled people (26.9%)'. In Quarter 2, 2021, the disability employment gap stood at 28.4 percentage points (Department for Work & Pensions, 2022). Not only is it harder for someone with a disability or long-term health condition to gain work, but it is also more likely that they will be employed in lower-skilled jobs, on a low income (Department for Work & Pensions, 2022).
- The relationship between poor mental health and fuel poverty is interwoven with one exacerbating the other. Case studies presented by Mould and Baker (2017) found the pressures and concerns of paying rising fuel costs had a negative impact on people's mental health, as well as mental health conditions impacting upon peoples abilities to deal with their suppliers ultimately leading to debts and disconnections (p.25).

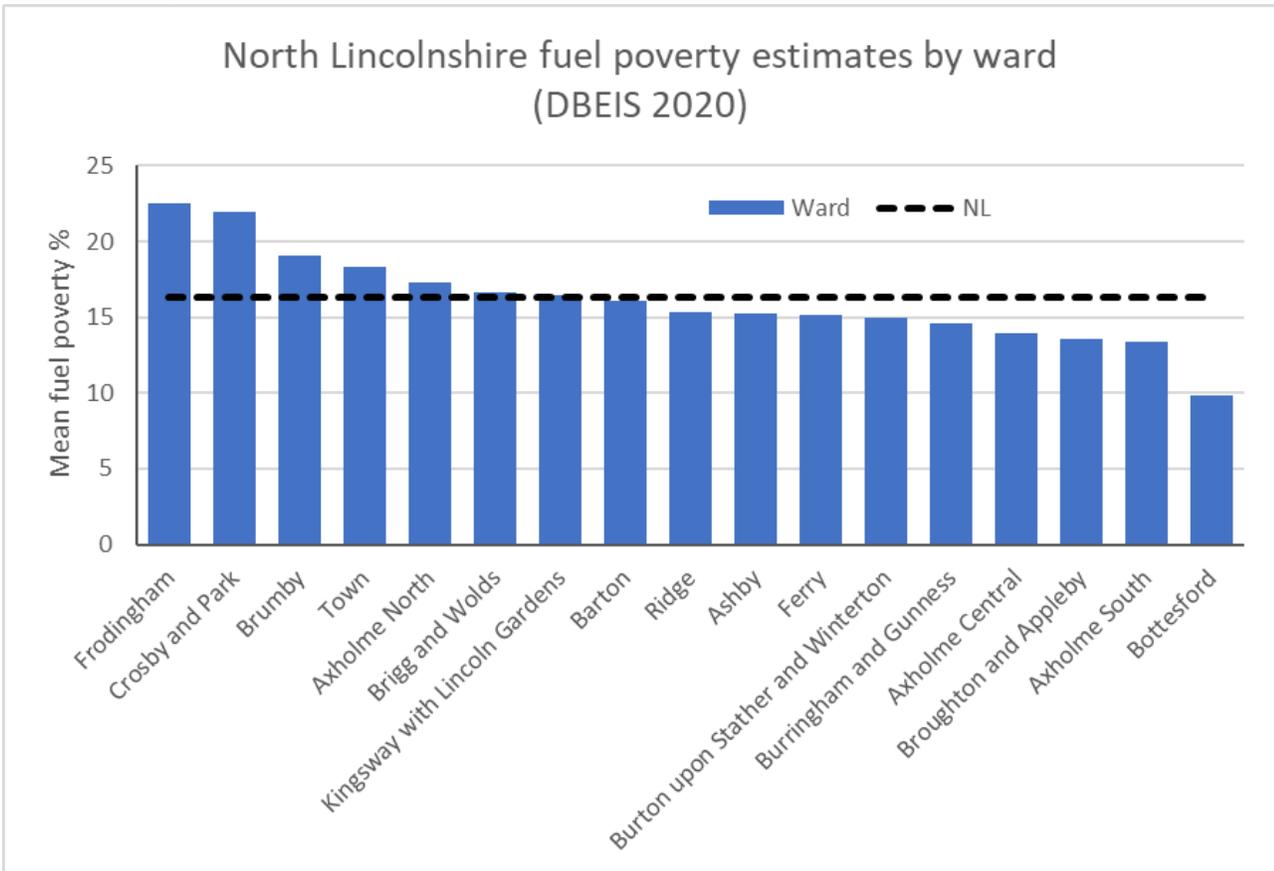
Fuel Poverty and the Elderly

- Deutsch and Timpe (2013) explain how elderly people may commonly live in large family dwellings, where they continue to live even once their children have grown up and moved out (p.2180). These dwellings may typically be older homes which means that they not only have a larger living space to heat, but are also more likely to live in homes which are less energy efficient (Deutsch & Timpe, 2013, pp.2180-2181). In addition, Lawson et al. (2015) explains how most older people are usually retired and therefore likely to spend more time at home than younger age groups, meaning that they need to heat their homes for longer (p.40). Retirement can also mean that the elderly are living on pensions which provide them with less income than people of working age (Hughes et al. 201, p.2).
- Living in a cold home presents a number of physical health risks for older people including increased blood pressure and blood coagulation which can lead to a number of respiratory and circulatory conditions, including an increased risk of heart attacks and strokes (Abdi et al., 2020, p.242; Whitehead et al., 2022). In a survey consulting health professionals on cold related diseases among older people, respiratory disease, influenza, hypothermia, heart attack and depression were most frequently referred to (Abdi et al., 2020, p.244). In addition, in an investigation into the impacts of living in a moderately cold home, upon healthy older women aged between 70 and 95, found that in just 45 minutes, a reduction in the strength and power of participants lower limbs was notable (Lindemann et al., 2014, p.573). This was found to cause a change in participants walking gait, therefore increasing the risk of falls and accidental injuries (Lindemann et al., 2014, p.574).
- Furthermore, elderly residents experiencing fuel poverty are likely to experience poor mental health including depression, due to increased isolation, particularly among those who live alone, as the cold means they feel unable to welcome visitors and therefore begin to shut themselves away (Anderson et al., 2012, p.50). Interviews undertaken as part of the Warm Homes Project found similar results, with people reporting going to bed by 7pm just to keep warm, meaning that regular visitors avoided stopping by. (Harrington et al., 2005, p.263).

Fuel Poverty Prevalence in North Lincolnshire

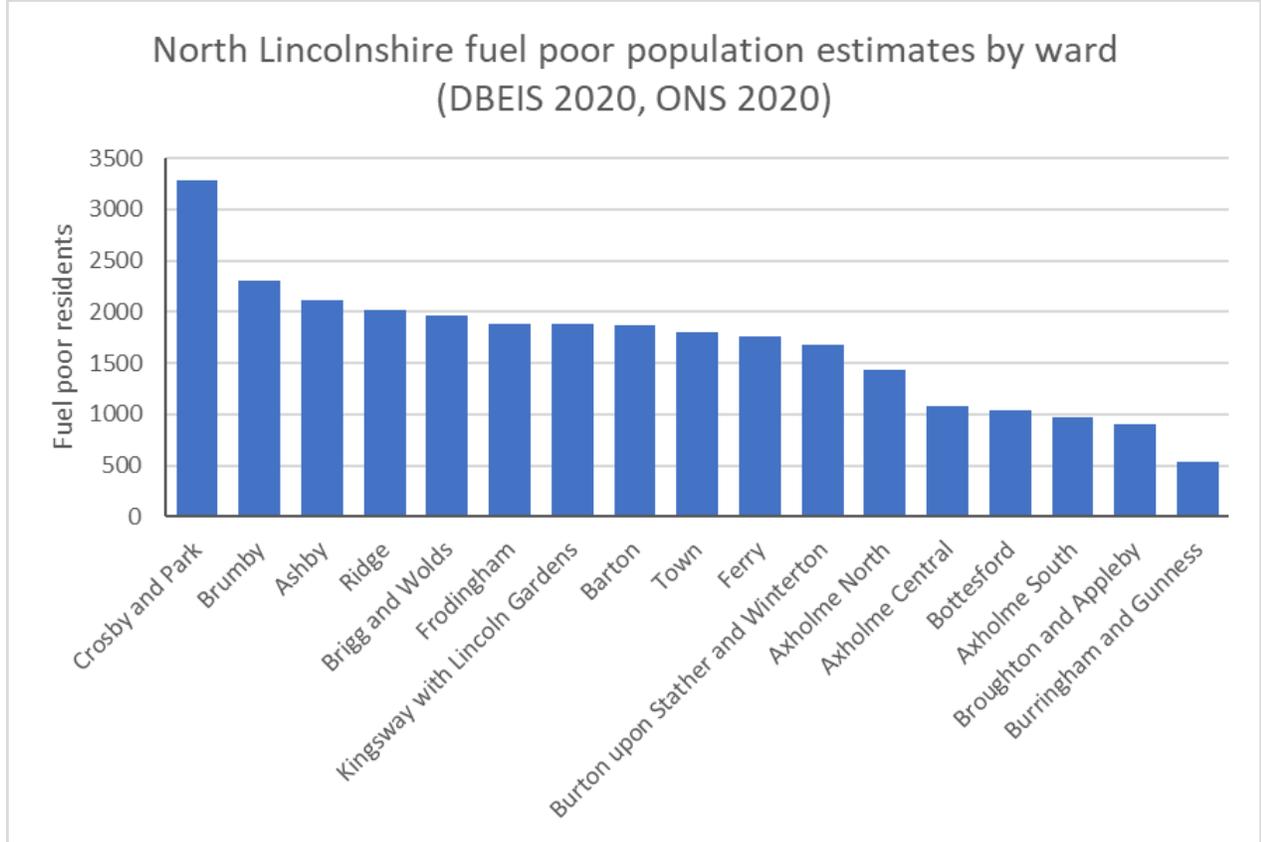
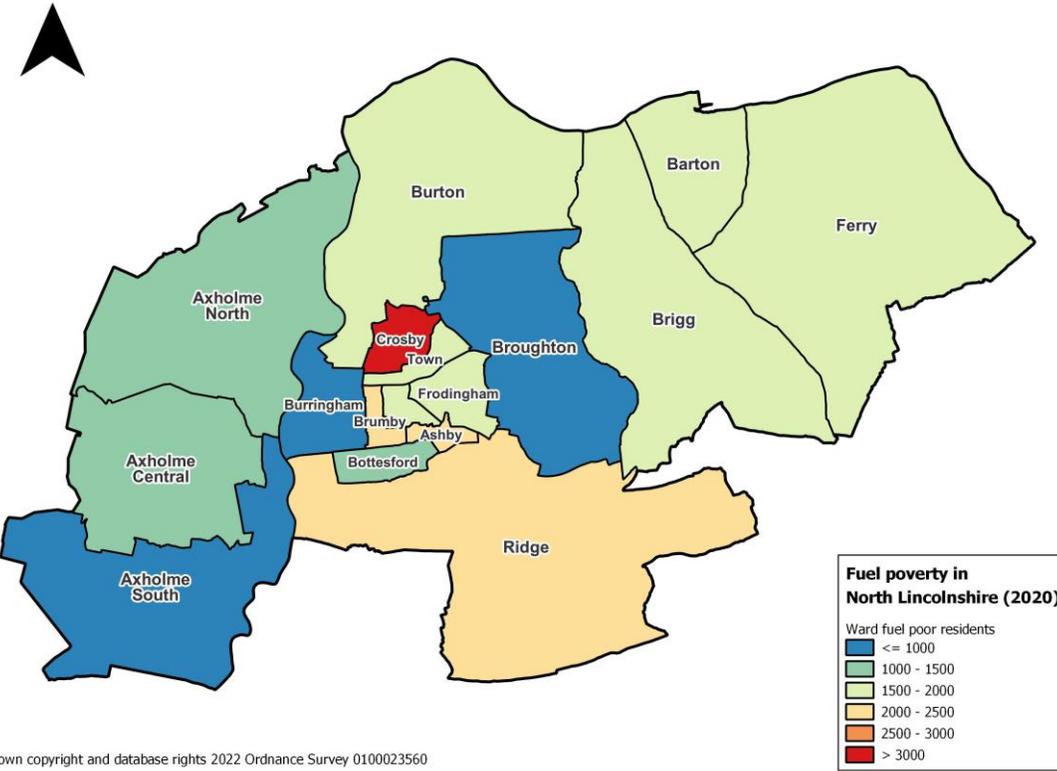


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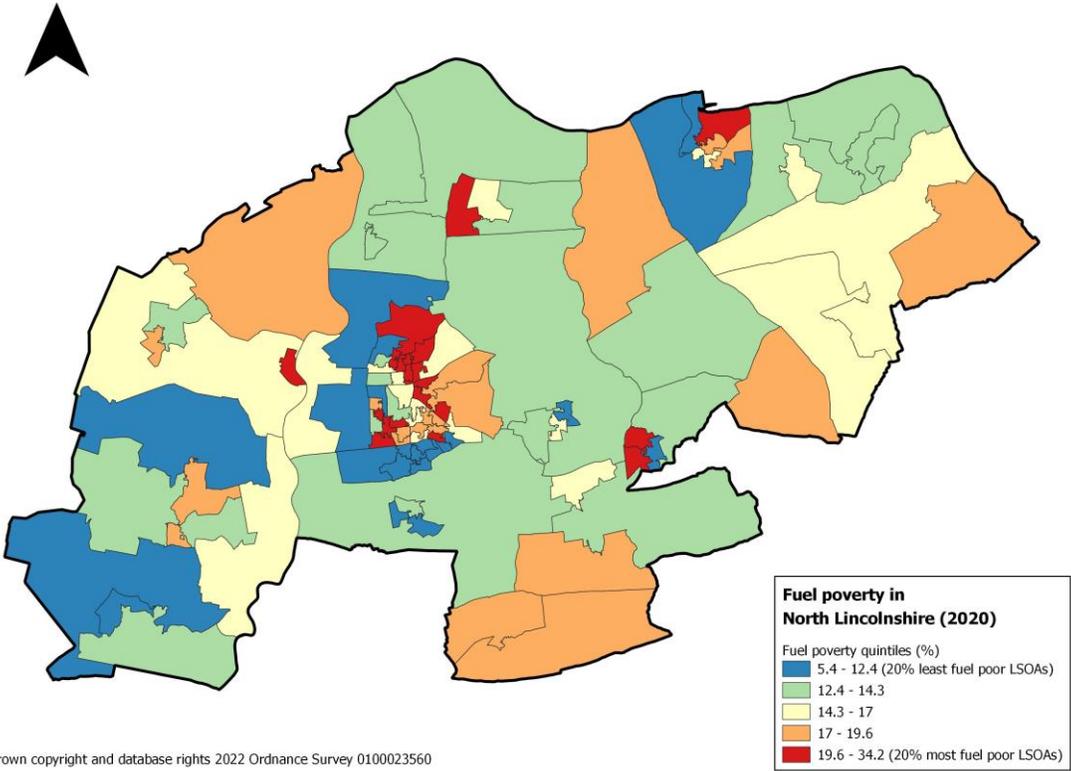
- Fuel poverty impacts on all of North Lincolnshire
- Mean fuel poverty prevalence by ward is highest in Scunthorpe, particularly in Frodingham (23%) and Crosby and Park (22%) wards
- It is lowest in Bottesford ward (9%)

Fuel Poor Residents of North Lincolnshire by Number

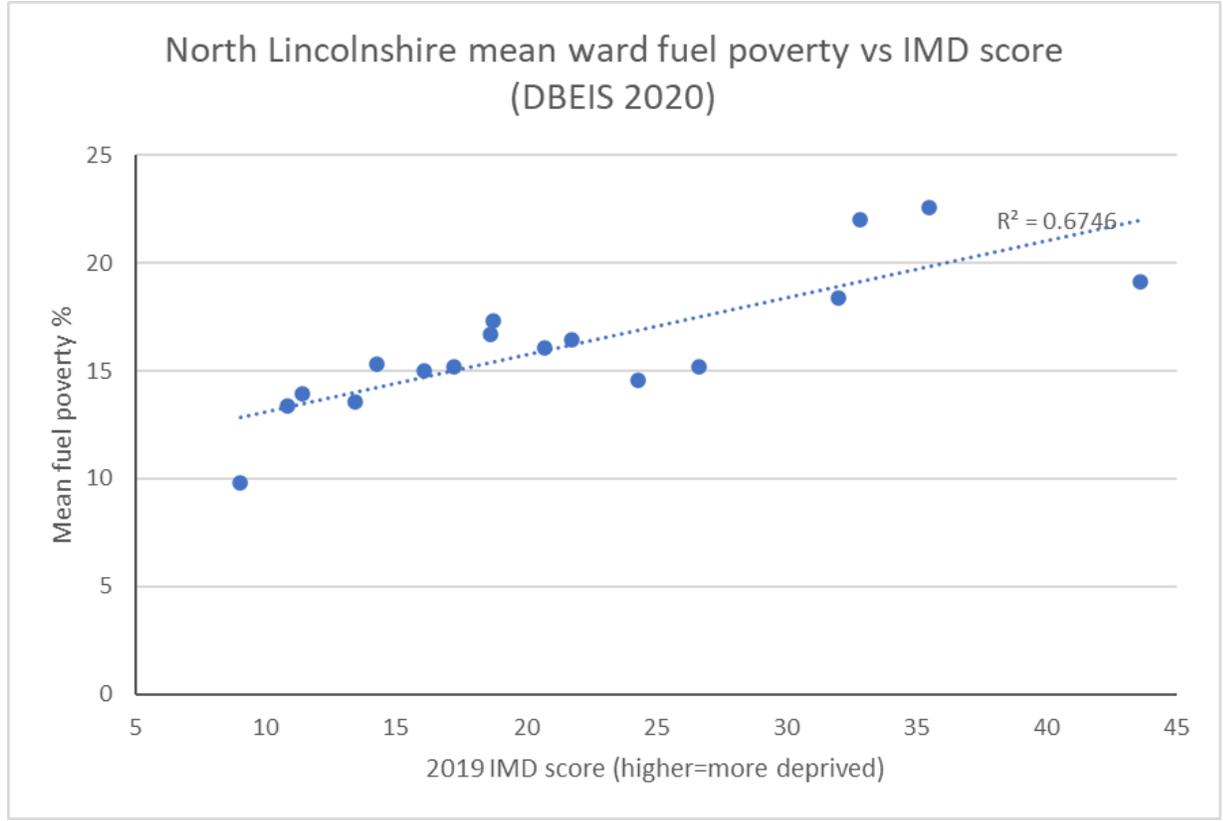


- There are fuel poor residents in all areas of North Lincolnshire
- The largest number live in Crosby and Park (3,280), Brumby (2300) and Ashby (2120) and Ridge (2010) wards
- The lowest number live in Axholme South (970), Broughton and Appleby (900) and Burringham and Gunness (540) wards

Fuel Poverty and Deprivation



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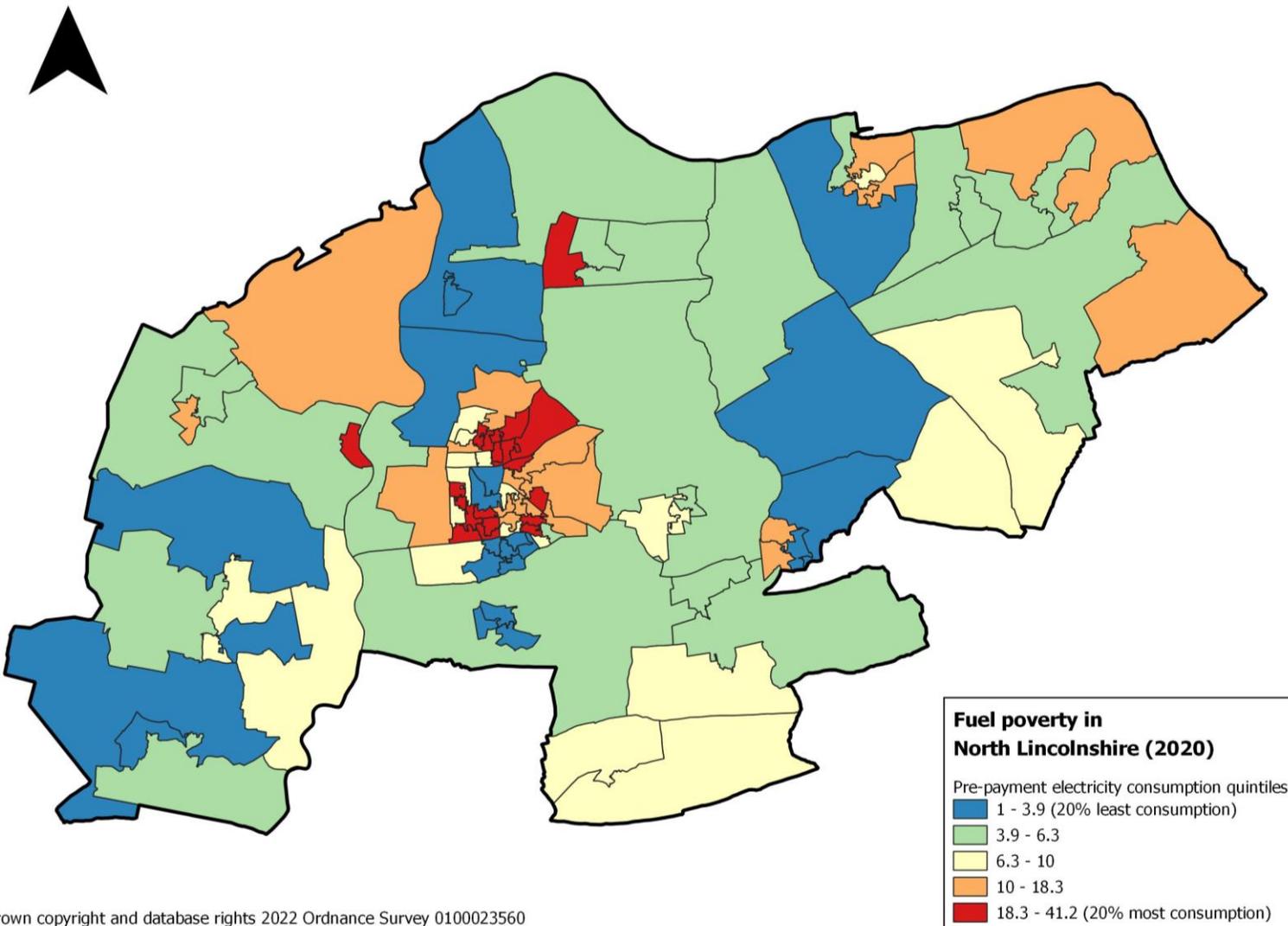
Whilst fuel poverty impacts on all areas, there is a strong correlation between deprivation and fuel poverty with areas of highest prevalence concentrated in the more deprived areas of North Lincolnshire and areas of lowest prevalence concentrated in the least deprived areas

Pre-Payment Meters

As detailed earlier in the document (p12) households with pre-payment meters installed are more likely to be living in fuel poverty.

The map adjacent details the level of pre-payment meter electricity consumption in North Lincolnshire (2020)

- Highest levels of pre-payment meter electricity consumption are found in more deprived areas of Scunthorpe, such as Brumby ward, Town ward and parts of Crosby and Park, Frodingham and Ashby wards.
- There are also higher levels in Keadby and Winterton villages.



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Fuel Poverty Index

North Lincolnshire Public Health intelligence team have developed an index based on fuel poverty related data sources, to help illustrate the local issue to different groups, such as families and older people.

Key Points:

- Many factors, including socio-economic, demographic, vulnerability and health, have a bearing on fuel poverty
- Data on these factors comes from different sources and is available with varying levels of detail so combining them locally to explore the overall impact can be difficult
- Some local data for factors impacting fuel poverty is available for small administrative areas and in these circumstances individual datasets can be compared geographically by ranking areas of highest to lowest impact and then combined to form an overall index in similar fashion to the indices of multiple deprivation.
- A start has been made using various relevant datasets including: house prices, benefit claims, household income, energy usage and distribution, respiratory health, cardiovascular disease and frailty
- The results show how closely the resultant patterns match the distribution of deprivation which will be key to exploring the impact of fuel poverty within North Lincolnshire
- It is however, important to recognise that deprivation is not the sole driver of fuel poverty and to ensure traditionally non-deprived areas do not go unexplored

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