



**Impact of energy price rises on businesses in  
the Highlands and Islands  
for  
Highlands and Islands Enterprise**

**June 2022**



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## Energy Cost Impact

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### Executive summary

Over the last few years, a number of macro-economic and geopolitical factors, including the Russian invasion of Ukraine, have triggered a steep rise in the cost of fuel and energy on a global basis. These price rises have particular implications for businesses in the Highlands and islands.

Wholesale prices of gas and electricity, which can account for up to 40% of an energy bill, have increased significantly between April 2021 and January 2022 – a 300% increase for gas and 233% for electricity. Prior to April 2022, the North of Scotland Distribution Network Operator (DNO) region<sup>1</sup> already had a higher price per kWh of electricity and daily standing charge than the UK average, as well as higher average annual electricity bills than the UK as a whole. The price increases implemented in April 2022 saw the daily standing charge increase by 83% to £0.48 per day, more than most other parts of Great Britain.

In contrast to domestic consumers, there is no price cap on electricity or gas bills for commercial and industrial customers. Additionally, there is currently no dedicated government support for businesses to help manage rising energy bills. The prices for other fuels, including oil, heating oil and vehicle fuel have also increased significantly in recent months.

Many parts of the region do not have gas mains supply. Over half the business units in Scotland not connected to the gas network are in the Highlands and Islands, and these account for 62% of all business units in the region. Therefore there is an over-reliance on electricity and other fuels, particularly for heating, meaning that businesses typically pay more per kWh for their fuel needs, and are also more exposed to price rises and price volatility.

As a result of their peripherality, goods and services from their supply chain have further to travel, and businesses themselves have further to transport their own goods and services to market. Whilst this is across different modes of transport, businesses in the Highlands and Islands are dependent on road transport to a much greater extent than elsewhere. Road transport in the region is also less efficient due to the nature and condition of roads. This reliance on road transport means that any further increase in vehicle fuel and transportation costs will mean a proportionally higher increase in costs for businesses in the region to access their markets.

The Highlands and Islands business base is characterised by small and micro businesses, which are more exposed to increases in business cost – they are far less likely to be able to absorb costs, and are thus more likely to pass on increased costs to customers, also putting them at a competitive disadvantage.

This increase in fuel and energy costs is having – and will continue to have – a disproportionate impact on businesses in the Highlands and Islands. The cost increases will be proportionally higher for these businesses, and the impact of those costs more acute, than for businesses elsewhere in the UK. High – and increasing – energy prices are also affecting business growth, with energy costs identified as a significant barrier. The effect of the energy cost crisis is beginning to be felt at the UK level, with many economic commentators warning of a slow-down in the economy, and the risk of recession. However, regional evidence on energy costs, consumption and the degree of reliance on certain fuels indicates that the effect will be greater for businesses in the Highlands and Islands. With a significant and increasing proportion of the region's households in energy poverty, it is likely that businesses in the Highlands and Islands will face similar constraints.

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<sup>1</sup> This covers the Highlands and Islands as well as Stirling, Clackmannanshire, Perth and Kinross, Dundee, Angus and Aberdeen City and Shire

## Introduction

ekosgen was commissioned by HIE to undertake a short and focused analysis of available data and information to assess the impact of the steep rise in fuel and energy costs on businesses in the Highlands and Islands that are being driven by a number of macro-economic and geopolitical factors. It is based on available data at the time of writing.

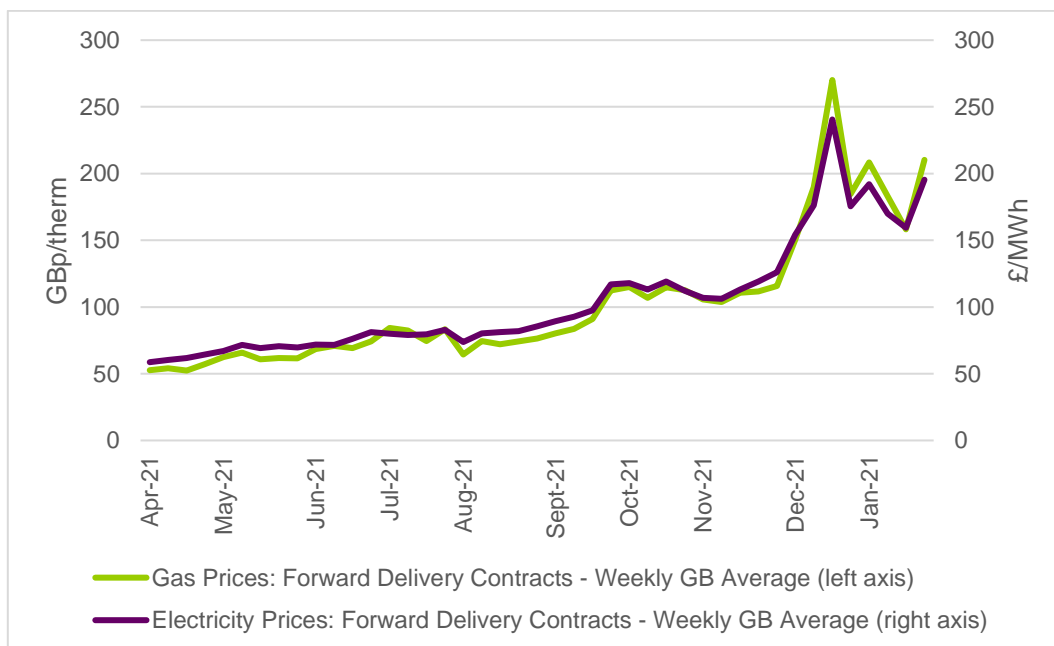
The information in the paper will be used to inform wider pieces of work being undertaken by HIE and partners to help shape potential policy options to explore with Scottish and UK Governments. In line with the brief, the research focuses on energy use by enterprises in the Highland and Islands rather than domestic consumption, private transport costs, and fuel poverty.

## Energy Prices

### Wholesale energy prices

Figure 1 presents the wholesale prices that suppliers typically face when buying gas or electricity to supply their customers. The cost of suppliers purchasing wholesale energy is the largest component of a customer's bill (up to 40%), and wholesale prices can vary significantly compared to other components of a household or company bill. Wholesale gas prices have increased 300% from April 2021 to the end of January 2022, although have subsided from a peak of 270.12 GBp/therm on 20<sup>th</sup> December 2022 (over 5 times the price on 5<sup>th</sup> April 2021). Wholesale electricity prices have increased 233% from April 2021 to the end of January 2022, reaching a peak of 240.58 £/MWh (over 4 times the price on 5<sup>th</sup> April 2021).

**Figure 1: Wholesale gas and electricity prices<sup>2</sup>**



Source: Ofgem 2022<sup>3</sup>

In the case of domestic consumption, the price cap allows energy companies to pass on all reasonable costs to domestic customers, including increases in the cost of buying gas, while setting a limit on the maximum amount suppliers can charge consumers for each unit of gas and electricity, as well as setting

<sup>2</sup> Latest data 24/1/2022

<sup>3</sup> <https://www.ofgem.gov.uk/energy-data-and-research/data-portal/wholesale-market-indicators>

a maximum daily standing charge. The price cap is updated twice a year and tracks wholesale energy and other costs.

The energy price cap has increased from 1 April 2022, affecting approximately 22 million customers across the UK. Those on default tariffs paying by direct debit will see an increase of £693, from an average bill of £1,277 to £1,971 per year<sup>4</sup>. Prepayment customers will see an increase of £708, from an average bill of £1,309 to £2,017.<sup>5</sup> Cornwall Insight predicts the energy price cap to go up by about 30% in October, which would add another £600 to the average bill. With the invasion of Ukraine and subsequent sanctions on Russia causing volatile wholesale prices and at least four months to go until the Winter cap is announced, predictions for the cap are likely to change. Significant cap rises, however, look inevitable.<sup>6</sup>

Cornwall Insight showed that on a year-on-year basis, SME customers are facing an average gas bill rise of over 250%, based upon delivered prices. Unlike domestic customers, there is no price cap for non-domestic customers and they have yet to see any dedicated government support to manage the record high energy bills they are facing.<sup>7</sup>

No price cap on non-domestic consumption has meant that suppliers have been able to increase their out of contract rates by as much as they saw necessary to cover their increased costs. This has seen out of contract rates (also known as deemed rates) rise by an average of 100% since August 2021.<sup>8</sup> It is worth noting that these increased energy prices are taking place against a backdrop of prices of inputs and raw materials generally increasing often due to supply chain shortages and issues, as well as reduced consumption because of the deterioration of living standards. Businesses therefore find themselves having to balance the choice between absorbing or passing onto consumers their increased production costs, knowing that charging their own customers more can reduce their sales.

The succession of Brexit, COVID-19 lockdowns, supply chain issues, and now increased energy prices have worked to make production more expensive, have created difficulties in recruiting staff, and restricted access to investment and global markets. The combination of these big challenges with the geo-political instability are impacting not only on the current health of businesses, but also on their prospects in the longer term.

SMEs are at risk of experiencing a stronger impact from the mentioned challenges. Because of their size, smaller companies have a reduced ability to buffer more drastic changes: on the one side, staffing issues can create more disruption to smaller companies; on the other side, they can find it harder to absorb increased production costs.

## Reliance on non-gas fuels for business-running operations

It is also worth noting that a number of areas in the Highlands and Islands are not connected to the gas mains. Orkney and Shetland have no gas mains connection, along with much of Highland (all of Lochaber, Skye and Wester Ross, Sutherland, and more rural parts of Inner Moray Firth) and more remote parts of Argyll and Bute, and Na h-Eileanan Siar. Businesses (as well as domestic consumers) in these areas must rely on energy sources such as oil and electricity for business operations, heating and so forth. The extent of this is demonstrated in Table 1. It shows that 62% of business premises in the region do not have mains gas supply, ranging from 23% in Moray, to 100% in Orkney, Shetland and Lochaber, Skye and Wester Ross. In contrast, only 15% of business premises in Scotland are not

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<sup>4</sup> Difference due to rounding.

<sup>5</sup> Ofgem. Available at: <https://www.ofgem.gov.uk/publications/price-cap-increase-ps693-april>

<sup>6</sup> <https://www.cornwall-insight.com/press/cornwall-insight-releases-latest-winter-price-cap-predictions-as-summer-2022-cap-introduced/>

<sup>7</sup> <https://www.cornwall-insight.com/businesses-facing-a-250-increase-in-gas-bills/>

<sup>8</sup> <https://bionic.co.uk/blog/noticed-energy-prices-have-fallen-over-past-few-months/>

connected to gas mains supply. Further, over half the business premises in Scotland without a gas mains connection are in the region.

For these business premises, there is a greater reliance on fuels other than gas for the provision of energy and heating – and fuels that typically cost more per kWh (as discussed below). Having fewer alternatives, the businesses (and households) in these areas have fewer options on how to mitigate volatility in energy prices, and as such are at a disadvantage.

**Table 1: Businesses not connected to gas mains by area**

Area	Total local units (2021)	Local units not connected to gas mains <sup>9</sup>	
		N	%
Argyll and the Islands	5,150	2,800	54%
Highland	13,775	9,025	66%
<i>Caithness &amp; Sutherland</i>	<i>2,785</i>	<i>2,110</i>	<i>76%</i>
<i>Inner Moray Firth</i>	<i>8,010</i>	<i>3,935</i>	<i>49%</i>
<i>Lochaber, Skye and Wester Ross</i>	<i>2,980</i>	<i>2,980</i>	<i>100%</i>
Moray	4,055	920	23%
Orkney	1,740	1,740	100%
Na h-Eileanan Siar	1,515	1,160	77%
Shetland	1,890	1,890	100%
<b>Highlands and Islands</b>	<b>28,125</b>	<b>17,535</b>	<b>62%</b>
<b>Scotland</b>	<b>221,075</b>	<b>34,040</b>	<b>15%</b>

Source: UK Business Counts, 2022; BEIS, 2022

## Regional variations in energy pricing

Prior to the April 2022 price increase, there were marked regional variations<sup>10</sup> in energy prices:

- Average electricity price per kWh in North of Scotland<sup>11</sup> (15.60p) was higher than the UK average (14.40p) and South of Scotland average (13.97p);
- Average daily standing charge for electricity in North of Scotland (20.73p) higher than UK average (20.58p), but lower than South of Scotland (21.47p);
- Average annual electricity bills in North of Scotland (£602.13)<sup>12</sup> higher than UK average (£557.94) and South of Scotland average (£549.68).<sup>13</sup>

The cap set by energy regulator Ofgem for the new prices varies by region, resulting in substantial variations across the UK. The increase in price per day for Single Rate Electricity Meter<sup>14</sup> ranges from a 38% increase in London to a 102% increase in North Wales and Merseyside.

The North of Scotland is set to see a price increase of 83%, up £0.22 a day from £0.26 to £0.48. While this is proportionately lower than the price increase expected in the South of Scotland (100% increase),

<sup>9</sup> Proportion of business premises (local units recorded in BRES) in Intermediate Zones where no gas meters are recorded according to data for non-domestic gas consumption by Middle Layer Super Output Area produced by BEIS

<sup>10</sup> Should be noted that Scotland here is split into two regions, North of Scotland and South of Scotland. This potentially masks a greater geographical variation.

<sup>11</sup> The North of Scotland includes: Highland, Moray, Aberdeen City and Shire, Dundee and Angus, Perth and Kinross, Stirling and Clackmannanshire, Argyll and Bute, Eilean Siar, Orkney, and Shetland.

<sup>12</sup> This is calculated using the average UK household annual variable consumption 3,374 kWh (2017 data). Ofgem uses 3,100 kWh per year as their average, whereas GOV.UK uses 3,800 kWh per year. These different approaches explain discrepancies across different-source estimates.

<sup>13</sup> Compare 2022 Electricity Prices: Average UK Rates & Tariffs Per kWh. Available at: <https://powercompare.co.uk/electricity-prices/>

<sup>14</sup> The single-rate meter (single rate) makes no distinction between peak hours (daytime) and off-peak hours (night-time and weekends). It does not include the standing charge.

in absolute terms the new price will be higher in the North of Scotland than in the South of Scotland (48p against 47p).<sup>15</sup>

Prior to the April 2022 price increase, the North of Scotland had higher average energy prices and bills, and the increases are impacting disproportionately, putting businesses in the region at a disadvantage.

## Fuel price comparison

Comparing the price per kWh of various fuels also provides some insight into the likely impact of fuel price rises. As analysis from the Energy Saving Trust (Table 2) shows, price per kWh for fuels such as Oil, LPG and electricity is higher than for gas. This means that where businesses (and domestic households) are more reliant on fuels other than gas, particularly for heating, then they are more exposed to price rises and price volatility caused by geo-political tensions. The Scottish House Condition survey of 2019<sup>16</sup> estimates that rural areas in Scotland are more reliant than urban areas on oil<sup>17</sup> and solid mineral fuel.<sup>18</sup> Similarly, it estimates that 20% of households use electricity as primary heating fuel in rural areas, compared to 9% in urban areas. As Figure 1 showed, electricity prices have followed a trend similar to gas prices in increasing sharply in late 2021 and being currently above previous levels.

**Table 2: Fuel prices, April 2022**

Fuel prices	Gas	Oil	LPG	Wood pellet	Coal / solid fuel	Electricity (off-peak economy 7)	Electricity (on-peak economy 7)	Electricity (standard rate)
Average price (p/kWh)	7.4	11.8	15.5	9.9	6.4	16.7	34.1	28.3
Standing charge (£/year)	99.35	-	62.84	-	-	165.80	-	165.48

Source: Energy Saving Trust, 2022

## Oil prices

After being relatively stable in the \$60-70 per barrel range for much of 2019, oil prices increased in January 2020 following growing tensions between Iran and the US. However, the COVID-19 pandemic and associated lockdowns led to a dramatic cut in demand, oversupply of oil and rapid build-up of stocks. Prices briefly fell to below \$20 per barrel in April 2020, the lowest since February 2002. They have since recovered and increased consistently during the rest of 2020, much of 2021 and early 2022.

An underlying increase in demand, combined with below target supply from OPEC and increased tension at the Russian-Ukrainian border helped to push prices higher. They reached \$90 per barrel in late January 2022 and \$97 per barrel on 22<sup>nd</sup> February 2022, their highest since September 2014.

Oil prices jumped above \$100 a barrel on 24<sup>th</sup> February 2022 when Russia invaded Ukraine. They continued to increase into early March and have remained high and volatile since. The average price of crude oil was \$111.55 in March 2022. There is concern in the market that there will be major disruptions to the Russian supply which, according to the International Energy Agency, could create a global oil supply shock reminiscent of the OPEC oil crisis of 1973-1974.<sup>19</sup>

<sup>15</sup> BBC (March 2022). Big regional divide on some energy bill charges. Available at: <https://www.bbc.co.uk/news/business-60878314>

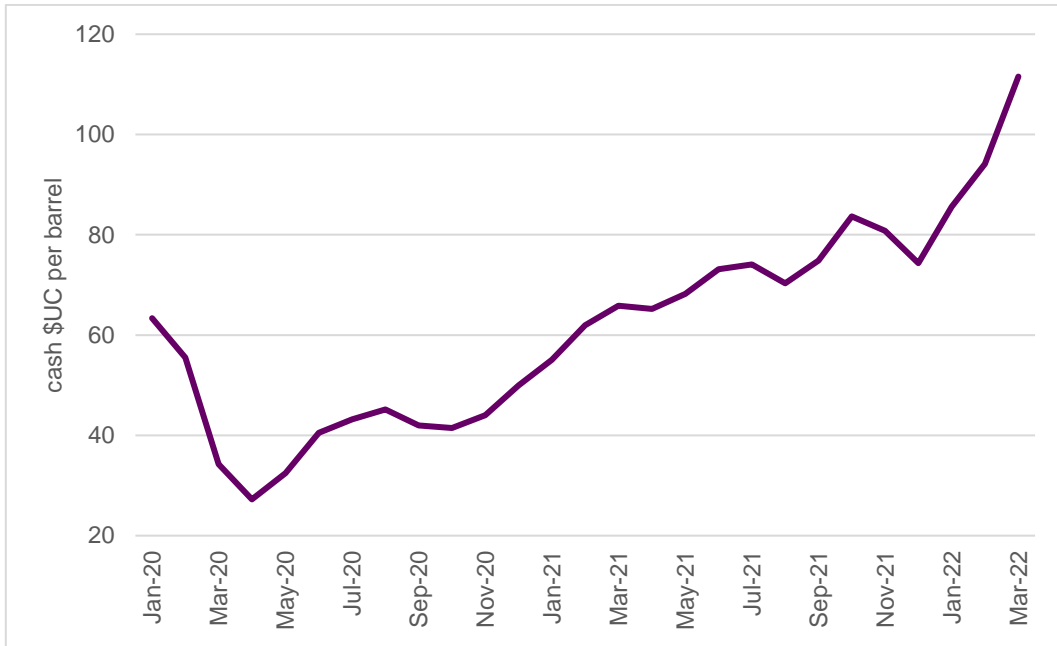
<sup>16</sup> <https://www.gov.scot/collections/scottish-house-condition-survey/>

<sup>17</sup> 28% of households using oil as primary heating fuel in rural areas, <1% in urban areas.

<sup>18</sup> 4% of households using solid mineral fuel as primary heating fuel in rural areas, <1% in urban areas.

<sup>19</sup> House of Commons Library (2022). Oil Prices. Available at: <https://researchbriefings.files.parliament.uk/documents/SN02106/SN02106.pdf>

**Figure 2: Monthly Brent crude price<sup>20</sup>**

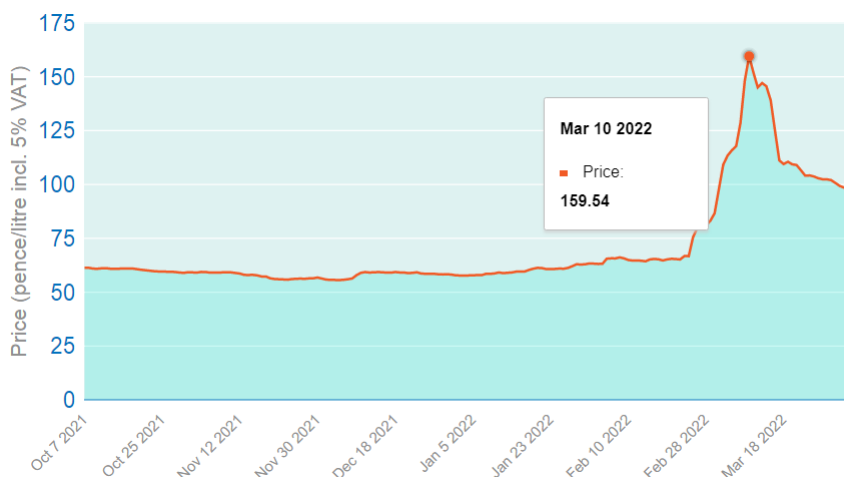


Source: House of Commons Library 2022

### Heating oil

The increase in oil prices and current volatility in global oil markets are impacting on costs for domestic and commercial consumers alike. For example, the UK average price per litre for heating oil increased almost 146% from 64.96p per litre to 159.54p per litre between 10<sup>th</sup> February and 10<sup>th</sup> March 2022 (Figure 3), though it has since decreased to c.98p per litre – though still 51% higher.<sup>21</sup> The price of heating oil in Scotland is higher than the UK average, at 117.04p per litre. ONS RPI data show that the average price for heating oil in February 2022 was already at its highest price since February 2013.<sup>22</sup> This is particularly relevant in the context of areas that rely more heavily on heating oil, as is the case in the Highlands and Islands. As discussed above, it is estimated that about 28% of rural households use heating oil as primary heating fuel, compared to less than 1% of urban households.

**Figure 3: Average heating oil prices, UK, 6-month period to 3<sup>rd</sup> April 2022**



Source: BoilerJuice.com, 2022

<sup>20</sup> Daily prices in \$US per barrel summarised by month. Latest data 21/3/2022

<sup>21</sup> <https://www.boilerjuice.com/heating-oil-prices/>

<sup>22</sup> <https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/ki5u/mm23>



## Vehicle Fuel prices

Vehicle fuel prices (petrol and diesel) have also increased in recent months. Average UK unleaded prices have increased from 126.3 p/litre in April 2021 to 162.2 p/litre in April 2022, a 28.4% increase. Over the same period diesel prices have increased from 129.1 p/litre to 175.9 p/litre, a 36.3% increase.<sup>23</sup> Table 3 sets out the current average prices across the Highlands and Islands, showing that the average fuel price in the Outer Hebrides in April 2022 was higher than both Scottish and UK average. Across Highlands and Islands areas, average fuel prices were lowest in Moray.

**Table 3: Average fuel prices in Highlands and Islands, April 2022**

Area	Unleaded price per litre (p)
Argyll & Bute	159.3p
Highland	159.2p
Moray	153.2p
Orkney	160.5p
Outer Hebrides	164.9p
Shetland	154.9p
<b>Scotland</b>	<b>161.2p</b>
<b>UK</b>	<b>162.2p</b>

*Source: Petrol Map, 2022*

While the average fuel prices might be lower than Scottish and UK average in many Highlands and Islands areas, looking at average fuel prices in absolute terms only gives a partial understanding of the impact. At least two more things should be taken into account: how the increase in prices relates to salaries, as well as the average distances travelled. To contextualise fuel prices increases to salaries to see their impact on the household budgets, Forbes Advisor<sup>24</sup> have compared the average fuel price with the average weekly wage, and compiled a list of the 10 areas in Scotland with the least affordable petrol prices. This list features three areas in the Highlands and Islands:

- Moray (no. 3) where a 55-litre tank (£84.42) currently consumes up to 19.2% of the average weekly wage (£439.50);
- Argyll and Bute (no. 5) where a 55-litre tank (£86.62) currently consumes up to 19.2% of the average weekly wage; and
- Highland (no. 9) where a 55-litre tank (£86.57) currently consumes up to 17.5% of the average weekly wage (£493.80).

As for distances travelled, rural households are more reliant on private transport (e.g. cars) than urban households, and also tend to travel longer distances. Businesses in rural areas also tend to rely more on road transport – this is particularly true for the Highlands and Islands, as discussed in more detail below. While the average price of fuel might be lower in rural areas, then, households and businesses have generally a higher fuel bill. This means they will be impacted relatively more by increased fuel prices than households and businesses that have low reliance on fuel.

SMEs are expected to feel the hit of petrol increases relatively more, especially those involved in delivery and transportation. However, even where companies do not directly operate vehicles, higher fuel pricing will still be felt in increased supply chain costs.<sup>25</sup> This issue is expected to be exacerbated for the SMEs operating in rural areas, as they often have longer shipping distances and fewer alternative options. During the business panel of September 2021 most (93%) businesses in the Highlands and Islands

<sup>23</sup> <https://www.theaa.com/driving-advice/driving-costs/fuel-prices>

<sup>24</sup> <https://www.forbes.com/uk/advisor/car-insurance/>

<sup>25</sup> <https://startups.co.uk/news/petrol-increase-how-does-it-impact-smes/>

indicated that were dependent, at least to a small extent, on road transport for their day-to-day operation, with 73% dependent to a large extent.<sup>26</sup>

An additional factor for businesses is the change to Red Diesel (off-road diesel) taxation. The tax changes made by the UK Government are intended to ensure that most users of red diesel use fuel that is taxed at the standard rate for diesel from April 2022. This measure restricts the entitlement to use rebated (red) diesel and biofuels, including marked oils, as a measure to help meet climate change and air quality targets.<sup>27</sup> This will impact the commercial, construction, haulage and public sectors in particular by increasing their transportation costs by about 47p a litre. The impact on businesses can be substantial,<sup>28</sup> with a ripple effect on the wider supply chain.

## Businesses in the Highland and Islands

### Business base

As shown in Table 4, there are 21,930 businesses in the Highlands and Islands. This represents 12.5% of the total Scottish business base. Highland, Argyll and Bute, and Moray account for the largest proportion of businesses (understandable given area, size of population, numbers of settlements, etc.). Almost half of all Highlands and Islands businesses are located in the Highland region. The geographical distribution of companies is largely explained by accessibility, size of population, number of settlements, etc.

**Table 4: Business base by area**

Area	N	%
Highland	10,775	49%
Argyll and Bute	3,800	17%
Moray	3,180	15%
Shetland Islands	1,550	7%
Orkney Islands	1,445	7%
Na h-Eileanan Siar	1,185	5%
<b>Highlands and Islands</b>	<b>21,930</b>	<b>100%</b>

Source: UK Business Count 2022

It is worth looking at the Highlands and Islands business base in the optic of energy intensive industries. Energy Intensive Industries are industrial sectors that are high users of energy, and therefore energy costs are often a high proportion of their production costs. Energy Intensive Industries are usually manufacturing sectors,<sup>29</sup> in particular food, pulp and paper, basic chemicals, refining, iron and steel, non-ferrous metals, and non-metallic minerals manufacturing.<sup>30</sup>

The Highlands and Islands has a higher concentration of Agriculture, Forestry and Fishing businesses and Construction businesses compared to Scotland, two industries that are relatively energy intensive. Manufacturing, generally the most energy intensive industry, represents a similar proportion of the Highlands and Islands economy to nationally (see Table 5). It is, however, the largest sector in the Highlands and Islands by GVA (£1,696m in 2021).<sup>31</sup> It follows that some of the most important sectors of the Highlands and Islands are particularly exposed to energy prices increasing.

<sup>26</sup> <https://www.hie.co.uk/media/11408/hie-business-panel-october-2021-report.pdf>

<sup>27</sup> <https://www.gov.uk/government/publications/reform-of-red-diesel-entitlements/reform-of-red-diesel-and-other-rebated-fuels-entitlement>

<sup>28</sup> <https://www.bbc.co.uk/news/uk-england-essex-60900755>

<sup>29</sup> House of Common Library (2021). Energy intensive industries. Available at: <https://researchbriefings.files.parliament.uk/documents/CDP-2021-0195/CDP-2021-0195.pdf>

<sup>30</sup> Industrial sector energy consumption. Available at: <https://www.eia.gov/outlooks/ieo/pdf/industrial.pdf>

<sup>31</sup> SDS (2022) Regional Skills Assessments, forthcoming

**Table 5: Business base by industry, 2021**

Industry	Highlands and Islands		Scotland		United Kingdom	
	N	%	N	%	N	%
Agriculture, forestry & fishing (A)	5,315	24%	17,245	10%	141,030	5%
Construction (F)	2,830	13%	21,055	12%	359,710	13%
Professional, scientific & technical (M)	2,305	11%	28,785	16%	452,975	16%
Accommodation & food services (I)	2,160	10%	14,405	8%	167,005	6%
Retail (Part G)	1,500	7%	13,595	8%	220,685	8%
Business administration & support services (N)	1,350	6%	13,085	7%	230,220	8%
Arts, entertainment, recreation & other services (R,S,T and U)	1,295	6%	12,645	7%	176,550	6%
Manufacturing (C)	1,170	5%	9,370	5%	140,095	5%
Health (Q)	670	3%	6,590	4%	104,550	4%
Transport & storage (H)	665	3%	6,575	4%	138,405	5%
Motor trades (Part G)	580	3%	4,780	3%	78,995	3%
Property (L)	570	3%	5,955	3%	105,370	4%
Information & communication (J)	500	2%	9,385	5%	212,960	8%
Wholesale (Part G)	460	2%	5,225	3%	106,735	4%
Mining, quarrying & utilities (B,D and E)	240	1%	1,435	1%	15,355	1%
Education (P)	185	1%	2,010	1%	45,495	2%
Financial & insurance (K)	130	1%	3,200	2%	61,315	2%
Public administration & defence (O)	10	<1%	55	<1%	7,695	<1%
<b>Total</b>	<b>21,930</b>	<b>100%</b>	<b>175,400</b>	<b>100%</b>	<b>2,765,150</b>	<b>100%</b>

Source: UK Business Count 2022

Table 6 shows the workforce by industry, comparing Highlands and Islands to Scotland and Great Britain. Around 7% of the Highlands and Islands workforce, or about 16,250 people, work in energy intensive Manufacturing, with a further 12% (27,500 people), 6% (15,200 people), and 2% (5,675 people) work in relatively energy intensive industries of Agriculture, forestry and fishing, Construction, and Mining, quarrying and utilities respectively. A further 5% of 11,250 people work in Transport and storage, which will be strongly impacted by the increase in fuel prices. This means that in the Highlands and Islands there are close to 76,000 people working in industries that will feel a strong effect from the increase in energy and fuel prices.

**Table 6: Workforce by industry, 2020**

Industry	Highlands and Islands		Scotland		Great Britain	
	No.	%	No.	%	No.	%
Health (Q)	37,250	16%	410,000	16%	4,047,000	13%
Agriculture, forestry & fishing (A)	27,500	12%	80,000	3%	503,000	2%
Retail (Part G)	23,250	10%	241,000	9%	2,832,000	9%
Accommodation & food services (I)	21,400	9%	179,000	7%	2,183,000	7%
Education (P)	17,650	7%	204,000	8%	2,637,000	9%
Manufacturing (C)	16,250	7%	178,000	7%	2,341,000	8%
Public administration & defence (O)	15,400	6%	156,000	6%	1,340,000	4%
Construction (F)	15,200	6%	130,000	5%	1,502,000	5%
Business administration & support services (N)	11,950	5%	197,000	8%	2,628,000	9%
Transport & storage (incl. postal) (H)	11,250	5%	110,000	4%	1,540,000	5%
Professional, scientific & technical (M)	10,800	5%	179,000	7%	2,678,000	9%
Arts, entertainment, recreation & other services (R,S,T and U)	9,350	4%	100,000	4%	1,303,000	4%
Mining, quarrying & utilities (B,D and E)	5,675	2%	67,000	3%	393,000	1%
Wholesale (Part G)	4,750	2%	64,000	3%	1,125,000	4%
Information & communication (J)	4,150	2%	89,000	3%	1,321,000	4%
Motor trades (Part G)	3,875	2%	43,000	2%	546,000	2%
Property (L)	2,725	1%	38,000	1%	591,000	2%
Financial & insurance (K)	1,395	1%	79,000	3%	1,036,000	3%
<b>Total</b>	<b>239,000</b>	<b>100%</b>	<b>2,544,000</b>	<b>100%</b>	<b>30,547,000</b>	<b>100%</b>

Source: BRES 2022

As energy costs increase, the sector specialisation of different Highlands and Islands areas will determine the channels and size of the impact on these areas. The impact will be stronger if the sector of specialisation happens to be an energy intensive industry. Looking at different areas and their specialism, then:

- Shetland<sup>32</sup> and the Orkney<sup>33</sup> Islands specialise in Agriculture, forestry and fishing (likely led by fisheries in particular);
- Orkney Islands also specialise in Mining, quarrying and utilities;<sup>34</sup>
- Moray specialises in Manufacturing<sup>35</sup> and has the highest concentration of Construction firms;
- Argyll and Bute has the highest concentration of Retail as well as Accommodation and food services; and
- Na h-Eileanan Siar has no strong specialism.

We can therefore expect Moray to experience the strongest impact of energy prices increasing on production costs, followed by Orkney Islands and Shetland Islands. More detail on business base by industry and area can be found in Table 7.

<sup>32</sup> Shetland Islands have 7% of Highlands and Islands businesses, but 13% of Agriculture, forestry and fishing businesses.

<sup>33</sup> Orkney Islands have 7% of Highlands and Islands businesses, but 12% of Agriculture, forestry and fishing businesses.

<sup>34</sup> Orkney Islands have 7% of Highlands and Islands businesses, but 17% of Mining, quarrying and utilities businesses.

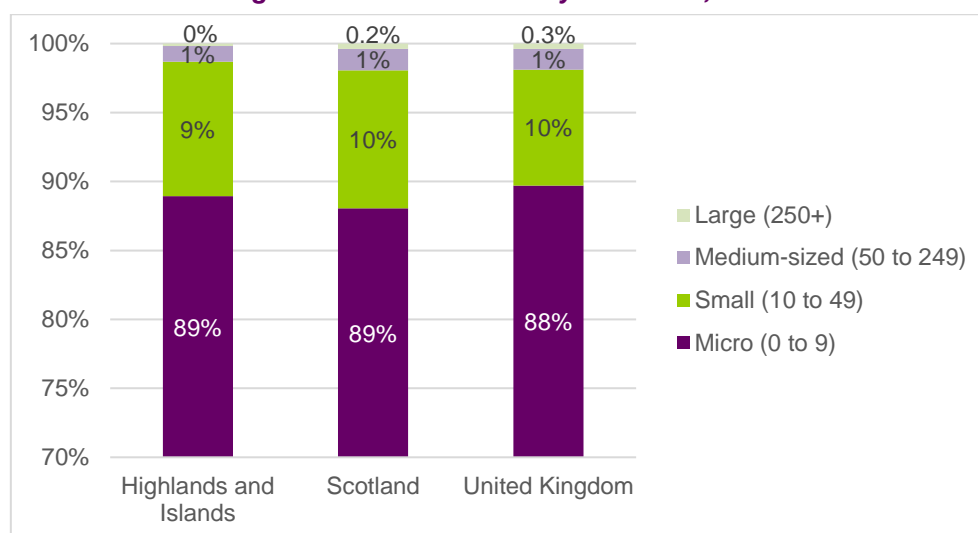
<sup>35</sup> Moray has 15% of all businesses, but 18% of all Manufacturing businesses.

**Table 7: The Highlands and Islands business base by industry and area, 2021**

Industry	Argyll and Bute	Highland	Moray	Na h-Eileanan Siar	Orkney Islands	Shetland Islands
Agriculture, forestry & fishing (A)	800	2,245	630	315	635	690
Mining, quarrying & utilities (B,D and E)	55	95	25	15	40	15
Manufacturing (C)	195	570	210	70	50	80
Construction (F)	400	1,540	475	120	130	165
Motor trades (Part G)	80	280	125	35	30	25
Wholesale (Part G)	90	235	70	15	25	25
Retail (Part G)	365	660	220	85	80	85
Transport & storage (H)	100	345	85	45	50	45
Accommodation & food services (I)	480	1,145	270	110	70	80
Information & communication (J)	105	250	70	35	20	25
Financial & insurance (K)	15	65	35	10	0	0
Property (L)	85	350	70	25	20	20
Professional, scientific & technical (M)	385	1,220	360	105	110	130
Business administration & support services (N)	230	695	225	70	70	60
Public administration & defence (O)	0	5	0	0	0	0
Education (P)	30	100	25	15	5	5
Health (Q)	140	325	90	45	35	30
Arts, entertainment, recreation & other services (R,S,T and U)	245	650	200	65	70	60
<b>Total</b>	<b>3,800</b>	<b>10,775</b>	<b>3,180</b>	<b>1,185</b>	<b>1,445</b>	<b>1,550</b>

Source: UK Business Count 2022

As shown in Figure 4 the business base in the Highlands and Islands is characterised by small and micro business and relatively few medium and large enterprises – in a similar fashion to Scotland and the UK. While commercial energy tariffs will rise for all businesses, small and large, the impact will be felt most keenly by small businesses which are more likely to have tighter margins and more restricted cash flows. This makes them less well placed to cope with increases in business costs such as rising energy costs. They are also more likely to have to pass on increases in running cost increases to consumers in order to survive which puts them at a competitive disadvantage with larger companies.

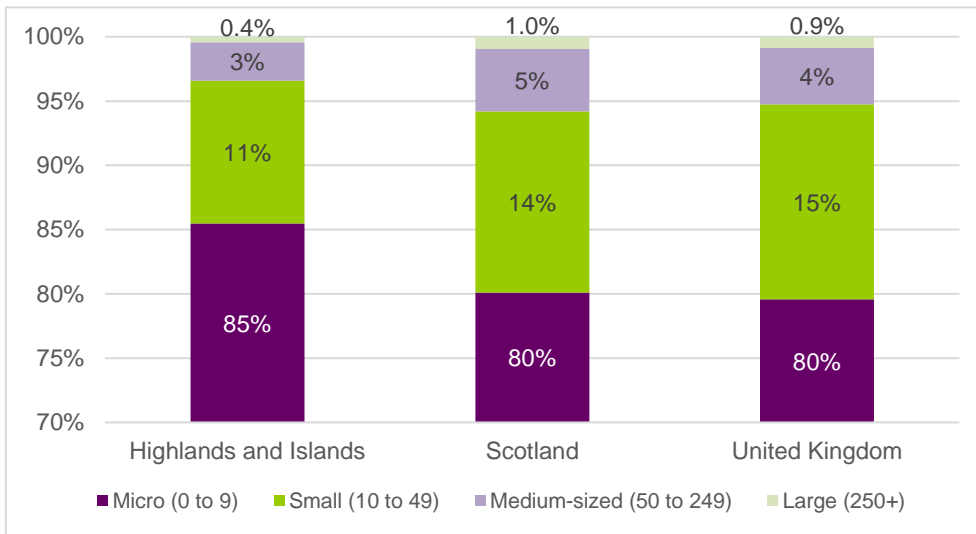
**Figure 4: Business base by size-band, 2021**

Source: UK Business Counts, 2022

The Highlands and Islands has a larger share of micro Manufacturing businesses compared to Scotland and the UK, as Figure 5 illustrates. As discussed above smaller firms are less well placed to cope with higher energy prices, and this is especially true for businesses operating in an energy intensive industry

as is Manufacturing. Manufacturing firms in the Highlands and Islands, then, are expected to struggle relatively more than their competitors outside of the region.

**Figure 5: Manufacturing businesses by size-band, 2021**

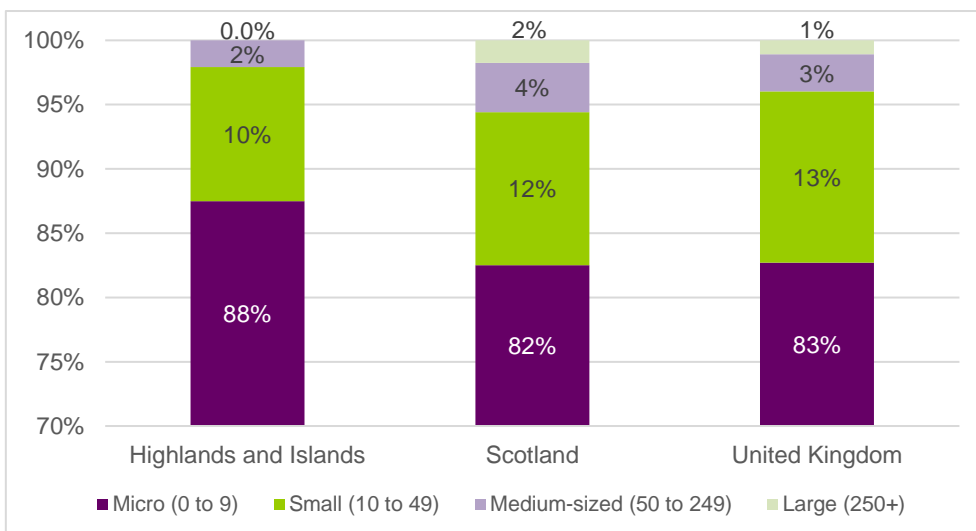


Source: UK Business Counts, 2022

The Highlands and Islands has a marginally higher share of micro businesses in the Agriculture, forestry and fishing industry, compared to Scotland and the UK (98% compared to 96% and 97% respectively). The Highlands and Islands also has a somewhat bigger share of micro businesses in the Construction industry compared to Scotland (92% and 91%), but smaller than the UK (95%). The impact of energy prices increasing in these two relatively energy intensive industries is therefore not expected to differ greatly from the Highlands and Islands to Scotland or the UK because of their size, everything else held constant.

Mining, quarrying and utilities businesses in the Highlands and Islands are smaller than their peers in Scotland and UK, with 88% of businesses in the region being micro, against 82% in Scotland and 83% in Scotland (as seen in Figure 6). As it was for Manufacturing businesses, being smaller puts Mining, quarrying and utilities firms in a more critical position in being able to absorb the increased energy costs.

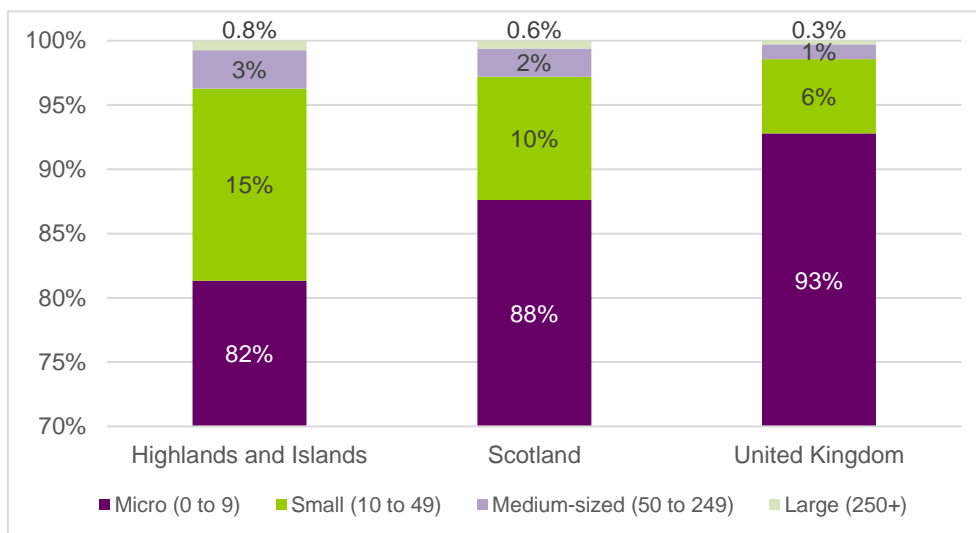
**Figure 6: Mining, quarrying and utilities businesses by size-band, 2021**



Source: UK Business Counts, 2022

Transport and storage businesses tend to be larger in the Highlands and Islands than in Scotland and UK on average: their size is likely to help them absorb some of the increased costs from higher fuel prices better than their smaller peers outside of the Highlands and Islands will. As Figure 7 shows, Transport and storage firms in the Highlands and Islands are more likely to be small and less likely to be micro, compared to both Scotland and the UK. The Highlands and Islands also has a larger share of medium-sized and large Transport and storage firms than Scotland and the UK.

**Figure 7: Transport and storage businesses by size-band, 2021**



Source: UK Business Counts, 2022

In Autumn 2021, the most common concern among Highlands and Islands businesses was increased costs, at 84%.<sup>36</sup> The share of businesses whose primary concern is increased costs had risen to 94% in February/March 2022.<sup>37</sup> These businesses were primarily concerned about the cost of energy (65% citing it as one of the top two or three cost changes they were concerned about) as well as the cost of fuel (62%). In Autumn 2021 businesses had indicated they were more likely to absorb costs than pass them on to customers through price increase. In February/March 2022, however, more than half (54%) of businesses indicated they would be increasing prices to help respond to cost increases. The change of attitude of businesses highlights how quickly the situation has deteriorated.

## Non-domestic electricity and gas consumption

Table 8 shows non-domestic electricity and gas consumption in the Highlands and Islands in 2020. Mean electricity consumption per meter is typically lower in the Highlands and Islands than for Scotland as a whole or Great Britain, with the exception of Moray having mean electricity consumption per meter higher than Scotland but lower than Great Britain. Median electricity use, on the other hand, is either higher than Great Britain and Scotland median (Highland and Shetland Islands), or lower than Scotland median but still higher than the Great Britain median (Moray, Na h-Eileanan Siar, Orkney Islands, and Argyll and Bute). The fact that the Highlands and Islands has relatively low mean and medium-high median suggests that the region has fewer large energy consumers compared to the rest of Scotland and GB, but with proportionally higher consumption. The region's climate, typically colder than other parts of Great Britain, is also assumed to be an influencing factor in consumption levels.

Gas consumption is a mixed picture and skewed by the fact that a number of areas do not have gas mains supply, as discussed above. Table 8 clearly shows that neither Orkney and Shetland Islands have a gas mains connection, with Na h-Eileanan Siar having limited supply. Businesses in areas without a mains gas connection are therefore dependent on electricity and other fuel sources particularly for

<sup>36</sup> <https://www.hie.co.uk/media/11408/hie-business-panel-october-2021-report.pdf>

<sup>37</sup> Early findings, report to be published in the coming months.



heating. Consequently, they are more exposed to price rises and price volatility for these fuels – especially given that for these fuels (excluding coal), the average price per kWh is higher than for gas, as discussed above in relation to Table 2.

Moray, on the other hand, has high gas consumption: both mean and median gas consumption per meter are significantly higher than Scotland and GB figures. This suggests the presence of large non-domestic consumers in the region – Moray has about 5 large businesses (250+ employees) in the Manufacturing sector, as well as about 5 large businesses in the Education sector. It is likely the large Manufacturing businesses that are driving up energy consumption for the region (electricity and gas combined).

**Table 8: Non-domestic electricity and gas consumption, 2020**

	Electricity			Gas		
	Total (GWh)	Median per meter (kWh)	Mean per meter (kWh)	Total (GWh)	Median per meter (kWh)	Mean per meter (kWh)
Highland	745.8	6,465.4	44,651.6	502.1	143,012.1	904,669.7
Moray <sup>38</sup>	273.7	5,628.9	57,981.7	1,279.7	189,163.4	3,199,338.0
Na h-Eileanan Siar	60.1	5,628.5	28,551.4	4.6	184,804.7	353,274.5
Orkney Islands	54.4	5,879.4	23,329.3	0.0		
Shetland Islands	79.5	6,986.4	41,080.6	0.0		
Argyll and Bute	209.3	5,625.1	29,002.8	136.3	124,449.4	399,609.5
<b>Highlands and Islands<sup>39</sup></b>	<b>1,422.8</b>	<b>n/a</b>	<b>40,638.2</b>	<b>1,922.7</b>	<b>n/a</b>	<b>1,170,441.9</b>
<b>Scotland</b>	<b>12,674.8</b>	<b>5,939.3</b>	<b>54,913.3</b>	<b>19,096.9</b>	<b>153,521.2</b>	<b>806,662.8</b>
<b>Great Britain</b>	<b>151,024.3</b>	<b>5,567.7</b>	<b>59,015.2</b>	<b>184,672.3</b>	<b>145,565.0</b>	<b>693,988.1</b>

Source: BEIS, 2022

## Other non-domestic fuel consumption

Table 9 shows the non-domestic consumption of non-transport petroleum fuel (e.g. heating oil) in the Highlands and Islands in 2019. On average, consumption is lower than for Scotland, but more than double the UK average. However, the higher average consumption in Scotland is heavily skewed by the consumption in Falkirk, which accounts for almost 60% of total Scotland consumption (c.1,050 ktoe), likely due to the concentration of petrochemical industries in Grangemouth. Excluding this outlier, the Scottish average consumption is 6.09 ktoe, lower than the average consumption in the Highlands and Islands of 8.76ktoe. Therefore, the Highlands and Islands is more exposed to increases in petroleum prices<sup>40</sup> than the rest of Scotland, and will experience more acute negative impacts. Stronger negative impacts are expected to be felt in energy intensive industries (Manufacturing, and to a smaller extent Agriculture, forestry and fishing, Construction, and Mining, quarrying and utilities) as well as in industry with high reliance on freight (Transport and storage).

There is a similar picture for non-domestic coal consumption (Table 10). Average coal consumption in the Highlands and Islands is higher than for both Scotland and the UK averages. However, Scottish figures are heavily skewed by consumption in East Lothian, which accounts for two-thirds of total Scottish consumption (43.7 ktoe).<sup>41</sup> Excluding this, average Scottish consumption is 0.14 ktoe, and consumption in the Highlands and Islands as a whole (0.51 ktoe) and in every area are much higher

<sup>38</sup> Some gas consumption data is excluded from Moray, as there is at least one large consumer that has complex supply and billing arrangements that cannot be fully reflected in the consumption data

<sup>39</sup> Median consumption per meter data provided at local authority level only and cannot be calculated at regional level

<sup>40</sup> It is worth noting that, unlike gas and electricity, fuel prices are not capped.

<sup>41</sup> This is due to consumption by an auto-generator, an enterprise that generates electricity primarily for its own use and has title to the input and output fuel.



than the Scottish average. Thus, any change in coal price will have a disproportionate impact in the region.

**Table 9: Non-domestic consumption of petroleum (non-road transport fuel) by area, 2019**

Area	Consumption in thousand tonnes of oil equivalent (ktoe)					Total	Avg. ktoe per enterprise <sup>42</sup>
	Industrial petroleum	Rail petroleum	Public administration petroleum	Commercial petroleum	Agricultural petroleum		
Argyll and Bute	17.2	0.4	3.6	0.6	10.5	32.3	8.50
Highland	51.2	2.9	3.5	1.8	27.0	86.4	8.02
Moray	18.3	0.6	0.4	0.2	8.3	27.8	8.74
Na h-Eileanan Siar	6.7	0.4	0.1	0.1	3.2	10.5	8.86
Orkney Islands	5.2	-	0.2	0.3	10.9	16.6	11.49
Shetland Islands	12.2	-	0.1	0.3	5.9	18.5	11.94
<b>Highlands and Islands</b>	<b>110.9</b>	<b>4.3</b>	<b>7.9</b>	<b>3.3</b>	<b>65.8</b>	<b>192.2</b>	<b>8.76</b>
<b>Scotland</b>	<b>1,792.2</b>	<b>49.0</b>	<b>11.4</b>	<b>9.4</b>	<b>256.4</b>	<b>2,118.4</b>	<b>12.08</b>
<b>United Kingdom</b>	<b>9,586.2</b>	<b>555.4</b>	<b>55.0</b>	<b>104.4</b>	<b>1,426.8</b>	<b>11,727.8</b>	<b>4.24</b>

Source: BEIS, 2021; BRES, 2022

**Table 10: Non-domestic consumption of coal by area, 2019**

Area	Consumption in thousand tonnes of oil equivalent (ktoe)					Total	Avg. ktoe per enterprise <sup>43</sup>
	Industrial coal	Rail coal	Public administration coal	Commercial coal	Agricultural coal		
Argyll and Bute	1.3	-	0.1	0.0	-	1.48	0.39
Highland	3.3	0.2	0.4	0.1	-	4.06	0.38
Moray	3.7	0.1	0.0	0.0	-	3.86	1.21
Na h-Eileanan Siar	0.8	-	0.1	0.0	-	0.87	0.74
Orkney Islands	0.2	-	0.1	0.0	-	0.32	0.22
Shetland Islands	0.5	-	0.1	0.0	-	0.63	0.41
<b>Highlands and Islands</b>	<b>9.9</b>	<b>0.3</b>	<b>0.7</b>	<b>0.3</b>	<b>-</b>	<b>11.22</b>	<b>0.51</b>
<b>Scotland</b>	<b>66.5</b>	<b>0.4</b>	<b>1.6</b>	<b>0.7</b>	<b>-</b>	<b>69.10</b>	<b>0.39</b>
<b>United Kingdom</b>	<b>986.7</b>	<b>10.8</b>	<b>15.2</b>	<b>8.0</b>	<b>-</b>	<b>1,020.62</b>	<b>0.37</b>

Source: BEIS, 2021; BRES, 2022

## Reliance on petrol/diesel for transport

The Highlands and Islands stretches for over 640 kilometres from Shetland in the north to Campbeltown at the southern tip of Argyll. It is inarguable that broadly, businesses in the Highlands and Islands have further to transport the goods and services required from their supply chain across different modes of transport, and further to transport their goods to market. Staff may also have to travel further for meetings with suppliers, customers, and to visit other business sites. The HIE business panel from Autumn 2021 noted the importance of transport for businesses in the region, and how the increases in transportation costs have important effects on the businesses.

HITRANS reports that in recent years new rail freight flows have been developed (such as retail goods) which are distributed onwards to stores within and beyond Inverness. These are in addition to the well-established flows.<sup>44</sup> Nevertheless, road transport is the dominant mode for freight transport in the Highlands and Islands and, due to the larger distances involved, road freight transport costs for the region's businesses are generally higher than elsewhere in Scotland. For larger road freight vehicles, fuel can represent between 25% and 30% of total costs (i.e. vehicle costs, driver costs and overheads).<sup>45</sup> Fuel prices are a key issue for road freight transport in the region because:

<sup>42</sup> Estimated by dividing total consumption by total number of enterprises

<sup>43</sup> Estimated by dividing total consumption by total number of enterprises

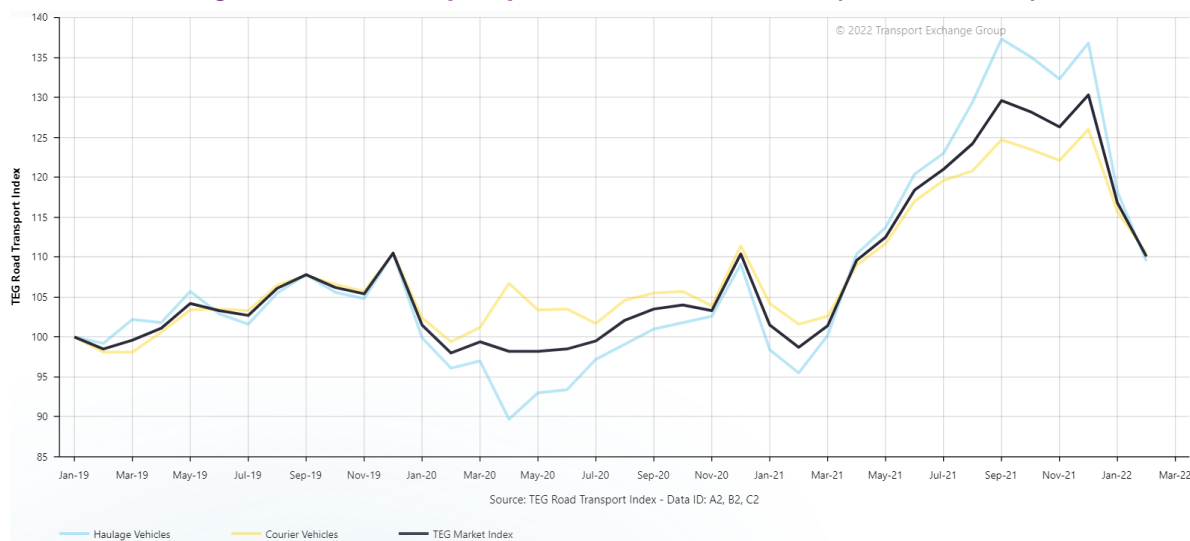
<sup>44</sup> [https://hitrans.org.uk/Travel\\_Modes/Rail](https://hitrans.org.uk/Travel_Modes/Rail)

<sup>45</sup> <http://archive.scottish.parliament.uk/business/committees/lq/inquiries/fti/Highland%20and%20Islands%20Enterprise.pdf>

- Longer distances are involved in moving goods to/from the region.
- The quality of road infrastructure means that fuel efficiency is lower than regions where the road network is of a higher standard.
- Recent data shows that Lerwick has the most expensive diesel in the UK, and Kirkwall is third. Other parts of the region are also in the highest band for diesel prices (Caithness and Sutherland).<sup>46</sup>

Whilst limited data is readily available on cost per tonne of freight shipped at the Scotland level, a typical rule of thumb is that the average cost per mile for road freight was around £1.50 in 2020 – though this does not include additional costs such as ferry charges.<sup>47</sup> However, data from the TEG Road Transport Index indicates an increase in haulage price per mile of 12% between February 2020 and February 2022.<sup>48</sup>

**Figure 8: Road transport price index<sup>49</sup>, March 2022 (Jan 2019 = 100)**



Source: Transport Exchange Group, 2022

The result is higher transport costs for Highlands and Islands businesses, decreasing their competitiveness against those based elsewhere. Businesses based on islands or who sell on to islands from other parts of the region potentially have added costs for importing and exporting goods either by sea or air freight.

In the February/March 2022 HIE business panel, 22% of businesses indicated that were concerned about the cost of transporting goods. The share is higher amongst those in remote rural areas (25%), and amongst businesses in the H&I than elsewhere in rural Scotland.

Other points to note in terms of fuel that will impact on sectors and areas that require marine fuel or have to transport goods using marine transport are as follows:

- Marine fuel prices are volatile, changing within the day and the variance can be significant from one day to the next. To illustrate, it recently rose from £0.74 per litre to £1.00 within three days. As context, generally a whitefish boat refuels after each trip with ~10,000 litres and so even a small uplift in prices will have a substantial impact on fuel costs.

<sup>46</sup> <https://www.confused.com/petrol-prices/fuel-price-index>

<sup>47</sup> See for example <https://www.roadhaulageservices.com/haulage-rates/>

<sup>48</sup> <https://transportexchange.com/road-transport-price-index/>

<sup>49</sup> The TEG Road Transport Index is an arithmetic weighted series, tracking PPM (Price per Mile) each month against a base of January 2019. Weighting is applied according to the mileage mix from each vehicle type, to ensure the PPM of each month is compared accurately with the base month.

- The transport sector will apply surcharges to mitigate rising fuel costs adding to upstream costs.

Air freight plays a limited role in the region's transport system and air freight to and from Highlands and Islands airports tend to be:

- Almost wholly outbound;
- Transported in the holds of passenger aircraft;
- For primary products, notably fish, which is also impacted by the rising cost of marine fuel.

During the pandemic, businesses faced issues in exporting fresh produce as passenger flights were very limited. More recently, rises in aviation fuel prices are applying upward pressure on the cost of passenger and freight air transport. As jet fuels have risen by a third to more than \$150 per barrel since the Russian invasion of Ukraine, air transport is under pressure to pass on these costs to their customers.<sup>50</sup>

## Households in the Highlands and Islands

### Domestic energy consumption

The paper touches on domestic energy consumption although it is not in scope. The rationale is that rising fuel and energy prices, and inflation (in part driven by energy costs), means that consumers of goods and services produced by companies in the Highlands and Islands have less disposable income. The minimum living costs for households in remote rural Scotland were higher compared to urban areas even before prices increased, typically adding 15-30% to a rural household budget compared to an urban one. Travel and transport is the greatest source of additional minimum costs for residents of remote rural Scotland as they have to travel greater distances.<sup>51</sup> Fuel prices increasing should therefore be seen in the context of rural households already spending more on petrol and diesel – and, given the importance of car travel and the lack of alternatives, it will not be possible for households to avoid the additional costs from increased fuel prices.

If domestic energy costs and travel costs rises (including fuel at the pumps) have a disproportionate impact on households in the Highlands and Islands, then households will have greater constraints on their discretionary (leisure, retail, etc.) spend. These consumers will likely spend less in their communities and in local businesses. They may also choose to purchase from businesses outside the region that can be more competitive because their costs have not risen as steeply, and if they are larger enterprises, are more able to absorb cost increases and not pass them on to customers.

As Table 11 demonstrates, the Highlands and Islands has a higher mean domestic electricity and gas consumption than Scotland or Great Britain. Energy bills are therefore already higher, and with disproportionately higher energy price increases as discussed earlier in this paper, the impact on household energy bills will be greater.

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<sup>50</sup> <https://www.ft.com/content/40afb258-3433-43bd-a48d-ab7561aed44a>

<sup>51</sup> <https://www.gov.scot/publications/cost-remoteness-reflecting-higher-living-costs-remote-rural-scotland-measuring-fuel-poverty/pages/5/>

**Table 11: Domestic electricity and gas consumption**

	Electricity				Gas		
	Total (GWh)	Median per meter (kWh)	Mean per meter (kWh)	Mean per household (kWh)	Total (GWh)	Median per meter (kWh)	Mean per meter (kWh)
Argyll and Bute	270.9	3,252.7	4,604.1	6,475.0	328.8	13,400.6	15,918.0
Highland	651.9	3,367.0	4,585.2	5,921.7	642.2	12,386.8	14,121.5
Moray*	188.2	3,004.6	3,900.1	4,358.7	458.3	12,783.5	14,533.5
Orkney Islands	82.9	4,430.0	5,646.7	7,790.7	0.0	-	-
Na h-Eileanan Siar	87.8	3,515.6	4,718.4	6,831.8	20.2	9,432.3	11,839.1
Shetland Islands	96.9	4,373.7	5,581.5	9,259.9	0.0	-	-
<b>Highlands and Islands<sup>52</sup></b>	<b>1,378.5</b>	<b>n/a</b>	<b>4,596.6</b>	<b>n/a</b>	<b>1,449.4</b>	<b>n/a</b>	<b>14,586.6</b>
<b>Scotland</b>	<b>10,033.4</b>	<b>2,722.7</b>	<b>3,519.5</b>	<b>4,001.2</b>	<b>29,406.2</b>	<b>12,171.3</b>	<b>13,898.8</b>
<b>Great Britain</b>	<b>108,486.1</b>	<b>2,902.2</b>	<b>3,747.9</b>	<b>3,955.2</b>	<b>330,825.3</b>	<b>12,145.1</b>	<b>13,697.6</b>

Source: BEIS, 2022

Households in areas without a mains gas connection are more dependent on electricity and other fuel sources particularly for heating. Consequently, they are more exposed to price rises and price volatility for these fuels – especially given that for these fuels (excluding coal), the average price per kWh is higher than for gas, as discussed above in relation to Table 2 and are not capped. The Highlands and Islands has more than double the proportion of households not on the gas mains than for Scotland as a whole, and in many remote and fragile areas this is much higher (Table 12). In Lochaber, Skye and Wester Ross, Orkney and Shetland, no households have a gas mains connection. Additionally, it should be remembered that outside of the main settlements, there is no gas mains connection in Caithness and Sutherland and the Outer Hebrides.

**Table 12: Domestic properties not on the gas network**

Area	Number of domestic properties	Estimated number of properties not on the gas grid	
		N	%
Argyll and the Islands	46170	7,390	16%
Highland	110050	17,290	16%
<i>Caithness &amp; Sutherland</i>	19350	6,870	36%
<i>Inner Moray Firth</i>	68870	10,420	15%
<i>Lochaber, Skye and Wester Ross<sup>53</sup></i>	21,830	21,830	100%
Moray	43160	11,390	26%
Orkney	10640	10,640	100%
Outer Hebrides	12860	1,010	8%
Shetland	10470	10,470	100%
<b>Highlands and Islands</b>	<b>233350</b>	<b>58190</b>	<b>25%</b>
<b>Scotland</b>	<b>2,507,640</b>	<b>311,570</b>	<b>12%</b>

Source: BEIS, 2022

## Domestic fuel consumption

The Highlands and Islands is above Scottish and UK-wide average for usage of petroleum and coal as sources for domestic energy, on average for usage of manufactured solid fuels, and below average on usage of bioenergy and wastes. Table 13 shows the domestic consumption in the Highlands and Islands by area and by fuel type.

<sup>52</sup> Median consumption per meter not available for Highlands and Islands as median consumption calculated at the local authority and national level only. Total and mean figures for Highlands and Islands based on local authority consumption figures.

<sup>53</sup> ekosgen estimate based on meter data

**Table 13: Domestic consumption of fuel by area, 2019**

Area	Consumption in thousand tonnes of oil equivalent (ktoe)				Total
	Domestic petroleum	Domestic coal	Domestic manufactured solid fuels	Domestic bioenergy & wastes	
Argyll and Bute	11.5	2.5	1.4	5.0	20.4
Highland	52.3	9.3	4.6	12.1	78.3
Moray	11.8	1.4	0.8	3.5	17.5
Na h-Eileanan Siar	11.3	1.8	0.9	1.8	15.8
Orkney Islands	6.6	1.2	0.6	1.6	10.0
Shetland Islands	5.4	0.7	0.4	1.3	7.8
<b>Highlands and Islands</b>	<b>98.9</b>	<b>16.9</b>	<b>8.7</b>	<b>25.3</b>	<b>149.8</b>
<b>Scotland</b>	<b>276.9</b>	<b>41.3</b>	<b>27.4</b>	<b>140.3</b>	<b>485.9</b>
<b>United Kingdom</b>	<b>2,551.2</b>	<b>372.2</b>	<b>331.9</b>	<b>2,312.9</b>	<b>5,568.2</b>

Source: BEIS, 2021

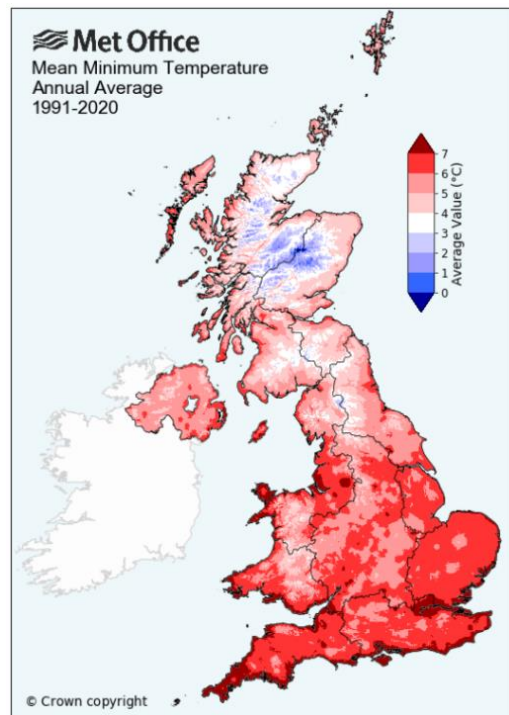
This map shows how the annual average minimum temperature varies throughout the UK, with temperatures up to 7 degrees lower in parts of the Highlands and Islands compared to parts of England.

A report commissioned by HIE found that the cost of heating a home in remote rural Scotland remains far higher than in other parts of the UK. This is due to a combination of factors, including the lack of access to mains gas, the low thermal efficiency of many homes in remote rural Scotland, the climate, and in some cases tariff levels.<sup>[1]</sup>

Domestic electricity consumption was higher in all parts of the Highlands and Islands than in Scotland, with the amount of electricity consumed per household in Shetland (9,260 kWh) more than double the consumption in Scotland (4,001 kWh), although the figure in Shetland is in part greater than Scotland as there is no gas network in the area.

As Table 12 above demonstrates, the price per kWh for petroleum and coal is higher than for other fuels. Therefore, households reliant on these fuels for heating will be more exposed to price increases, and face disproportionately higher energy bills. The Highlands and Islands have about 9% of the households in Scotland,<sup>54</sup> but use over 30% of domestic fuel consumed: 35.7% of the domestic petroleum, 40.9% of domestic coal, 31.8% of domestic manufactured solid fuels, and 18.0% of domestic bioenergy and wastes.

Businesses in the Highlands and Islands will face the same challenges as households with regards to maintaining an adequate level of heating for customers and staff.



[1]

<https://www.hie.co.uk/media/6441/aplusminimumplusincomeplusstandardplusforplusremoteplusruralplusScotlandplus-plusapolicyplusupdateplus2016.pdf>

<sup>54</sup> 8.6% in 2018.

## Concluding remarks

Increasing energy<sup>55</sup> and fuel<sup>56</sup> prices generally have a negative impact on business growth, by affecting supply and overhead expenses, service territories, staffing, and the pricing of products and services.

Based on the analysis of available information, enterprises in the Highlands and Islands are either disproportionately affected by increases in the price of energy sources, or are in a disadvantageous position to face future energy price increases, and thus stand to experience a disproportionately large negative impact. The disproportionate impact works through four (potentially concurrent) channels:

1. Energy prices are increasing across all sources, which increases the production costs for businesses. This phenomenon is shared with other Scottish and UK businesses, and not specific to the Highlands and Islands.
2. In the Highlands and Islands businesses operating in energy intensive industries are often smaller than comparable businesses at Scotland and GB level (especially true for Manufacturing, and Transport and storage). SMEs are more vulnerable to volatility in energy prices, because their smaller size reduces their ability to absorb increases in production costs.
3. The region has a higher dependence on oil, especially in areas that are not connected to gas mains. Oil prices have increased by more than gas prices in recent months, and their volatility continues as the geo-political situation remains unstable.
4. There is typically higher usage for Highlands and Islands businesses, so increases in energy prices are felt more acutely. In particular:
  - a. Highlands and Islands businesses have a higher reliance on freight transport.
  - b. In areas where mains gas is available, consumption is typically higher than the national average.

If business in the Highlands and Islands experience cost increases as a result of energy price rises to such an extent that they are unable to absorb cost increases and costs are thus passed on to customers, then they will be less competitive. This is especially true where businesses in the Highlands and Islands have to increase prices by more than their competition, because of extra pressure from channels 2-4 as described above. Where businesses in the region form part of the supply chain for other businesses in the region, or elsewhere in Scotland, their customers may look for lower cost suppliers.

Higher energy and fuel prices being passed onto customers, paired with higher domestic energy bills, are already creating a crisis of living standards and costs.<sup>57</sup> Fuel poverty in the Highlands and Islands is already higher than for Scotland as a whole<sup>58</sup>, and it is anticipated that this will be exacerbated by the energy cost increases in April.<sup>59</sup>

With the Bank of England tightening interest rates, fears of a recession are growing<sup>60</sup> – pushing households to reduce consumption. Because of high reliance on car transport and higher energy consumption in the region, increases in fuel and energy prices are likely to affect households in the region relatively more compared to other parts of Scotland and the UK. As a result, households in the Highlands and Islands might reduce their consumption relatively more – especially as businesses in the region find themselves passing their increased production costs onto their customers. Because of lower availability of substitutes consumption might not be as heavily impacted as it would be in urban areas, and the size of the impact is hard to forecast – though consumption is expected to decrease relatively

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<sup>55</sup> <https://www.energylivenews.com/2021/10/27/soaring-energy-prices-have-an-impact-on-business-growth-smes-say/>

<sup>56</sup> <https://startups.co.uk/news/petrol-increase-how-does-it-impact-smes/#link-how-will-it-impact-small-businesses>

<sup>57</sup> <https://www.bbc.co.uk/news/business-61419388>

<sup>58</sup> [https://www.eas.org.uk/en/scottish-fuel-poverty-map\\_59455/](https://www.eas.org.uk/en/scottish-fuel-poverty-map_59455/)

<sup>59</sup> [https://www.eas.org.uk/en/fuel-poverty-set-to-break-the-50-barrier-in-parts-of-scotland\\_59652/](https://www.eas.org.uk/en/fuel-poverty-set-to-break-the-50-barrier-in-parts-of-scotland_59652/)

<sup>60</sup> <https://www.bbc.co.uk/news/business-61319867>

more for non-essential goods. A reduction in consumption would negatively affect businesses' revenues at the same time as production costs increase, compressing profits even further.