

Here to give the UK seafood sector
the support it needs to thrive.



Energy in the UK seafood processing sector

2018-2020 evidence

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Executive Summary

- In June 2022, Seafish collected data from 18 seafood processing businesses (29 sites) in preparation for the BEIS EIS consultation, covering approximately 31% of total sector full time equivalent (FTE) jobs in the UK.
- Seafood is a heavily traded global commodity and the seafood processing sector (NACE code 1020) has very high trade intensity compared to other industries. Within this sample of businesses, average trade intensity for 2018-2020 was 40%, with some businesses operating at nearly 90% trade intensity.
- Given the high trade intensity of the sector, and tight industry margins (2.28% net profit margin on average for 2018-2020 within this sample of businesses), many seafood processing businesses are struggling to remain competitive due to substantial increase in key operating costs, including energy costs, experienced in recent years.
- The UK seafood processing sector is diverse and energy costs vary across the sector depending on business size and processing activities.
- Overall average energy intensity within the sample in 2018-2020 was 14%.
- Within the sample, average electricity intensity in 2018-2020 was 10%. Projections suggest that in 2021 electricity intensity increased by two percentage points to 12%, using the BEIS base electricity price for 2021.

Introduction

This is a short report prepared by Seafish to inform the UK Government about energy use and cost pressures within the UK seafood processing sector. Data was initially collected from a sample of businesses in June 2022 as evidence for a consultation¹ on sector eligibility for the UK Government Energy Intensive Industry Scheme (EIIIS) that is managed by the Department for Business, Energy and Industrial Strategy (BEIS).

The UK government has put in place policies including the Contracts for Difference (CFD) scheme, the Renewables Obligation (RO) scheme and the Small-Scale Feed-In-Tariff (FIT), to incentivise low carbon and renewable electricity deployment. These requirements create an additional operating cost for businesses. The Energy Intensive Industry Exemption was developed to support businesses in electricity-intensive sectors that would be significantly disadvantaged by these additional policy costs when operating in international markets in the short and medium term. Sector eligibility is a function of two measures: trade- and electricity intensity. Trade intensity measures reliance on international markets and electricity intensity measures reliance on electricity for production. The UK Government has set the sector eligibility thresholds at 4% for trade and 7% for electricity².

The seafood processing sector did not meet the electricity intensity threshold when it was initially assessed in 2014 using 2010-2012 Annual Business Survey data. Therefore the seafood processing sector is not currently included in the scheme. However, if it were approved for exemption businesses could benefit from policy cost savings associated with energy use. Policy costs account for approximately 8% of total energy costs. Seafish was approached by seafood processing businesses to explore how eligibility might be secured.

Acknowledgements

A special thanks to those who have shared their business data and invaluable industry insights with Seafish to inform this report.

¹ <https://www.gov.uk/government/consultations/review-of-the-energy-intensive-industries-exemption-scheme>

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/891627/CFD_RO_FIT_Exemption_Guidance_-_revised_June_2020.pdf

Context: the UK Seafood Processing Sector

Sector structure

According to Companies House, in January 2021 480 businesses were registered under SIC code: 10200: Processing and preserving of fish, crustaceans and molluscs.

Each year Seafish conducts a census of all premises with a license to process seafood in the UK to confirm business activity, employment and financial performance. According to the 2021 processing survey³, conducted from April-June 2021, 344 sites derived the majority of their annual turnover (≥50%) from seafood processing activity.

Seafood processing is a diverse sector, in terms of both business size and processing activity. Businesses employ anywhere from 1 employee to 3,000 employees and carry out a wide range of activities including primary processing activities, freezing, brining, smoking, breasting, battering, and other preparation and preservation of products for human and non-human consumption.

Trade reliance

Seafood is a heavily traded global commodity. In the UK, we export a large proportion of the seafood we catch and import much of the seafood we eat. Our seafood supply chain is heavily integrated into the global seafood supply chain. Therefore, both local and global changes have consequences for UK businesses.

In terms of trade reliance, import reliance is very variable between businesses, ranging from 0-100% reliance on raw material imports from the EU or the rest of the world. Similarly, reliance on export markets for finished products ranges from 0-100% of sales value, depending on the business.

Financial performance & industry margins

Traditionally, seafood processing businesses operate on tight margins. Between 2012 and 2016, net profit margins across the sector were around 3% on average. Considering the sample of businesses analysed in this report, the average net profit margins from 2018 to 2020 were:

- 2018: 2.20%
- 2019: 1.56%
- 2020: 3.07%
- 2018-2020 average: 2.28%

More information about the structure and financial performance of the UK seafood processing sector can be found in our Processing Enquiry Tool⁴.

³ <https://www.seafish.org/insight-and-research/seafood-processing-data-and-insight/>

⁴ <https://public.tableau.com/app/profile/seafish/viz/ProcessingEnquiryTool/2021Overview>

Industry pressures

As with other industries, the seafood processing sector has little capacity to absorb substantial increases in key operating costs including energy costs. Due to tight industry margins, many businesses are also unable to invest in technologies that might alleviate these cost pressures in the long term such as renewable energy generation, efficiency improvements or mechanisation, without financial support.

As with other food production sectors, the scope for seafood processors to pass price increases on to customers is narrow due to the sharp increases in the cost of living already facing end consumers.

Key cost pressures currently challenging seafood processing businesses include:

- **Labour:** Pre-existing labour shortages in the sector became acute in 2020 due to a combination of factors including Covid-19 and EU Exit⁵. These shortages have adversely impacted businesses' financial performance, both by driving up labour costs to try to attract and retain staff, and by reducing production capacity and business turnover.
- **Raw material:** Businesses are very sensitive to changes in raw seafood material prices as this is generally the largest operating cost businesses face (around 70% of total costs). In 2022, raw material prices for many species have risen dramatically. Because seafood supply chains are often complex and globally integrated, the knock on effects of supply chain and logistics issues caused by Covid-19 restrictions and EU Exit have driven up raw material prices for many species. In 2022 this was further exacerbated by increasing global energy prices and the war in Ukraine.

In relation to the market for demersal (whitefish) raw material specifically, the war in Ukraine has further driven up prices. The UK is heavily reliant on imported whitefish⁶. Russia controls 45% of the global whitefish supply⁷. It produces 50% of the global Alaskan pollack supply, as well as over 30% of the global Atlantic cod supply and 25% of the global haddock supply. In July 2022, the UK Government released details of its latest round of sanctions against Russia which included an additional 35% tariff on seafood imported directly from Russia. This additional tariff effectively removes this fish from UK seafood supply chains as businesses seek to find alternative raw material supplies. At the same time, other countries including the USA and EU member states have placed their own restrictions on imports of Russian seafood, driving up global demand and prices for "non-Russian" whitefish.

- **Energy:** While energy costs vary across the sector depending on business size and processing activities, all businesses have seen an exponential increase in energy costs, with some projecting 2022 costs to be up to 3-4 times higher than in 2021. Freezing and drying are two of the most energy intensive seafood processing activities.

⁵ <https://public.tableau.com/app/profile/seafish/viz/QuarterlySupplyChainOverview/Overview-Dashboard>

⁶ <https://www.seafish.org/about-us/news-blogs/russian-invasion-of-ukraine-implications-for-the-uk-seafood-supply-chain/>

⁷ <https://www.seafish.org/about-us/news-blogs/uk-government-tariff-on-russian-seafood-imports-introduced/>

Methodology

Data collection

Seafish was approached by a number of seafood processing businesses to engage with BEIS about sector eligibility for the EIS in early 2022.

The seafood processing sector is not currently included in the scheme.

Given the strong industry interest for Seafish to help coordinate a response to the consultation on behalf of the sector, Seafish created a data collection template to gather data relevant to the consultation from individual businesses (Appendix 1).

In May and June 2022, in preparation for the launch of the EIS consultation, Seafish liaised with businesses to confirm interest in providing their data for a sector-wide consultation response. Seafish contacted businesses that belonged to the below groups:

- members of the Scottish Seafood Association
- members of the Seafood Grimsby & Humber Alliance
- members of the Scottish Pelagic Processors Association
- a further 60 non-member businesses that:
 - were classified as majority seafood processing businesses in our most recent published processing sector census (2021), and
 - employed at least 50 FTE jobs.

Sample Coverage

Initially, 27 businesses expressed interest in sharing data with Seafish for the consultation response. Together these businesses employed 9,312 FTE jobs in 2021 (approximately 52% of total sector FTE jobs in the UK).

In the end, 18 businesses submitted data to Seafish for the consultation response, covering 5,660 FTE jobs (approximately 31% of total sector FTE jobs in the UK). Figure 1 shows the spread in the number of FTE jobs employed by sites in the sample⁸. The number of FTE jobs supported per site ranged from 7 FTEs to 904 FTEs.

⁸ FTE jobs employed per site for multi-site companies that reported data at the company level are shown as averages per site.

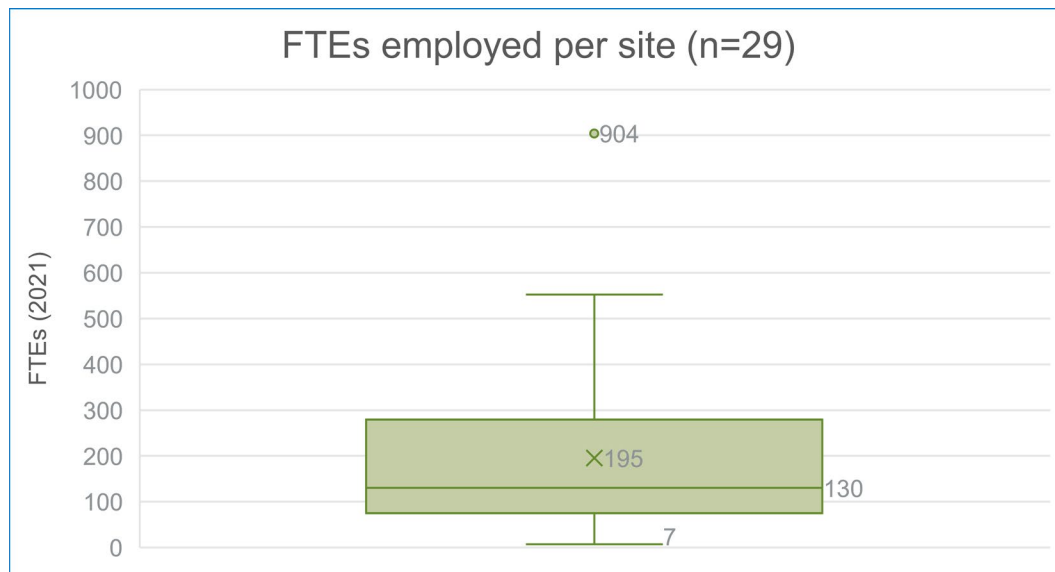


Figure 1. Number of FTE jobs for businesses in the sample, by site (n=29).

Of the 18 businesses represented in the sample, 12 have at least one site in Scotland, seven have at least one site in England and one business has an additional site in Northern Ireland.

Businesses represented in the sample carry out a wide range of processing activities (Figure 2). The most common are freezing (12 companies) and chilling (11 companies).

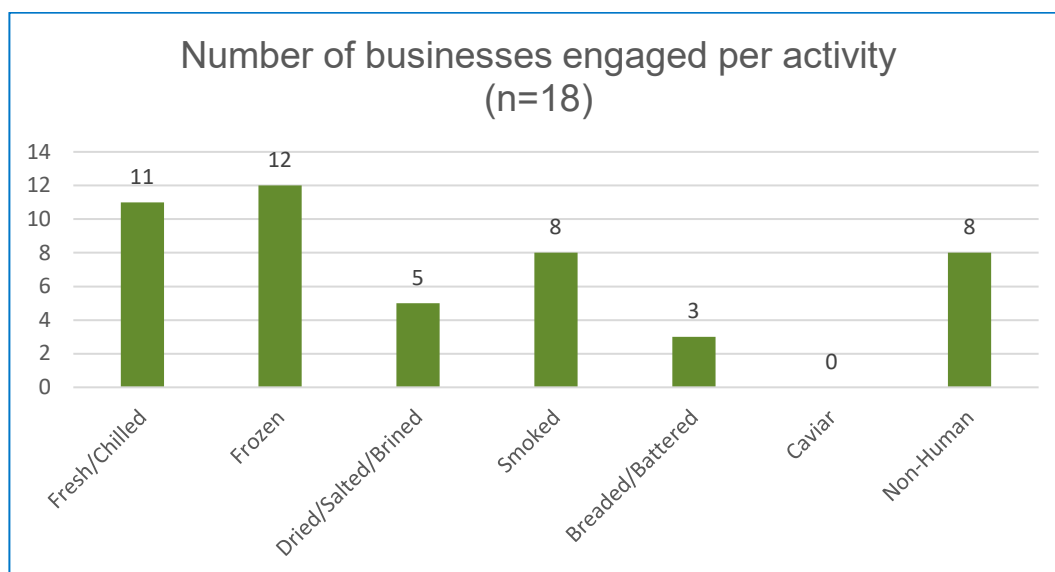


Figure 2. Number of businesses engaged in each activity (n=18).

Sector Evidence (2018-2020)

Evidence provided by these 18 businesses (29 processing sites) is presented in this report. This evidence relates to trade- and electricity intensity in the UK seafood processing sector.

Further evidence related to gas usage and reliance was collected from ten of these businesses over the phone in September 2022 to further inform policy discussions.

Energy

The UK seafood processing sector is diverse and energy costs vary across the sector depending on business size and processing activities.

Considering energy use across the sample for 2018-2020, overall energy intensity⁹ was 14% per business on average (Figure 3). The median overall energy intensity was 10% per business on average.

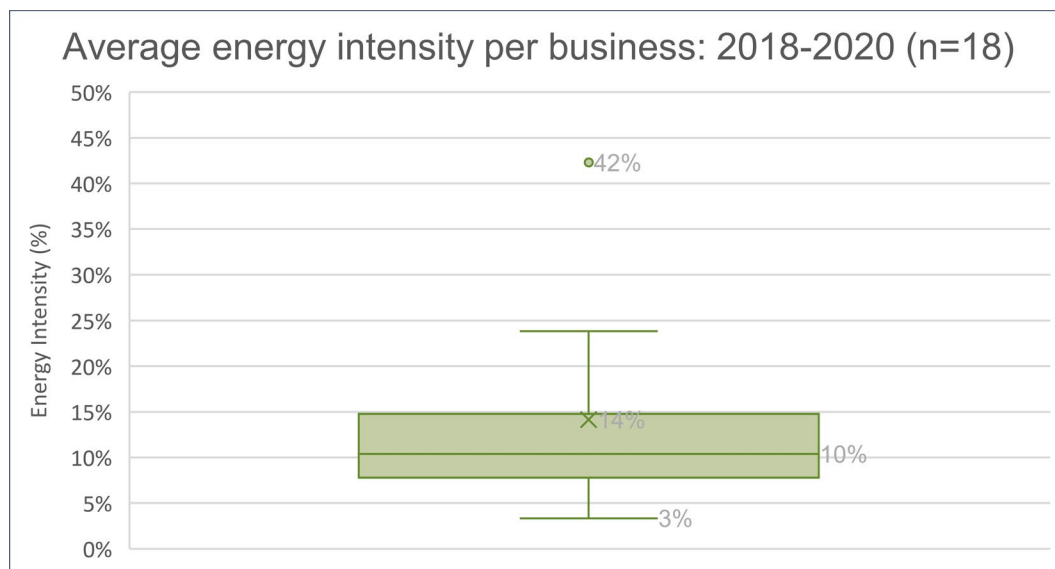


Figure 3. Average energy intensity per business: 2018-2020 (n=18).

For most businesses in the sample, the majority of their total energy cost is from electricity (84% of energy costs on average). The remaining energy cost is for natural gas, liquified petroleum gas (LPG), oil, or other energy sources. Businesses confirmed that most, if not all, of their remaining energy cost in 2018-2020 was for natural gas.

In terms of energy usage, evidence collected from ten businesses in the sample in September 2022 found that the average split between natural gas and electricity usage (kW) during 2018-2020 was nearer to 50-50. This suggests that they were paying more per kW on average for electricity than for natural gas during this period. They also reported that this split between gas and electricity usage has not changed since 2018-2020. These businesses reported using natural gas in a range of production processes including heating water, heating frying oil and drying. Finally, most of these businesses reported that they were not looking to change the type of energy they are using, or would find it difficult to change supply, in response to rising natural gas prices in 2022.

⁹ Energy intensity=total energy cost / GVA

Considering electricity specifically, electricity intensity¹⁰ across the sample for 2018-2020 was 10% per business on average (Figure 4).

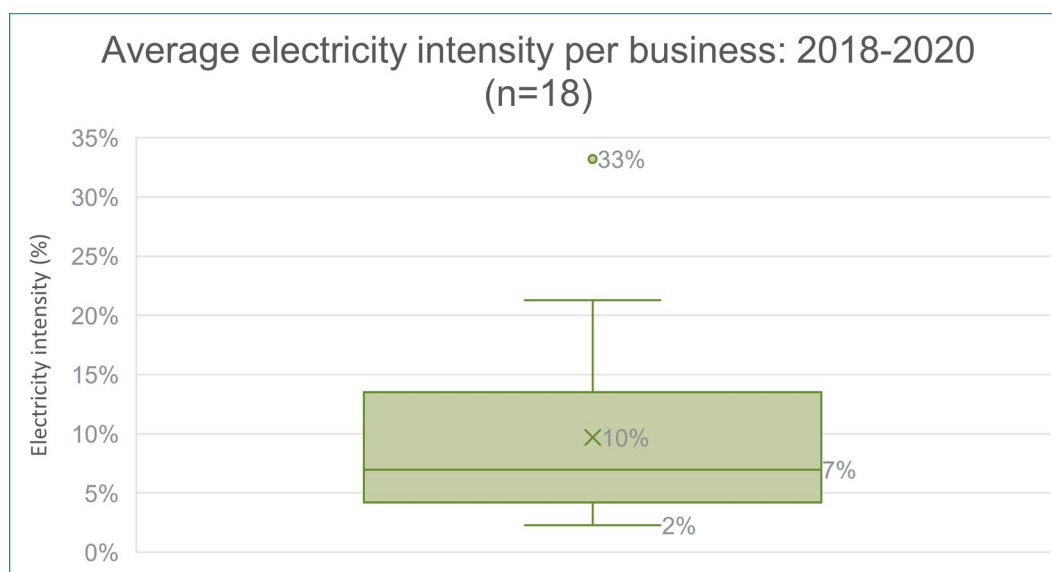


Figure 4. Average electricity intensity per business: 2018-2020 (n=18).

Compared to the 7% electricity intensity threshold set by BEIS for the EIS, average electricity intensities varied within the sample of businesses depending on which species they processed (Table 1) and their type of processing activity (Table 2). Freezing and drying were two of the most electricity intensive seafood processing activities.

Table 1. Average electricity intensity for businesses in the sample, by species type processed, compared to the BEIS threshold.

	Number of Companies	Avg. Electricity Intensity
BEIS threshold	-	7%
Pelagic processors	7	14%
Shellfish processors	3	6%
Other processors (Salmon; Demersal; Mixed)	8	7%
Total Sample	18	10%

Table 2. Average electricity intensity for businesses in the sample, according to type of processing activity, compared to the BEIS threshold.

	Number of Companies*	Avg. Electricity Intensity
BEIS threshold	-	7%
Fresh/Chilled	11	11%
Frozen	12	12%
Dried/Salted/Brined	5	13%
Smoked	8	8%
Breaded/Battered	3	7%
Non-Human	8	12%
Total Sample	18	10%

*most companies were involved in at least 2 activities

¹⁰ Electricity intensity=electricity cost / GVA

Trade

Seafood is a heavily traded global commodity and the seafood processing sector has very high average trade intensity¹¹ compared to other industries. Across the sample, average trade intensity in 2018-2020 was 40%, with some businesses operating at nearly 90% trade intensity (Figure 5). Meanwhile the median trade intensity was 32% per business on average.

Given the high trade intensity of the sector, many businesses are struggling to remain competitive in the global seafood market with the exponential increase in energy and other operating costs in recent years.

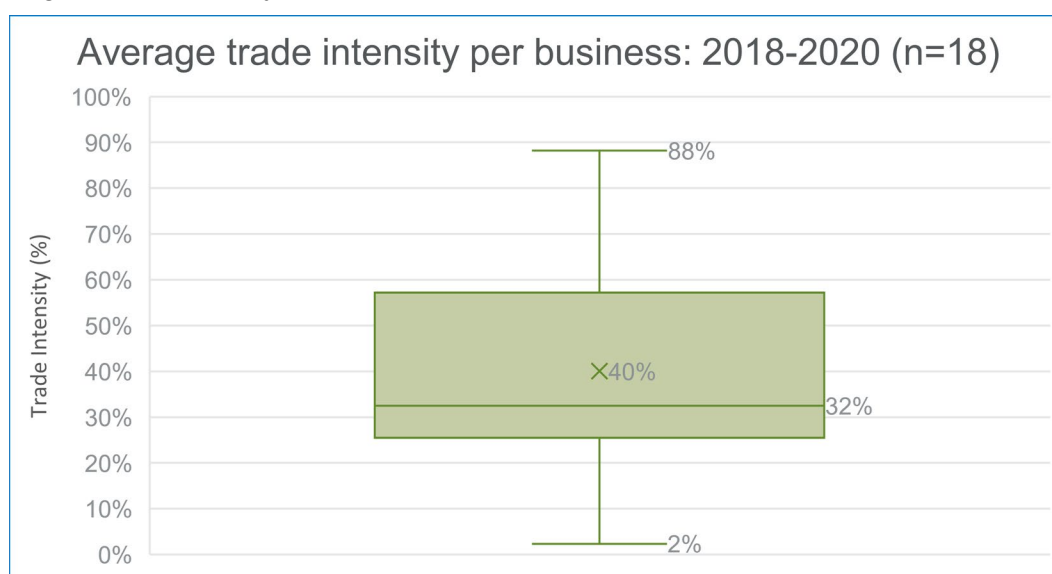


Figure 5. Average trade intensity per business: 2018-2020 (n=18).

Compared to the 4% trade intensity threshold set by BEIS for the EIIS, average trade intensities varied within the sample of businesses depending on which species they processed (Table 3) and their type of processing activity (Table 4).

Table 3. Average trade intensity for businesses in the sample, by species type processed, compared to the BEIS threshold.

	Number of Companies	Avg. Trade Intensity
BEIS threshold	-	4%
Pelagic processors	7	41%
Shellfish processors	3	52%
Other processors (Salmon; Demersal; Mixed)	8	35%
Total Sample	18	40%

¹¹ Trade intensity=(import value + export value) / (turnover + import value)

Table 4. Average trade intensity for businesses in the sample, according to type of processing activity, compared to the BEIS threshold.

	Number of Companies*	Avg. Trade Intensity
BEIS threshold	-	4%
Fresh/Chilled	11	37%
Frozen	12	41%
Dried/Salted/Brined	5	44%
Smoked	8	28%
Breaded/Battered	3	20%
Non-Human	8	34%
Total Sample	18	40%

**most companies were involved in at least 2 activities*

Current Energy Cost Situation (2021-2022)

Energy prices have risen substantially since 2018-2020. Electricity cost figures used to calculate electricity intensity for 2018-2020 are based on the BEIS base electricity price for that time period (£111.75/MWh). Using the new 2021 base rate (£126.94/MWh) and average 2018-2020 electricity usage and GVA, 2021 average electricity intensity for the businesses in the sample is estimated to have been 12% (Figure 6). This is a two percentage point increase in average electricity intensity for the sample compared to 2018-2020, assuming GVA and electricity usage remained the same.

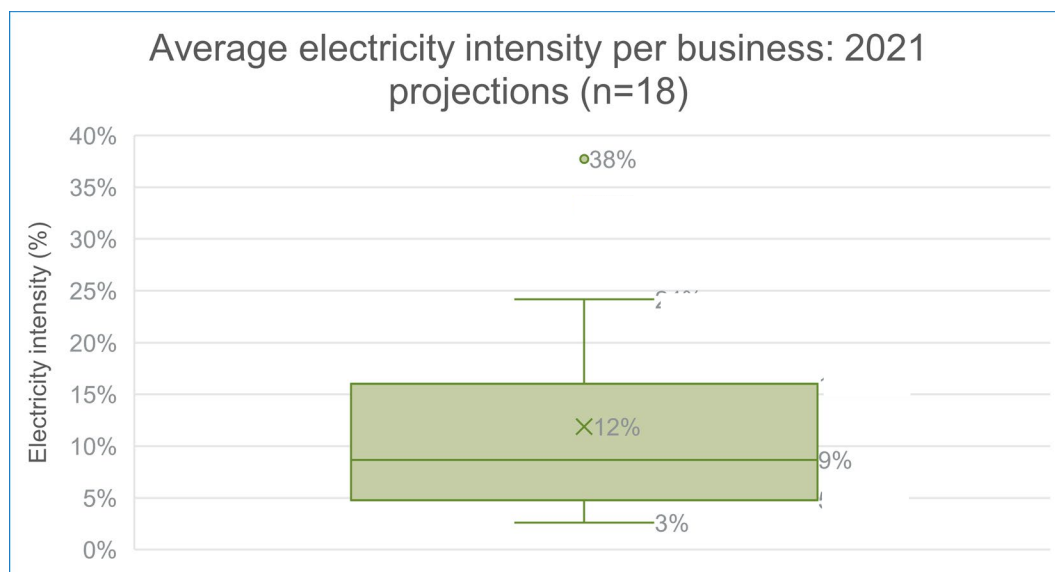


Figure 6. 2021 average electricity intensity projections per business (n=18).

Since 2021, energy prices have continued to rise. Anecdotal evidence from businesses surveyed suggests energy contracts signed in August and September 2022 reflected a 200% or larger increase in price. Most recently, some of these businesses have welcomed the six month energy price cap, reporting they would have struggled to keep their businesses going through the winter without it. However, they also noted that this price cap is not a long-term solution and while some businesses reported researching alternative energy sources, most said they would find it difficult to change supply in response to rising prices.

Conclusions

The concurrent rising cost pressures outlined in this report are putting pressure on UK seafood processing businesses. Without cost relief businesses may be forced to close or move operations overseas, either to the continent where operating costs are more manageable¹² or contracting raw material to be processed in China before being re-imported to the UK. Shifting operations out of the UK would not only impact local economies reliant on the sector but also risk carbon leakage to countries with lesser energy regulations and costs.

¹²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1097834/increase-of-subsidy-level-for-eii-exemption-schemes-consultation.pdf

Appendix 1. Seafish Data Collection Template

seafish Data entry template for BEIS EIS consultation

*Any information your company shares with Seafish will be treated as strictly confidential and be stored securely in keeping with Data Protection Regulations. Seafish will not publish or share any information that could identify any individual business. Please note data may also be used to improve Seafish industry performance estimates for the seafood

1. General information				4. Follow up		
Companies House Registration Number				Would you be interested in a follow up discussion about current issues facing your business related to energy use and operating costs to help support our response to the BEIS consultation? (Please select 'TRUE' or 'FALSE' from the drop down options)		
Registered Company Name						
Site or Trading Name						
2. Historic Data for BEIS Calculations				Definitions for each variable		
		2018	2019	2020	Year of Accounts (6 months in the year). *If accounting period ends 30 June, year of accounts refers to the year for the first 6 months (e.g. YE 30 June 2020 considered 2019 accounts).	
Business Financial Period Start Date (DD/MM/YYYY)					Turnover will be used for trade intensity calculations. EBITDA will be used to calculate GVA which is used for electricity intensity calculations.	
Business Financial Period End Date (DD/MM/YYYY)					Value of total sales (e.g. total income from your company's sales, income subsidies and other income).	
Income					Earnings before taxes, interest, depreciation and amortisation.	
Turnover (£ nominal)					Full cost breakdown will be used to demonstrate other cost pressures on businesses such as high raw material costs in the consultation response.	
EBITDA (£ nominal)					Total cost to produce goods sold.	
Costs					Includes employers pensions, NI contributions, director's salaries and bonuses, casual or agency staff costs and other arrangements where employees are paid indirectly.	
Total Operating Costs (£ Nominal)					Total cost of all material food inputs to the production process including fish, shellfish, and other ingredients.	
Of which: Staff Costs (£ Nominal)					Total cost of all power to the business including electricity, gas etc.	
Of which: Raw material cost (£ Nominal)					Total business grid electricity bill (e.g. electricity costs only).	
Of which: Total energy costs (£ Nominal)					All other operating costs including: packaging, storage etc.	
Of which: Grid electricity bill (£ Nominal)					Something which is highly unusual or infrequent in nature and not related to the ordinary and typical operating activities of the business.	
Of which: Other operating costs (£ Nominal)					Electricity use will be used to calculate sector electricity intensity according to BEIS formula.	
Extraordinary Cost Items (£ Nominal)					Amount of electricity consumed from all sources in the UK for the business over the relevant period.	
Electricity Use					Amount of electricity consumed only from the grid in the UK for the business over the relevant period.	
Total business electricity consumption including grid and non-grid sources (MWh)					Trade data will be used to calculate sector trade intensity according to BEIS formula.	
Total business grid only electricity consumption (MWh)					Value of all products exported. *Note: Pre-Trade and Cooperation Agreement, e.g. do not include products sent to Northern Ireland.	
Trade Intensity					Value of all raw materials, packaging, etc. imported for production. *Note: Pre-Trade and Cooperation Agreement, e.g. do not include materials sourced from Northern Ireland.	
Value of exports from the UK (£ Nominal)						
Value of imports into the UK (£ Nominal)						
3. Products Currently Manufactured				Required by BEIS for monitoring purposes. Also demonstrates diversity of processes within the sector to include in the consultation response.		
Which of the following product types do you manufacture? Select 'TRUE' or 'FALSE'				If you are able to provide a more detailed breakdown of products currently manufactured, please indicate with the tick boxes below.		
Fresh or chilled				<input type="checkbox"/>	10201100 Fresh or chilled fish fillets and fish meat, whether or not minced	
Frozen				<input type="checkbox"/>	10201200 Fresh or chilled fish livers and roes	
				<input type="checkbox"/>	10201300 Frozen whole salt water fish	
				<input type="checkbox"/>	10201360 Frozen whole fresh water fish	
				<input type="checkbox"/>	10201400 Frozen fish fillets	
				<input type="checkbox"/>	10201500 Frozen fish meat, whether or not minced (excluding fillets)	
				<input type="checkbox"/>	10201600 Frozen fish livers and roes	
Dried, salted or in brine				<input type="checkbox"/>	10202100 Fish fillets, dried, salted or in brine, but not smoked	
				<input type="checkbox"/>	10202250 Fish livers, roes, fins, heads, tails, maws and other edible offal dried, smoked, salted or in brine; flours, meals and pellets of fish, fit for human consumption	
				<input type="checkbox"/>	10202350 Dried fish, whether or not salted; fish, salted but not dried; fish in brine (excluding fillets, smoked, heads, tails and maws)	
				<input type="checkbox"/>	10203100 Crustaceans frozen, dried, salted or in brine	
				<input type="checkbox"/>	10203250 Molluscs (scallops, mussels, cuttle fish, squid and octopus), frozen, dried, salted or in brine	
				<input type="checkbox"/>	10203350 Other aquatic invertebrates (striped venus, jellyfish, etc.), frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption, frozen, dried, salted or in brine	
Smoked				<input type="checkbox"/>	10202425 Smoked Pacific, Atlantic and Danube salmon (including fillets, excluding heads, tails and maws)	
				<input type="checkbox"/>	10202455 Smoked herrings (including fillets, excluding heads, tails and maws)	
				<input type="checkbox"/>	10202485 Smoked fish (excluding herrings, Pacific, Atlantic and Danube salmon), including fillets, excluding head, tails and maws	
Breaded or battered				<input type="checkbox"/>	10202570 Fish fillets in batter or bread crumbs including fish fingers (excluding prepared meals and dishes)	
Other prepared or preserved				<input type="checkbox"/>	10202510 Prepared or preserved salmon, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202520 Prepared or preserved herrings, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202530 Prepared or preserved sardines, sardinella, brisling and sprats, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202540 Prepared or preserved tuna, skipjack and Atlantic bonito, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202550 Prepared or preserved mackerel, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202560 Prepared or preserved anchovies, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202580 Other fish, prepared or preserved, whole or in pieces (excluding minced products and prepared meals and dishes)	
				<input type="checkbox"/>	10202590 Prepared or preserved fish (excluding whole or in pieces and prepared meals and dishes)	
				<input type="checkbox"/>	10203400 Crustaceans, molluscs and other aquatic invertebrates and seaweed, otherwise prepared or preserved	
Caviar				<input type="checkbox"/>	10202630 Caviar (sturgeon roe)	
				<input type="checkbox"/>	10202660 Caviar substitutes	
Not for human consumption				<input type="checkbox"/>	10204100 Flours, meals and pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption	
				<input type="checkbox"/>	10204200 Other inedible products of fish, crustaceans, molluscs or other aquatic invertebrates or seaweed (including fish waste; excluding whalebone and whalebone hair, coral or similar materials, shells an cuttle-bone, unworked or simply prepared/natural sponges)	

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