Department for
Business & Trade

Energy Intensive Industries:

Consultation on the proposed Network Charging Compensation Scheme for Energy Intensive Industries (EIIs)

June 2023

Department for Business & Trade

Contents

General information

Why we are consulting

This consultation seeks views on the proposed compensation for the charges paid by eligible Energy Intensive Industries (EIIs) for using the GB electricity grid through the EII Network Charging Compensation Scheme.

Consultation details

Issued:

29/06/2023

Respond by:

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Enquiries to:

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Consultation reference:

Energy Intensive Industries: Consultation on the proposed Network Charging Compensation Scheme for Energy Intensive Industries (EIIs)

Audiences:

We are seeking views from a wide range of audiences, including energy intensive industries (whether currently benefitting or not from the existing Exemption Scheme), other electricity consumers, trade bodies, consumer associations, the devolved administrations and other interested parties.

Territorial intent:

This consultation covers Great Britain (GB).

Introduction

On 23rd February 2023, the Government announced the British Industry Supercharger: a decisive set of measures to make Britain's strategic EIIs more competitive and tackle the challenge of indirect carbon leakage. This will be achieved by addressing three areas of the domestic energy system which together contribute to higher electricity costs for EIIs than comparable countries. The measures that will enable this are as follows:

- An increase in the subsidy under the existing EII Renewable Levy Exemption scheme from 85% to 100% aid intensity, which is anticipated to amount to around a £5/MWh reduction from current levels. This was consulted on in 2022 and is now due to be implemented.

- A new full indirect exemption from the costs associated with the Capacity Market, which is also anticipated to amount to around £5/MWh.

- A proposed compensation for the charges paid for using the GB electricity grid through the EII Network Charging Compensation Scheme to reach a £10/MWh reduction and meet our overall policy objective of a £20/MWh reduction when combined with the other measures.

On 18th May 2023, the Government provided the Government response to the 2022 consultation on the EII Exemption Scheme and sought views on the delivery of a 100% exemption from Capacity Market Charges for eligible EIIs through the *Consultation on the British Industry Supercharger package for strategic Energy Intensive Industries (EIIs).* That consultation is available here and closed on 29 June 2023.

In this document we are consulting on the third measure included in the British Industry Supercharger package, to gather feedback from industry on how best to deliver the proposed compensation for the charges paid for using the GB electricity grid through the EII Network Charging Compensation Scheme.

This consultation sets out:

1. the context of EII electricity costs and the rationale for the need for government action, which was included in the May 2023 Consultation on the British Industry Supercharger package for strategic Energy Intensive Industries (EIIs);
2. the proposed delivery of the EII Network Charging Cost Compensation Scheme;
3. the role of Ofgem; and
4. the impact of the proposed measure on other, non-domestic consumers.

The context and rationale for intervention

The issue

UK electricity prices are seen to be significantly higher than in other countries. This is a particular issue for EIIs, for whom the resulting cost differential in electricity prices puts them at an international competitive disadvantage and increases the risk of having to rely on

import markets, sourcing goods from territories with less stringent climate policies which would come with associated job losses and a loss of investment, and also increases the risk of carbon leakage.

Carbon leakage is defined as the movement of production and associated emissions from one country to another due to different levels of decarbonisation effort through carbon pricing and climate regulation. As a result of carbon leakage, the objective of decarbonisation efforts – to reduce global emissions – would be undermined.

In recent years, GB EIIs have faced the steepest industrial electricity prices in Europe, even with existing government support schemes applied, primarily due to a long-term disparity in network and policy costs.

On average over 2016-2020, Ofgem analysis[1] found that GB EIIs faced electricity prices that were 50% higher than their EII competitors in France and Germany and nearly 40% higher than EIIs in the Netherlands, after taking into account all the supports and reliefs available to EIIs in GB and comparable neighbouring countries.

In 2020, typical UK electricity costs for EIIs were £56/MWh, compared to £38/MWh in the Netherlands, £34/MWh in France, and £35/MWh in Germany[2]. Whereas Germany and France have taken decisions to shield heavy industry by placing the balance of aggregate costs onto other energy users, the UK has imposed carbon and renewable costs more evenly across electricity users.

This means that the UK has historically chosen to impose policy costs on our most energy intensive industries – such as Capacity Market charges and costs arising from policies aimed at encouraging electricity generation from renewable and low carbon sources. The industries impacted include companies in strategically important sectors such as steel, metals, chemicals, paper, and other foundational industries that employ hundreds of thousands of skilled workers across the UK and support many more in the supply chain. In 2019, their exports made up around 28% of total UK exports.

This puts the UK at risk of significant job loss and disinvestment in these sectors, and means the UK is disadvantaged in attracting inward investment, as similar costs are exempted from the most energy intensive industries in comparable neighbouring countries, and in the absence of domestic production the UK will need to place much greater reliance on import markets.

Comparatively high electricity costs are putting such industries at a competitive disadvantage as well as increasing the risk of carbon leakage and simultaneously discouraging electrification of manufacturing processes.

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[1] Ofgem research into GB electricity prices for EIIs accessed here

[2] ICIS 2022 day-head prices used for wholesale prices across countries. DESNZ analysis used for UK network, policy, and carbon cost analysis. Ofgem 2020 report used for policy and network costs estimate for other EU countries.

Evidence of carbon leakage

The rationale for intervention is the risk of carbon leakage due to high electricity prices. For those EIIs particularly exposed to international trade and heavily reliant on electricity, paying the full amount of electricity policy costs on their electricity consumption can increase the risk of carbon leakage and the cost of electricity relative to other energy sources. Higher electricity prices may also make it more challenging for industrial users to switch from gas-intensive production to less carbon-intensive production relying on electrification.

The evidence of the risk of carbon leakage which underpins the Government's rationale for intervention was included in the May 2023 Consultation on the British Industry Supercharger package for strategic EIIs and is included within this consultation as Annex A.

Views from Industry

High energy costs are a critical factor in decision-making for inward investment and this is particularly the case for nascent, internationally mobile EII sectors such as gigafactories. The same can be said for the UK steel industry, particularly given the expectation on companies to decarbonise and transition to electrification in the coming years, in line with the UK's climate ambitions.

We know from sector engagement and market intelligence that the UK is competitive in several areas, however, almost all EIIs say that this issue damages profitability, potential to invest or, in the case of multinationals, their ability to make the case for capital investment.

Firms have told us that disparity between UK and EU electricity prices have led them to disinvesting and, without any changes to the competitiveness landscape for these firms or any increase government support, we should expect this trend of job losses and losses of firms to continue. Without action, the UK risks production and jobs shifting overseas, and there is evidence of a loss of about 20% of jobs in EII manufacturing sectors since 2008. Overall, employment in EII manufacturing declined twice as fast as non-EII manufacturing sectors over this period.

Not only is this bad for UK industry, but it also increases the risk of carbon leakage and firms relocating to countries with less ambitious climate policies than the UK which could undermine the objective of decarbonisation efforts to reduce global emissions. Our proposed measures would help safeguard jobs in strategic sectors, as well as encouraging decarbonisation in the longer-term through greater electrification made possible through lower electricity costs.

Overview of the British Industry Supercharger (BIS)

The Government's BIS is seeking to tackle the risk of carbon leakage; safeguard jobs in strategic sectors; and encourage decarbonisation through greater electrification by bringing electricity prices for our most energy intensive industries closer in line with those in competitor countries.

The package of measures will support approximately 300 firms in those sectors most at risk of carbon leakage and an associated loss of jobs and investment by exempting (or otherwise reducing) some of the policy costs that EIIs currently face.

Once fully implemented, we would expect electricity costs for eligible EIIs to reduce by approximately £20/MWh, which would significantly close the price gap that exists with competitor nations without seeking to undercut our nearest neighbours, given the interconnected nature of the energy systems across the UK and Europe

Network Charging Costs

Overview of GB Network Charging Costs

Electricity network charging costs are costs paid by electricity network users (households and businesses, through their electricity suppliers, and to a lesser extent electricity generators) for their connection to and use of the transmission and distribution networks. EIIs pay a portion of network charging costs which are designed to reflect the level of demand they place on the network.

GB network charges are categorised into:

- "cost reflective" charges, which are intended to reflect the forward-looking marginal cost network users place on the system, and therefore users will take these charges into account when deciding how to use the system, minimising overall system costs; and
- "cost recovery" or "residual" charges, which ensure network companies such as National Grid Electricity Transmission can recover their full costs, but which do not reflect costs attributable to any individual network user, and therefore typically are levied in a manner that minimises changes to behaviour.

The implication of this charging structure is that charges for GB EIIs are not uniform and will reflect to some degree the relative costs/benefits that they impose/bring to the system compared to other network users. In other words, EIIs will pay lower charging costs where they consume less in peak hours, or are more favourably located (e.g., closer to sources of generation). EIIs will also face significant residual charging costs, which typically are uniform and by design are more difficult to avoid.

In GB, electricity network charges are paid by electricity network users and are split into three separate sets of charges:

- Transmission Network Use of System (TNUoS) charges cover use of the transmission system, which carries electricity at a high voltage from where it is generated to where it is distributed;
- Distribution Use of System (DUoS) charges cover use of the distribution system, which carries electricity to its end users; and
- Balancing Services Use of System (BSUoS) charges cover the cost of day-to-day operation of the transmission system.

Within these individual charges, there are elements that are either cost reflective or cost residual.

International context

The Government has faced calls from GB EIIs for support on network charging costs for some time given the higher cost burden placed on GB-based EIIs compared with those in

many EU countries. A number of EU states such as Germany, France and the Netherlands offer significant exemptions on network charging costs for EIIs, with real term discounts in those countries ranging from between 55% to 90% for EIIs that meet certain eligibility criteria regarding electricity consumption and off-peak grid utilisation.

In Germany, discounts are provided to large users and to non-peak users. Large users, defined based on exceeding a certain consumption threshold, are able to qualify for a maximum discount of up to 90% of their network charges while non-peak users can qualify for a maximum discount of up to 80% of their network charges. For non-peak users the discounted tariff is based on adjusting the calculation of the grid charge such that it is based on capacity utilised during peak load windows instead of contracted capacity (which is used in the calculation of the general tariff). For large users the available discounted tariff is based on the cost of a hypothetical network link that connects the customer directly to the nearest suitable power station.

In France, discounted rates are not applied individually for each site. Instead, an average for each type of site (sites with stable consumption, large consumer sites) is applied to all sites of that type. This currently results in a reduction in network charges of between 74-81% for eligible end user sites.

In the Netherlands, discounts are provided to large users with a flat load profile (pattern of electricity usage by day and by year). The level of the discount is calculated formulaically based on measures of the size of the consumer and measures of the load factor (the actual amount of kilowatt-hours (kWh) delivered on a system in a designated period of time) of the plant in off peak periods (reflecting the flatness of the overall load profile without discouraging demand flexibility at times of system peak demand). Whilst the maximum possible discount is 90%, the reality is that in 2013 the average discount for the 10 largest users was estimated to be 55%.

In Spain, an 80% discount on the element of network charges that related to the cost of the network itself was introduced as a temporary measure and was also justified on the grounds of industrial competitiveness. However, this measure was implemented in response to the Ukraine energy crisis and is only a temporary measure.

The application of an exemption within the GB network charging regime

The Government explored the feasibility of offering a comparable exemption to those offered by the listed European companies. This included the commissioning of research from a consultancy, Frontier Economics, in 2022 to assess the practicality of offering an exemption on grounds that EIIs (with a constant and stable load profile) provide a benefit to the efficient operation of the grid. However, the research concluded that the discounts applied in other European countries do not directly translate into the GB context. The structure of GB charges is different, and as a result some of the justifications for discounts applied in Europe are already reflected in the Cost Reflective elements of network charging costs. Where a Cost Reflective discount could potentially be justified for EIIs in GB, it was found that the complexity involved in implementing it may mean it is not practical, and in any case it is likely to be very small. The report produced by Frontier Economics has been included in Annex B.

Overview of the proposal

As part of the overarching Government aim to reduce electricity costs for EIIs, the Government committed to exploring reductions on the network charging costs paid by EIIs. The proposal to achieve this is to establish the following:

- An EII Network Charging Compensation Scheme (NCC) which will compensate eligible EIIs for a portion of their network charging costs.
- An EII Support Levy (ESL) raised on all licensed GB electricity suppliers, which will raise revenue that will be used to fund support.

Providing EIIs with a partial refund on network charging costs alongside the other measures in the British Industry Supercharger will help bring electricity costs for GB EIIs closer in line with those in competitor countries.

Network Charging Compensation Scheme

Network Charging Compensation Scheme Scope

The NCC Scheme will provide EIIs with compensation on a portion of their network charging costs. UK Government has explored a number of different proposals on how to effectively compensate EIIs for their network charging costs. This includes proposals to compensate some or all specific network costs i.e. compensating solely TNUoS, DUoS or BSUoS costs. However, preliminary analysis by UK Government has demonstrated that this proposal would not be appropriate given the network charging costs paid by EIIs are dependent upon a number of variables, including location, grid connection and consumption patterns. Consequently, any proposal to compensate a specific tranche of network charging costs would lead to inequitable support being offered to different eligible EIIs. Consequently, UK Government has taken a decision to compensate a percentage of all network charging costs, thereby defined as TNUoS, DUoS and BSUoS costs.

Over the Summer 2023, UK Government will undertake internal analysis to understand the structure of network charges paid by EIIs across Great Britain. This analysis will help inform the specific percentage of network costs to be compensated.

Northern Ireland operates a separate electricity network from the rest of GB, and it remains within the Ireland/Northern Ireland Single Electricity Market. Furthermore, unlike in Wales and Scotland, energy policy remains a devolved matter for Northern Ireland. Therefore, the NCC Scheme will be available in GB.

A number of EIIs use on-site electricity generation and private electricity networks to meet their energy requirements. There are a variety of reasons as to why EIIs may use private wire networks, and their use is a commercial matter for individual EIIs. This form of ‘behind the meter’ or BTM generation can be used to reduce an EII’s reliance upon the established electricity network and hence reduce their network charging costs. Consequently, UK Government proposes that the NCC Scheme would not compensate any costs associated with the use or operation of a private wire network. The only exception to this proposal is in the event an EII was a tenant user of a private wire network and was paying TNUoS, DUoS or BSUoS costs passed through to them by an operator of a private wire network, though this would need to be evidenced.

The scheme forms part of the British Industry Supercharger package designed to reduce electricity costs for eligible EIIs. Consequently, it is not proposed that the NCC Scheme will offer any compensation on any network charging costs stemming from use of the gas grid.

Finally, the NCC Scheme will not provide compensation on any infrastructure costs associated with the establishment of new connections to the grid. This is because this measure, alongside those set out in the British Industry Supercharger package, has been designed to reduce the ongoing price of electricity paid by eligible EIIs. Costs for new connections to the electricity network are not paid via electricity bills and therefore fall outside the scope of the measure. However, any new sites established by eligible EIIs that incur network charging costs as part of their electricity bills would be eligible to apply for compensation.

1. **Do you agree with the proposal to compensate a proportion of all network charging costs? If not, please provide evidence.**
2. **Are there other network charging costs hereby not included within TNUoS, DUoS and BSUoS that should be included within the scope of the Network Charging Compensation Scheme? If so, please provide evidence.**
3. **Do you agree with the proposal to not compensate any network charging costs associated with use of the gas network? If not, please provide evidence.**
4. **Do you agree with the proposal to not compensate any costs associated with use of a private wire network (excluding those costs that can be evidenced as passed through network charging costs)? If not, please provide evidence.**
5. **Do you agree with the proposal to not compensate any costs associated with new connections to the electricity network? If not, please provide evidence**.

Network Charging Compensation Scheme Design

Through the proposed design of the NCC Scheme, UK Government intends to raise the funds via the levy in a fashion that I) can be readily facilitated by suppliers with minimal intended disruption and II) minimises the risk of overspend/underspend by reliance upon estimated costs.

As set out below in the Section covering the *EII Support Levy*, each supplier will be charged a levy rate over a defined period which will raise the funds that will be used to compensate EIIs for a portion of their network charging costs. The Section *EII Support Levy: Levy Design* sets out details of how individual supplier's levy rate is calculated.

In designing the levy, UK Government has sought to mitigate the risk of over or under estimation in the levy rate to be imposed on suppliers. The risk is that over or under estimation of the levy rate would result in greater volatility and variation in the calculation of levy rates on an ongoing basis. The greatest risk is underestimation of the levy rate, likely resulting in insufficient funding being raised via the levy to provide appropriate levels of compensation to EIIs on their network charging costs, resulting in either a shortfall in funding to EIIs or the need to find alternative means through the levy to mitigate this risk (such as a contingency fund). UK Government is of the view that the greatest likely cause of over or underestimation in the levy rate would be reliance upon modelled/estimated data on eligible EIIs' network charges, given variations in eligible EIIs' electricity consumption, locations, and grid connection structure which all impact their individual network charging cost obligations, alongside any future amendments to the network charging regime approved by Ofgem.

In order to mitigate this risk and better ensure accurate amounts of compensation are collected via the levy, UK Government proposes that network charging cost compensation be paid to eligible EIIs in arrears, on a quarterly basis.

The proposed timelines for the NCC Scheme and its interaction with the EII Support Levy are set out below:

- Step 1: EIIs submit their quarterly network charging costs to the Secretary of State and/or the appointed administrator. The Secretary of State or the appointed

administrator will define the period for which EIIs are required to submit their network charging costs.

- Step 2: The appointed administrator of the EII Support Levy will receive the sum total of compensation to be paid for the defined quarter and calculate individual electricity suppliers' obligations I.e. the levy rate.

- Step 3: The appointed administrator will notify individual suppliers of their levy obligation and provide them with a defined date when payment of this quarterly obligation in its entirety is expected. The period between notification of the obligation and payment has so far not been prescribed and evidence will be gathered via this consultation to inform this decision.

- Step 4: The appointed administrator for the EII Support Levy will collect levy obligations on the defined date. In the event the appointed administrator for the EII Support Levy is not the same party as the administrator for the NCC Scheme, then the funds will be transferred from the former party to the latter for distribution to eligible EIIs to compensate the quarter's network charging costs, as set out in Step 1.

This process is expected to be conducted on a continual rolling quarterly basis for the length of the proposed scheme(s). Through this proposal, there is an inevitable gap between the submission of a quarter's network charging costs by eligible EIIs and the receipt of compensation payments, with the length of the gap dependent on the ability of electricity suppliers to accommodate a quarterly levy obligation. However, the rolling quarterly basis of the scheme will ensure regularity in the compensation payments that eligible EIIs receive.

Given the requirement to collect funds for the NCC Scheme via the EII Support Levy, UK Government has decided that compensation will be provided based on quarterly billing given this will i) aid in the calculation of a quarterly levy obligation on electricity suppliers and ii) offer a regular stream of compensation to eligible EIIs once amounts are collected via the levy.

6. **Do you agree with the proposal to compensate EIIs on a quarterly basis, in arrears, for their network charging costs? If not, what alternatives could UK Government consider?**

Network Charging Compensation Scheme Administration

UK Government will need to reflect upon the most appropriate party to act as administrator for the NCC Scheme. This could be the same party appointed as administrator for the EII Support Levy, a separate appointed third party or the Department for Business and Trade.

UK Government will assess options over 2023, ensuring that any appointment would balance deliverability with value for money.

Any administrator would need to take on a series of functions in order to ensure the proper running of the NCC Scheme. The administrator would need to define the quarterly period over which eligible EIIs will receive compensation on network charging costs and collect data on network charging costs from each eligible EII for the defined period. Once funds have been collected via the EII Support levy, the administrator would be responsible for the distribution of compensation to eligible EIIs. The administrator would respond to any disputes from eligible EIIs relating to the payment of compensation on network charging costs. The administrator would also be required to take enforcement action against any eligible EIIs which had presented false or inaccurate data as a basis for receiving compensation on network charging costs. This enforcement action would include recouping amounts paid out in compensation through a civil debt.

EII Support Levy

Scope of the levy

Given that the levy will fund compensation for EIIs on the costs of using the electricity grid, we propose to place the levy on licensed electricity suppliers only. We do not propose placing the levy on non-licensed electricity suppliers given the structure of this market and the non-licensed nature of its participants make it challenging to impose a levy on these entities. We also do not propose placing the levy on licensed or non-licensed gas suppliers on grounds that the proceeds would not be used to compensate any gas related costs, including gas network charges.

We anticipate that suppliers pass on all policy costs imposed on them to their customers domestic and non-domestic customers.

Given that we anticipate that suppliers will pass costs onto their customers, we are not proposing any exemptions from the levy for small suppliers. It is our view that small supplier exemptions are more relevant for schemes where suppliers have significant delivery obligations, which would otherwise pose a disproportionate administrative burden on small suppliers.

The only proposed exemption to the levy is licensed electricity supplied to Northern Ireland. This includes licensed electricity suppliers that exclusively supply Northern Ireland. It would also include the proportion of electricity supplied to Northern Ireland by suppliers that supply both Great Britain and Northern Ireland, with this exemption being factored into an individual supplier's levy obligation. The rationale for this exemption is that the NCC Scheme will not extend to Northern Ireland (see section on) and therefore Northern Irish electricity consumers should not be subject to the costs of the levy.

7. **Do you agree with the rationale and scope for the proposed levy? If not, please provide evidence.**

Levy design

UK Government has considered two proposals for calculating individual suppliers' levy obligations:

A) A volumetric calculation whereby an individual supplier's levy obligation is determined by the volume of electricity it supplies over a defined period;
B) A per meter point calculation whereby an individual supplier's levy obligation is determined by the number of electricity meters or MPANs supplied over a defined period.

UK Government proposes that a volumetric calculation will be used to calculate suppliers' levy obligations and has set out below how this will be applied through the EII Support Levy. However, we have also considered how a potential per meter point calculation approach could work and have set this out below alongside our argument against its adoption.

Volumetric Calculation

Under a volumetric approach, sums would be levied from electricity suppliers according to the amount of electricity consumed by their customers over a defined period. The period in question would be defined by the appointed administrator of the EII Support Levy. Such an approach would ensure that the costs of the levy are more closely aligned to electricity consumption, in comparison to a meter point approach.

Under the proposal, UK Government would not prescribe how suppliers pass the costs of the levy onto their customers and this would be left to the discretion of individual suppliers. However, the presumption is that by adopting a volumetric calculation, the burden of the levy would more closely align with electricity consumption (compared to a meter-point calculation) resulting in a more equitable distribution of the cost burden with higher consuming customers bearing a greater proportion of the costs, whilst protecting lower consumption consumers.

Meter Point Calculation

This contrasts with a per meter point calculation where each meter point would be levied at the same amount over a defined period, irrespective of consumption or customer type. Under this calculation, the assumption is that suppliers would pass the costs through to the customers evenly amongst their consumers, regardless of their consumption. This would result in domestic households paying the same levy rate as large businesses.

Timing of the levy

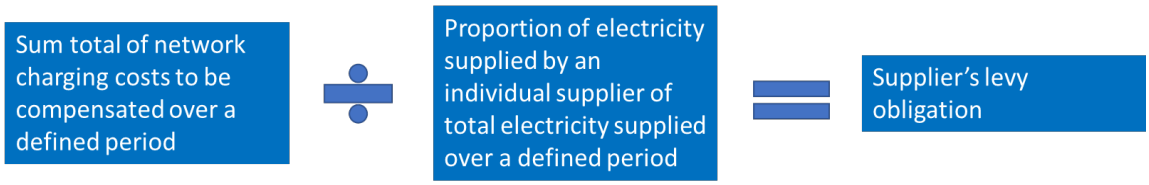
As set out above in the Section *Network Charging Compensation Scheme Design*, the timings of the EII Support Levy would be set according to the intention to provide compensation through the NCC Scheme on a quarterly basis. As such, the proposal is that the EII Support Levy would be billed on a quarterly basis.

Once an individual supplier's levy obligation for the quarter was calculated by the administrator of the EII Support Levy, the supplier would be provided with the quantum of the levy obligation and a payment date when the obligation in its entirety fell due. The intention is for the period of time between notification of the quarterly levy obligation and payment of said obligation to be regular in order to ensure regularity in the payment of compensation to eligible EIIs. UK Government is conscious that the period of time between supplier notification and payment would need to include sufficient time for suppliers to incorporate the levy obligation into bill and collect amounts from customers, so UK Government is keen to use this consultation to seek views from suppliers of practicable timelines for each billing cycle.

Calculating an individual supplier's obligations

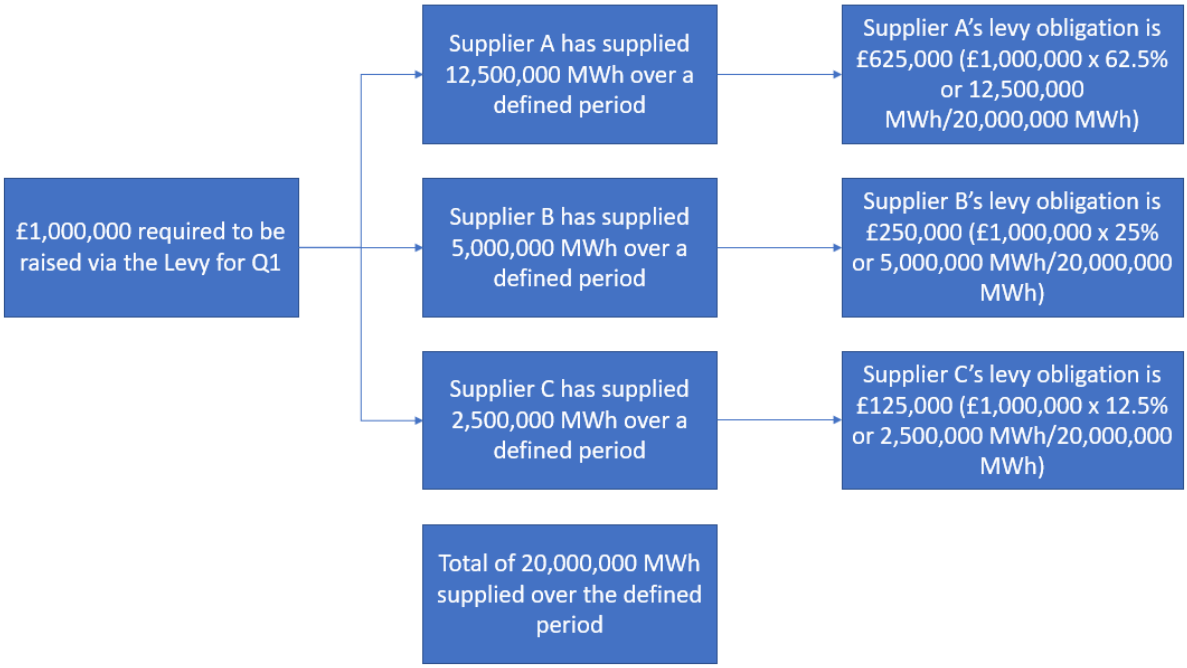
Every quarter, the appointed administrator of the EII Support Levy would calculate each electricity supplier's levy obligation using the following formula set out in **Figure 1**

Figure 1



Under the proposal, the appointed administrator would calculate each supplier's levy obligation by dividing the sum total amount of compensation to be paid out to EIIs (for the previous quarter) by the proportion of total electricity supplier by the individual supplier over a period defined by the administrator. **Figure 2** provides a simplified example of how the levy would be applied.

Figure 2



8. **Do you agree with the rationale of calculating individual supplier's levy obligations on a volumetric basis? If not, please provide evidence**
9. **How long will electricity suppliers need to incorporate a new levy into their customer billing systems?**
10. **The intention is to collect the levy on a rolling quarterly basis. Can energy suppliers accommodate this? If not, what alternatives could suppliers accommodate?**
11. **How long a billing cycle (between notification of quarterly levy obligation and payment) do suppliers require?**
12. **Do you agree with our proposal that electricity suppliers should provide quarterly electricity supply data to the scheme administrator to inform quarterly levy obligation calculations?**

13. **A volumetric calculation of a supplier's levy obligation assumes that suppliers will pass the costs down to their customers on a volumetric basis. Is this assumption correct?**
14. **How will suppliers recover the new levy? Will it be through the standing charge or as a standalone levy on bills?**
15. **Do you agree with the proposal that at the end of each quarterly billing cycle, the full quarterly levy obligation will fall due? If not, what alternatives are proposed?**

Default Protection

The EII Support Levy will need to incorporate a mechanism to mitigate the risk of a supplier defaulting on their levy obligations. Failure by a supplier to meet their quarterly levy obligation would result in insufficient funds being raised to compensate eligible EIIs for their network charging costs. Previous energy levies imposed by UK Government have used a range of mechanisms to mitigate the risk of default. These include:

- Requiring suppliers to lodge credit cover in the form of cash or letters of credit;
- Raising a Reserve Fund through a marginal uplift in the levy;
- A Mutualisation exercise whereby any outstanding supplier payments owed by defaulting suppliers are recovered from the non-defaulting suppliers.

16. We wish to balance the potential cost to suppliers (and their customers) of any default protection mechanism against the need to ensure sufficient mitigations are in place. Consequently, we are requesting evidence from stakeholders on which mechanism would be the most efficient at meeting these needs. **Which mechanism would best protect against the risk of default whilst minimising the cost burden on suppliers (and their customers)?**

EII Support Levy Administration

UK Government will assess options for the administration of the EII Support Levy over 2023, ensuring that any appointment would balance deliverability with value for money.

Any administrator would need to take on a series of functions in order to ensure the proper running of the EII Support. The administrator would need to collect quarterly data on total and individual suppliers' electricity consumption on a quarterly basis to assist in the calculation of levy obligations. The administrator would need to calculate individual suppliers' levy obligations on a quarterly basis, based on total compensation cost data shared by the NCC Scheme administrator (in the event they are separate parties) and the gathered electricity consumption data. The administrator would, on a quarterly basis, notify suppliers of their levy obligation and the due date for payment. The administrator would be responsible for calculating, collecting and if required, drawing upon credit cover from individual suppliers. Finally, the administrator would be responsible for sharing proceeds from the levy with the NCC Scheme administrator for distribution as compensation (in the event they are separate parties).

The NCC Scheme/EII Support Levy and the Network Charging regime

The proposal would not interfere with the ability of the energy regulator – Ofgem - to determine the manner in which network charges are set. Nor would it seek to interfere in the payment of network charging costs by EIIs (through paying their energy bills from energy suppliers) to the network operators. EIIs would remain obligated to pay any and all network charging cost elements of their energy bills. The proposed levy would constitute a new policy cost on all licensed electricity suppliers across GB. The proceeds from the levy would be used to compensate eligible EIIs for a proportion of the network charging costs element in their energy bills.

Impact on other electricity users

The costs removed from the bills of eligible EIIs through the package of measures will be redistributed to all other energy users – including households and non-domestic consumers. The measures will therefore be funded by electricity billpayers.
The proposed measures are due to be implemented following the conclusion of the Energy Price Guarantee (EPG) and Energy Bills Discount Scheme (EBDS) which currently provide government support to households and businesses with their energy bills, in 2024, when it is expected wholesale prices will have stabilised before falling further in 2025 and beyond.

Support is necessarily limited to those energy intensive industries most at risk of high electricity prices, and therefore impact on other electricity users will be limited to what is necessary to mitigate the risk of carbon leakage, safeguard jobs in strategic sectors and enable decarbonisation through electrification longer term.

The cost of not acting is far greater, as eligible EII sectors employ c. 400,000 workers and have gross value added of £32.8 billion (3.6% of the UK economy). Their turnover is around £155bn and in 2019 their exports totalled around 28% of total UK exports. They also support thousands of additional indirect jobs as part of the wider supply chain, with many providing higher than average wages in more economically vulnerable areas.

Households

If the cohort eligible remains the c.300 firms currently eligible for the EII Exemption Scheme, this package will add between £3 and £5 to the average household yearly bill once all measures have been implemented (by 2025/26).

Non-domestic consumers

Once all measures have been implemented, the package will increase electricity costs for non-domestic consumers by approximately £1/MWh. How much this adds to an annual electricity bill will depend on the overall size of the business and the amount of electricity they use, but this represents less than 1 percentage point to electricity bills for non-domestic in 2025. Table 2 below estimates the cost impact of the £1/MWh increase on example non-domestic, small, medium, and large consumers.

Between now and Q2 2025, forward curves suggest that electricity wholesale prices will drop by over £200/MWH and gas prices by over £50/MWH. Therefore the (small) additional costs of c. £1/MWH are expected to be outweighed by much larger reductions in wholesale energy costs.

Table 2 – Impact of a £1/MWh increase in electricity prices for non-domestic consumers.

Case Studies	Electricity Annual Consumption (MWh)	Size	2025 Electricity Bill Estimate for year (£)	Additional Bill Increase per year (£)	Percentage Increase over year
Pub	48	Micro	7,300-9,300	48	0.5%-0.7%
Manufacturer	2,400	Small	270,000-370,000	2,400	0.6%-0.9%
Hospital	24,000	Large	3,100,000-4,100,000	24,000	0.6%-0.8%
Retailer	12	Micro	1,800-2,300	12	0.5%-0.7%
Law firm (office based)	96	Large	12,500-16,400	96	0.6%-0.8%

Source: Q4 2022 DESNZ price and bills projections. The model assumes a high net zero ambition, a central fossil fuel price, and a high ETS price and is just one of a range of forecasts for 2025.

Summary of expected costs

Table 3 – Expected costs from increased electricity prices for non-domestic consumers and yearly household bills.

(2025 prices)	Yearly household bill increase (£)	Price increase for non-domestic consumers (£/MWh)
100% EII Renewable Levies Exemption	1 - 2	<1
100% Capacity Market reduction	c.1	<1
90% reduction in network charges	1 - 2	<1
Total	**3 - 5**	**c. 1**

The three proposed measures require different mechanisms to implement and will therefore be implemented at different times, meaning the cost increase for households and non-domestic consumers set out above will accumulate slowly from Spring 2024 onwards.

Direct costs of the measures on suppliers and eligible EIIs

Direct impacts are those impacts that are considered to be immediate and unavoidable first round effects which occur as a direct result of the implementation of the EII Support levy and compensation scheme.

Direct impact on suppliers

There are 67 domestic and non-domestic electricity suppliers in the GB market with a further 37 suppliers which serve non-domestic consumers only. All 114 licensed suppliers are expected to be in scope for the EII network charge levy and so will face familiarisation costs and the cost of passing through the levy. Both costs are expected to ultimately be faced by electricity customers.

The familiarisation cost will be faced by each supplier when an employee must read and comprehend the secondary legislation to determine any action that will need to be taken. The direct cost will be the lost output from the firm's labour due to the time spent on familiarisation.

To pass through the cost of the levy to all customers, suppliers will need to increase he prices. Suppliers incur administrative costs each time they change prices. These costs include:

a) Obligations under the Supply Licence Conditions (SLCs) to provide notice to all customers who will be impacted by the change, leading to suppliers sending out notifications (physical and electronic) to customers to inform them of a price change.
b) Increases in the volumes of calls from customers wanting to understand the changes to their tariff, resulting in the requirement for additional call centre resource to respond to increased customer requests including training and amendments of response scripts.
c) Costs associated with reflecting changes in prices or discounts in suppliers' billing systems and on their websites.

The energy market regulator, Ofgem, consulted[3] in May 2018 on the introduction of the default tariff cap and sought evidence from suppliers on these costs. In the final impact assessment[4], they estimated that the administrative cost of a price change was £0.87 per customer. The cost estimate was taken as a weighted average of responses submitted by suppliers ranging from £0.20 to £1.80 per customer.

Direct costs on eligible EIIs

There will be a small familiarisation cost and continuous administrative burden on the 320 EIIs eligible for network charging cost compensation.

[3] https://www.ofgem.gov.uk/sites/default/files/docs/2018/05/appendix_14_-_initial_view_on_impact_assessment.pdf
[4] https://www.ofgem.gov.uk/sites/default/files/docs/2018/11/appendix_11_-_final_impact_assessment.pdf

Under the proposed policy design, eligible EIIs will be required to submit data from their electricity bills to the scheme administrator on a quarterly basis to receive compensation from network charging costs. For some firms, this will mean compiling data from bills from multiple sites.

We estimate that the ongoing administrative costs to eligible businesses will be £26,000 per year in total. We assume that a worker in an administrative occupation would spend 1 hour per-quarter to collate and share their electricity bills with the scheme administrator.

Table 4 – estimated administrative burden costs on EIIs receiving the network charging cost compensation.

Hourly pay of administrative occupations in manufacturing sector[5]	£13.41
Time taken to collate and submit electricity bills to administrator	1.5 hours
Annual frequency of submissions	4
Annual administrative cost to an eligible EII	£80.46
Annual cost to 320 eligible EIIs	**£26,000**

We have estimated a one-time familiarisation cost of £12,000 to EIIs. Familiarisation costs entail the time taken for a senior official in the eligible EII to read and comprehend the legislation.

Table 5 – estimated familiarisation cost for EIIs receiving the network charging cost compensation.

Hourly pay of management occupations in manufacturing sector[6]	£24.85
Time taken for manager to review and comprehend the legislation	1.5 hours
Annual administrative cost to an eligible EII	£37.28
Annual cost to 320 eligible EIIs	**£12,000**

[5] Admin occupation in the manufacturing sector median hourly wage in 2022 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/earningsandhoursworkedbyindustryandoccupationashetable29

[6] Management and senior official occupation in the manufacturing sector median hourly wage in 2022

17. **Do you agree with the £0.87 per customer cost estimate for suppliers to pass through the cost of the EII Support Levy? If not, is there more or different evidence you could share?**
18. **Do you agree with our approach for estimating familiarisation and administration costs to eligible EIIs? Are there other costs that we have not included in our assessment?**

Annexes

Annex A – Evidence of carbon leakage

The risk of carbon leakage is supported by theoretical analysis and evidence. The indirect funding of renewable policy costs under the Contracts for Difference (CfD), Renewables Obligation (RO) and small-scale Feed-in Tariffs (FIT) schemes represents a portion of a firm's electricity costs. While policies differ by country, other nations such as Germany often have more extreme mitigations in place relative to the UK. While these costs alone are not always considered to be the most important factor for carbon leakage, with cost pass-through rates having a significant impact, they contribute to a wider carbon leakage risk. Other factors which affect carbon leakage include capital intensity, trade intensity/exposure, emissions output, and other industry associated costs.

International electricity price gap for EIIs

UK industrial electricity costs have been historically higher than comparable neighbouring countries and our EIIs are unable to remain competitive without intervention.

Prices are made up of the following components:

a. Wholesale prices – the cost of electricity generation on wholesale markets, including the carbon costs of generating electricity from fossil fuels.

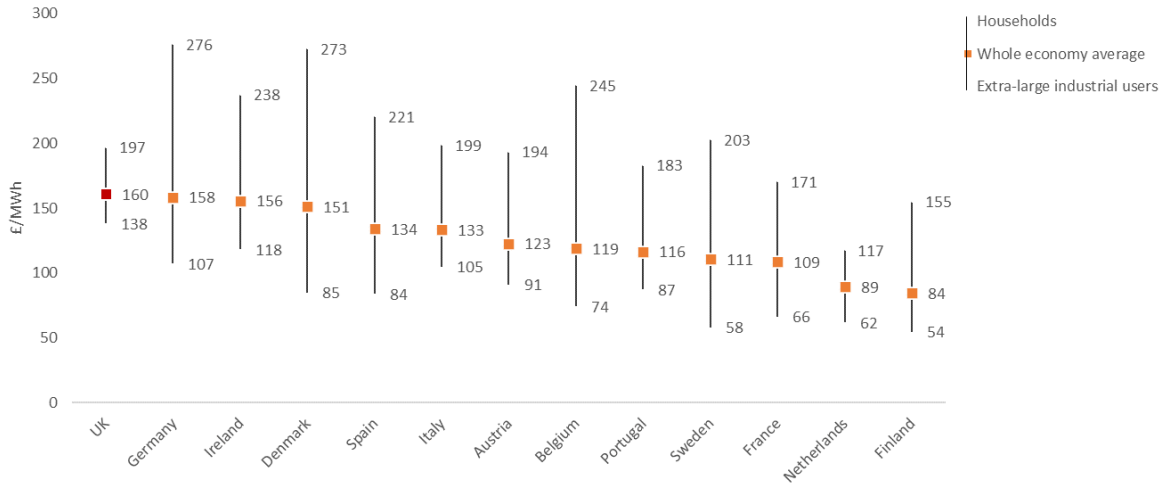
b. Network costs – charges on the energy bills of households and businesses, which are used to fund both investment and maintenance of both the transmission and distribution networks and also balancing – ensuring that electricity can travel from the point of generation to the point of use, and that supply meets demand at any given time. The manner in which these costs are paid is set by Ofgem.

c. Policy costs – additional charges on the energy bills of households and businesses, set by UKG, which are used to fund energy policies that support grid decarbonisation, or to ensure security of supply.

While wholesale costs are broadly common to all energy consumers (although this can vary depending on time profile of demand and how different consumer groups pay for their electricity), policy and network costs vary across these groups. This leads to a complex picture of electricity prices, both in the UK and in our key EU competitors. Figure 1 shows electricity prices in EU15 countries. The household price is for a medium use household.

Figure 1 shows electricity prices in the UK and EU-14 countries. The household price is for a medium use household.

Figure 1: EU15 electricity price spread (household, average*, industry) 2021, £/MWh[7]



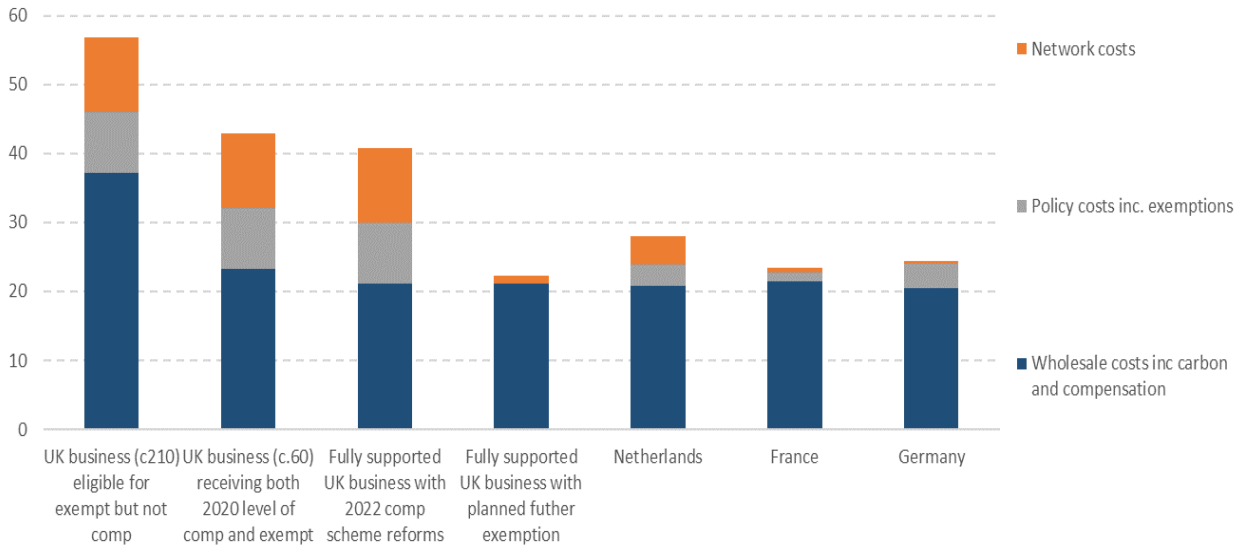
Source: Households and Extra-Large Industrial Users are from BEIS QEP 2021 data. Average based on Eurostat 2019 sectoral consumption values

UK electricity wholesale prices have historically been higher than main competitors, thus contributing to high prices. Despite this, figure 1 shows in 2021 UK household electricity prices were around average across EU countries, whereas among very large industrial consumers, UK prices were higher than any other EU-14 + UK country for which data is available, around 62% higher than the EU-median in 2021. This is reflective of how network and policy costs are distributed across different consumers; the UK has chosen to distribute policy and network costs relatively evenly across households and industrial users, whereas other countries have chosen to protect large industrial users with a greater share of these costs falling on households.

The UK does offer relief for some energy intensive businesses such as the Compensation (62 businesses) and Exemption (c. 320 businesses) schemes. 210 businesses are eligible for the Exemption Scheme but not the Compensation Scheme. The ETS/CPS Compensation Scheme was increased in April 2022 and is estimated to compensate around 70% of indirect carbon costs for eligible EIIs, whereas the Exemption Scheme exempts eligible EIIs from 85% of RO, FiT and CfD costs. These schemes reduce electricity prices for eligible users, however, the relief offered in EU competitor countries is ultimately greater, and as a result supported UK EIIs still face higher electricity prices than their key competitors in Germany, France and the Netherlands (Figure 2). The chart below shows the impact of the current exemption and compensation scheme on EIIs, for the c.60 businesses eligible for both schemes, and the c. 210 eligible for just exemptions. For those 60 fully supported businesses it also tests the impact of proposed increases in the Exemption Scheme to extend to 100% of RO, FiT, CfD as well as an indirect Capacity Market Exemption and compensation for network charges – The British Industry Supercharger.

[7] DESNZ QEP data here: *https://www.gov.uk/government/statistical-data-sets/international-industrial-energy-prices, https://www.gov.uk/government/statistical-data-sets/international-domestic-energy-prices*

Figure 2: Average EII Electricity prices (including exemptions and compensation) across different countries in 2020 (£/MWh)



Source: ICIS (wholesale), BEIS analysis (UK policy and network), Ofgem report (2020) (international policy and network)

In 2020, the c.60 UK EIIs receiving support from both the Compensation and the Exemption schemes paid more for electricity than French, German or Dutch EIIs. In the UK they paid £43/MWh compared to £23/MWh for France, £24/MWh for Germany, and £28/MWh for the Netherlands. The c. 210 UK EIIs who receive support only from the EII Exemption Scheme paid £32-33/MWh more for electricity than fully supported German or French firms. It is important to note that different firms will be eligible for different support in other countries, so comparing exempted-only firms in the UK with fully supported firms in Germany may not be a fair comparison.

Wholesale cost gaps will fluctuate year-to-year depending on fuel and carbon prices, but in 2020 the c. 60 firms that received compensation had a wholesale cost gap at around £2-3/MWh with Germany and France. For the c. 210 firms who only benefit from exemptions, the wholesale cost gap was c. £16-17/MWh, representing roughly half of their total gap with Germany and France. Firms in the Netherlands, France and Germany are assumed to receive compensation for carbon costs.

For both groups of UK EIIs receiving support, network costs make up c. £10/MWh of the gap with Germany and France, while policy costs make up c. £5-8/MWh of the gap. This means that network costs make up around 50% of the gap for firms that receive compensation and around 16-23% for firms that do not. Significant exemptions (up to 90%) on network costs are offered for EIIs in Germany and France, with these costs spread across other consumers including households. Although the UK offers 85% exemptions from some policy costs, firms still pay Capacity Market (CM) charges in full and further exemptions are offered in other countries. Again, the cost of current UK exemptions is funded through other consumers.

Impact of the electricity price gap on carbon leakage

While it is clear there is a significant diversion between UK electricity prices and those of similar competitor countries, the relationship between the price gap and carbon leakage needs to be established. The literature suggests that firms facing higher electricity costs, in

part caused by stringent environmental regulation, will look to reduce investment and potentially move elsewhere.

This section will first discuss the relevant literature surrounding the relationship between higher electricity prices caused by environmental regulation leading to carbon leakage and then will assess evidence provided by companies in the 2022 consultation on the EII Exemption Scheme – seen below.

The relevant literature highlights a relationship between where EIIs decide to locate, and areas of low environmental regulation and electricity costs. Khan and Mansur (2013)[8] found that high electricity intensive and polluting firms tend to cluster in areas of low regulation and electricity cost. While this paper was conducted within the USA and studied movement between states as opposed to among nations, the results for typically energy intensive industries (e.g., steel) were found to be significantly more elastic with regards to energy prices and employment.

Sato and Dechezleprêtre (2015)[9] examined the influence of an energy price gap between two trading partners on bilateral trade flows for 42 countries and 62 manufacturing sectors between 1996 and 2011. On average, they found that a 10 percent increase in the energy price gap increases bilateral imports by 0.2 percent and that overall, energy price differences explained 0.01 percent of the variation in trade flows. This showed that where a country has higher electricity costs, such as that of the UK, caused in part by more stringent environmental policy, they will see an increase in the imported goods, which could be a risk factor for carbon leakage. This relationship is supported by the evidence provided by EII firms in the 2020 Exemption Scheme consultation.

Multinational corporations were found to have a marginally higher electricity elasticity of demand for employment (Dechezlepretre, Lovo, Martin, and Sato (2016))[10], suggesting these companies were able to take advantage of their international status to mauver resources more responsively. This paper found in support of the pollution haven hypothesis, whereby firms will move production to areas of lower environmental regulation, as evidence by an increase in imports of energy intensive goods increasing in response to tighter regulation. This would indicate that when a country has more stringent environmental regulation, consumption habits move to import from areas of lower environmental regulation and as such represent carbon leakage. This has been borne out by the consultation evidence, with many energy intensive sectors citing a significant increase in imports.

Bijnens et al (2021)[11] concerned electricity elasticity of demand for investment. This ECB paper found that investment was relatively elastic in response to a change in electricity prices, often more severe response than that for employment. This could imply that when faced with relatively high electricity prices firms may seek to reduce investment, this could be seen as a precursor to carbon leakage, whereby domestic productive capacity may be significantly reduced prior to exit. Combined with anecdotal evidence provided in the 2022

[8] Kahn and Mansur (2013) “Do local energy prices and regulation affect the geographic concentration of employment,” Journal of Public Economics 101, 105-114.
[9] Sato and Dechezleprêtre “Asymmetric industrial energy prices and international trade”, Energy Economics 51,1, 130-141. (2015)
[10] Dechezlepretre, Lovo, Martin and Sato (2016) “Does climate change policy pose a risk to competitiveness: Global firm-level evidence,” LSE Grantham Institute.
[11] Bijnens, Hutchinson, Konings, Saint-Guilhem (2021) “The interplay between green policy, electricity prices, financial constraints and jobs: firm-level evidence,” European Central Bank Working Paper No 2537.

consultation, this investment, when not undertaken by a multinational firm, may go elsewhere.