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Via email: carbonleakage.consultation@beis.gov.uk

To:

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Response to HMT/DESNZ Consultation: Addressing carbon leakage risk to support decarbonisation

UKPIA represents the eight main oil refining and marketing companies operating in the UK. The UKPIA member companies – bp, Essar, Esso Petroleum, PetroIneos, Phillips 66, Prax Refining, Shell and Valero – are together responsible for the sourcing and supply of product meeting over 85% of UK inland demand, accounting for a third of total primary UK energy*.

The refining and downstream oil sector is vital in supporting UK economic activity. It provides a secure supply of affordable energy for road and rail transport, aviation, and marine applications, as well as for commercial and domestic heating. It also supplies base fluids for use in lubricants, bitumen for use in road surfacing, and graphite for use in electric vehicle batteries and as electrodes in steel and aluminium manufacture.

The sector is poised to play a central role in enabling a Net Zero future by leading deployment of at-scale decarbonisation technologies to reduce our own emissions and those of others. It also brings expertise in delivery of large scale, complex and capital-intensive projects. Maintaining and accelerating such investment to support the Net Zero transition means the UK needs to be a globally competitive place to invest. However, the UK is now at risk of being left behind, due to domestic disadvantages and international incentives.

The UK has higher carbon and energy costs than most competitor countries, poorer incentives to develop low carbon technologies, and a policy environment that does not offer sufficient investor certainty. Consequently, the risks of carbon leakage and deindustrialisation are increasing steadily.

* Department of Energy Security and Net Zero Digest of UK Energy Statistics (DUKES) 2022.

UKPIA believes strongly that the UK government should seek urgently to mitigate against future carbon leakage risk, acting on domestic policy measures alongside international and multilateral action. It should pursue early linkage with other emissions trading schemes with the objective to establish a global carbon price, adopting domestic measures to provide additional protection against carbon leakage risk in the short to medium term. These should include:

- A carefully designed carbon border adjustment mechanism (CBAM) for products with a high level of trade intensity, in particular, for sectors where manufacturing sites have a high level of carbon or electricity intensity, including measures to maintain competitiveness in export markets. Particular attention should be given to sectors of strategic importance, including domestic energy security.
- Increased support for decarbonisation projects to match that available under the US Inflation Reduction Act (IRA), EU Fit for 55 Package and Net Zero Industry Act and other countries, e.g., the Carbon Contracts for Difference schemes proposed by Germany and The Netherlands.
- Broader steps to render the UK business environment more competitive, for example, on energy costs, and to deliver long term fiscal and policy stability.

The refining sector has long been considered one of the most exposed to risk of carbon leakage as identified in Annex B of the consultation document. However, imports and exports are crucial in maintaining the supply/demand balance and to provide high levels of supply resilience, including during refinery maintenance shutdowns.

UKPIA welcomes the opportunity to respond to the consultation on proposals for policy measures to mitigate against carbon leakage risk. Our responses to the questions posed in the consultation document are given in Attachment 1.

Yours faithfully,

Dr Andrew Roberts
Director – Downstream Policy

cc:	Michael Duggan	Department for Energy Security and Net Zero
	Simon Stoddart	Department for Energy Security and Net Zero
	Emilio Marin	Department for Energy Security and Net Zero

Attachment 1

UKPIA Response to HMT/DESNZ Consultation: Addressing carbon leakage risk to support decarbonisation

Introduction

Question 0.1: Other. UKPIA is the trade association representing the eight main oil refining and marketing companies operating in the UK. The UKPIA member companies – bp, Essar, Esso Petroleum, Petroineos, Phillips 66, Prax Refining, Shell and Valero – are together responsible for the sourcing and supply of product meeting over 85% of UK inland demand, accounting for a third of total primary UK energy[1].

Question 0.2: The registered business address for UKPIA is in London.

Question 0.3: UKPIA is based in London.

Question 0.4: UKPIA is not registered under the UK ETS, but Essar, Esso Petroleum, Petroineos, Phillips 66, Prax Refining and Valero all operate refineries which receive free allowances under the UK ETS.

Question 0.5: UKPIA itself is not part of an industrial cluster, but the six UK refineries are all located within industrial clusters recognised by the government:

Merseyside	Essar Stanlow
Grangemouth	Petroineos Grangemouth
Humberside	Phillips 66 Humber, Prax Lindsey Oil Refinery
Solent	Esso Fawley
South Wales	Valero Pembroke

Chapter 1. Carbon leakage policy measures

Question 1.0. Does government's definition of carbon leakage reflect your understanding of the issue? Please explain your reasoning.

Yes, agree. The definition of carbon leakage provided in the consultation document is broadly accepted internationally, for example by the International Energy Authority (IEA)[2]. However, this considers only the impact of carbon pricing and climate regulation and fails to recognise other factors (e.g. high energy costs) potentially involved in decisions to close or relocate production elsewhere, which can also lead to carbon leakage; this has been acknowledged by the International Monetary Fund (IMF)[3].

The refining sector has long been considered one of the most exposed to risk of carbon leakage as identified in Annex B of the consultation document. However, imports and exports are crucial in maintaining the supply/demand balance and to provide high levels of supply resilience, including during refinery maintenance shutdowns.

UK refineries were expanded and reconfigured in the 1960s to 1980s to maximise petrol production, with limited scope to increase jet fuel and diesel production as petrol demand has decreased and demand for jet fuel and diesel has increased. As a consequence, a

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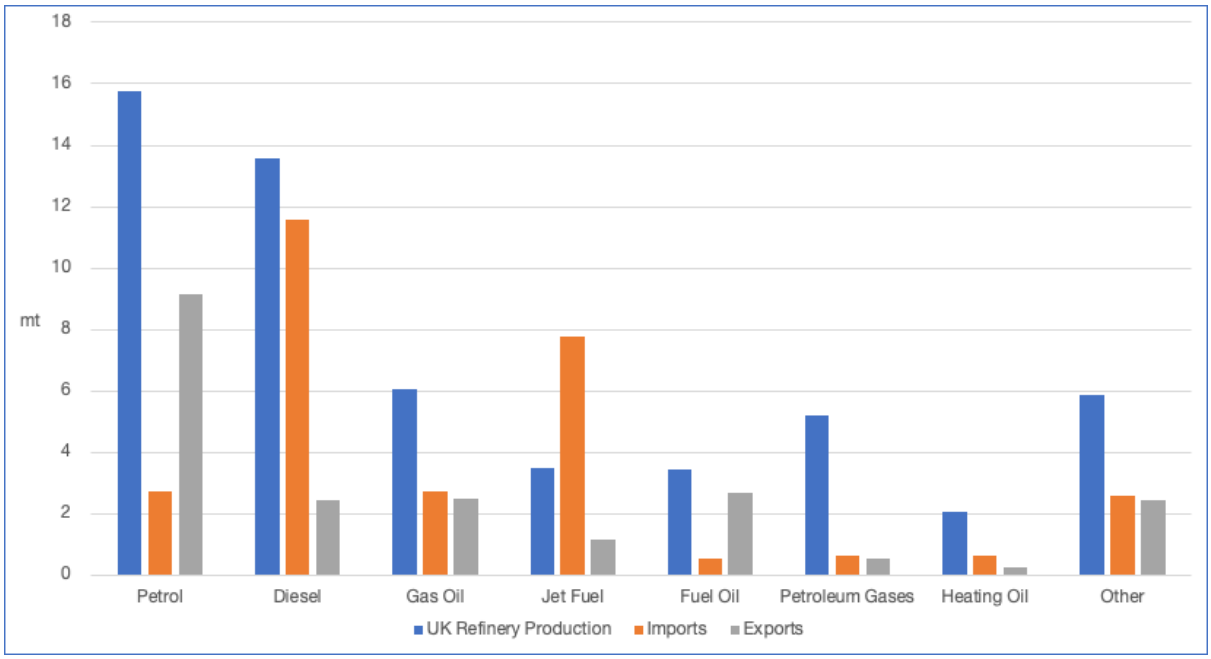
[1] BEIS Digest of UK Energy Statistics (DUKES) 2022.

[2] J. Reinaud, Issues behind competitiveness and carbon leakage - focus on heavy industry, IEA, 2008.

[3] F.Misch and P. Wingender, IMF Working Paper WP/21/207, Revisiting Carbon Leakage, IMF 2021.

significant portion of UK jet fuel and diesel demand is met by imports, with surplus petrol exported (Diagram 1). Both imports and exports are required for all products to balance supply and demand.

Diagram 1. UK Refinery production, imports and exports - 2022



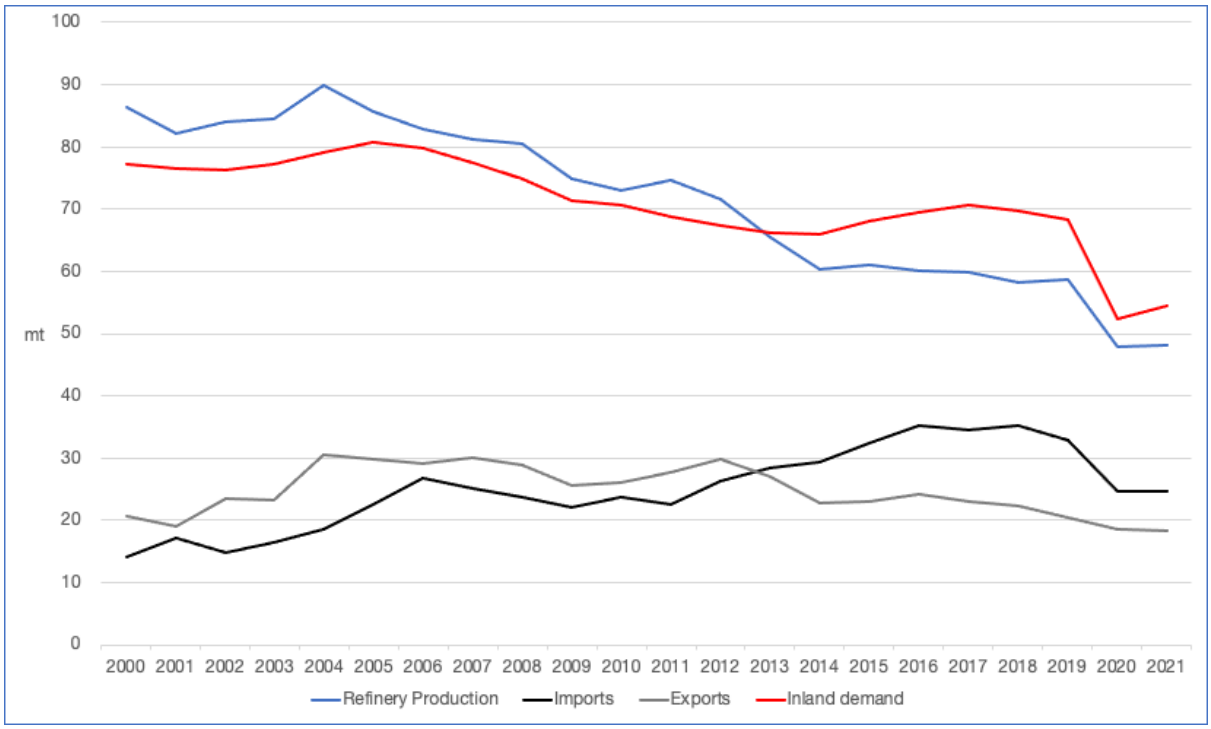
Data source: BEIS Energy Trends Table 3.4

Over the last fifteen years, there have been three refinery closures in the UK[4], with further capacity reductions at four[5] of the remaining six refineries, resulting in the UK becoming a net importer of petroleum products in 2013 (Diagram 2). However, despite the net import position, exports remain of critical importance, with 30-40% of UK refinery production being exported.

Closure of the Coryton refinery in 2011 followed failure of the Petroplus business, but the remaining refinery closures and capacity reductions have been made following strategic decisions by the operators faced by poor refining margins and loss of competitiveness. UKPIA understands these have not been taken due to carbon pricing and ETS compliance costs directly, although these may have contributed to the decisions.

[4] Petroplus Teesside (2008), Petroplus Coryton (2011) and Murco Milford Haven (2013).
[5] Essar Stanlow (2014), Esso Fawley (2012), Prax Lindsey (2018) and PetroIneos Grangemouth (2020).

Diagram 2. UK Supply/demand balance for petroleum products



Data source: BEIS Digest of UK Energy Statistics (DUKES) 2022 Table 3.3 (excludes bunkers)

The definition of carbon leakage may therefore be somewhat narrow, being focussed only on the impact of carbon pricing and climate change policies. These may be contributory factors, but in reality, other factors are often also involved.

Question 1.1. Do you believe that the risk of carbon leakage in the UK is likely to:

- Increase
- Decrease
- Remain unchanged
- Carbon leakage is occurring now

UKPIA believes there is already evidence of carbon leakage in the UK, with the risks likely to increase in the absence of additional government action, due to a combination of the following factors:

- Rising carbon prices and continuing premiums under the EU and UK Emissions Trading Schemes.
- Reduced free allowance allocation from alignment of the UK ETS cap with the 2050 Net Zero ambition and changes in free allowance allocation methodology.
- High energy costs compared to other regions. Some major exporting countries for petroleum products, e.g. the US Gulf Coast and Saudi Arabia, have structural advantages resulting in lower gas and electricity costs compared to the UK and Northwest Europe.
- Limited incentives to develop low carbon technologies, and a UK policy environment that does not offer sufficient investor certainty. Policy announcements by the US (Inflation Reduction Act) and EU (Fit for 55 Package) equivalent to multi-billion pounds in support, highlight the ambition of other countries to attract investment and deliver industrial decarbonisation at pace.

Question 1.2: What factors contribute to the risk of future carbon leakage that government should be looking at and that government should address? What evidence can you provide to support your view?

- UK carbon price relative to other jurisdictions
- Other UK climate policies relative to other countries
- Impacts of climate and carbon leakage policy in other countries
- The cost and availability of technologies to transition from energy intensive production (as well as abatement technologies)
- The ability of a sector to transition to low emission production processes and the ability of customers to substitute to low carbon alternatives
- Lack of demand for low carbon products in the UK
- Other (please specify)

UKPIA believe the main factors contributing to the risk of future carbon leakage are as follows:

- Lack of an international carbon price and the UK carbon price relative to other jurisdictions.
- Reductions in free allowance allocation for sectors exposed to carbon leakage risk resulting from alignment of the UK ETS cap with the 2050 Net Zero ambition, coupled with changes in the free allowance allocation methodology.
- Energy costs relative to those for key exporting countries.
- Limited incentives to develop low carbon technologies, and a UK policy environment that does not offer sufficient investor certainty.
- The cost and availability of technologies to transition from energy intensive production (as well as abatement technologies).
- Selection of lead carbon capture, utilisation and storage (CCUS) clusters under the Government Cluster Sequencing programme and uncertainties around future levels of support under the CCUS and hydrogen business models for later projects where decarbonisation costs are likely to be higher.
- Lack of secure, stable, price competitive supply of critical minerals for electric vehicle (EV) batteries and renewable feedstocks for manufacture of low carbon fuels including sustainable aviation fuels (SAFs).

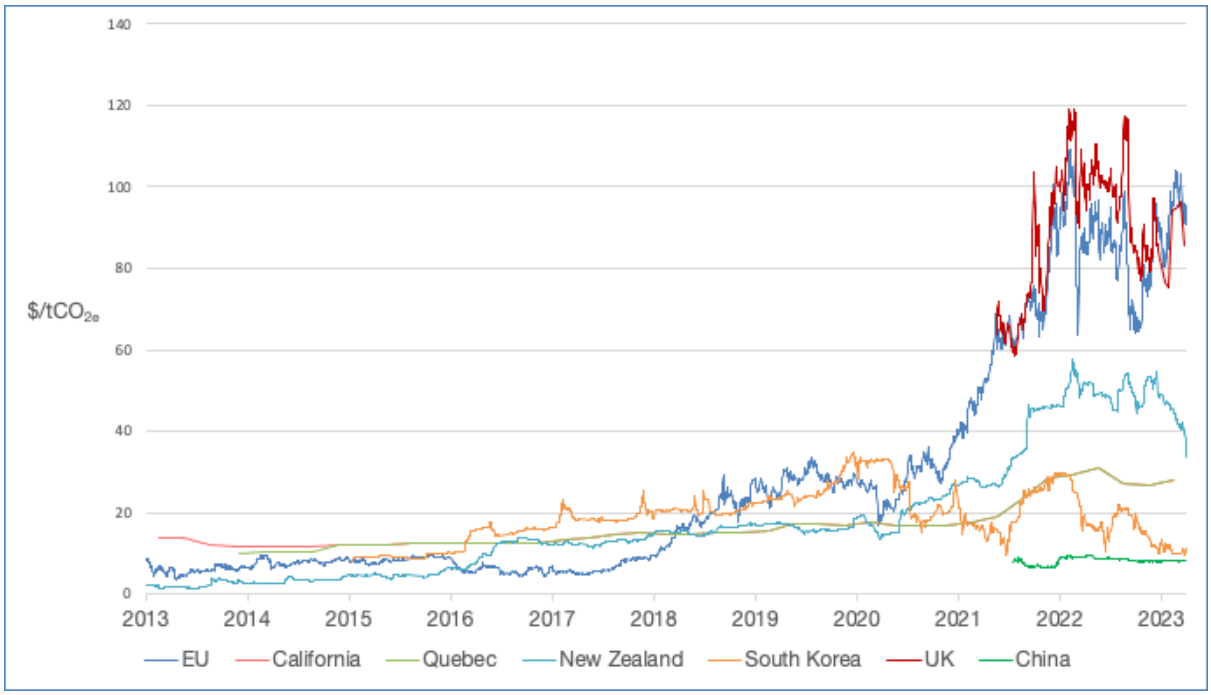
Over the last three years, UK installations included under the EU and UK Emissions Trading Schemes have been subject to increasing compliance costs, with a premium for UK ETS allowances for most of the period since implementation of the UK ETS (Diagram 3).

Although refineries are included in the UK, EU, California and Quebec Emissions Trading Schemes, they are currently excluded from most other Schemes, with refineries having no exposure to carbon pricing costs in key export locations such as India, the Middle East and the US Gulf Coast. This leads to a potential loss of competitiveness for domestic production against imports from such locations, but also to a loss of competitiveness where UK exports compete against exports from these locations.

The combination of reduced free allowance allocation and increases in EU and UK allowance prices have led to sharp increases in compliance costs for UK refineries over the last five years. Aggregated compliance costs for the six UK refineries in 2023 amounted to over £300m[6], the highest cost for any sector other than power generation which receives no free allowance allocation.

[6] Based on the difference between verified emissions and free allowance allocation multiplied by the average UK ETS allowance for 2022.

Diagram 3. Comparative ETS costs – 2013 to 2023



Data sources: International Carbon Action Partnership (ICAP), BoE

The Cost Containment Mechanisms, designed to limit cost increases, have not been effective either for the EU or UK Emissions Trading Schemes. This has led to high levels of uncertainty regarding future allowance costs, in particular, following changes in free allowance allocation proposed with alignment of the UK ETS cap with Net Zero and changes in the free allowance allocation methodology, where the Government has still to publish its full response to the consultation "Developing the UK Emissions Trading Scheme (ETS)"[7].

Question 1.3: How should the government act to mitigate future carbon leakage risk? Please explain your reasoning.

- Government should focus on international and multilateral action to address carbon leakage.
- Government should focus on domestic carbon leakage measures.
- Government should act on domestic measures alongside international and multilateral action.
- No additional government action on carbon leakage is needed.

UKPIA believes the UK government should mitigate against future carbon leakage risk, acting on domestic policy measures alongside international and multilateral action. It should pursue early linkage with other emissions trading schemes with the objective to establish a

[7] The UK Government, the Scottish Government, the Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland initiated a consultation "Developing the UK Emissions Trading Scheme (UK ETS)" in March 2022. An initial response covering proposals to be implemented by 2023 was published in August 2022, but further consultations are understood to be forthcoming with alignment of the UK ETS cap with Net Zero and changes in the free allowance allocation methodology.

global carbon price, adopting domestic measures to provide additional protection against carbon leakage risk in the short to medium term. These should include:

- A carefully designed carbon border adjustment mechanism (CBAM) for products with a high level of trade intensity, in particular, for sectors where manufacturing sites have a high level of carbon or electricity intensity, including measures to maintain competitiveness in export markets. Particular attention should be given to sectors of strategic importance, including domestic energy security.
- Increased support for decarbonisation projects to match that available under the US Inflation Reduction Act (IRA), EU Fit for 55 Package and Net Zero Industry Act and other countries, e.g. the Carbon Contracts for Difference schemes proposed by Germany and The Netherlands[8].
- Broader steps to render the UK business environment more competitive, for example, on energy costs, and to deliver long term fiscal and policy stability.

These measures are essential given the scale of projects and associated investments required to deliver Net Zero, in particular:

  - Decarbonisation of electricity generation and transformation of the transmission and distribution system.
  - Carbon capture, transport and storage at scale.
  - Hydrogen production and use in transport and industrial heating applications.
  - Production of Sustainable Aviation Fuels (SAFs) at scale.

The UK is now at risk of being left behind due to domestic disadvantages and the reduced level of incentives to support decarbonisation investments compared to competitor countries such as the US and EU that have already implemented strong levels of support. The UK risks losing any potential advantages in terms of its strengths in innovation and technology development through slow implementation of policy measures that are too complex and uncertain to attract investment against competition with the options available elsewhere.

Chapter 2. Carbon border adjustment mechanism

Question 2:1: Should a CBAM only apply to products in sectors that are subject to the UK ETS? Please explain your reasoning.

Yes, agree. UKPIA believes the initial scope of a CBAM should apply to products in sectors that are subject to the UK ETS and high levels of trade and carbon intensity only, at least until the effectiveness of CBAMs have been shown to be effective in reducing the risk of carbon leakage. This would limit the additional administrative burden for both government and industry until the operability of a CBAM had been established for sectors most exposed to carbon leakage risk. The same sectors are also likely to face the greatest investment challenge in key areas identified in our response to Question 1.3.

The starting point for the initial scope should be those sectors identified at highest risk of carbon leakage – UKPIA note these are currently identified in the Annex to Commission Delegated Decision (EU) 2019/708 Table 1 and EU Directive 2003/87/EC (as amended up to 31st January 2020, the date the UK left the EU), which continues to provide the basis for free allowance allocation under the UK ETS.

However, UKPIA doubts whether implementation of a CBAM alone will be effective in securing investment in decarbonisation projects against the policy measures introduced under the US IRA and EU Fit for 55 Package etc. Successful UK implementation of

[8] N.J. Kurmayer, "Berlin launches €50 billion 'climate contracts' for industry", Euractiv, June 2023.

decarbonisation policies and delivery of improved policy certainty will be evidenced by the level of new investment secured.

Given the complexity of the refining and downstream oil sector, close involvement of sector experts will be critical to ensure design of the CBAM methodology can be implemented effectively for petroleum products.

Question 2.2: Are there products in your sector/sub-sector where the application of a CBAM would not be effective or feasible? Please explain your reasoning.

Don't know. UKPIA and its member companies support application of a CBAM for all petroleum products produced from the refining of crude oil listed under Commodity Code 2710, along with feedstocks (other than crude oil), biofuel components and hydrogen. Although a methodology for quantification of embedded emissions has still to be developed at six- and eight-digit Commodity Code level, inclusion of all petroleum products produced from the refining of crude oil listed under Commodity Code 2710 would be consistent with the scope of emissions reporting for UK refineries registered under the UK ETS.

However, the practicalities of implementing a CBAM have not yet been confirmed and it remains to be seen whether there are cases where application of a CBAM is not effective or feasible (see also response to Question 2.3).

Question 2.3: If the scope of a CBAM is initially limited, should it be designed to potentially cover other products in future? Please explain your reasoning.

Yes, agree. UKPIA believes the scope of a UK CBAM should initially be limited with an initial trial period of three years. This would be appropriate to develop robust reporting and verification mechanisms and to prove the methodology before any expansion in the number of sectors covered and application to additional products.

The CBAM methodology should therefore be designed to potentially cover a wide variety of products and the proposals must be based on robust data which is readily available. Practicalities associated with the proposed verification requirements must also be addressed, in particular for imports and in the development of default values which are likely to be widely used until international carbon accounting methodologies have been agreed.

Question 2.4: Should the importer of products covered by a CBAM be responsible for meeting all CBAM requirements? If not the importer, who? Please explain your reasoning.

In principle, UKPIA agree that importers should be responsible for meeting CBAM requirements for products they import. However, in practice it may be very difficult for importers to identify where and how petroleum products are produced, which will force use of default values in determination of CBAM liability where the required information is not available. Additional complexities are also found for petroleum products and other products which may become comingled in storage with the same product from a different origin.

Question 2.5: Should importers be required to provide accurate, independently verified emissions data for the products they import where available? Please explain your reasoning.

No, disagree. UKPIA doubts whether importers will be in a position to provide accurate, independently verified emissions data for the products they import until robust, widely accepted international carbon accounting methodologies have been agreed. This will require use of default values defined by the UK government for the majority of products

covered by a CBAM. This would minimise any potential trade disruption or import delays caused by the absence of accurate, independently verified emissions data (see also response to Question 2.4).

However, the situation regarding availability of verified data on embedded emissions should be kept under review. Producers should be encouraged to develop verified data as they implement decarbonisation projects. Importers (and for that matter UK exporters) should be able to benefit from lower CBAM liabilities where they can provide evidence to support use of product carbon intensities lower than the default values.

Question 2.6: Should there also be an option for importers to use default values, where they do not or cannot provide accurate emissions data? Please explain your reasoning. (See Chapter 6 for further discussion of default values).

Agree, in all cases. See also responses to Questions 2.4 and 2.5, along with responses to questions under Chapter 6.

Question 2.7: Are there any factors not presented in this chapter which government should consider for the calculation of default values? Please explain your reasoning.

UKPIA is not aware of any factors not covered in Chapter 2 which should be considered in the calculation of default values. However, the calculations and data used to define default values should be transparent and robust – UKPIA believes this will be important to establish confidence in any CBAM, with possible implications also for acceptance of the CBAM under World Trade Organisation (WTO) rules.

Question 2.8: Are there any additional challenges or opportunities around the monitoring, reporting and verification of emissions that have not been considered? Please explain your reasoning.

UKPIA understands that available methodologies for quantification of embedded emissions have been reviewed to support implementation of the EU CBAM Regulation (EU) 2023/956[9]. For the products currently within scope of the EU CBAM, and for the majority of products produced by installations covered by the EU and UK Emissions Trading Schemes, most have a singularly defined product carbon intensity related to the output of the final product; these are used in determination of the level of free allowance allocation and the emissions intensity of each installation. However, due to the complexity of different refining processes and the range of products produced by oil refineries, a CO_2 weighted tonne (CWT™) methodology is used for free allowance allocation for the refining sector[10]. This results in a tCO_2e/CWT measure of carbon intensity for each installation as a whole rather than at individual product level.

Definition of a calculation methodology for petroleum products at Commodity Code level will require further development. UKPIA understands this is currently underway by Concawe and Solomon Associates to support extension of the EU CBAM to petroleum products[11]. UKPIA strongly recommends that the same calculation methodologies are used

[9] H. Fallmann, C. Heller, H. Schreiber and C. Green, Review of calculation methods for embedded emissions for the purpose of the CBAM, UBA/Ricardo, 2023.

[10] The UK ETS also continues to use the EU ETS product benchmarks defined under Commission Delegated Regulation (EU) 2019/331, including the CWT™ methodology for the refining sector.

[11] The current EU ETS refinery benchmark methodology was developed by Concawe, the European technical body for the refining sector, in conjunction with the European Commission under an agreement with Solomon Associates LLC, a US consultancy. It is based on a proprietary benchmarking methodology used by Solomon for international benchmarking of refineries for over 30

under any potential UK CBAM as are used under the EU CBAM; this would be entirely logical due to the relationship between CBAMs and quantification of carbon intensity under the EU and UK Emissions Trading Schemes.

Question 2.9: What data could UK importers provide for Scope 1 emissions embodied within imported products on a product basis? Please explain your reasoning.

As mentioned in the response to Question 2.5, it is extremely unlikely that importers will be able to provide data on embodied emissions for imported products.

See also responses to Questions 2.4, 2.5 and 2.6.

Question 2.10: What alternative data sources would government need to consider when determining Scope 1 imported emissions on a product basis if these data cannot be provided by an importer? Please explain your reasoning.

For installations falling under the EU ETS, the Scope 1 emissions are available from the European Union Transaction Log (EUTL). However, these cannot be readily translated into embodied emissions at product level. Default values would therefore be required for products imported from the EU and from extra-EU countries until robust, widely accepted international carbon accounting methodologies have been agreed. See also response to Question 2.8 for determination of Scope 1 emissions for petroleum products.

Question 2.11: Do you agree or disagree a CBAM should be applied to Scope 2 emissions embodied within imported products? Please explain your reasoning.

Yes, agree. UKPIA believes calculation of embedded emissions should be based on Scope 1 and Scope 2 emissions to account for different levels of electricity and gas intensity, grid carbon intensity and to take into account heat imports and exports from installations.

Question 2.12: What data could UK importers provide for Scope 2 emissions embodied within imported products on a product basis? Please explain your reasoning.

Again, UKPIA doubts whether importers will be able to provide data on embodied Scope 2 emissions for imported products, although they may be able to identify the production site. We believe that Scope 2 (and for that matter scope 1) emissions can only be determined by the installation operator, as gas, electricity and heat imports and exports are commercially sensitive and not publicly available.

See also responses to Questions 2.4, 2.5 and 2.6.

Question 2.13: What alternative data sources would government need to consider to determine Scope 2 imported emissions on a product basis if these data cannot be provided by an importer? Please explain your reasoning.

As mentioned in the response to Question 2.12, UKPIA is not aware of any means to quantify Scope 2 emissions for imported products or any publicly available data sources, although the grid intensity is publicly available for many countries. The latter could be used in calculation of default values by country.

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years. Development of the refinery benchmark is described in Report No. 9/12, Developing a methodology for an EU refining industry CO_2 emissions benchmark, Concawe, 2012.

Question 2.14: Should the government consider the use of product level electricity 'content' benchmarks and country level averages to calculate Scope 2 emissions from purchased electricity?

As mentioned in the response to Question 2.12, UKPIA is not aware of any means to quantify Scope 2 emissions for imported products or their production sites, although the grid intensity is publicly available for many countries. The government should therefore consider the use of product level electricity 'content' benchmarks and country level averages to calculate Scope 2 emissions from purchased electricity.

Question 2.15: If yes, how should country level Scope 2 average emissions be calculated? Please explain your reasoning.

UKPIA does not have the expertise to advise on how country level Scope 2 average emissions should be calculated.

Question 2.16: Should a CBAM be applied to the Scope 3 emissions embodied within imported products that are also indirectly covered by the UK ETS? Please explain your reasoning.

No, strongly disagree. Although in principle, UKPIA strongly supports full Life Cycle Analysis (LCA) to quantity emissions intensity, for the purposes of a CBAM, inclusion of Scope 3 embodied emissions or full LCA introduces undue complexity and overlaps with other policy measures such as the Renewable Transport Fuels Obligation (RTFO) which addresses Scope 3 emissions.

Question 2.17: What data could UK importers provide for Scope 3 emissions embodied within imported products on a product basis? Please explain your reasoning.

UKPIA believes there is no prospect that importers would be able to provide data on Scope 3 emissions embodied within imported products. Indeed, these are not quantified at product level for products produced by domestic production installations or at company level.

Question 2.18: What alternative data sources would government need to consider to determine Scope 3 imported emissions on a product basis if these data cannot be provided by an importer? Please explain your reasoning.

UKPIA is not aware of any data sources for Scope 3 emissions at product level - see also response to Question 2.17.

Question 2.19: Do you have further comments on the inclusion and measurement of emissions embodied in imported products as part of a CBAM?

As mentioned in the response to Question 2.11, UKPIA believes calculation of embedded emissions should be based on Scope 1 and Scope 2 emissions only.

Question 2.20: Should the price applied by a CBAM be comparable to the effective domestic carbon price paid, including accounting for any discounts available through free allowances or compensation? Please explain your reasoning.

Although in principle, UKPIA agrees that use of an effective carbon price would be a fair and reasonable means of quantifying carbon costs faced by producers of imported products. However, in practice it will be difficult for importers to identify where and how petroleum products are produced and to determine the applicable effective carbon price. Additional complexities are also found for petroleum products and other products which may become comingled in storage with the same product from a different origin.

Use of an effective carbon price would also introduce high levels of complexity where discounts and compensation or additional carbon price support measures are not applied at product level and where there is a lack of transparency around country level policy measures.

As a fallback position, the prevailing UK carbon prices could be used where the effective carbon price cannot be determined.

Question 2.21: Should the price applied by a CBAM track the prevailing UK ETS price throughout the year, as opposed to being set at a fixed annual rate? Please explain your reasoning and any preference between the different options outlined above.

Yes, agree. In principle UKPIA believes the price applied by a CBAM should track the prevailing UK ETS price, as opposed to being set at a fixed annual rate, as the latter approach has the potential to introduce significant differences between the carbon price faced by domestic producers compared to those faced by producers elsewhere, especially if carbon prices continue to increase. However, to avoid undue complexity, UKPIA believes regular averages of secondary market prices should be used (for example, monthly or quarterly averages).

Question 2.22: Should the price applied by a CBAM to imported products be based on the value of the effective carbon price differential between the UK and the country where that good was produced? Please explain your reasoning.

in principle, UKPIA agrees that the price applied by a CBAM to imported products should be based on the carbon price differential between the UK and the country where the product was produced. However, in practice this may be difficult to determine - see response to Question 2.20.

Question 2.23: Would it be practicable for importers to provide information on the effective carbon price already paid on products in the originating country? Please provide details.

UKPIA believes that in practice it will be difficult for importers to identify exactly where and how petroleum products are produced and to determine the applicable effective carbon price – see also response to Question 2.20. Additional complexities are also found for petroleum products and other products which may become comingled in storage with the same product from a different origin.

Question 2.24: What issues might arise in taking into account a carbon price already paid in another country when calculating the price applied by a CBAM? Please explain your reasoning.

As mentioned in the response to Question 2.4, additional complexities will be found in determination of the effective carbon price for petroleum products and other products from different countries which are comingled in storage, or where manufactured articles or formulated products contain materials produced in more than one country.

Question 2.25: Do you have any views on how a CBAM could be designed to ensure maximum simplicity? For example, by following the mechanism for other border charges such as tariffs and excise duties. Please explain your reasoning.

Yes, agree. As mentioned in the response to Question 2.2, UKPIA believes the CBAM should be designed around use of eight-digit Commodity Codes as used to determine other border charges such as tariffs and excise duties. This would have the advantages associated with use of a classification system that is already internationally accepted and would also mirror the approach adopted under the EU CBAM.

Question 2.26: Should government prioritise reflecting the flexibility offered by the UK ETS in a CBAM? For example, by allowing emissions to be paid for at a separate point to the release of products into free circulation. Please explain your reasoning.

No, disagree. To ensure equivalent and competitive treatment of imports and domestically produced products, the CBAM should be applied at the duty point or the point at which products are transferred from the import location to the inland market.

Question 2.27: Are there further actions government could take to design a CBAM in a way that facilitates the smooth flow of trade? Please explain your reasoning.

As recognised in Chapter 4, the CBAM design must take into consideration the treatment of UK exports to ensure minimum trade disruption, in particular, where supply chains are integrated within geographical regions or in global markets. If, as proposed under the EU CBAM, exports from EU producers are increasingly exposed to the effective EU carbon price with reductions in EU ETS free allowance allocation, exports are at risk of being uncompetitively priced, leading to potential disruption in trade flows and global supply chains.

As explained in the response to Question 1.0, imports and exports of petroleum products are crucial in maintaining the supply/demand balance in the UK market and to provide high levels of supply resilience, including during refinery maintenance shutdowns.

Question 2.28: Are there further interactions with the customs and/or border systems which government should take into account for the development of a CBAM? Please explain your reasoning.

UKPIA is not aware of any further interactions with the customs and/or border systems that government should take into account in the development of a UK CBAM.

Question 2.29: Are there further policy interactions that government should consider regarding potential implementation timelines for a CBAM? Please explain your reasoning.

UKPIA has serious concerns regarding the potential implementation timeline for a UK CBAM and interaction with further development of the UK ETS, specifically alignment of the UK ETS cap with Net Zero and proposed changes in the free allowance methodology which at this stage have not been determined. This introduces a high level of policy uncertainty, which must be factored into investment decisions taken by UK companies, in particular, where policy announcements by the US (Inflation Reduction Act) and EU (Fit for 55 Package) deliver certainty and highlight the ambition of other countries to attract investment and deliver industrial decarbonisation at pace.

Chapter 3. Mandatory product standards

Question 3.1: Were mandatory product standards introduced, should the above criteria be used to decide on its initial sectoral scope? Are there other criteria that should be considered? Please explain your reasoning, including any alternative criteria.

UKPIA's view is that mandatory production standards (MPSs) are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. There is also a need to import and export intermediates on a routine basis in order to manage production. A UK MPS does not support export competitiveness in countries where an MPS does not apply; as we outline in our response to Question 1.0, export competitiveness is vital for the UK refining

sector. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

Taking the above into account, UKPIA agrees that the criteria proposed should be used to decide the initial sectorial scope.

While the criteria mention other decarbonisation policies such as the UK ETS, there have been a number of decarbonisation policies in addition to this for the sector. These include the Renewable Transport Fuels Obligation (RTFO), introduced in 2009, and the Sustainable Aviation Fuel (SAF) mandate currently under consultation and planned to be introduced in 2025. These need to be carefully considered in addition to the UK ETS.

For the downstream oil sector, and in particular for refining, the calculation of emissions is extremely complex given the number of crude oils, feedstocks and blending components that can be used. These, as well as refinery operating conditions change on a daily basis. For this reason, the sector used the Solomon methodology as a basis for determining free allocations, based on the best performing European refineries. This approach is used by operators within the European Refining sector as well. This makes the deliverability criteria very difficult to apply for petroleum products.

Question 3.2: Which option, if any, would be most appropriate for the initial sectoral targeting of a mandatory product standard? Are there other/additional sectors which should be considered for early targeting, for example to address the risk of substitution? Please explain your reasoning.

UKPIA's view is that MPSs are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. As outlined in the response to Question 1.0, there is also a need to import and export intermediates on a routine basis in order to manage production. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

If the MPS approach is progressed, then we would recommend that the initial scope is as limited as possible while the value of the approach is demonstrated. We would therefore suggest that Option 1 is the most appropriate approach at this time.

Question 3.3: Which option, if any, would be most appropriate for emissions scope of a mandatory product standard? Please explain your reasoning, and details of any alternative options.

UKPIA's view is that MPSs are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. As we outline in our response to Question 1.0, there is also a need to import and export intermediates on a routine basis in order to manage production. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

Taking the above into account, UKPIA agrees that Option 2 does not appear to be deliverable, as the downstream emissions cannot be considered for many products as these will vary depending on the end use, which cannot be known at the point of sale by the manufacturer. For the refining sector, this includes the end use of the fuel including any subsequent blending or emission mitigations.

There needs to be consistency of approach between existing emissions schemes such as the UK ETS to provide a smooth pathway to decarbonisation.

As discussed in our response to Question 3.2, for the refining sectors other schemes such as the RTFO and SAF mandate scheme are used to mitigate Scope 3 emissions.

Question 3.4: Which value chain option, if any, would be most appropriate to target with a mandatory product standard? Please explain your reasoning, with reference to specific sectors if possible, and details of any alternative options.

None of the above.

A single value chain option may not provide an appropriate approach for all industries, as these may vary depending on industry specific factors and are likely to lead to higher costs for UK manufacturing.

The ability of the UK manufacturing industry to influence upstream factors may be extremely limited. For example, in the case of steel discussed in the consultation, in the absence of similar schemes on other countries, the requirements of a UK steel maker to purchase low carbon iron ore may lead to higher costs than competitor countries. This makes it harder for UK companies to compete, risking carbon leakage.

The scope of an MPS, if introduced, needs to be on the same basis as the UK ETS to allow UK producers to compete on a level playing field. As described above, the introduction of unilateral measures on upstream emissions with no comparable schemes abroad is likely to lead to significant competitiveness issues for UK manufacturing.

Question 3.5: Which option, if any, would be most appropriate for targeting the point of obligation for a mandatory product standard for domestically produced goods? Please explain your reasoning, with reference to specific sectors if possible, and details of any alternative options.

UKPIA's view is that MPSs are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. As we outline in our response to Question 1.0 there is also a need to import and export intermediates on a routine basis in order to manage production. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

Taking the above into account, UKPIA suggests that point of production would be most appropriate for targeting the point of obligation for UK fuel production. This is also the duty point for domestic UK refineries and import terminals.

For the downstream oil sector, products can be sold a number of times once product leaves the refinery or import terminal and through comingled storage where fuel is owned by a number of companies. Placing the obligation on the point-of-sale therefore creates a requirement to track MPS through the chain, which is not required and adds a significant administrative burden.

This approach is common with the duty point for fuel leaving the customs warehouse such as a refinery under the Hydrocarbon Oil Duty Act (HODA) [12] so is therefore familiar to the sector.

Question 3.6: What considerations should government consider when targeting the point of obligation for imported goods? Please explain your reasoning, with reference to specific sectors if possible.

UKPIA's view is that MPSs are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. As we outline in our response to Question 1.0, there is also a need to import

[12] The Hydrocarbon Oil Duties Act 1979 (as amended).

and export intermediates on a routine basis in order to manage production. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

Taking the above into account and following our response to Question 3.5, UKPIA suggests that the duty point under HODA would be most appropriate for targeting the point of obligation for imports, as well as for UK fuel production.

For the downstream oil sector, products can be sold a number of times once product leaves the refinery or import terminal and through comingled storage where fuel is owned by a number of companies. Placing the obligation on the point-of-sale therefore creates a requirement to track MPS through the chain, which is not required and adds a significant administrative burden.

The duty point is used under HODA for fuel leaving the customs warehouse (including import terminal and refineries), so is therefore familiar to the sector and HMRC.

Question 3.7: Do you agree or disagree that any mandatory product standard should apply to imports? Please explain your reasoning, including any details of the possible impacts for your sector.

UKPIA strongly agrees that any MPSs should also apply to imports. A failure to apply the same standards to imports as to UK production creates a strong market distortion, allowing potentially cheaper and higher carbon imports to be used in the UK market. This prevents competition on a level playing field and ultimately the leak of carbon leakage through deindustrialisation.

Question 3.8: Do you agree or disagree with the proposed principles for setting thresholds and increasing the stringency of mandatory product standards over time? Please explain your reasoning.

UKPIA's view is that MPSs are not appropriate for the downstream fuel industry and must not be adopted. Fuel production is extremely complex, with co-production of different fuels from a wide range of crude oils and intermediates and cannot be captured by the standards as proposed. As we outline in our response to Question 1.0 there is also a need to import and export intermediates on a routine basis in order to manage production. UKPIA therefore strongly recommends that a well-designed CBAM mechanism is put in place.

Taking the above into account, UKPIA broadly agrees with most of the proposed principles for setting thresholds and increasing the stringency of MPSs over time. However, we have a number of concerns over specific elements:

- The approach requires that standards are ambitious but achievable. There needs to be clarification on whether this is achievable for all current market participants, or only the best performing ones. If it only the best performing ones, what are the expectations on operators who do not meet the requirements; will they need to provide investment for example, and what are the consequences if this is not forthcoming? A failure to address this concern may lead to companies exiting the UK market, leading to carbon leakage. This has a significant, and detrimental impact on UK fuel supply, and resilience.
- The principles are linked only to UK moves to Net Zero, and there is no mention of international efforts in this regard. The UK does not operate in isolation but faces significant international competition, and this needs to be considered. If the UK government decide to move at a more rapid pace than international competitors, this will increase costs for the UK, including companies that operate within it. This does not create a level playing field, causing a risk of closure for UK operators, and leading to carbon leakage. This has a significant, and detrimental impact on UK fuel supply and resilience.

Question 3.9: Should mandatory product standards be delivered in stages, broadly moving from a less stringent, relatively focussed application in the late 2020s to a more stringent and potentially broader application during the 2030s? Please explain your reasoning.

Due to significant concerns regarding MPSs, their operability and usefulness needs to be developed and demonstrated, particularly in the context of a lack of available evidence on this topic.

Therefore, significantly less stringent criteria should be used initially as the systems and understanding are developed. There must be regular reviews with industry to confirm if tighter standards will deliver carbon savings or are going to disadvantage UK companies leading to a risk of carbon leakage.

UKPIA has a strong preference for a CBAM to be implemented as soon as practicable to provide improved protection against loss of competitiveness and mitigate against carbon leakage risk. MPSs are not considered appropriate for petroleum products for the reasons provide in the response to Question 3.1. However, if a UK CBAM is not implemented, alternative measures would be required to provide improved protection against loss of competitiveness and mitigate against carbon leakage risk, including continuing free allowance allocation under the UK ETS.

Chapter 4. Cross cutting policy issues for CBAM and MPS

Question 4.1: What specific challenges for countries at differing stages of development to the UK, in particular least developed and low-income countries would the government need to consider in the future design of any carbon leakage measures? Please explain your reasoning.

Any requirements for imports need to be applied on an equal basis for all countries, regardless of economic status in order to create a level playing field.

A failure to do this may lead to unintended consequences including market distortions, such as products being transited through countries with a more favourable treatment under carbon leakage proposals. Often barriers (including transportation and storage costs) are significantly lower than the incremental costs of meeting enhanced carbon leakage requirements, incentivising this behaviour.

There are also significant concerns over how differential treatment would be defined. A list of Least Developed Countries (LDCs) is available from the OECD[13] and reviewed annually and should at least be used as a basis for the discussion. However countries not on the list of LDCs still have issues with carbon management, or other wider political concerns.

For example, at the extreme, the US has no significant carbon market (outside of California) so could be treated favourably under the carbon leakage proposals as it does not have the expertise. There are also concerns with regards to supply from India, which links with the supply of crude oil from Russia, by-passing UK sanctions imposed by HMG following their invasion of Ukraine[14].

[13] DAC List of ODA Recipients, OECD.
[14] M. Narayan and N. Verma, "Fuels from Russian oil gets backdoor entry into Europe via India", Reuters, April 2023.

Question 4.2: How can the government best support countries at differing stages of development to the UK, in particular least developed and low-income countries? Please explain your reasoning.

Focused support such as the World Bank Partnership for Market Readiness[15] programme or International Institute for Sustainable Development (IISD) Just Energy Transition Partnership[16] would be preferable to different treatment under carbon leakage measures. This would avoid many of the issues concerned with circumvention and resource shuffling identified in the responses to Questions 4.6 to 4.9.

Different taxation treatment is available for companies trading with Least Developed countries (LDCs) with the UK Developing Countries Trading Scheme (DCTS)[17]. This focused scheme should be used to promote international development through trade rather than including the measures in carbon leakage measures.

Question 4.3: What is your view on the importance of finding ways to simplify the process for estimating product level emissions intensities?

This is likely to be sector specific, with some sectors having very complex requirements for the calculation of emissions. For these sectors, we strongly agree that it is important to find ways of simplifying the process for estimating product level emissions.

UKPIA's view is that a default value approach is critical to delivering carbon leakage measures in a robust and implementable manner.

For the downstream oil sector, and in particular refining, sector, the calculation of emissions is extremely complex given the number of crude oils, feedstocks and blending components that can be used. These, as well as refinery operating conditions change on a daily basis. For this reason, the sector used the Solomon methodology as a basis for determining free allocations, based on the performance of European refineries[18]. This approach is used by operators within the European Refining sector. We also note the Concawe study estimating the CO_2 intensities of EU refined products using statistical regression methodology[19] and suggest that this approach could be followed in the UK.

We strongly recommend that UKPIA be actively involved in the establishment of default values in order to provide rigorous technical expertise and links with Concawe and their methodology.

Question 4.4: What are the different options for simplifying the process for estimating product level emissions intensities without compromising on the integrity of the estimates?

The downstream oil sector has made extensive use of default values for fossil fuels, which have been developed through specific studies and included in the relevant legislation (such as the RTFO order, as amended[20]). One single default value should be used for each

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[15] The World Bank Partnership for Market Readiness programme is supporting implementation of carbon pricing policies in Argentina, Brazil, Chile, China, Colombia, Costa Rica, India, Indonesia, Jordan, Mexico, Morocco, Peru, South Africa, Sri Lanka, Thailand, Tunisia, Turkey, Ukraine and Vietnam. UKPIA notes the UK is a Contributing Partner for this programme.

[16] K. Kramer, Just Energy Transition Partnerships: An opportunity to leapfrog from coal to clean energy, International Institute for Sustainable Development, 2022.

[17] The Developing Countries Trading Scheme replaced the Generalised Scheme of Preferences on 19th June 2023.

[18] Benchmarking of refinery CO_2 emissions, Concawe Review, Autumn 2009.

[19] Estimating the CO_2 intensities of EU refinery products: statistical regression methodology, Concawe Report No. 15/22, 2022.

[20] The Renewable Transport Fuel Obligations Order 2007 (as amended).

product or intermediate, which vastly simplifies the process compared to using a range of values.

The use of low carbon fuels has reduced the overall emissions for fuels, and statistics are available on the resulting GHG intensities. However, these intensities are incentivised through the RTFO and so should be outside the scope of carbon leakage measures to prevent double counting.

UKPIA would welcome a detailed discussion on the construction of an CBAM system that is specific to the refined oil products with DESNZ and HM Treasury. An industry workshop would help to ensure a UK CBAM accounts for the needs of our sector.

Question 4.5: Do you have any views or empirical data on the trade-offs between reductions in administrative costs in the generation of product level data, and the accuracy of such data?

Development of UK fuel carbon intensities will require the calculation of the carbon intensities of crude oils, feedstocks and blend components, as well as refinery operation, which can vary on a day-to-day basis[21]. There is little pre-existing skill in this area and personnel capabilities will need to be developed. Robust carbon accounting protocols and standards need to be developed which apply across a range of industrial sectors in order to ensure a level playing field.

This is likely to require a dedicated team of staff to provide this information, similar to a moderately sized conventional accounting team. The costs of this can be significant, often in excess of £250k per annum per refinery including all appropriate staff costs. When taking into account the six UK refineries, this can lead to significant overall costs for the sector.

Question 4.6: Is circumvention a risk in your sector(s)? Please explain your reasoning, with references to particular sectors where possible.

Yes, depending on the regulations circumvention as defined in the consultation could be a risk to the downstream oil sector, particularly if favourable treatment is given to less developed jurisdictions. Given the transportation[22] and storage costs are likely to be low compared to the carbon leakage costs, there is a risk that fuel components are exported and finished blended fuel is imported in order to reduce compliance costs.

Examples of this include a potential issue with supply from India, which links with the supply of crude oil from Russia, by-passing UK sanctions imposed by HMG following their invasion of Ukraine[23],as well as concerns over fraudulent claims over Used Cooking Oil (UCO) sustainability[24].

This would not be a desirable outcome, leading to increased overall emissions due to the double transport of fuel.

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[21] Valero, The Technical Side of Refining Oil.

[22] R. Bhatia, J. Dinwoodie, "Daily oil losses in shipping crude oil: measuring crude oil loss rates in daily North Sea shipping operations", Energy Policy, April 2004

[23] M. Narayan and N. Verma, "Fuels from Russian oil gets backdoor entry into Europe via India", Reuters, April 2023.

[24] A. van Grinsven, B. Kampman, E. van den Toorn, R. van der Veen, Used Cooking Oil (UCO) as biofuel feedstock in the EU, CE Delft, 2021.

Question 4.7: How can carbon leakage measures be best designed to limit risk of circumvention? Please explain your reasoning.

A well designed CBAM covering all products and intermediates with an equal treatment for imports regardless of country of origin would limit the risk of circumvention.

The robust use of commodity codes as defined by HMRC[25] would also greatly assist the risks associated with resource shuffling.

Question 4.8: Is resource shuffling a risk in your sector(s)? Please explain your reasoning, with references to particular sectors where possible.

Yes, depending on the regulations resource shuffling as defined in the consultation could be a risk to the downstream oil sector, particularly if favourable treatment is given to less developed jurisdictions. Given the transportation and storage costs are likely to be low compared to the carbon leakage costs, there is a risk that fuel components are exported and finished blended fuel is imported in order to reduce compliance costs.

This would not be a desirable outcome, leading to increased overall emissions due to the double transport of fuel.

Examples of this include potential issues with supply from India, which links with the supply of crude oil from Russia, by-passing UK sanctions imposed by HMG following their invasion of Ukraine, as well as concerns over fraudulent claims over Used Cooking Oil (UCO) sustainability.

Question 4.9: How can carbon leakage mitigation measures be best designed to limit risk of resource shuffling? Please explain your reasoning.

A well designed CBAM covering all products and intermediates with an equal treatment for imports regardless of country of origin would limit the risk of resource shuffling.

The robust use of commodity codes as defined by HMRC would also greatly assist the risks associated with resource shuffling.

Question 4.10: There may be a risk of carbon leakage from increased imports of processed products produced using intermediate inputs that would have been covered by UK carbon leakage measures if imported directly. Is this a significant concern for you? Please explain your reasoning.

Yes, for the downstream fuel sector there is a significant risk of carbon leakage from increased imports of intermediates as a means of avoiding carbon leakage measures. Finished fuels such as petrol or diesel are blended with a range of intermediate components (with both refineries and import terminals within the UK having a blending capability). Therefore, if the carbon leakage measures are not properly established, then there is a risk of cheaper imports undercutting UK production.

A well designed CBAM covering all products and an equal treatment for imports regardless of country of origin would limit the risk of carbon leakage.

Question 4.11: If you answered yes, in which sectors do you foresee material issues, and why?

We cannot comment materially on other sectors. However, as we discuss in the response to Question 4.10, this is a significant issue for the UK downstream fuel sector.

[25] UK Integrated Online Tariff A–Z of Classified Goods.

A well designed CBAM covering all products and an equal treatment for imports regardless of country of origin would limit the risk of carbon leakage.

Question 4.12: What are your views on the relative merits of the potential options presented above for addressing potential downstream impacts of carbon leakage measures? Are there alternative options for addressing this issue?

This is an area that needs significant consideration, particularly with regards to potential inflationary impacts with fuels underpinning UK economic activities to a substantial extent.

As we discuss in our response to Question 4.10, for the downstream fuel sector there is a significant risk of carbon leakage from increased imports of intermediates as a means of avoiding carbon leakage measures. Finished fuels such as petrol or diesel are blended with a range of intermediate components (with both refineries and import terminals within the UK having a blending capability). Therefore, if the carbon leakage measures are not properly established, then there is a risk of cheaper imports undercutting UK production.

Alternative options include tax incentives such as the US Inflation Reduction Act[26] which would incentivise decarbonisation while not potentially creating inflationary measures.

Question 4.13: One of the options set out is to take no action where the levels of relevant intermediate inputs are below a set threshold. In your view what would be the appropriate type, and level of such a threshold. Please explain your reasoning.

UKPIA does not agree with the introduction of a threshold for intermediate inputs.

This raises the risk of significant unintended consequences such as the establishment of companies to import fuel components in volumes just below the threshold before closing and re-establishing as another company in order to avoid carbon leakage measures.

Under the RTFO (and as proposed in the current SAF mandate consultation) a minimum threshold is established. However, this is set at 300,000 litres, a level so low as to prevent the behaviours discussed above and to date has been effective in this regard.

Question 4.14: How should the government strike the right balance between the need to address material downstream effects and the implications for both administrative complexity and consumer impacts? Please explain your reasoning.

The balance between the need to address material downstream effects and the implications for both administrative complexity and consumer impacts must recognise the challenges and issues faced by UK industry. This would be consistent with the approaches being taken in other major world economies such as the US under the Inflation Reduction Act. This is an extremely complex area and requires the right degree of rigour in order to prevent UK businesses being uncompetitive, with a consequent risk of carbon leakage.

The degree of administrative complexity required needs to take these into account. This needs to recognise that this is likely to expand the number of potential products covered under the new measures. The use of default values rather than minute by minute emission values would also considerably reduce the administrative burden for UK companies.

[26] J. Badlam, J. Cox, A. Kumar, N. Mehta, S. O'Rourke and J. Silvis, The Inflation Reduction Act: Here's what's in it, McKinsey and Company, 2022

Question 4.15: Which UK sectors are most likely to face carbon leakage risk in export markets? For each of these sectors please set out your reasoning and any evidence to support this view.

We cannot comment in detail on other sectors.

For the petroleum products sector, it is vital that DESNZ and HM Treasury take particular account of co-production of petroleum products. It is not possible to only produce a single product to meet a demand, but a range of products are made with the imbalances either exported or imported. In simple terms, a refinery production run will always produce a range of outputs (i.e. gasoline, diesel, jet fuel/kerosene, fuel oil etc.) typically from a single input (i.e. crude oil). This differs significantly from other energy-intensive sectors, such as steel or cement, where the production process creates typically one single output. As such, refined oil products will need a different system to ascribe emissions to that implemented for other sectors.

A need for a robust system to maintain competitiveness in export markets is critical to achieve a supply/demand balance in the UK market[27]. Exports from the sector in 2021 totalled 18.2m tonnes[28] to countries such as the US and EU member states.

Question 4.16: What, if any, is the impact of carbon leakage risk in export markets? For each sector please set out your reasoning and any evidence to support this view.

We cannot comment in detail on other sectors.

However, the risk of carbon leakage for the refining sectors is significant, with exports of hydrocarbon products competing with those of other countries (or incremental indigenous production). Higher UK carbon prices make it harder to compete with these, meaning that the exports either do not occur, or are less profitable for UK companies. In the latter case, due to the international nature of the refining sector, companies will seek to invest in countries with a better return rather than the UK, and UK refineries will suffer from a lack of investment. Ultimately both of these will lead to carbon leakage from the UK refining sector, as well as a decline in UK resilience.

Question 4.17: For UK sectors affected by carbon leakage risk in export markets described in 4.1 above, what approaches would you propose for the mitigation of carbon leakage risk?

Exports must be allowed to compete on a level playing field with other jurisdictions. This will require careful consideration, in particular as levels of free allowance allocation are reduced. This is anticipated under Government plans to further develop the UK ETS, specifically alignment of the UK ETS cap with Net Zero and proposed changes in the free allowance methodology.

UKPIA notes that under the EU CBAM Regulation (EU) 2023/956[29], the European Commission is required to carry out regular assessment of the impact of the CBAM on carbon leakage, including in relation to exports. The interaction between the EU and possible UK CBAM must also be carefully considered. This was assessed in a 2021 report[30] by the Grantham Research Institute Centre for Climate Change Economics and

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[27] Department for Business, Energy and Industrial Strategy Energy Trends: UK oil and oil products

[28] Department for Business, Energy and Industrial Strategy, Digest of UK Energy Statistics (DUKES) Chapter 3.

[29] Regulation (EU) 2023/956.

[30] J. Burke, M. Sato, C. Taylor and F. Li, What does an EU Carbon Border Adjustment Mechanism mean for the UK?, Grantham Research Institute Centre for Climate Change Economics and Policy, 2021.

Policy (CCEP). The study found that strengthening measures to prevent carbon leakage will remain a challenge for countries like the UK and EU member states that have relatively high carbon prices and have committed to net-zero emissions targets over the next few decades.

Maintaining sufficient carbon pricing ambition should be at the heart of any UK climate policy reforms. This will enable greenhouse gases to be reduced in a fair and cost-effective manner and prevent exports from strategically important energy-intensive UK sectors being penalised by an EU CBAM.

The UK Government should also consider linkages between the UK and EU schemes with similar reporting and administrative requirements, in order to reduce the administrative burden on UK industries and ensure a level playing field.

Question 4.18: Should mandatory product standards apply to all UK manufactured products intended for export? Please explain your reasoning and provide details of any impacts this would have on your sector.

UKPIA strongly disagrees that MPSs should apply to UK manufactured products including those for export.

When the exports are supplied to markets with no carbon leakage measures including MPSs, then this leads to UK products being more expensive compared to other international options. This reduces the competitiveness of UK products, reducing the attractiveness of the UK as a place for investment and ultimately leading to carbon leakage.

The UK should seek to establish an international carbon market to ensure a level playing field. If other countries wish to establish requirements for their imports, then this is a matter for them and the UK would seek to comply with those. However, this creates a patchwork of requirements, and an international carbon market approach is preferable.

Question 4.19: Should the use of carbon credits to offset emissions be considered within the assessment of a product? Please explain your reasoning.

UKPIA disagrees that use of carbon credits to offset emissions should be considered within the assessment of products, in particular for petroleum products. Carbon credits cannot currently be used to fulfil emission compliance obligations under the UK ETS. With emissions under the UK ETS likely to form the basis for MPSs, it would undermine the effectiveness of CBAMs and MPSs as a means to mitigate against carbon leakage risk if use of carbon credits was permitted in the assessment of embodied product emissions, in particular, for imports.

Chapter 5. Growing the market for low carbon products

Question 5.1: Which of the following statements corresponds most with your view?

- In order to maximise the effectiveness of a labelling scheme, both in terms of consumer usability and implementation costs, a system of embodied emissions should include:
- Embodied emissions data only
- Energy efficiency style lettered and coloured ratings only
- Both embodied emissions data and energy efficiency style lettered and coloured ratings
- I do not agree with any of these options

UKPIA does not agree that a labelling scheme would be appropriate for UK fuel consumers.

UK fuels are already covered by policies and measures to reduce the carbon emissions from fuels, including the Renewable Transport Fuels Obligation.

As we have indicated in our response to previous questions, the calculation of embedded fuel emissions is extremely complex, requiring evaluation of the emissions of the crude oils, feedstocks and blending components which can change on a day-to-day basis. Apart from the carbon accounting we have already mentioned, this would require relabelling on a daily basis which is not practical.

Default values could be used to eliminate the day-to-day aspect; however the use of low carbon fuels such as bioethanol or Fatty Acid Methyl Ester (FAME) will reduce these. The publication of carbon values taking these into account would reveal potentially commercially sensitive information, such as the source and amount of low carbon fuels used. There could also be unintended consequences such as raising concerns over the use of animal products including tallow in the fuel system[31].

Finally there may be further unintended consequences for labelling fuels according to their embedded emissions, such as drivers travelling further to find potentially lower carbon fuel elsewhere, with risk of increasing, rather than reducing GHG emissions.

Question 5.2: Should the government adopt mandatory labelling for products that are required to have their embodied emissions reported? Please explain your reasoning.

For the reasons outlined in our response to Question 5.2, UKPIA strongly disagrees that the government should adopt mandatory labelling for products that are required to have their embodied emissions reported, particularly in the fuel supply sector.

Question 5.3: Which level of IDDI pledge would best support the decarbonisation of UK industry? Please explain your reasoning.

From the information provided, it would appear that the IDDI is initially targeted at the steel, cement and concrete sectors, leading to a reduction in GHG emissions associated with construction. As such, UKPIA cannot comment in detail about the appropriate level of IDDI at this stage.

Extension to other sectors needs to be carefully managed in order to avoid clashes with other existing decarbonisation policies and measures. For example, in the downstream fuel sector, this includes the Renewable Transport Fuels Obligation (RTFO).

Question 5.4: What would be the likely impact of implementation of each IDDI pledge level to your sector? When answering the question, please consider: if your company/companies in the steel, cement and concrete sectors would be likely to be able to match the rate of decarbonisation required by the different levels of the pledge, and if the UK signing up to the pledge would incentivise decarbonisation within each sector.

From the information provided, it would appear that the IDDI is initially targeted at the steel, cement and concrete sectors, leading to a reduction in GHG emissions associated with construction. As such, UKPIA cannot comment in detail about the appropriate level of IDDI at this stage.

Extension to other sectors needs to be carefully managed in order to avoid clashes with other existing decarbonisation policies and measures. For example, in the downstream fuel sector, this includes the Renewable Transport Fuels Obligation (RTFO).

[31] BBC News, "Using pig fat as green jet fuel will hurt planet, experts warn", May 2023.

Question 5.5: Should the government adopt the low emissions thresholds suggested by the IEA? Please explain your reasoning, including whether there are there any strong alternatives.

The IEA low emission thresholds presented in the consultation apply to the steel and cement sectors. As such, UKPIA cannot comment on the suggested IEA thresholds.

Question 5.6: What can the government do to support firms to join the First Movers Coalition? Please explain your reasoning.

UKPIA would welcome clarification on the role of the First Movers Coalition in supporting decarbonisation in aviation and shipping.

Significant emissions from these sectors include the fuels used; in the energy transition there will be a move from fossil to low carbon alternatives[32].

Rather than creating a new, separate initiative for these sectors, the UK should seek to join multilateral efforts specific to these areas. In the case of the shipping industry, this should be through the International Maritime Organisation (IMO)[33].

In the case of aviation, the planned SAF mandate will create a framework for GHG reductions from the fuel supplied. This should be harmonised as much as possible with international efforts, including those in the ReFuelEU Aviation scheme and the ICAO and the CORSIA initiative[34].

Chapter 6. Emissions reporting framework

Question 6.1: Should the government introduce a new framework to enable the reporting and collection of product level emissions?

UKPIA agrees that the government should introduce a new framework to enable the reporting and collection of product level emissions.

However, this should use existing schemes such as the UK ETS as much as possible. The UK ETS already imposes a substantial reporting requirement on to obligated companies, including significant verification requirements.

A completely new scheme would simply impose a further administrative burden on companies, requiring additional human resource and reporting systems for little benefit.

Question 6.2: If yes, what do you see as the advantages to introducing the framework?

UKPIA sees some benefits but also issues with the introduction of the framework.

The framework could in theory provide a common approach across various sectors. However, each sector has its own unique complexities, and this may be more difficult to introduce in practice than originally expected.

Care should therefore be taken if a new framework is used to ensure that it is fit for purpose and does not impose an undue administrative burden. The UK ETS is a good place to start, as this does have a common framework and companies already operate under this scheme.

[32] UKPIA, The Future of Mobility in the UK, 2021
[33] IMO Strategy on reduction of GHG emissions from ships.
[34] ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Question 6.3: If no, what do you see as the disadvantages that mean a framework should not be introduced, and how do you propose the government introduces the policy proposals considered in the consultation?

UKPIA sees some benefits but also issues with the introduction of the framework.

The framework could in theory provide a common approach across various sectors. However, each sector has its own unique complexities, and this may be more difficult to introduce in practice than originally expected.

Care should therefore be taken if a new framework is used to ensure that it is fit for purpose and does not impose an undue administrative burden. The UK ETS is a good place to start, as this does have a common framework and companies already operate under this scheme.

Question 6.4: If you answered yes above, do you prefer (1) Attributing installation level data to products with default values or (2) Product life cycle assessments with default values, or another option? Please suggest the advantages or disadvantages of each option.

UKPIA prefers Option 1, attributing installation level data to products with default values.

Option 1 uses existing data, provided and verified under the UK ETS scheme requirements as a basis. This creates less of an administrative burden on suppliers by using an existing source of data at an installation level.

Option 2 creates a significant additional framework for the downstream fuel sector who do not routinely use this methodology. Default values are commonly used in the sector for GHG reduction policies such as the RTFO. Carrying out a full LCA would impose a significant burden on the industry, requiring detailed analysis of the GHG performance of the crude oils, feedstocks and blending components as well as plant operation, which can change on a day-to-day basis. This would require a significant GHG accounting team to implement. We would question whether this approach counts the overall GHG emissions from the sector in a better way that Option 1, using an existing system.

Finally, the default position should be to use default values as much as possible. Companies can then choose to use actual values as an option. This is the reverse of the consultation proposal, allowing companies flexibility in managing their product emission reporting.

Question 6.5: Would you prefer a single emissions reporting framework for all carbon leakage policy measures? Please explain your reasoning.

Yes.

UKPIA would prefer a single emissions reporting framework for all carbon leakage policy measures. This simplifies the administrative burden on suppliers. While there should be a single emissions reporting framework, this should not mean that there is an additional one.

The reporting framework should use existing data such as that provided in the UK ETS as a basis, in order to manage the administrative burden further.

Question 6.6: What are your views on balancing the administrative burden of product emissions reporting against the accuracy of results?

These are not necessarily competing factors. While there should be a single emissions reporting framework, this should not mean that there is an additional one.

Using verified emission data under the UK ETS as a basis manages the administrative burden for companies, while providing assurance from the verification that emissions data is correct.

Question 6.7: Which emissions factors should be used for the calculation of embodied emissions of products if emissions reporting requirements were introduced? What are the advantages or disadvantages of the options? If other, please set out your preference in the text box.

UKPIA is aware of the UK Government Conversion Factors, which are used for the GHG emissions associated with combustion of fuels downstream of the refining sector. These provide details of emissions per unit which can be easily translated by downstream users depending on their overall fuel usages. Other reports provide details of emissions in different ways but may not be as useful for downstream fuel users.

We are keen that the emission factors should continue to be updated on an annual basis to ensure they remain accurate and fit for purpose.

Question 6.8: Do you have a preference for how default values could be calculated? What are the advantages or disadvantages of the options?

UKPIA would prefer Option 3 which uses existing data. This manages the administrative burden for companies by using the data that is already verified and submitted. However we recognise that regular updates are required, particularly for imports, in order to maintain a level playing field for UK production companies.

Question 6.9: Are there additional possible data sources for calculating default values that have not been mentioned? Please provide details of those data sources.

A significant number of Concawe reports are publicly available on this topic including one written in 2022 "Estimating the CO2 intensities of EU refinery products: statistical regression methodology"[35].

Further reports on the calculation of refinery emissions are also available [36,37].

The IEA also provide access to a database of emissions[38].

Chapter 7. Designing the mechanism for embodied emissions reporting

Question 7.1: Should government pursue a Life Cycle Assessment-based approach?

UKPIA does not agree that the government should pursue a Life Cycle Assessment based approach for sectors that already operate under the UK ETS.

As discussed in our response to Question 6.2, UKPIA sees some benefits but also issues with the introduction of an additional reporting requirement for obligated companies.

The UK ETS is a good place to start, as this does have a common framework and companies already operate under this scheme.

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[35] Estimating the CO_2 intensities of EU refinery products: statistical regression methodology, Concawe Report No. 15/22, 2022.

[36] Guidance document for application of the EU Commission's guidelines for monitoring and reporting of GHG emissions, Concawe Report No. 10/04.

[37] Benchmarking of refinery CO_2 emissions, Concawe Review, Autumn 2009.

[38] IEA Database Greenhouse Gas Emissions from Energy.

Question 7.2: What is your preference for the type of Life Cycle Assessment methodology framework that should be adopted?

In the event that a LCA based approach is used, then UKPIA supports Option 1 at this stage, as this is based on internationally recognised standards. Because of this it is likely to be more recognisable to other countries, as well as require less development work for UK companies.

Question 7.3: Should CO_2e/mass (including performance metric where relevant) be used as the metric for embodied emissions reporting and form the basis of any subsequent policy? If you disagree, please explain why and suggest an alternative metric.

UKPIA agrees that CO_2e/mass should be used.

However for liquid fuels, this may not be readily understood as most consumers are familiar with purchasing fuel on a volumetric basis. While the conversion in theory is a fairly straightforward calculation using density, density is not routinely tracked through the supply chain (including through comingled storage) and may change on a day-to-day basis. Therefore care needs to be taken in the approach to ensure reliable information is provided but does not confuse consumers. UKPIA asks that standardised densities are used in the conversions to provide reliable, meaningful data for consumers.

Question 7.4: Should mass (of product) be the appropriate unit of measurement for your sector? If not, please explain your reasoning and suggest your preferred unit of measurement.

As discussed in our response to Question 7.4, for liquid fuels, this may not be readily understood, as most consumers are familiar with purchasing fuel on a volumetric basis. While the conversion in theory is a fairly straightforward calculation using density, density is not routinely tracked through the supply chain (including through comingled storage) and may change on a day-to-day basis. Therefore care needs to be taken in the approach to ensure reliable information is provided but does not confuse consumers. UKPIA asks that standardised densities are used in the conversions to provide reliable, meaningful data for consumers.

Question 7.5: Should the government introduce a data collection period before the full implementation of carbon leakage policy measures? What are the advantages or disadvantages of the options?

Given the complexities of the scheme, UKPIA strongly agrees that the government should introduce a data collection period before the full implementation of the carbon leakage policy.

This gives time for the development of the required data collection systems for both companies and for UK government systems. As discussed in the consultation document, it also enables companies to view their performance before formal carbon leakage measures are introduced. Investments, particularly for larger investments, can take significant time to approve and deliver and this needs to be taken into account.

Other policy measures such as the removal of free allowances need to be timed so that they are in phase with the implementation of carbon leakage measures. A removal of free allowances without the carbon leakage measures being in place is liable to lead to carbon leakage.

Question 7.6: If Yes or Maybe/Undecided, how long should this data collection period be?

UKPIA suggests that three years is the minimum period for data collection, given the need to develop appropriate data collection systems and the potential need for investments that may also be required.

We would also recommend that a review is carried out after two years to establish whether it remains appropriate to introduce the carbon leakage measures, or whether the period of data collection needs to be extended.

However this approach can be significantly simplified if default values are used, rather than minute by minute actual data. This vastly simplifies the data collection process requiring significantly less time and resources.

Question 7.7: Should only those businesses in scope of current or upcoming policies be required report information about the emissions of products? Please explain your reasoning.

This would be a question for government, rather than industry, to answer. UK refineries are covered by the UK ETS scheme and are at risk of carbon leakage, so must be covered by carbon leakage measures.

Question 7.8: If your sector were required to report product emissions, are there other sectors that would also have to report this information to help minimise information asymmetry between substitutable products in the market? For example, where two products composed of different materials and manufactured using different processes can fulfil the same or similar role. Please explain your reasoning.

If introduced, all fuels should be required to report product emissions.

This includes fossil fuels, as well as low carbon fuels such as bioethanol, Fatty Acid Methyl Esters (FAME) and Sustainable Aviation Fuels (SAF). The true LCA analysis of these low carbon fuels also needs to be taken into account in order to provide a level playing field.

Question 7.9: Should the scope of any new embodied emissions reporting be limited to that which is required by carbon leakage policy measures, if introduced?

UKPIA strongly agrees that the scope of any new embodied emissions reporting should be limited to that required by carbon leakage policy measures.

There should be alignment between UK ETS reporting requirements and those required under carbon leakage proposals.

The inclusion of Scope 3 emissions for fuels has significant implications for the cost of fuels, and therefore on the wider UK economy. It is also not within the capabilities of the downstream oil industry, who have no control over the use to which their fuels are put after production or import.

Scope 3 emissions for fuels are already managed by other policy measures such as the RTFO or forthcoming SAF mandate, as well as the transition to Electric Vehicles.

Chapter 8. Reporting to Government and delivery of the IT system

Question 8.1: If you are, or represent, a domestic manufacturer, which option for a reporting IT system would be most appropriate? Would another approach be more suitable? Please explain your reasoning.

UKPIA's view is that Option 1 would be most appropriate.

UK refineries operate under the UK ETS and are already familiar with the associated IT systems for this (the METS system from May 2023[39]). Expanding the IT system to include new functionality would therefore minimise additional company training and resource requirements as far as possible.

Modifying an existing system may also be less resource intensive for the UK Government as well, offering a lower cost solution that can be delivered more quickly than the establishment of a bespoke solution.

We would ask however that extensive testing is carried out, using an off-line version of the IT system before "going live" to ensure that there is no impact on the functionality of the current system. The timing must also be carefully considered, particularly around mandatory reporting and surrender deadlines to ensure that companies can continue to meet their mandatory obligations. Any enforcement actions must also take account of unintended issues with the IT system that are out with obligated companies' control.

Question 8.2: If you are, or represent, an importer or manufacturer outside the UK, which option for a reporting IT system would be most appropriate? Would another approach be more suitable? Please explain your reasoning.

UKPIA's view is that Option1 would be most appropriate when considering imports, as well as UK refinery production. A significant proportion of fuel imports are made by refineries that are already covered by the UK ETS scheme. The points raised under Question 8.2 would continue to apply in this case.

Some UKPIA member companies import fuel but are not UK refiners. However typically these companies have refinery operations that are covered by other ETS schemes (notably the EU ETS). As such they are familiar with high level reporting requirements, recognising that these may vary from the UK scheme. However, on balance these companies are likely to find that Option1 minimises additional company training and resource requirements as far as possible.

Question 8.3: Do you have a preference for how frequently emissions data should be reported?

UKPIA's view is that Option 1 (at a frequency relevant to each carbon leakage policy) is the most appropriate. This is followed by Option 2.

Fuels need to operate under a level playing field regardless of whether they are UK produced or imported. Given that the UK still produces the majority of the fuel that it consumes[40], the reporting rules for UK fuel production should take precedence as they apply to the majority of the fuel consumed.

UK refineries operate under the UK ETS and therefore must report verified emissions on an annual basis. Option 2 follows this approach, but Option 1 should recognise this as well, while allowing flexibility if required at a later date.

Question 8.4: What are the advantages or disadvantages of the options? Please explain your reasoning.

As discussed in our response to Question 8.3, an annual reporting requirement is typically required for the majority of the fuel consumed by the UK.

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[39] METS Delivery Communication to Operators, April_2023

[40] Department for Business, Energy and Industrial Strategy, Digest of UK Energy Statistics (DUKES) Chapter 3.

Options 3 and 4 mean that the reporting requirements are out of step with these requirements. The emissions may change significantly over that time as technologies develop. Therefore these options may lead to distorted GHG emission figures with no benefit in terms of administrative burden for the majority of UK fuel suppliers.

Question 8.5: What are your views on how product embodied emissions data should be verified? What are the advantages or disadvantages of the different options? Please explain your reasoning.

UKPIA strongly agrees that the same approach be used as with the UK ETS scheme.

As discussed in our response to Question 8.4, the majority of fuel consumed in the UK is produced by installations covered by the UK ETS scheme, with the associated verification requirements for emissions. Suppliers are familiar with these requirements, and already have rigorous systems in place for emissions measurement.

For UK fuel supplies, using a different scheme risks the integrity of the carbon leakage schemes for no reduction in the administrative burden that they face. The potential risks associated with self-verification are significant and may lead to both a lack of public trust in the measures and the potential for fraudulent activities to take place.

Question 8.6: Should embodied emissions data for products be made publicly available through either labelling, a publicly accessible database, both, or neither? Please explain your reasoning.

We believe that this is an area for government, rather than industry to decide.

While UKPIA is committed to transparency in emissions information, care must be taken to ensure that there are no unintended consequences, such as an increase in protest activity and disruption leading to a loss of UK resilience[41].

For fuels, appropriate and aggregated data on the GHG emissions from low carbon fuels is already provided by the Department of Transport[42].

Information on the vehicle emissions is also provided by vehicle vendors allowing consumers to choose the most appropriate option for them[43]. The actual emissions data may also change on a regular basis (for example for refineries it can change daily due to changes in crude slate, feedstocks, or refinery operations).

Therefore labels and publicly available data may have to change on a day-to-day basis, for no significant benefit to the consumer.

Public Sector Equality Duty

Question 9.1: Do you have any views about the implications of the policy measures explored in this consultation on people with protected characteristics and how any potential negative impacts could be mitigated? Please provide any relevant evidence.

UKPIA has no response to this question.

[41] Department for Energy Security and Net Zero, Energy Security Bill factsheet: Core fuel resilience, June 2023.
[42] Department for Transport, Renewable fuel statistics, June 2023.
[43] Vehicle Certification Agency, Fuel Consumption Labelling, December 2022.