

## UKPIA Response to Commission for Carbon Competitiveness Call for Evidence

### Introduction

The refining and downstream sector currently lies at the centre of the UK economy. 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 feedstocks for the petrochemicals sector, along with specialised non-energy products such as 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 a major contributor and enabler to the UK economy, with an annual contribution to UK GDP of over £20 billion, supporting over 300,000 jobs, with every job in the sector supporting a further 1.4 jobs elsewhere in the economy<sup>1</sup>. UKPIA members have invested over £18.5 billion in the UK since 1999, underpinning UK energy security, maintaining employment levels and adding value and resilience to the UK economy.

The refining and downstream sector has an opportunity to be at the heart of an orderly and just transition to a Net Zero economy by reinventing itself, using its extensive resources to decarbonise its activities and products. It also has an important role to play in future supply of new energy carriers and technologies such as hydrogen production and carbon capture and utilisation.

### Carbon and investment leakage

The risks of carbon leakage for the refining sector are well-established within the EU and UK Emissions Trading Schemes (ETS), with the allocation of free allowances to mitigate against these risks. The sector is global in nature, with crude oil and other feedstocks and petroleum products widely traded - the level of UK trade and emissions intensity are both high (Tables 1 and 2).

**Table 1. Trade Intensity – refining and downstream oil sector**

	2016	2017	2018
Imports, £m	10709	13045	16654
Exports, £m	7314	9606	10913
Turnover, £m	27615	33024	38618
<b>Trade Intensity, %</b>	<b>47.03</b>	<b>49.17</b>	<b>49.87</b>

*Data source: ONS Annual Business Survey 2016-2018*

Where trade intensity is the value of imports plus exports divided by the value of turnover plus imports.

**Table 2. Emissions Intensity – refining sector (NACE Code 19.20)**

	2016	2017	2018	2019	2020	2021
Verified ETS emissions, mtCO <sub>2</sub> e	13.12	13.06	12.54	12.05	10.44	10.47
GVA, £m	2609	2398	2115	2397	Note	2374
<b>Emissions intensity, kgCO<sub>2</sub>e/£</b>	<b>5.03</b>	<b>5.45</b>	<b>5.93</b>	<b>5.03</b>	-	<b>4.41</b>

*Data sources: EUTL, UK ETS Authority, ONS Annual Business Survey 2016-2021*

Note 1. Data suppressed by ONS. Operating margins were negative in 2020<sup>2</sup>.

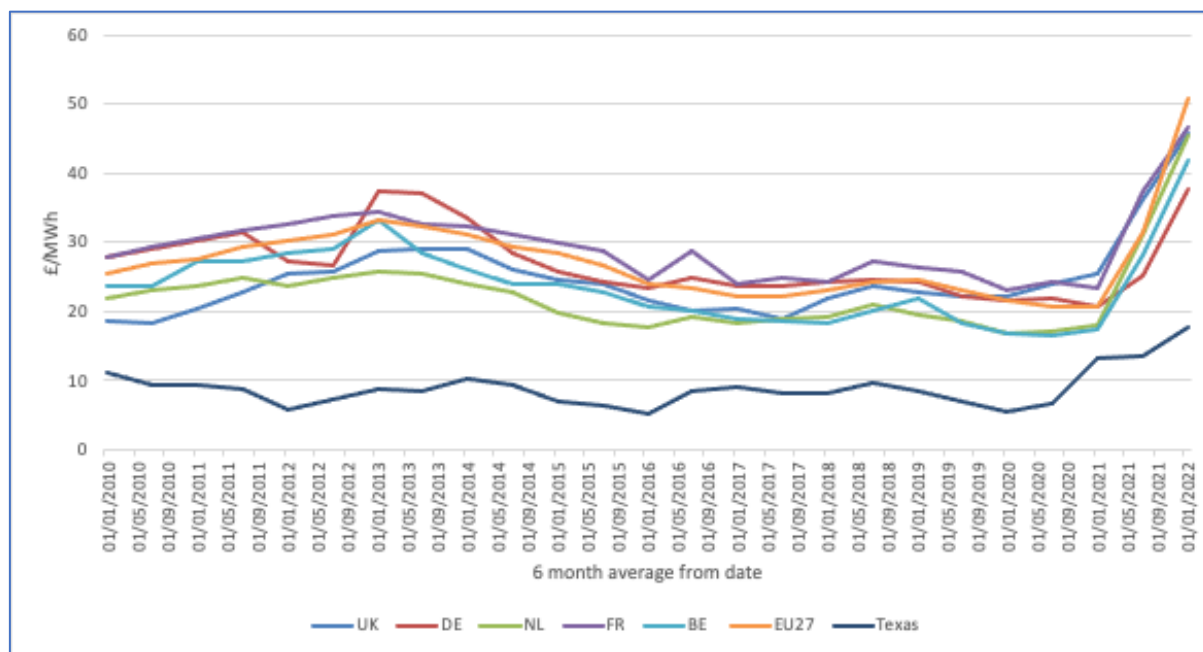
<sup>1</sup> Oxford Economics, "[The Economic Contribution of the UK Downstream Oil Sector](#)", 2019.

<sup>2</sup> UKPIA Annual Financial Survey.

Sectors are at high risk of carbon leakage when the product resulting from multiplying their trade intensity with third countries by their emissions intensity exceeds 0.2<sup>3</sup> – for the UK refining sector this figure is consistently above 2.5.

Refinery energy costs are significant and the second most important variable cost after crude oil and other feedstock costs. Recent UKPIA assessment of the international business environment has identified that average biannual average gas prices are relatively high<sup>4</sup> for the UK in comparison to some European countries and key US states such as Texas (Diagram 1).

**Diagram 1. Comparison of non-domestic gas prices**



Data sources: Ember, US EIA, EUROSTAT

Note: Only biannual data is publicly available across all regions included in this analysis.

The UK also has higher electricity prices than the US and more recently, many European countries including France, Germany, The Netherlands and Belgium (Diagram 2).

This assessment shows that UK energy and carbon costs are significantly higher than in countries having the potential to export refined products to the UK, meaning carbon leakage risks are now a reality. Many of the same countries have also announced ambitious plans to attract investment in decarbonisation, for example the US Inflation Reduction Act and the EU “Fit for 55” package and Net Zero Industry Act. If the UK Government fails to create a competitive business environment with equivalent policy support for investment, there is potential for major knock-on effects:

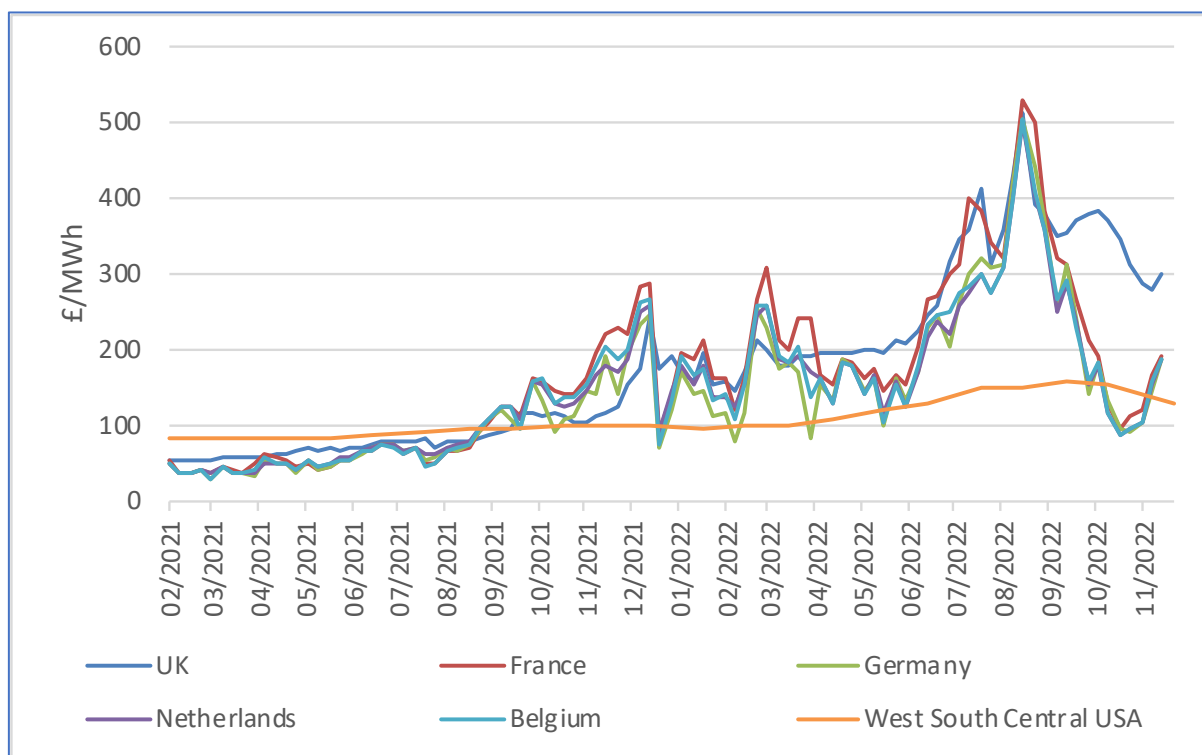
- Falling further behind in delivery of growth opportunities for Net Zero technologies such as hydrogen, carbon capture, utilisation and storage (CCUS) and Sustainable Aviation Fuel (SAF) production.
- ‘Offshoring’ of business and emissions – undermining Net Zero ambitions and the UK economy and relying on other countries to reduce emissions of the products we consume.

<sup>3</sup> EU ETS Directive 2003/97/EU, Article 10b (as amended).

<sup>4</sup> Only biannual data is publicly available across all regions included in this analysis.

- Risking security of supply by additional reliance on imports which can be subject to geopolitical upheaval.

**Diagram 2. Comparison of wholesale electricity prices**



Data sources: Ember, EUROSTAT, Ofgem, US Bureau of Labour Statistics

Note: US data indicates the average consumer energy price. Domestic electricity prices are usually higher than wholesale and industry prices in the same location.

The UK is therefore at serious risk of not only carbon leakage but also from an uncompetitive investment environment - higher energy and carbon costs than competitor countries, poorer incentives to develop low carbon technologies, and a policy environment that does not offer sufficient investor certainty.

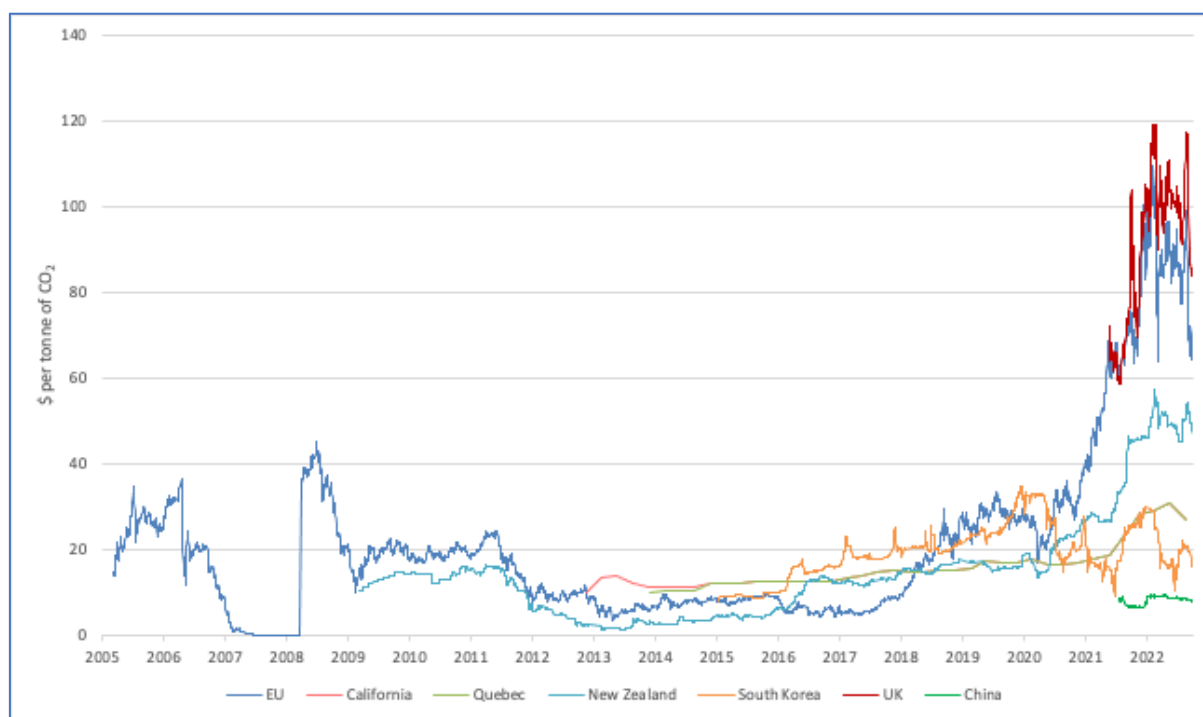
### UK Carbon pricing policies

UKPIA fully supports the principles behind carbon pricing as a means to drive decarbonisation at the lowest possible cost, with the EU and UK ETS forming the cornerstone for UK and EU energy and climate policy framework since 2008.

However, with the increasing gap between the level of free allowances and verified emissions during EU ETS Phase III (2013-2020) and UK ETS Phase 1 (2021 onwards), coupled with the increasing cost of allowances required for surrender against verified emissions, ETS costs have effectively become a tax burden on the UK refining sector. This has led to a loss of competitiveness against refineries located in countries with lower or no exposure to carbon costs (Diagram 3).

UKPIA analysis indicates that for 2021, ETS compliance costs for the UK refining sector were over £220m, a premium of over £30m against equivalent EU ETS costs and a significant additional cost compared to refineries located on the US Gulf Coast, where carbon policies have not been implemented.

**Diagram 3. Comparison of emissions trading scheme prices**



Data sources: ICAP, BoE

At current levels, these costs are unsustainable and give rise to serious risk of carbon and investment leakage, at a time when the sector is looking to invest heavily in decarbonisation and transformation projects such as charging infrastructure for electric vehicles, hydrogen production and supply, and CCUS.

Government proposals for the future development of the UK ETS introduce high levels of policy uncertainty. The recent report from the Independent Review of Net Zero, Mission Zero<sup>5</sup> included recommendations that the UK Government should:

*By 2024, work within the UK ETS Authority to **develop a pathway for the UK ETS until 2040**. This pathway should:*

- 1. Set out a vision on the future design and operation of the ETS;*
- 2. Set out a timeline for expanding the coverage to the rest of the UK economy, as well as sectors consulted on including maritime and waste;*
- 3. Address inclusion of greenhouse gas GGRs [greenhouse gas removals] to incentivise early investment in new technologies and potentially nature-based solutions;*
- 4. Provide reassurance to businesses around how the Government will mitigate the risk of carbon leakage as a result of expanding the ETS.*

UKPIA supports these recommendations but also provided a detailed response to the BEIS consultation “[Developing the UK Emissions Trading Scheme \(UK ETS\)](#)”, which closed in June 2022. Key points in the UKPIA response concerned:

- Alignment of the UK ETS cap with a trajectory consistent with the Net Zero Strategy.
- A serious disconnect between the planned trajectory and the ability of both industry, and wider society, to decarbonise.

<sup>5</sup> Independent Review of Net Zero, [Mission Zero report](#), 2023

- Practicalities associated with the carbon price signal resulting from increasingly constrained availability of allowances.
- Considerable uncertainty regarding short- and longer-term loss of competitiveness for energy intensive industries against their EU and global competitors, introducing additional challenges for investment in decarbonisation projects, increased risk of carbon leakage and UK deindustrialisation.

UKPIA also submitted a response to the BEIS “[Call for Evidence: UK ETS Free Allocation Review](#)” in April 2021. Key points were as follows:

- Existing carbon leakage measures (free allocation and indirect costs compensation) mitigate carbon costs only partially, since they are based on strict performance benchmarks set at the level of the average best 10% installations.
- Higher levels of ambition for decarbonisation will inevitably require strengthened protection for energy intensive industries exposed to carbon leakage, but policy measures introduced to mitigate against carbon leakage should also consider the potential for investment leakage.
- Complementary measures such as carbon border adjustment mechanisms (CBAMs) should be considered alongside the review of free allowance allocation, since neither mechanism by itself is likely to provide the level of protection required at higher carbon prices.
- UKPIA strongly supports linkage between the UK ETS and other emissions trading schemes and more specifically, early linkage between the UK ETS and the EU ETS. Linkage would allow UK operators to be part of a larger more liquid market, give better carbon price discovery, and allow UK operators to have a level playing field on carbon with their largest market and, for some sectors, greatest source of competition.

Copies of the UKPIA responses to the consultation and call for evidence will be forwarded separately.

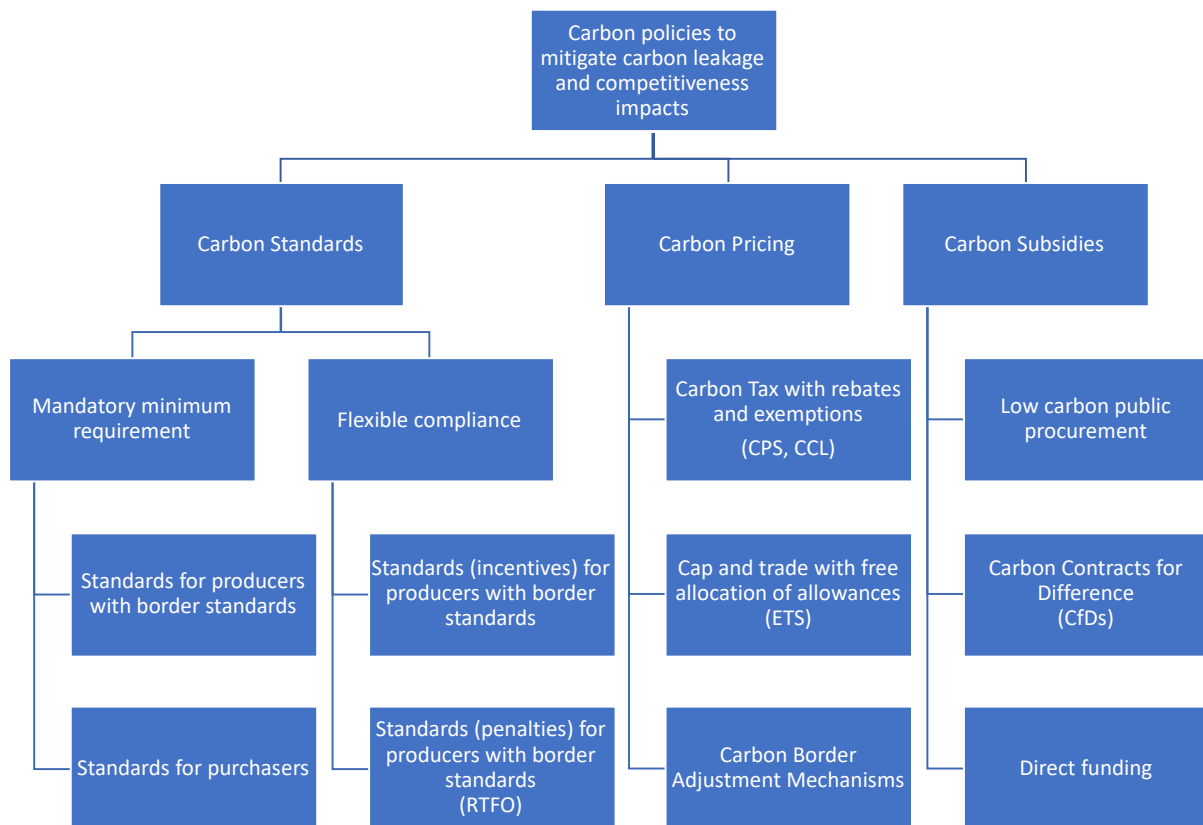
### **Alternative carbon leakage mitigation policies**

Although carbon pricing may form the foundation for decarbonisation policy, it should be supported by other policy measures to mitigate against carbon leakage and competitiveness impacts (Diagram 4)<sup>6</sup>. Examples of current UK Government policies are given in brackets, but additional measures such as low carbon standards, low carbon public procurement and additional CfD schemes (for example to support CCUS and hydrogen production and use) have still to be confirmed by the Department for Energy Security and Net Zero).

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<sup>6</sup> Energy Systems Catapult, “[Industrial Decarbonisation: Net Zero Carbon Policies to Mitigate Carbon Leakage and Competitiveness Impacts](#)”, report produced for the Climate Change Committee, 2020.

**Diagram 4. Carbon policies used to mitigate carbon leakage and competitiveness impacts**



Source: *Energy Systems Catapult*

In principle and in the absence of a global carbon pricing mechanism, UKPIA supports the introduction of a well-designed CBAM to provide additional mitigation against carbon leakage and loss of competitiveness. In view of the high level of supply chain integration with the EU across many sectors, UKPIA would expect that proposals for implementation of a UK CBAM would be closely related to the timescale for implementation of the [EU CBAM](#). However, UKPIA strongly believes that the design of a UK CBAM should also include:

- Continued free allocation of allowances for sectors with high levels of exposure to carbon leakage. Phasing out should come into play only after the CBAM has demonstrated its effectiveness and the absence of any deterioration in competitiveness.
- Measures to protect the competitiveness of UK exports against competitors from regions with lower climate ambitions. Whilst the EU CBAM applies only to inland sales, a UK CBAM must be designed to avoid UK products being priced out of international markets (in particular, where these are lower in carbon intensity).
- An ambition to include all sectors exposed to carbon leakage, providing at least an equivalent level of support to that available through current free allowance allocation.

UKPIA stands ready to support the development of a methodology that ensures a high level of fairness when comparing the carbon intensity of products made in the UK and elsewhere. This methodology should be unambiguous and based on robust verifiable data, simple and effective (including for co-mingled products) and fully consistent with the refined products benchmark currently used under the ETS.