

The bigger picture

“green alliance...”

Addressing the UK's hidden carbon footprint



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Summary

“

UK consumption emissions are 50 per cent higher than territorial emissions and have fallen much less dramatically.”

The UK has legitimately been able to claim success and global leadership on climate action as it has nearly halved the greenhouse gas emissions it has generated from domestic economic activity (territorial emissions) since 1990, while the economy has continued to grow.

But, this is not the whole story. UK consumption emissions, ie those associated with the goods and services we all use, are 50 per cent higher than territorial emissions and have fallen much less dramatically. The latest data, for 2018, shows that consumption emissions amounted to 703MtCO₂e, compared to 468MtCO₂e territorial emissions, and they have only fallen by 29 per cent since 1990.

About 43 per cent of these emissions were generated outside the UK's borders, in the production of imports.¹ This significant source of climate impact is currently ignored by UK decarbonisation commitments and policy.

As the country embarks on its net zero strategy and negotiates new trade agreements, it will need to take more ambitious action to tackle consumption emissions, ensuring that supply chains are more competitive and resilient to climate risks, and to use UK trading power to speed up climate action across the world.

There has long been a moral argument to make sure the UK does not just offshore its carbon emissions,

**“
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particularly to less well regulated economies, and for it to take responsibility for emissions arising from all purchasing choices, wherever they occur. But there are also good reasons for the UK to do more, for the sake of its own economic interests.

A trade strategy aligned to a net zero carbon economy, and designed to reduce UK consumption emissions alongside territorial emissions, would foster demand for innovative low carbon and resource efficient goods and services. With its headstart on climate action, the UK is already well placed to position itself at the forefront of global low carbon markets. This approach would build on a growing number of corporate commitments and increasing efforts by UK based businesses to reduce their supply chain emissions (known as ‘scope 3 emissions’), which are often global.

Routes to lowering the UK’s consumption emissions also have the advantage of protecting the economy against future shocks. Recycling rare earth metals in batteries, using construction steel more efficiently, ie cutting the energy needed to produce it or swapping it for timber, reduces exposure to crises like the global effects of the war in Ukraine. Hundreds of thousands of new jobs could also be created across the country to support new industries which enable better resource use.

Finally, action to cut consumption emissions would have a positive impact on territorial emissions, through greater emphasis on resource efficiency across the board.

A range of policy tools are available to make sure the UK realises these opportunities. These include product standards, taxation, increased investment in clean infrastructure and writing environmental

provisions into trade deals, and the UK can also join forces with other countries, aligning efforts on climate policy and enabling green investment in lower income countries.

To do more to tackle the UK's consumption emissions, we recommend that the government should:

Introduce a consumption emissions reduction target.

Set a departmental priority for the Department for International Trade (DIT) to ensure trade deals and promotion prioritise those countries and suppliers which set meaningful decarbonisation commitments and focus on promoting low carbon industries and market access.

Develop a comprehensive policy package on consumption emissions, driving action through domestic and trade policy, including via carbon border adjustments and product standards.

Collaborate with other countries on environmental standards and carbon pricing.

What are consumption emissions?

“

Purchasing choices are responsible for significant impacts beyond borders and they are being ignored by current UK climate commitments and policy.”

The established way of attributing international responsibility for climate change has been to measure the emissions generated within a country's national borders, known as 'territorial emissions'.

However, this is only one way of accounting for climate impact. Another way is to look at 'consumption emissions'. These are the greenhouse gas emissions generated in meeting all of a country's demand for goods and services, including those that arise locally from, for instance, heating homes, fuelling cars or growing food for domestic consumers, as well as those generated abroad in the production and transport of imported goods, such as bananas or foreign made cars.

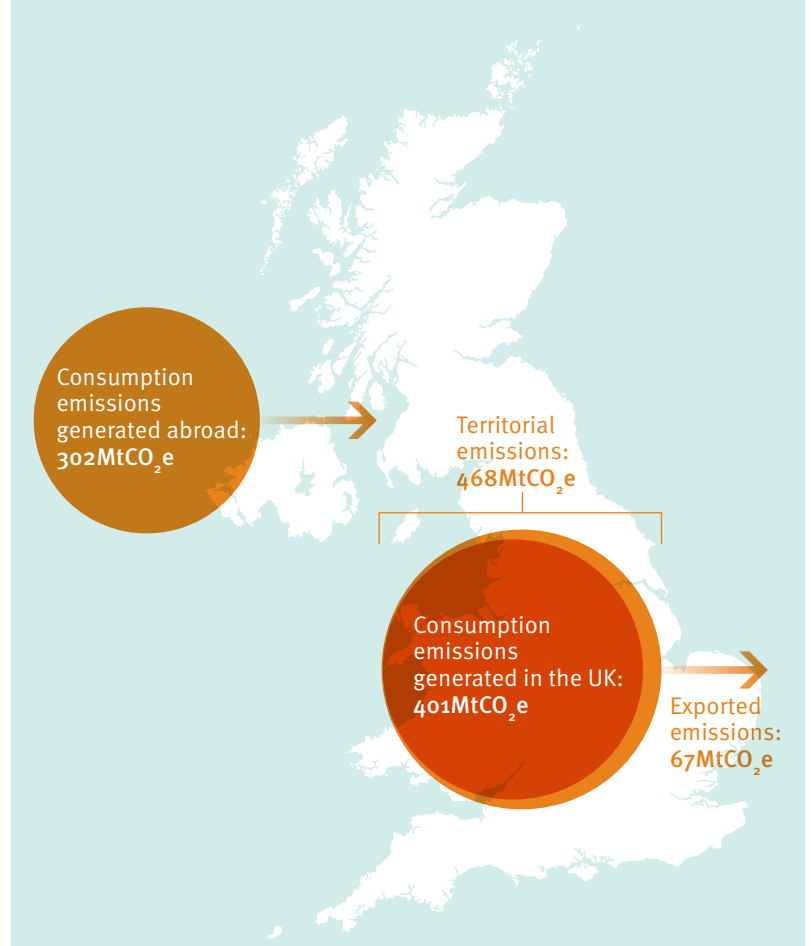
The UK has been a world leader at cutting territorial emissions but its performance on reducing consumption emissions is much poorer.

In 2018, the UK's consumption emissions were 703MtCO₂e, compared to 468MtCO₂e territorial emissions.² Of these, 302MtCO₂e were generated abroad. Purchasing choices are responsible for significant impacts beyond borders and they are being ignored by current UK climate commitments and policy.

This risks undermining the country's reputation for climate action. For example, between 1990 and 2007, reductions in territorial emissions were largely offset by the growth in emissions imported through traded goods.³

Hidden emissions: only territorial emissions are currently counted in UK climate targets

Total greenhouse gas emissions the UK was responsible for in 2018



Glossary

Territorial emissions

These are all the greenhouse gas emissions generated within national borders. In the UK, they are reported by the department for Business, Energy and Industrial Strategy (BEIS) in the UK's Greenhouse Gas Inventory. They are the basis for reporting UK progress towards domestic and international emissions reduction targets.

Consumption emissions

These are the greenhouse gas emissions generated in meeting a country's demand for goods and services, including emissions that arise locally, eg from heating homes, fuelling cars or growing food domestically for UK consumption, as well as those generated abroad in the production and transport of imported goods, such as cars and bananas. Emissions associated with exported goods and services are not included. While the UK's decarbonisation commitments are based on tackling its territorial emissions, the government monitors consumption emissions, calculated by the University of Leeds and published by the Department for Environment, Food and Rural Affairs (Defra).

Imported emissions

In this report, we use this term to refer to the share of UK consumption emissions generated abroad.

Exported emissions

These are emissions embedded in goods and services exported from the UK and consumed elsewhere.

Scope 1, 2 and 3 emissions

We refer to scope 1, 2 and 3 emissions in the context of individual businesses' emissions. Scope 1 emissions are from a company's own operations, such as offices or factories. Scope 2 emissions are from the energy they purchase to power their offices or factories. Scope 3 emissions are the full value chain emissions, from materials extraction, through to the production and transportation of components, to end of life disposal of products.⁴ For UK based businesses, scope 3 emissions might arise both within the UK and abroad, for example when components or finished goods are imported.

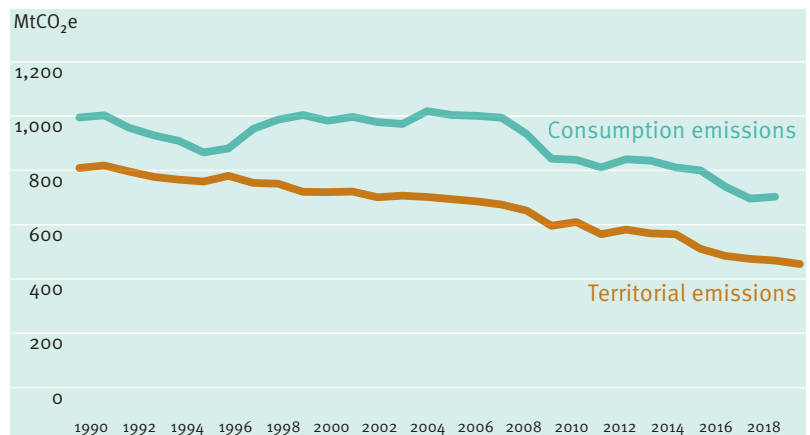
Why do consumption emissions matter?

Trading embedded emissions in goods around the world is not, in itself, a problem. It is inevitable as resources and production processes are not evenly distributed. But better tracking and targeting of consumption emissions would have a number of benefits:

1. More comprehensive climate action

In the UK, not only are consumption emissions about 50 per cent higher than territorial emissions, but they have fallen more slowly. In 2018, the most recent year for which data exists, they were only 29 per cent below 1990 levels, compared to a 42 per cent drop in territorial emissions over the same period, and the share of them generated abroad only fell by 19 per cent, from 375MtCO₂e in 1990 to 302MtCO₂e in 2018.^{5,6,7} This is due to a combination of factors, including rising population and income resulting in more consumption, the continued transition to a service economy and more gradual declines in emissions in some supplier countries.⁸

UK consumption emissions have fallen more slowly than territorial emissions since 1990



**“
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Failing to account for imported emissions helps the UK to look virtuous, focusing on success at home, while turning a blind eye to the climate impact of purchasing decisions. It is leaving the responsibility for cutting them entirely to producer countries that might have limited capacity to act.

In doing so, the UK is missing important opportunities to tackle climate change, including better sharing of its knowledge and technologies, and better use of material resources, both in the UK and abroad.

Greater efficiency would also support wider positive outcomes, since extraction and processing drives 90 per cent of biodiversity loss and water stress.⁹

2. Preventing ‘carbon leakage’ and supporting new UK industries

If countries only track territorial emissions they risk accidentally offshoring business emissions to less well regulated jurisdictions, in response to domestic decarbonisation action. This is known as ‘carbon leakage’.

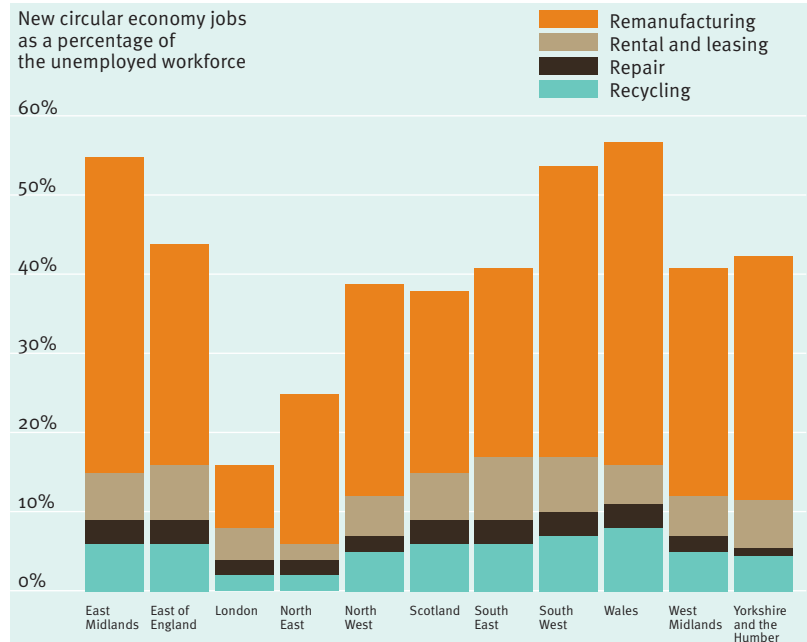
Policies such as the UK emissions trading system have checks in place to avoid carbon leakage and there has been no clear evidence to date that it has taken place.¹⁰ However, better information on the balance of domestic and imported emissions would help to guard against it happening in future as the UK embarks on deeper emissions cuts, including in those industries that trade internationally, and it would strengthen the case for policies to ensure a level playing field.

By being an early mover and creating markets for lower carbon, resource efficient goods and services, the UK can help businesses to adapt and build their strengths in emerging markets, such as clean steel, resource efficient electric vehicle batteries and low carbon construction.

There are employment benefits too. Greater product reuse, repair, remanufacturing and recycling, which would all help to limit consumption emissions, could lead to the creation of up to 450,000 jobs across the country by 2035.¹¹

Cutting consumption emissions through resource efficiency could create 450,000 circular economy jobs across the UK by 2035¹²

“
Businesses are also vulnerable to the climate risks faced by their suppliers.”



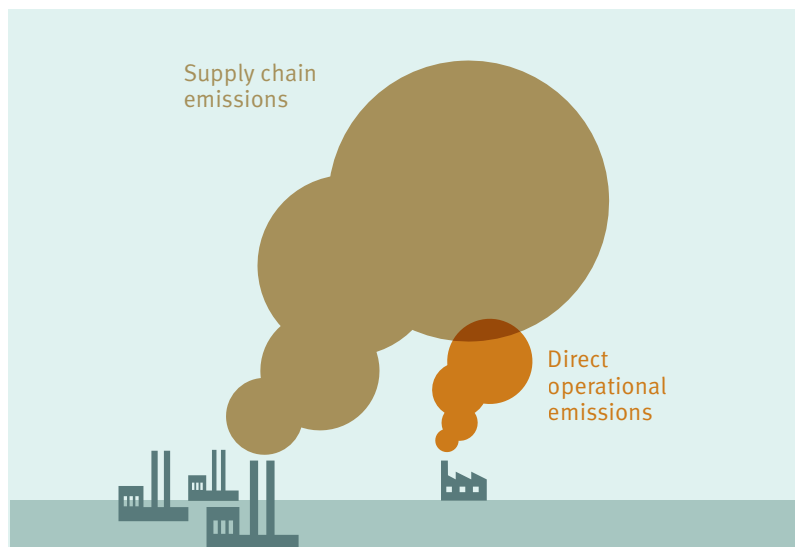
3. More resilient businesses

For most businesses, supply chain and consumer use and disposal of their products has a bigger climate impact than their production operations.¹³ Carbon Disclosure Project’s (CDP’s) research shows that a company’s supply chain emissions are, on average, 11.4 times higher than those associated with direct operations.¹⁴

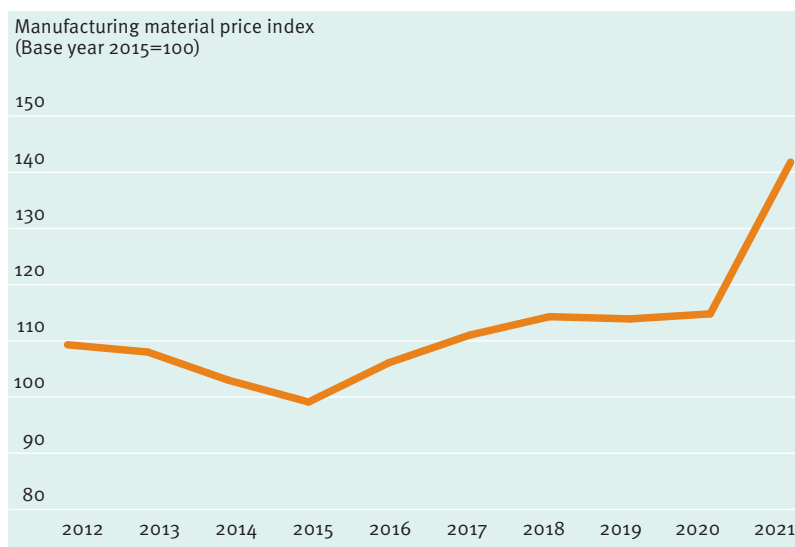
This means businesses are also vulnerable to the climate risks faced by their suppliers, which could lead to continuity issues and higher costs. For example, in an analysis of 8,000 international suppliers disclosing through their programme, CDP reveals that changes in consumer preferences, loss of access to capital and increased operations costs, linked to climate change and other forms of environmental degradation, could put \$1.26 trillion of revenue at risk by 2025.¹⁵ Increased operational costs alone, resulting from the impacts of climate change and associated regulatory and market changes, could add up to \$120 billion.¹⁶ And these risks are only expected to increase in future.¹⁷

Conversely, the kinds of measures companies might take to reduce their supply chain emissions, such as better design, lower material inputs and making greater use of recycled or reused materials, could reduce their exposure to rising and volatile commodity prices.

Businesses are exposed to more climate risks through their supply chains



Manufacturing material prices have risen sharply since 2020¹⁸



The pressure to act is rising

“

The Climate Change Committee recommends that the UK should reduce its overseas carbon footprint.”

The UK seeking new trade deals brings new opportunities to link trade to wider government aims, such as levelling up and a net zero emissions economy. Better monitoring and a commitment to cut consumption emissions would support this as trade policy evolves. New international partnerships could help to futureproof the economy at home and abroad, rather than offshoring emissions to the detriment of domestic businesses and wider climate goals.

The government’s independent adviser, the Climate Change Committee, recommends that the UK should reduce its overseas carbon footprint and has said it will monitor UK consumption emissions more closely in future.¹⁹

Parliament’s Science and Technology Committee has also called for consumption emissions to be reported alongside territorial emissions in all future reports and for them to be considered across government policy making.²⁰

The Dasgupta review, published by the Treasury in 2021, called for systemic change in UK production and consumption, and for trade to play a bigger role in promoting sustainability, including by embedding environmental objectives along supply chains.²¹

The international community is also becoming more vocal and is starting to act. The Intergovernmental Panel on Climate Change’s 2022 report on mitigation emphasises the need to tackle consumption to keep global warming below 1.5°C.²² The French High Climate Council has recommended a national consumption emissions reduction target and Sweden has already committed to one.^{23,24}

EU negotiations on a carbon border adjustment mechanism (CBAM), to address carbon leakage and imported emissions, are progressing. In the UK, the parliamentary Environmental Audit Committee has called for the government to introduce one as well.

“The UK can and should aim to reduce its overseas consumption footprint as part of its contribution to reducing global emissions.”

Climate Change Committee, 2020

“The United Kingdom’s decarbonisation targets should also include consumption emissions.”

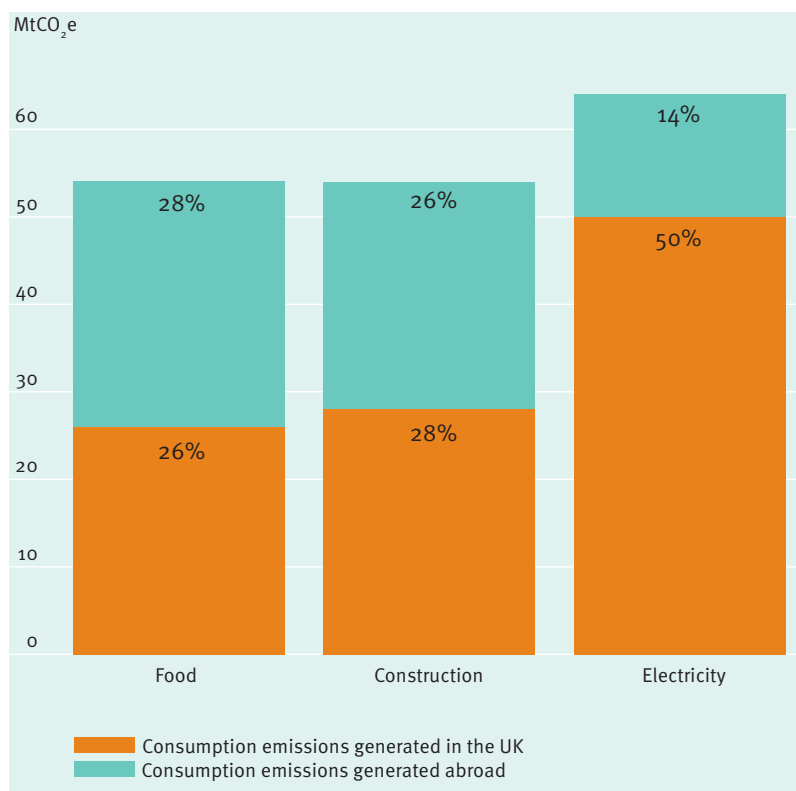
Parliamentary Science and Technology Committee, 2019

Sectors responsible for the UK's consumption footprint²⁵



Energy and transport emissions are well captured by territorial emissions reporting and policies aimed at reducing them, as most of the emissions arising from these sectors are generated within the UK's borders. Sectors where imported emissions are more dominant are primary and manufactured products and services. For example, about half the emissions generated from construction and food in the UK arise abroad, compared to a much smaller fraction for electricity.

Some sectors have a major share of their carbon footprint outside the UK²⁶



How to reduce consumption emissions

Tackling consumption emissions, including those generated abroad, will require:

Avoiding unnecessary demand, for instance making products longer lasting, promoting the reuse and remanufacturing of goods and providing incentives for lower carbon service options that use products more intensively, such as car clubs as an alternative to private car ownership.

Improving production methods, by avoiding energy and material waste during production, and switching to cleaner processes that use renewable energy or green hydrogen. For instance, producing lower carbon cement or steel, or using more energy efficient machinery in a manufacturing plant.

Switching to cleaner alternatives, by opting for goods and services that are inherently lower carbon. This could include using more wood in buildings, instead of cement or steel, or promoting plant based alternatives to meat.

Opportunities for greater action

“

The UK could put itself at the centre of efforts to futureproof supply chains and reduce emissions.”

The government has policy levers available to encourage action on consumption emissions. Many of these tools would also help to accelerate domestic decarbonisation, promote business investment and benefit consumers, for example through longer lasting products.

Furthermore, the UK is not alone in being exposed to climate risks and having opportunities to cut emissions along its international supply chains. Emissions embodied in traded goods have been growing in importance globally. The rise in international trade means up to 38 per cent of global emissions are now effectively traded across national borders, up from an estimated 20 per cent in 1990.²⁷

Building on its role as the COP26 climate summit president in 2021-22, and new trading status outside the EU, the UK could put itself at the centre of efforts to futureproof supply chains and reduce emissions, including promoting international dialogue and finding ways to support lower income countries, which are often net exporters of emissions.

In the following pages, we present options for greater action across domestic and trade policy, as well as international collaboration. This list is not meant to be exhaustive. Effective action to reduce the climate impact of UK supply chains will need a combination of measures rather than a single policy intervention.

“

The government could speed up change through standards.”

Stimulate markets for low carbon and resource efficient products

The government is able to set requirements for product durability and reparability, to support longer lasting goods, or requirements to report and reduce a product's lifecycle emissions.

Different measures will suit different product categories but standards should be considered for both intermediary products (responsible for 45 per cent of imported emissions), like steel girders, and end products, like smartphones and buildings (as recommended by the Environmental Audit Committee), where there is scope to use different materials and ensure better use and reuse.²⁸

Having promised to “match or where economically practicable exceed” what the EU does on ecodesign, and building on the recent call for evidence on low carbon market promotion, the government could speed up change through standards.²⁹

Direct investment in infrastructure that reduces resource use and supports clean production

The government could take action on a number of areas around investment. For example, despite its commitments to expand cycling and public transport infrastructure, it is still committed to a significant road expansion programme and supportive of further airport expansion.

It should also boost infrastructure to promote resource efficiency, such as facilities for reuse, recycling and remanufacturing.³⁰

There are further opportunities to drive change abroad, eg by directing public and private finance towards clean energy options in lower income countries, which could reduce the climate impact of UK imports and strengthen supply chain resilience.

**“
The tax system
does not support
the transition to a
green economy.”**

Use green taxes to encourage sustainable practices and discourage environmentally damaging activity

The tax system does not support the transition to a green economy, with limited understanding in Treasury or HMRC of the environmental impacts of the tax system or how it could be used to meet government’s environmental goals.^{31,32}

Options to support the transition include, in the short term, expanding carbon pricing and adjusting VAT, the UK’s consumption tax.³³ Changes to VAT should go beyond lowering VAT on new low carbon goods, as the chancellor announced for energy efficiency products in the 2022 Spring Statement, to include zero rate VAT on all repairs.³⁴

The EU is already introducing a Carbon Border Adjustment Mechanism (CBAM) and the UK government has recently announced plans to consult on introducing one in the UK.³⁵ If well designed, these should provide an incentive for businesses abroad to cut carbon in line with UK targets and limit the risk of offshoring emissions.

Mandatory disclosure of climate impacts

Leading companies are starting to measure, disclose and set targets for reducing their supply and value chain (scope 3) emissions, including those embodied in purchased goods and services. But this is not common practice across industry. By requiring companies to measure and report these emissions, the government would ensure ‘hotspots’ are identified and addressed, and it would give investors, regulators and consumers a fuller picture of a company’s climate impacts.³⁶

The Financial Services and Markets Bill is an obvious route for the government to make good on its promise, made as host of the COP26 climate summit in 2021, to introduce a legal requirement for larger companies to report in line with the Task Force on Climate-Related Financial Disclosures (TCFD), which would include scope 1,2 and 3 emissions.

“

The UK can build on ambitious domestic action to encourage other countries to strengthen their decarbonisation plans.”

Put climate commitments at the heart of trade policy

While the UK has been an active member of the WTO Trade and Environmental Sustainability Structured Discussions, there has been limited progress in addressing climate and environmental priorities through trade policy, beyond tentative rhetoric.³⁷

Aligning trade policy with climate and environment priorities should include building stronger environmental provisions into trade agreements and playing an active role in multilateral discussions on climate and environment related issues. Trade policy could also liberalise environmental goods and services, support green export or include climate policy aligned market access provisions.

Provisions around the right to regulate, removing investor state dispute settlement or introducing a climate waiver could protect the UK's ability to advance legislation and policy for net zero.³⁸

International collaboration

Support standardised measurement of consumption emissions

Standardised measurement is vital to ensure better understanding of supply chain climate impacts and will help to identify opportunities for cross border action. Many countries do not even calculate their consumption emissions and, even amongst those that do, methods vary.^{39,40}

The UK could help to lead development of a common methodology and also ensure lower income countries are involved from the outset and are not simply rule takers.

Collaborate on policy solutions

As the Environmental Audit Committee has emphasised, the UK can build on ambitious domestic action to encourage other countries to strengthen their decarbonisation plans and join forces on multilateral solutions.⁴¹

The UK should support lower income countries to act, and not disadvantage or exclude them from policy developments that address emissions embedded in trade, eg through exemptions (time limited or permanent) from measures that could be discriminatory.⁴²

“

The UK should support lower income countries to act, and not disadvantage or exclude them from policy developments that address emissions.”

Encourage wealthier nations to increase climate finance

Climate finance is vital to promote investment in low carbon solutions in countries that would otherwise struggle to finance emissions cuts in the production of goods and services they export. Wealthier developed nations need to follow through on their promise to mobilise \$100 billion a year of climate finance for lower income countries and commit to an ambitious financial settlement beyond 2025.⁴³

Wealthy nations should also put an end to fossil fuel investment at home and abroad to avoid locking in polluting activities in less economically developed countries.

A comprehensive approach

“

The government should report on progress in reducing consumption emissions as part of its net zero annual reporting.”

To harness the benefits of early action on supply chain emissions and avoid accidentally offshoring them through new trade strategies, the government should be signalling the direction of travel now.

A legally binding target to reduce consumption emissions should be set, alongside the net zero target for territorial emissions.

Work by WWF recommends a 33 per cent reduction in the UK's imported emissions by 2030, against 2018 levels, alongside cutting territorial emissions, to ensure the UK plays its full part in tackling climate change globally.⁴⁴

The CCC should be tasked with advising on an appropriate goal, and the government should report on progress in reducing consumption emissions as part of its net zero annual reporting.

This new target should be complemented by measures to support international action on supply chain emissions, as we have described, and a more strategic approach to UK imported emissions.

To reduce consumption emissions, the government should:

Set a departmental priority for the Department for International Trade (DIT) to ensure trade deals and trade promotion prioritises countries or international suppliers that set meaningful decarbonisation commitments and focus on promoting low carbon industries and market access. DIT should be required to assess the impact of proposed trade arrangements on both territorial and consumption emissions, with approval conditional on alignment with the UK's climate and environmental commitments.

Develop a comprehensive policy package on consumption emissions, driving action through domestic and trade policy, including via carbon border adjustments and product standards. This should include sector specific strategies, to enable collaboration along value chains, starting with those sectors that have a significant overseas footprint, such as construction, food and manufactured goods.

Collaborate with other countries on environmental standards and carbon pricing, making sure that wealthy nations boost access to climate finance and empower lower income countries in the transition.

Endnotes

- 1 Department for Environment, Food and Rural Affairs (Defra), November 2021, *UK's carbon footprint 1997-2018*. Note, data from 1990-1996 has a lower level of confidence than data from 1997 onwards.
- 2 Defra, November 2021, op cit
- 3 Carbon Brief, 2019, 'Analysis: why the UK's CO2 emissions have fallen 38% since 1990'
- 4 World Resources Institute Greenhouse Gas Protocol, 2011, *Corporate value chain (scope 3) accounting and reporting standard*
- 5 Defra, November 2021, op cit
- 6 Department for Business, Energy and Industrial Strategy (BEIS), 2020, 'Provisional UK greenhouse gas emissions national statistics 2019'
- 7 BEIS, March 2021, '2021 UK Provisional Greenhouse Gas Emissions'
- 8 Dr A Owen, 8 May 2019, 'Guest post: Why the UK's carbon footprint is decreasing', *Carbon Brief*
- 9 UN International Resource Panel, 2019, *Global resources outlook 2019: natural resources for the future we want*
- 10 HM Treasury, 2021, *Net zero review: analysis exploring the key issues*
- 11 Green Alliance, 2021, *Levelling up through circular economy jobs*
- 12 Ibid
- 13 Science Based Targets, 2018, 'How can companies address their scope 3 greenhouse gas emissions?'
- 14 CDP, 2022, *Engaging the chain: driving speed and scale, CDP global supply chain report 2021*
- 15 CDP, 2021, *Transparency to transformation: a chain reaction, CDP global supply chain report 2020*
- 16 Ibid
- 17 *Financial Times*, 1 March 2022, 'Risks to global supply chains rising as climate change worsens, IPCC warns'
- 18 Material prices from ONS, 2022, 'Producer price inflation, UK March 2022 including services, January to March 2022'
- 19 Climate Change Committee, 2020, *The sixth carbon budget*; the Climate Change Committee concluded in its latest advice on the sixth carbon budget: "the UK can and should aim to reduce its overseas consumption footprint as part of its contribution to reducing global emissions."
- 20 Science and Technology Select Committee, August 2019, *Clean growth: technologies for meeting the UK's emissions reduction targets*
- 21 HM Treasury, February 2021, *The economics of biodiversity: the Dasgupta review*
- 22 IPCC, 2022, *Climate Change 2022: mitigation of climate change, summary for policymakers*
- 23 *Euractiv*, 7 October 2020, 'France's 'imported emissions' are 70% higher than domestic CO2 output, report finds'
- 24 *Climate Home News*, 8 April 2022, 'Sweden set to be world's first country to target consumption-based emission cuts'
- 25 Data from: WWF, 2020, *Carbon footprint: exploring the UK's contribution to climate change*
- 26 Data from: WWF, 2020, *Carbon footprint: exploring the UK's*

- contribution to climate change; for the emissions for 'food' refer to 'Products of agriculture, hunting and related services', and for 'electricity' refer to 'Electric power generation, transmission and distribution'
- 27 Overseas Development Institute, May 2020, *Counting carbon in global trade: why imported emissions challenge the climate regime and what can be done about it*
 - 28 Environmental Audit Committee, 2022, 'Emissions must be reduced in the construction of buildings if the UK is to meet net zero, MPs warn'
 - 29 BEIS, 2021, *Towards a market for low emissions industrial products: call for evidence*
 - 30 Green Alliance, 2019, *Building a circular economy*
 - 31 National Audit Office, 2021, *Environmental tax measures*
 - 32 Committee of Public Accounts, 2021, 'Environmental tax measures'
 - 33 For more, see outputs from Green Alliance's Transform Tax programme, including: Green Alliance, 2020, *Added value: improving the environmental and social impact of UK VAT*; and Green Alliance, 2021, *The green light for change: what people think about environmental tax reforms*
 - 34 Green Alliance, 2020, op cit
 - 35 *The Times*, 17 May 2022, 'Minister puts carbon boarder tax on agenda'
 - 36 HM Treasury, February 2021, op cit
 - 37 E3G, 2022, *Defining a positive green trade agenda for the UK: aligning trade and climate policies to deliver net zero*; for example, the UK decided not to join the Agreement on Climate Change, Trade and Sustainability, to remove tariffs on a wide range of environmental goods and services and address fossil fuel subsidies. The government was criticised for undermining the climate ambition of its trade deal with Australia.
 - 38 E3G, 2022, op cit
 - 39 WWF, 2017, *Chewing over consumption-based carbon emissions accounting*; while few countries measure consumption based emissions, the number of those that do has increased in recent years to include the US, the Netherlands, Germany, Italy, Japan, Sweden and Norway.
 - 40 Defra, 2021, op cit. The UK government releases relatively robust statistics on consumption emissions every year, derived through a multi-region input-output (MRIO) model that is the most commonly used and links the global monetary flows of goods and services with emissions generated in production processes.
 - 41 Environmental Audit Committee, 2022, *EAC calls for work on a unilateral CBAM to commence immediately*
 - 42 S Lowe, 2021, *Should the UK introduce a border carbon adjustment mechanism?*, Zero Carbon Campaign
 - 43 *The Guardian*, 14 May 2022, "Cash, coal. Cars and trees': what progress has been made since Cop26?"
 - 44 WWF, 2021, *Thriving within our planetary means: reducing the UK's footprint of production and consumption by 2030*
 - 45 Science and Technology Select Committee, 2019, op cit

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