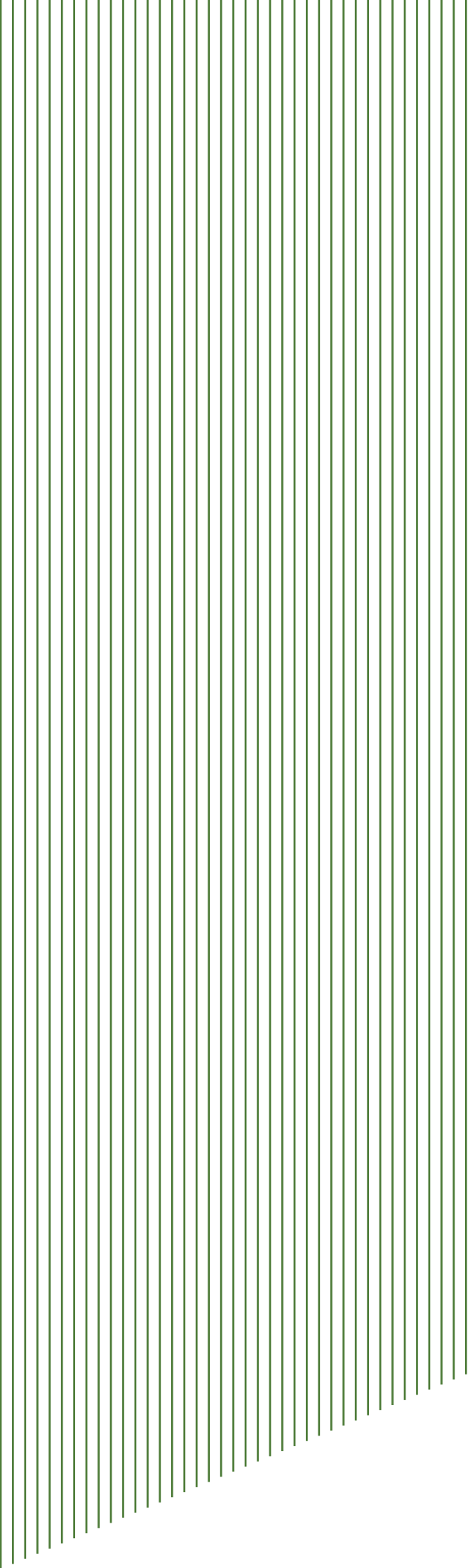




**UK**  
Board  
of Trade

# GREEN TRADE

A BOARD OF TRADE REPORT  
JULY 2021



## Foreword

We face a challenge ahead to tackle climate change, but we have the tools at our disposal to help safeguard the environment, and accelerate the pace of the global green transition. With the support of international trade, green and growth can go hand-in-hand.

Green trade presents a major opportunity for the UK, creating high-value jobs in the low-carbon economy, driving sustainable growth in all corners of the nation, and fuelling technological innovations that can be exported to the world.

*Free* trade can be a lean, green, value-creating machine that is good for developed and developing nations alike. Global Britain must work with our friends and partners across the world to break down barriers to trade in environmentally beneficial goods and services – to ensure that free trade helps speed the uptake of green technologies across the world.

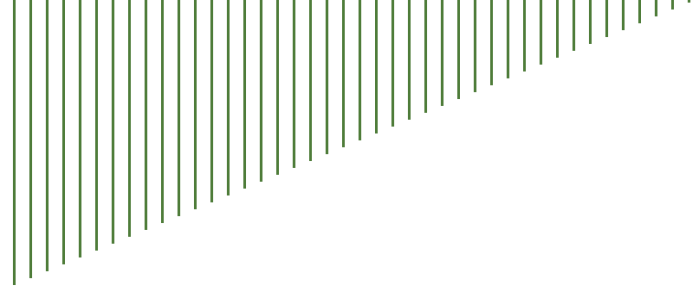
*Fair* trade supports the right kind of globalisation based on shared values. Too often, trade is affected by market failures and unfair market distortions – such as industrial subsidies – that incentivise poor practice and damage the environment. Together, we need to reform the global trading system to ensure that market forces are supporting the green transition not holding it back.

Our trading partners can see how much the UK values the environment through our world-leading efforts to decarbonise our economy, our leadership on nature and biodiversity and our efforts to build back greener from the coronavirus pandemic. Climate change and nature loss are at the forefront of the international agenda but mostly, until now, have only been discussed on the fringes of the trade agenda – they must be brought closer together. This is why I am proud to present the second report by the Board of Trade, which outlines how green trade can support environmental action.

This year marks a pivotal moment for trade and the environment, for the UK in particular – with our Presidency of the G7 and the COP26 conference in Glasgow. The UK will neither sacrifice our values – freedom, democracy, human rights and the environment – nor our economic opportunity. We have a great story to tell as a green trading nation, with our newly independent trading status and a global reputation for protecting the environment and reducing emissions. We must continue to champion green trade, because it is good for our economy and it is good for the world.

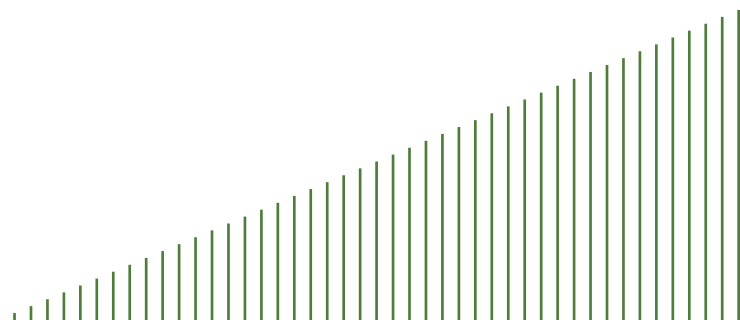
**The Rt Hon Elizabeth Truss MP**  
**Secretary of State for International Trade**  
**and President of the Board of Trade**





# Contents

<b>Foreword</b>	<b>3</b>
<b>Contents</b>	<b>5</b>
<b>Executive summary</b>	<b>6</b>
<b>The Board of Trade</b>	<b>8</b>
The Board's role	9
Scope of this report	9
Board Members and Advisers	9
<b>Part 1: The case for free and fair green trade</b>	<b>10</b>
Urgent action is needed	10
How free trade can support environmental action	13
How unfair trade can worsen climate change and nature loss	16
Opportunity for UK leadership	18
<b>Part 2: The benefits of green trade for the UK</b>	<b>20</b>
How trade can help drive the UK's green industrial revolution	20
The role of imports in greening the UK economy	21
The role of foreign investment in supporting green growth	22
The role of the UK's green exports	24
The UK's leading role in green finance	26
The growing importance of green jobs	29
<b>Part 3: The opportunity for Global Britain to speed the global green transition through trade</b>	<b>34</b>
UK trade policy can help accelerate the global green transition	34
Unlocking the potential of green trade through liberalisation	35
Tackling environmentally harmful market distortions through trade	39
<b>Part 4: Recommended priorities</b>	<b>48</b>



## Executive Summary

This second report by the Board of Trade sets out the economic case for green trade and the opportunity for Global Britain to accelerate the global green transition by promoting free and fair green trade.<sup>1</sup>

There are 7 key points to draw from this Board of Trade paper:

### 1. Climate change and nature loss require swift global action – including through green trade.

- Natural disasters have already caused \$3 trillion of damage this century. \$44 trillion of economic value is highly or moderately dependent on nature and exposed to nature loss. Global GDP could be 10% smaller by 2050 if temperatures rise to 2.6°C above pre-industrial levels versus a Paris-aligned world.
- Action through trade can both help safeguard the environment and ensure the global trading system is able to withstand the shocks and shifts it may face due to environmental degradation.

### 2. The UK is well-placed to bring together the trade and environmental agendas as a global leader on decarbonisation and a champion for free trade.

- Since 1990, the UK has reduced its greenhouse gas emissions by 44% – faster than any other G20 economy – and has committed to protecting 30% of UK land by 2030 to support the recovery of nature. The UK is also a bastion of free trade and has significant industrial strengths – plus a burgeoning green finance sector – to help speed the global transition.

### 3. Green trade presents major opportunities for the UK economy: driving sustainable growth, building the UK's green industrial base, and securing more green jobs.

- The UK can spearhead the global green transition by developing innovative green technologies to export to the world and by doubling down on its success as a global hub for green finance.
- The economic opportunities are significant – \$30 trillion of global investment funds are already invested in sustainable assets – having doubled in just 4 years. The UK's low carbon economy could grow by 11% per year and the global export market for low-carbon products could be worth up to £1.8 trillion by 2030. By 2050, there could be more than 1.2 million full time workers directly employed in England alone.

**\$3tn**

Global losses from natural disasters 2000-2019

**\$44tn**

Economic value that is highly or moderately dependent on nature

**-10%**

Global GDP in a +2.6°C world versus a Paris-aligned world

**\$30tn**

Funds held in sustainable investment assets globally

**£1.8tn**

Size of global market for low-carbon exports by 2030

**11%**

Projected growth of the low-carbon UK economy per year: 2015-30

**+1.2m**

Low carbon jobs across the UK by 2050

<sup>1</sup> Data sources for all figures provided in the Executive Summary are included in the main body of the report.

#### **4. The UK is already using its independent trade policy to encourage environmental action overseas by promoting green trade that is both free and fair.**

- Free trade helps spread green technologies around the world and speed the global transition. The UK has already used its new independent trade policy to reduce barriers to trade in environmental goods and services, including through the UK Global Tariff, which removed tariffs on over 100 green goods.
- Market failures and distortions - such as industrial subsidies – can incentivise unsustainable consumption, warp trade flows and damage the environment. The UK is already working to address these unfair trade practices, including by championing the case for reform of fisheries subsidies at the WTO. The UK Government has also announced a world-leading policy to end government support for the fossil fuels energy sector overseas.

**The Board of Trade wants the UK to build on this existing activity and foster trade policy that protects the environment in three key areas:**

#### **5. The UK should use its Global Britain platform to encourage international ambition on green trade.**

**The UK should shape the 21st century international trading system by:**

- Using its convening power and role at the G7, G20 and MC12 to emphasise how trade can impact on climate and the environment.
- Being a leading voice in multilateral and plurilateral fora, including via its membership of the Structured Discussions on Trade and Environmental Sustainability (TESSD) at the WTO, to reframe the narrative on trade and the environment and build consensus for reform.


#### **6. Free trade: The UK should advocate for making green trade freer.**

**The UK should consider all options for advancing environmental goods and services liberalisation by:**

- Using its membership of TESSD to re-launch discussions on the Environmental Goods Agreement.
- Helping shape green policies as part of the Government Procurement Agreement at the WTO, so that government levers are used to increase the use of green products and services
- Seeking 'best in class' free trade agreements (FTAs), based on liberal green trade principles, that create a platform for collaboration and safeguard the UK's right to regulate.

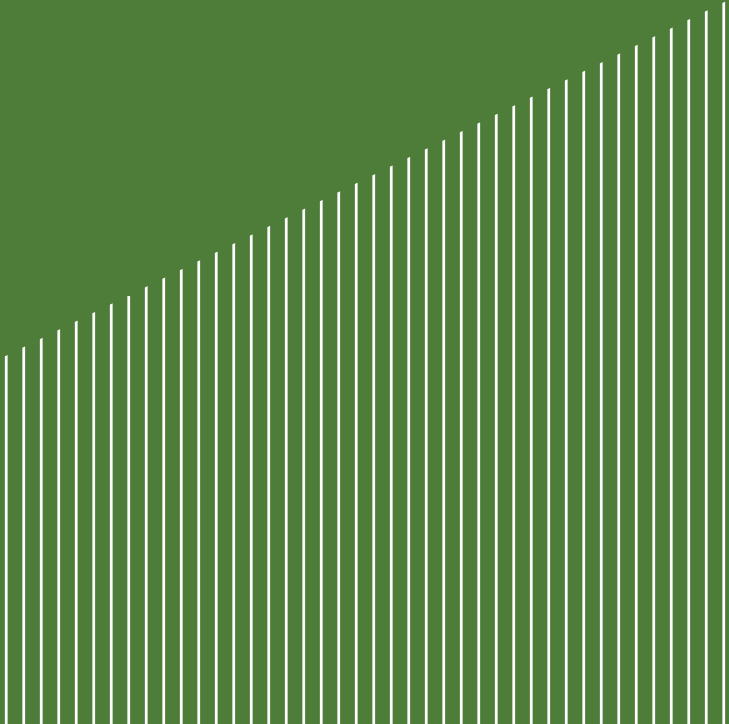
#### **7. Fair trade: The UK should advocate for making green trade fairer.**

**The UK should make astute use of its trade levers to tackle environmentally damaging market distortions by:**

- Deploying its diplomatic and/or regulatory diplomacy tools as a priority to encourage environmental action alongside considering proportionate use of trade policy.
  - Deploying its trade levers where evidence points to a clear need for action and in a manner that is consistent with the UK's international obligations
  - Developing trade policy solutions (if required) that draw in large numbers of countries, ideally developed at the multilateral or plurilateral level.
  - Using bilateral trade levers – including FTAs – to safeguard the UK's existing environmental standards, promote sustainable trade and, where possible, to raise environmental standards
  - Pursuing unilateral action in limited circumstances, in a way that ensures trade remains fair.
  - Steering the global debate on carbon leakage, by applying the above policy approach in practice.
- 



# The Board of Trade





## The Board's role

The Board of Trade is a Government body that has existed in various forms for almost 400 years – even before the days of Adam Smith and David Ricardo. Its purpose is to raise awareness of the benefits of international trade, campaign globally for free and fair trade and work with international counterparts to build a consensus for open markets and fight protectionism. It works alongside, but is separate from, the Department for International Trade.

The President of the Board of Trade is the Secretary of State for International Trade, the Rt Hon Liz Truss MP. The Board is supported by Advisers to the Board of Trade, who are drawn from academia, business, and government. They are independent and are appointed on one-year non-remunerated terms.

The Board meets quarterly at locations across the UK's regions. It produces reports on key trade issues, the publication of which is timed to coincide with Board meetings. This is the second quarterly report under the new Board of Trade.

## Scope of this report

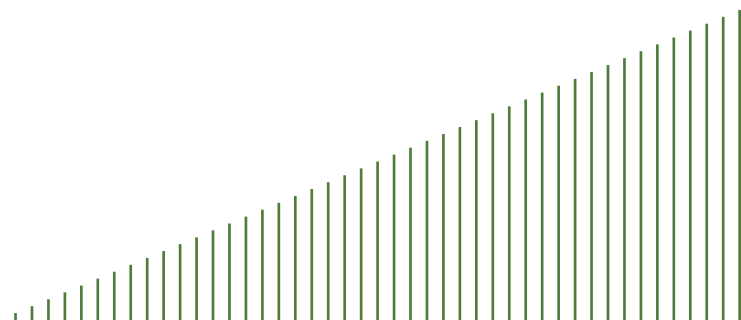
The Board's reports are intended to bring new thinking to, and inform debate on, matters of UK trade policy. HM Government will consider the recommendations of Board of Trade reports but is under no obligation to pursue them and this report does not reflect government policy. Board of Trade reports regularly include reflections from the Board's Advisers which may differ from existing HMG policy. Where these are included, they are attributed to the Adviser directly.

## Board members and Advisers

The President of the Board of Trade is the Secretary of State for the Department of International Trade.

### The 16 Advisers are:

- Secretary of State for Scotland
- Secretary of State for Wales
- Secretary of State for Northern Ireland
- Minister for Investment
- Minister for International Trade
- Karen Betts
- Anne Boden MBE
- Emma Howard Boyd CBE
- Rt Hon Patricia Hewitt
- Minister for Trade Policy
- Minister for Exports
- The Hon Tony Abbott
- Lord Hannan of Kingsclere
- Michael Liebreich
- Dr Linda Yueh
- Rt Hon the Lord Mayor of the City of London, William Russell



# Part 1:

## The case for free trade and fair green trade

“Our ability to come together to stop or limit damage to the world’s environment will be perhaps the greatest test of how far we can act as a world community”

**Rt Hon. Margaret Thatcher**

### Urgent action is needed

**Climate change and nature loss are among the most complex issues of our time – they will touch every aspect of life and require all the tools at our disposal to resolve them, including trade tools.** Global average temperatures are already 1.2°C above pre-industrial levels and there is more than a 40% chance that the annual average temperature in a single year will temporarily exceed 1.5°C in at least one of the next five years.<sup>2</sup> Sea levels are 21cm higher on average than in 1900 and almost 100 million hectares of forest have been lost this century – an area more than 4 times the size of the UK.<sup>3</sup> The scale of the challenge is immense and urgent system-wide change is needed – using all available policy tools – to speed the global green transition and deliver a nature-positive future. Action through trade could help safeguard the environment and ensure the global trading system is able to withstand the rising number of shocks and structural shifts it may face due to environmental degradation.

**Without immediate action, global trade could face bigger and more frequent environmental shocks.** The UK economy is reliant on trade – the total value of UK exports and imports equalled 63.4% of GDP in 2019.<sup>4</sup> But rising temperatures, driven by increasing greenhouse gas emissions, are a factor in causing more extreme weather events that risk disrupting trade. Natural disasters caused almost \$3 trillion of economic losses worldwide between 2000 and 2019 – nearly double the losses incurred during the previous 20 years (adjusted for inflation).<sup>5</sup> Individual events are also becoming more costly – for example in 2016 a tropical cyclone wiped out more than a third of Fiji’s GDP in 36 hours.<sup>6</sup> These trends pose serious risks of more frequent and severe shocks to maritime shipping (which accounts for 80% of global trade volumes), international supply chains, and trade infrastructure.<sup>7</sup> Climate risks are not distributed evenly across the globe (Figure 1), but due to the interconnected nature of the global economy, shocks overseas are rapidly transmitted around the world.

<sup>2</sup> See World Meteorological Organization (2021) [‘The state of the global climate in 2020’](#) and UK Meteorological Office (2021) [press release](#)

<sup>3</sup> See Committee on Climate Change (2020) [‘Reducing UK emissions: 2020 progress report to parliament’](#), and UN FAO [‘State of the World’s forests 2020’](#).

<sup>4</sup> ONS [‘UK Trade April 2021’](#)

<sup>5</sup> UNDRR (2020) [‘The Human Cost of Disasters 2000-2019’](#)

<sup>6</sup> World Resources Institute (2020) [‘Navigating converging shocks from a pandemic and a cyclone’](#)

<sup>7</sup> UNCTAD (2020) [‘Review of Maritime Transport’](#)

For example, the 2011 floods in Thailand caused significant global disruption due to the closure of more than 7,000 industrial manufacturing plants that were highly integrated into global value chains.<sup>8</sup>

<sup>8</sup> WTO (2019) '[Natural Disasters and Trade](#)'

**Figure 1: Map illustrating the risk of natural disasters across the world**

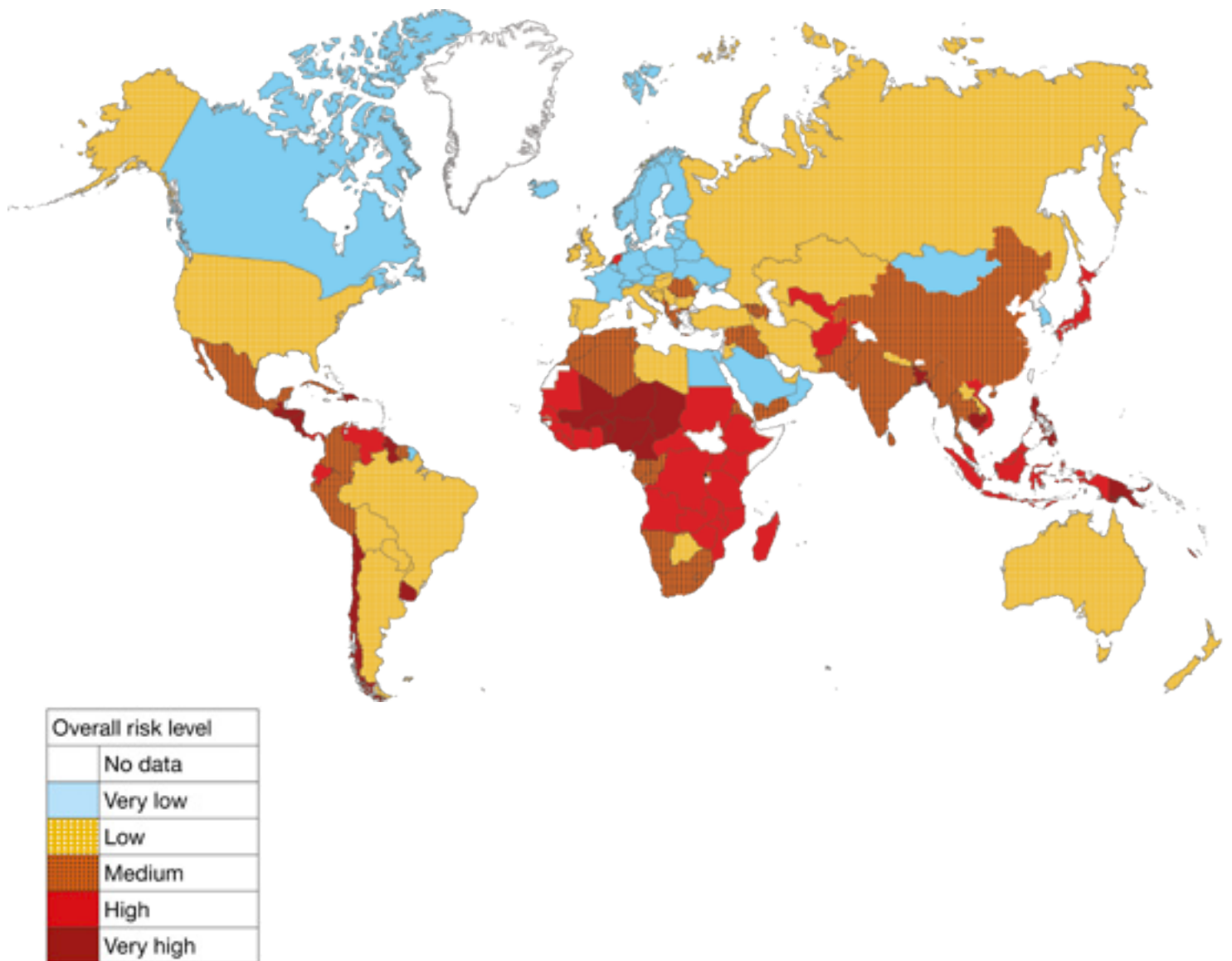


Figure 1 source: World Risk Report (2020); Ruhr University Bochum, Institute for International Law of Peace and Armed Conflict. Notes: The World Risk Index indicates the disaster risk for 181 countries, based on exposure, susceptibility, coping capacities and adaptive capacities to five kinds of natural hazard: storms, floods, droughts, sea-level rise and earthquakes. The scale represents level of disaster risk. This map should not be taken as representative of the UK Government's view of boundaries or political status'

### Climate change will contribute to structural shifts in the global economy and reshape trade patterns that could put the global trading system under strain.

Under a scenario where global average temperatures rise by 2.6°C above pre-industrial levels, the world economy could be 10% smaller by 2050 than if the Paris temperature target of keeping the increase to well below 2°C and as close as possible to 1.5°C is achieved. These losses will not be evenly distributed – OECD economies

could be 5% smaller on average by 2050 while economies in South East Asia could be up to 25% smaller.<sup>9</sup> This unequal impact is also likely to be felt within sectors – with agriculture, green sectors of the future, and existing high-carbon industries particularly affected (Figure 2). Unequal impacts could stoke tensions between countries, raising the risk that trade is increasingly used as a policy lever to gain strategic advantage.

### Figure 2: Examples of how climate change could disrupt trade patterns across sectors



#### Food and agriculture

Climate change could cause major shifts in the demand for and supply of food. Consumer preferences could tilt to more locally sourced food or to low-carbon diets, which could reduce demand for some food imports (such as meat and dairy). However, climate change could also reduce crop yields – agricultural productivity could fall by up to a third across large parts of Africa.<sup>10</sup> Lower yields, combined with more volatile production could see some countries become more reliant on food imports at a time when agricultural prices are rising and more volatile. In the past, periods of high and volatile commodity prices have put the global trading system under strain – in 2008 some countries introduced food export bans to safeguard domestic food security.<sup>11</sup>



#### New sectors of industrial advantage

Demand for renewable energy and other green technologies will continue to rise, particularly as governments introduce new policies to tackle climate change. These new industries will require a different mix of imported inputs to existing industries, which could reshape global trade towards new advanced materials and minerals (like cobalt and lithium), creating new areas of strategic competition. The green sectors of the future will also drive further shifts in trade patterns within existing sectors – such as financial and professional services – as innovative firms reorient their businesses to capitalise on the global green transition as it broadens out.



#### High-carbon industries

Between 2010 and 2019, fossil fuel commodities accounted for around a tenth of all global trade flows.<sup>12</sup> Global demand for fossil fuels will continue to be significant in the coming years, but their share of the global energy system and trade is likely to decline. In 2020, renewable energy – particularly wind and solar power – accounted for 90% of the entire global power sector's expansion.<sup>13</sup> The green transition poses a competitive challenge for countries and businesses that are reliant on carbon-intensive exports. As demand for fossil fuels eases, producers with the highest production costs will be the most exposed to transition risks.

9 Swiss Re (2021); [‘The economics of climate change’](#)

10 PwC: [‘Climate change and resource scarcity megatrends’](#)

11 World Bank (2012) [‘Export restrictions and price insulations during commodity booms’](#)

12 UNCTADSTAT

13 International Energy Agency (2021) [‘Renewable Energy Market Update 2021’](#)

**Nature loss could have major implications for trade by amplifying the effects of climate change, worsening resource scarcity, and heightening competition between countries.** As the G7 Nature Compact makes clear, our world must not only become net zero, but also nature positive – nature, and the biodiversity that underpins it, ultimately sustains our economies, livelihoods and wellbeing.<sup>14</sup> The World Economic Forum estimates that around half of global GDP (or \$44 trillion of economic value) is moderately or highly dependent on nature and its services, and therefore exposed to risks from nature loss.<sup>15</sup> As nature loss accelerates, it undermines the environment’s ability to self-regulate, which increases trade volatility by amplifying the effects of climate change. High levels of consumption deplete the supply of critical natural resources on which some of the world’s most traded industries (from agriculture to tourism) rely. Land degradation has reduced the productivity of 23% of the global land area, and between \$235 billion and \$577 billion in annual global crop production is now at risk from pollinator loss.<sup>16</sup> Nearly 70 per cent of tropical deforestation is linked to commercial agriculture, which is highly traded – particularly the production of palm oil, soy, cattle products, and timber products.<sup>17</sup> Trade therefore not only needs to be cleaner (helping to lower emissions) but also greener (helping to protect and restore nature and the climate together).



Caption: Wind turbine blades storage yard

## How free trade can support environmental action

**Trade can play a vital role in reducing climate change and nature loss, by bringing down the cost of green goods, services and technologies and speeding their uptake around the world.** Innovation is the fundamental driver of human progress and a key channel through which we can protect the environment. All the technologies needed to achieve the necessary deep cuts in global emissions by 2030 already exist, the challenge is to deploy these technologies at scale and bring down their cost.<sup>18</sup> Free trade helps speed technological development, scale-up and dispersion by: enabling access to critical resources that are necessary to innovate; increasing the returns to innovation by allowing access to larger markets; and exposing businesses to competition from overseas.<sup>19</sup> Through these mechanisms trade has helped bring down the cost of green technologies and increase their uptake. For example, the price of lithium-ion batteries has fallen by 97% since first becoming commercially available in 1991 – an advance that would not have been possible without trade (as discussed in Box A).<sup>20</sup>

**Free trade further protects the environment by increasing the efficiency of production through specialisation.** As economies open up to trade, they are exposed to more competition from overseas, which incentivises businesses to adopt more efficient production techniques in order to remain competitive. Trade leads to specialisation, which results in higher productive efficiency and can lead to lower energy use and less waste generated in the production process – resulting in a smaller environmental footprint. One example of the efficiency benefits of trade is the market for seasonal agricultural produce. Trade enables agricultural producers in the southern hemisphere to sell products to consumers in the northern hemisphere during winter and vice versa. This counter-seasonality of production means that countries can reduce their reliance on energy-intensive storage and artificial growing techniques in favour of agricultural produce from overseas. More generally, overseas production can have a lower environmental footprint than domestically produced food – even once the impact of higher transport emissions is accounted for – if overseas production techniques are more efficient and less emissions intensive (as discussed in Box B).

14 See G7 (2021) '[Nature Compact and HMT \(2021\) 'The Economics of Biodiversity: The Dasgupta Review'](#)

15 World Economic Forum (2020) '[Nature Risk Rising: Why the crisis engulfing nature matters for business and the economy'](#)

16 See IPBES (2019) '[Global Assessment Report on Biodiversity and Ecosystem Services'](#). Note: figures are expressed in 2015 prices.

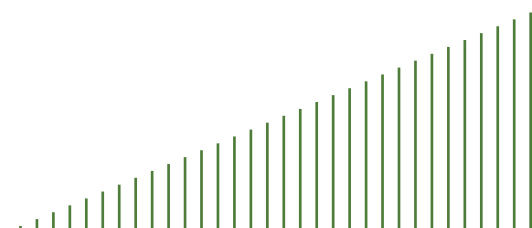
17 Deere Birkbeck, C. (2021) '[Greening International Trade: Pathways Forward'](#)

18 International Energy Agency (2021) '[Net Zero by 2050, A Roadmap for the Global Energy Sector'](#)

19 CEPR (2016) '[Better faster stronger: Global innovation and trade liberalization'](#)

20 Centre for Strategic and International Studies (2021) '[Reshore, Reroute, Rebalance: A U.S.](#)

[Strategy for Clean Energy Supply Chains'](#)



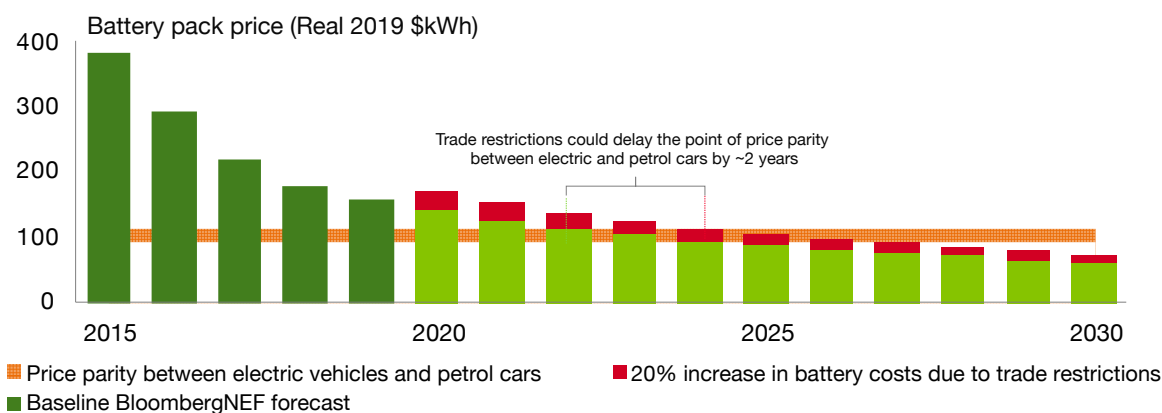
## Box A: How trade has helped speed the global uptake of electric vehicles

**International trade has helped incentivise the development of battery technologies by enabling producers to sell their innovations overseas.** Developing the technologies required to extend the range, reduce the charging time, and reduce the cost of lithium-ion batteries has been a complex and expensive endeavour. This is reflected in the concentrated structure of the battery sector. In 2019, 5 firms – Panasonic, Samsung, LG Chem, CATL, and BYD – accounted for 88% of the global market for lithium-ion batteries used in passenger electric vehicles. To make the economics of battery production commercially viable in the early years of the electric vehicle market, these producers had to build vast ‘giga-factories’ (to benefit from economies of scale) and then rely on international trade (selling batteries overseas) to make their investments pay off. Looking ahead, as demand for electric vehicles rises and more giga-factories are built closer to centres of demand, trade could spur further innovation through increased competition – incentivising companies and governments to invest more in domestic R&D.

**Electric vehicle manufacturers also rely on critical inputs from overseas markets to keep manufacturing costs low.** For example, 86% of the world’s lithium is mined in just three countries – China, Chile and Australia. Without access to these markets or alternative sources of supply, the cost and availability of lithium-ion batteries would be significantly higher. Since batteries account for a third of the sticker price of the average electric vehicle, free trade of critical inputs is therefore necessary to keep prices low.

**Low barriers to trade have helped electric vehicle manufacturers to utilise cross-border supply chains to bring down production costs.** Import tariffs on electric vehicle batteries are typically low (0 - 3.4% among the G7), which has helped facilitate the growth of cross-border supply chains and contribute to the fall in battery costs.<sup>21</sup> When electric vehicles are price competitive with petrol cars, sales are expected to rise quickly. The timing of this point of price parity will vary between markets, but for the US – which is relatively advanced – BloombergNEF’s latest projections suggest the average US electric vehicle could reach price parity with an equivalent petrol car by 2024. To achieve this milestone, trading conditions will need to remain favourable. Under a scenario where severe trade restrictions were introduced and battery production shifted to the US, BloombergNEF estimate US battery costs would rise by 20% (due to higher labour costs) and push out the point of price-parity by a vital 2 years – slowing the uptake of electric vehicles and worsening the climate crisis (Figure 3). Maintaining free trade is therefore vital to underpin the uptake of electric vehicles around the world.

**Figure 3: Sensitivity of electric vehicle battery projections to trade restrictions**



Sources: BloombergNEF

Notes: The chart above and all facts from Box A not referenced in footnotes are sourced from three BloombergNEF publications: Long term Electric Vehicle Outlook (2020); Batteries and Energy Storage (2020); and ‘US trade policy cost implications for clean energy’ (2021).

21 WTO Applied MFN tariffs on electric vehicle batteries (HS code: 850760) in 2021 were: Japan 0%; Canada 0%; UK 2%; EU 2.7%; and US 3.4%.

## Box B. Why buying local is not always the most environmentally sustainable choice

While buying locally produced food can be better for the environment than buying imports (as local produce has lower transport emissions) this is not always the case.

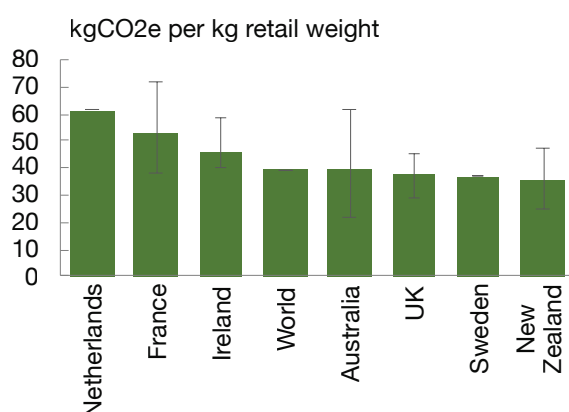
**First, transport emissions often only account for a small proportion of the total emissions required to produce a good, so if a good is produced more efficiently overseas it can be better for the environment to buy imports.** Differences in productive efficiency between countries can be more significant in determining the environmental impact of trade than transport emissions. For example, even for goods that are transported vast distances – such as New Zealand lamb being shipped almost 12,000 miles to the UK or vice versa – transport emissions only represent a small proportion (around 5%) of total lifecycle emissions.<sup>22</sup> By contrast, the variability in lifecycle emissions between farms (both within countries and between countries) is far greater and can mean that buying local is not always the lowest emissions choice (Panel A, Figure 4). The low contribution of transport emissions in trade reflects the efficiency of bulk shipping, which generates 25 to 250 times less emissions than trucks.<sup>23</sup>

**Second, production techniques vary widely, meaning that products that look identical can have very different environmental footprints.** For example, the environmental footprint to produce a kilogram of beef can vary widely due to the type of animal feed used, the carbon-intensity of the electricity used in production, and local environmental conditions (i.e. whether grazing land already exists or is created through deforestation and whether grazing depletes scarce water resources or reduces soil health). Measuring all these different environmental impacts is complex – from a narrower CO<sub>2</sub> emissions perspective the variation across countries and within countries is large (Panel B, Figure 4).

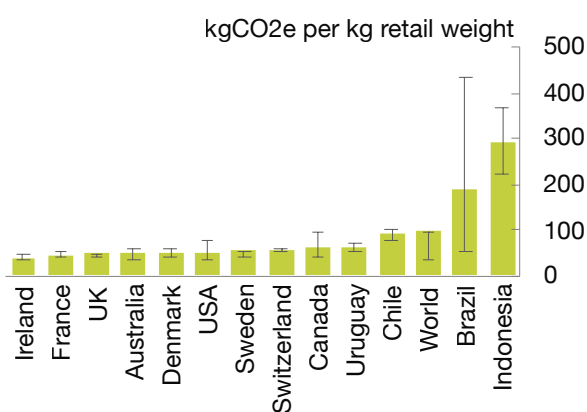
**Third, trade enables countries to import counter-seasonal produce rather than relying on energy-intensive cold storage or artificial growing techniques.** For example, British apples put in cold storage for 10 months would create twice the level of greenhouse gas emissions compared with apples that were transported by sea from South America to the UK.<sup>24</sup> So again, buying local is not always in the best interest of the environment.

**Figure 4: Lifecycle assessment of the GHG intensity of lamb and beef producers**

Panel A: Lamb Producers



Panel B: Beef Producers



Source: Climate Change Committee (2020) 'Land Use: Policies for a Net Zero UK' drawing on Poore, J. & Nemecek, T. (2018) 'Reducing food's environmental impacts through producers and consumers', *Science*, 360 (6392), 987-992

Notes: Bars show the mean life cycle emissions from producing 1kg of retail lamb and beef. Production methods are weighted by their share of national production – ranges show variation in estimates between studies. Beef production refers to emissions from dedicated beef herds only, not emissions from beef produced by dairy herd, which are often lower. Some of the studies included do not fully account for land use change so may underestimate emissions intensities for countries that have experienced deforestation in the past 5-10 years. Transportation (via shipping) of New Zealand lamb to the UK is included in one of the studies for New Zealand lamb in Panel A and is only a small contributor (~5%) to emissions.

22 Ledgard et al. (2011) '[Carbon footprinting of New Zealand lamb from the perspective of an exporting nation](#)'

23 Hoffman Centre for Sustainable Resource Economy (2019) '[Delivering Sustainable Food and Land Use Systems: The Role of International Trade](#)'

24 Hoffman Centre for Sustainable Resource Economy (2019) '[Delivering Sustainable Food and Land Use Systems: The Role of International Trade](#)'

“Food miles are not the same thing as carbon footprint. New Zealand lamb consumed in Glasgow can have a much lower carbon footprint than British lamb. How? Because most of the carbon emission happens on the farm - in tractor fuel, heating, fertilisers and so on. Farmers who pursue maximum efficiency and economies of scale - as New Zealanders generally do - find that their carbon emissions fall in the process. Think of the size of a container ship, and think how tiny is the share of its carbon accounted for by a single lamb chop. If we want to cut our greenhouse gas output, more international trade can actively help”

**Lord Hannan of Kingsclere**  
**UK Board of Trade Adviser**

**Free trade boosts economic growth, development and social welfare, which can increase capacity to manage the environment more effectively.** While there are a wide range of factors that affect a country’s environmental ambitions, richer economies can at least afford to direct more public resource towards protecting the environment. Fast-growing developing countries may also benefit from being able to leapfrog more carbon-intensive stages of production and adopt energy efficient techniques direct from the green technological frontier. Since free trade tends to make countries richer and develop more quickly (one World Bank study suggests that countries that undertake substantial trade reforms benefit from 1.5 percentage point higher per capita income growth than in the years preceding liberalisation) there is a tacit link between trade, economic prosperity and capability to manage the environment.<sup>25</sup>

**Finally, free trade supports developing countries to mitigate, adapt and build greater resilience to climate-related shocks.** In countries where production facilities may be affected by weather-related disasters, trade provides an alternative route to obtain vital supplies that keep economies and societies functioning. This includes diversifying supply chains, creating alternative sources of demand, facilitating access to finance and helping to source climate resilient infrastructure. Trade is therefore not only a route to rising prosperity for developing countries, but also a risk management tool – to diversify the impact of localised shocks.

## How unfair trade can worsen climate change and nature loss

**Trade can sometimes damage the environment by amplifying the effects of market failures and distortions.** If global market prices fully accounted for the environmental impact of production, then trade has the potential to offer great benefits to the environment. But market failures and negative externalities that persist in the global economy incentivise over-consumption of environmentally damaging goods and services and can warp trade flows. There are various causes of these distortions, including:

- **Tragedy of the Commons** – British economist William Forster Lloyd, writing in 1833, first recognised the cause for overgrazing on ‘common’ land. He noted that a farmer has an incentive to add livestock to common land as they will benefit individually while the costs (in terms of land degradation) will be shared across the community. However, if all farmers make this individually rational choice, the common land will soon be depleted or destroyed. This ‘tragedy of the commons’ applies more broadly to the world’s shared environmental resources. The world’s atmosphere, oceans, forests, and other forms of natural capital are global public goods – everyone benefits from their existence, but when one party damages them through unsustainable consumption it reduces the ability of everyone else to enjoy them and creates negative externalities. These characteristics incentivise unsustainable consumption of environmental resources and is one reason why the value of the global stock of natural capital per head fell by almost 40% between 1992 and 2014.<sup>26</sup>
- **Tragedy of the Horizon** – Mark Carney, former Governor of the Bank of England, identified another market failure associated with climate change – the tragedy of the horizon.<sup>27</sup> The impact of climate change will mostly be felt beyond the traditional horizon of current actors – imposing a cost on future generations that the current generation has no direct incentive to fix. This creates a paradox – even though earlier action on climate change will mean a less costly adjustment later, the incentive for current actors is to delay.
- **Imperfect information** – The flow of traded goods and services, both within and across borders,

<sup>25</sup> Wacziarg, R. and Welch, K. H (2008) ‘Trade Liberalization and Growth: New Evidence’, *The World Bank Economic Review, Volume 22(2)*.

<sup>26</sup> HM Treasury (2021) ‘*The Economics of Biodiversity: The Dasgupta Review*’

<sup>27</sup> Mark Carney (2015) ‘*Breaking the Tragedy of the Horizon – climate change and financial stability*’



breaks the geographic link between the local environmental impact of production and the location of consumption. This makes it more difficult for consumers to gauge their environmental footprint and can incentivise unsustainable consumption, which can widen the ‘impact inequality’.<sup>28</sup> This problem is significant – more than 50% of the biodiversity loss associated with consumption in developed economies occurs outside their territorial boundaries.<sup>29</sup>

- **Market distorting subsidies** – Not only do the market failures outlined above mean that market prices fail to fully account for the social cost of production, in some cases industrial subsidies distort market signals even further. For example, global fisheries subsidies keep unprofitable fishing fleets at sea and incentivise overfishing – an estimated 34% of global fish stock are now overfished, up from 10% in 1974.<sup>30</sup> Similarly, fossil fuel subsidies have ranged from \$287-566bn per year over the past decade, incentivising over-use of fossil fuels and higher emissions.<sup>31</sup> In addition, industrial subsidies on steel have contributed to an estimated 600 million metric tonne global supply glut, which has reduced profitability and made it more difficult for firms to invest to decarbonise their operations.<sup>32</sup>

**Addressing harmful market distortions and internalising environmental costs should be a priority both to safeguard the trading system and support environmental action, but countries are responding in different ways and at different speeds.** Each country’s unique circumstances require a tailored approach to reducing emissions – as reflected in the Nationally Determined Contributions submitted to the UNFCCC in line with obligations under the Paris Agreement. Nevertheless, there is a high degree of variation between the emission reduction pledges that major economies have announced to date. For example, all G7 countries have committed to a net zero target by 2050, China has committed to the same target by 2060, while Russia and India have made no net zero commitment to date.<sup>33</sup> This issue is complex (for example, India’s emissions per capita are much lower than the UK’s), and relates directly to ongoing UNFCCC negotiations, where principles including ‘common but differentiated responsibilities and respective capabilities, in the light of different national circumstances’ guide implementation.<sup>34</sup>

**Diverging environmental standards risk undermining free and fair trade by creating uneven market conditions between countries.** Higher environmental standards often impose compliance and adjustment costs on businesses. If countries adopt different environmental ambitions – both in terms of reducing their territorial emissions and protecting the natural environment – there is a risk that companies in jurisdictions with laxer environmental standards gain a competitive advantage. This is akin to an industrial subsidy because inadequate environmental standards give businesses a cost advantage, which can incentivise economic activity to shift to jurisdictions with laxer standards (so called ‘pollution havens’). This can both distort trade flows and undermine efforts to reduce emissions and reverse nature loss. These arguments form the underlying rationale for concerns around carbon leakage, which is discussed in more detail in Section 3 and 4 of this report.

“Trade, climate change and nature loss are interrelated and we have much to gain from realising the strengths of these connections. Trade, when done right, can support sustainable and green growth, good jobs for workers, new opportunities for innovators and businesses, and high labour and environmental standards.

As we head towards COP26, there are golden opportunities to work with partners in the race towards the trillions in trade and investment needed to address climate change and nature’s recovery at home and abroad.”

**Emma Howard Boyd CBE**  
**Chair of the Environment Agency**  
**UK Board of Trade Adviser**

28 HM Treasury (2021) ‘[The Economics of Biodiversity: The Dasgupta Review](#)’

29 Wilting et al. (2017) ‘[Quantifying Biodiversity Losses Due to Human Consumption: A Global-Scale Footprint Analysis](#)’

30 UN FAO (2020) ‘[The state of world fisheries and aquaculture 2020](#)’

31 International Energy Agency (2020) ‘[Low fuel prices offer an historic opportunity to phase out fossil fuel subsidies](#)’

32 Global Forum on Steel Excess Capacity - [2020 Ministerial Report](#)

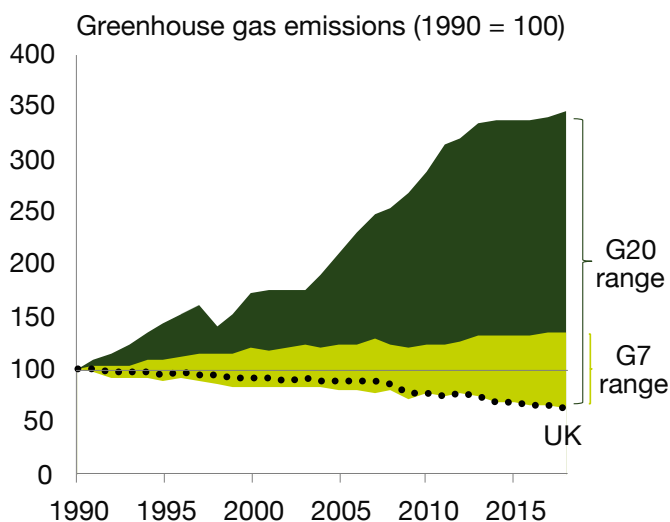
33 See G7 (2021) [Communique, UN News \(2020\)](#) and Climate Action Tracker country pledges for Russia (2020) and India (2020)

34 World Bank (2016) CO2 emissions metric tons per capita

## Opportunity for UK leadership

The UK is well placed to bring together the trade and environmental agendas as a global leader on decarbonisation and a champion for free trade. Since 1990, the UK has reduced its greenhouse gas emissions by 44% – faster than any other G20 economy (Figure 5) – and has committed to further rapid reductions by 2030 (to 68% below 1990 levels) and 2035 (to 78% below 1990 levels).<sup>35</sup> The UK was also the first major economy to legislate a net zero greenhouse gas emissions target for 2050, and has committed to protecting 30% of UK land by 2030 to support the recovery of nature, as well as supporting the global ‘30 by 30’ targets for both land and sea.<sup>36</sup> The strengths of the UK’s domestic industries – including its world leading green finance sector – make the UK uniquely well positioned to help lead the global green transition.<sup>37</sup> And, as the Board of Trade’s March 2021 report made clear, the UK’s renewed and revitalised status as an independent trading nation means the UK can champion the case for free, fair and green trade, including through our G7 presidency.<sup>38</sup>

Figure 5: G20 greenhouse gas emissions



Source: Olivier J.G.J. and Peters J.A.H.W. (2020), Trends in global CO<sub>2</sub> and total greenhouse gas emissions: 2019 report. Report no. 4068. PBL Netherlands Environmental Assessment Agency.

**There is an opportunity to modernise the global trading system, bring the trade and environmental agendas together and help the green recovery.**

The global trading system is already under strain from technological, geopolitical, and societal changes and is in urgent need of modernisation. Without substantive change, trade risks being viewed as part of the cause of environmental degradation rather than part of the solution. The world is now facing additional challenges in the wake of the Covid-19 pandemic, with some countries prioritising fossil-fuel led growth to boost economic recovery at the expense of more sustainable measures. There is a vital role for trade to play in greening the recovery to reverse the impacts of nature loss and climate change.

**The UK has a dual incentive to champion the case for free and fair green trade – both to speed the pace of the global green transition to safeguard the environment, and to maximise the commercial opportunities of the green transition to the UK.** The UK’s leadership of the G7 and COP26 this year presents an opportune moment to push these issues to the forefront of the domestic and international agenda. The remainder of this report sets out:

- How green trade can benefit the UK economy and how the UK Government is using its trade levers to build the UK’s green export capacity (Section 2).
- How the UK is using its new independent trade policy to help speed the global green transition (Section 3) and recommendations of what more it could do to accelerate action (Section 4).

“2021 has the potential to be the year of climate action. We have the stars aligning. We have the G7 presidency making this a priority... We have COP26. We have science speaking loud and clear of the need of action, and we also have a multilateral environment in which countries are stepping up with their commitment to net zero in 2050.”

**Kristalina Georgieva**  
Managing Director, IMF

35 See BEIS (2021) ‘[Final UK greenhouse gas emissions national statistics: 1990 to 2019](#)’ and UK Government Press Release (2021) ‘[UK enshrines new target in law to slash emissions by 78% by 2035](#)’

36 See UK Government Press Release (2019) ‘[UK becomes first major economy to pass net zero emissions law](#)’ and UK Government Press Release (2020) ‘[PM commits to protect 30% of UK land in boost for biodiversity](#)’

37 City of London (2021) ‘[Finance for a sustainable future](#)’

38 Board of Trade (2021) ‘[Global Britain, Local Jobs](#)’ and G7 Press Release (June 2021) ‘[Carbis Bay G7 Summit Communique](#)’

Caption: Prime Minister Boris Johnson and Sir David Attenborough at the launch of the COP26 UN Climate Summit. Picture by Andrew Parsons / No10 Downing Street



## Part 2: The benefits of green trade for the UK

“We will turn the UK into the world’s number one centre for green technology and finance, laying the foundations for decades of economic growth by delivering net zero emissions in a way that creates jobs and allows us to carry on living our lives”

**Prime Minister Boris Johnson**

### How trade can help drive the UK’s green industrial revolution

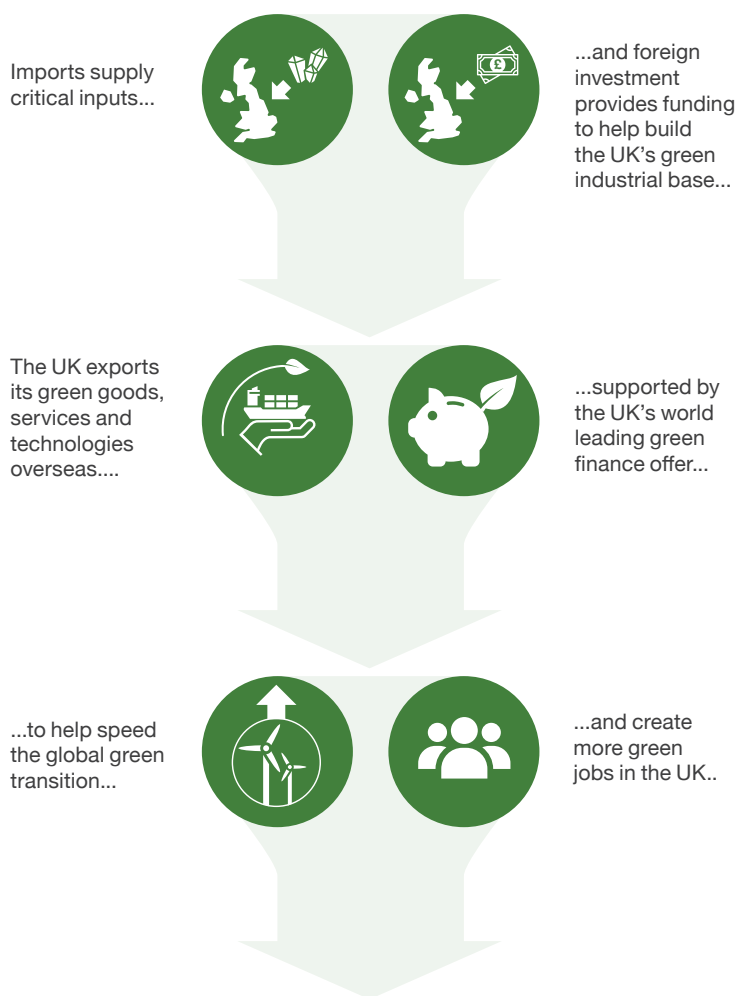
**Green trade presents major opportunities for the UK economy: driving sustainable growth, building the green industrial base, and securing more green jobs.** By adopting ambitious environmental regulations and encouraging a rapid economic transition, the UK stands to gain a competitive advantage in the future for its growing green industries. The global market for low-carbon goods and services is forecast to reach up to £1.8 trillion by 2030 or up to twelve times bigger than it was in 2015.<sup>39</sup> The Prime Minister’s ten-point plan for a green industrial revolution is designed to capitalise on this opportunity by mobilising £12 billion of government investment and creating up to 250,000 green jobs by 2030.<sup>40</sup> Figure 6 outlines the key mechanisms through which green trade can contribute to this plan: securing critical imports to build the capability of green businesses in the UK, lowering the cost of green technology to compete in the global net zero economy, accelerating the transition by exporting green products overseas, and creating more green jobs in all regions of the UK. This section unpacks these channels and then outlines how the UK Government is supporting them, including through the Office for Investment and UK Export Finance.

<sup>39</sup> London School of Economics (2017) ‘[UK export opportunities in the low carbon economy](#)’. Low carbon goods and services include technologies and services that directly help to reduce greenhouse gas emissions. These include, but are not limited to, goods such as renewable energy technology and energy efficiency equipment.

<sup>40</sup> UK Gov (2020) ‘[10 point plan for a green industrial revolution](#)’

**Figure 6: The main channels through which green trade will benefit the UK economy**

The UK’s openness to trade and investment make it well placed to benefit from global green transition



## The role of imports in greening the UK economy

**Imported materials provide critical inputs for the green industries of the future, so it is vital to ensure that supply lines are kept open.** The production of critical minerals such as lithium, cobalt and graphite could increase by nearly 500% by 2050 to meet the demand for clean-energy technology, and many of these inputs are sourced from a small number of markets (see Figure 7).<sup>41</sup>

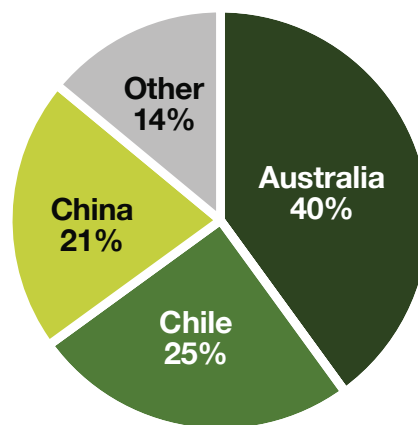
41 World Bank (2020) [‘Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition’](#)

42 See BloombergNEF (2021) [‘Solar PV trade and manufacturing’](#)

43 See BloombergNEF (2021) [‘Energy storage trade and Manufacturing’](#)

44 Gov.UK (2021) [‘UK agrees historic trade deal with Australia’](#)

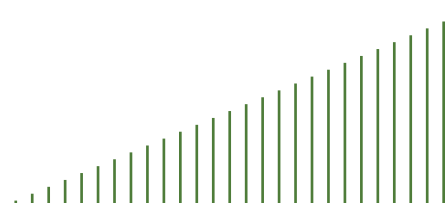
**Figure 7: Global lithium supply at mine (2020)**



Source: BloombergNEF Batteries and Energy Storage (2020)

**In order for the UK’s green industrial revolution to be built on a platform of resilient green trade, production of critical green technologies needs to spread across the world.** Currently, supplies of some critical inputs and technologies are highly concentrated in a few markets. For example, China accounted for over 90% of global production of solar wafers in 2019 – a critical input in the manufacture of solar PV panels.<sup>42</sup> China also accounts for the bulk of the world’s capacity to refine lithium (66%), refine cobalt (72%) and manufacture battery cells for electric vehicles (78%).<sup>43</sup> Given this high-reliance on one market, alternative sources of supply need to be developed to ensure a wider range of carbon efficient products are available and to increase the resilience of global supply chains. The proposed UK-Australia Clean Tech partnership is one example of how governments can support resilience and help develop green technologies through trade.<sup>44</sup>

**Imports provide an alternative source of supply to safeguard the resilience of the UK economy in the event of major natural disasters.** The free flow of products from overseas helps to keep UK factories moving and keep supermarket shelves stocked when domestic production is disrupted by extreme weather. For example, the 2018 UK heatwave reduced the domestic crop of salad leaves to around 75% of the usual yield for that time of year.



This led UK wholesalers to import lettuce from other European countries to meet the increased demand for salad crops in warmer weather.<sup>45</sup> Access to overseas imports is a vital source of risk management, to maintain resilience against the increasing risk of climate-related shocks in the future.

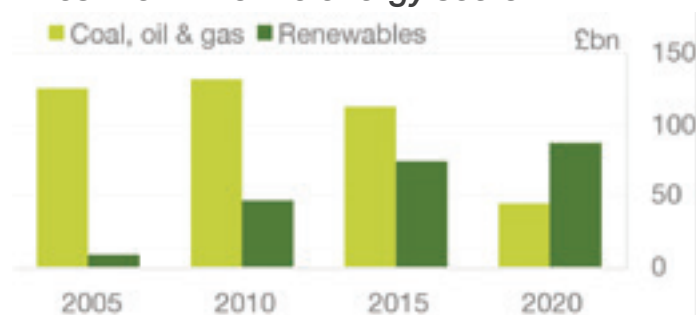
**The UK's reliance on climate-vulnerable imports means it is in the UK's interest to help speed the global green transition to maintain UK consumer choice in the future.** In 2019, the UK imported 45% of its food from overseas, with food and drink imports valued at approximately £48.4 billion.<sup>46</sup> Some foods, such as bananas, are exclusively reliant on imports due to the tropical climates required for large scale production. However, if climate change continues at its current pace, banana yields among some of the world's largest producers – including Brazil and India – could decline significantly by 2050, threatening global banana production and disrupting the security of supply.<sup>47</sup> Similarly, as much as 50% of the global surface area currently used for coffee farming may no longer be suitable by 2050, and many cocoa-growing regions will become too hot to grow the crop.<sup>48</sup> It is therefore in the interest of UK consumers to help speed the global green transition and mitigate the effects of climate change and nature loss.

## The role of foreign investment in supporting green growth

**The UK's openness to foreign capital and attractiveness as a destination for inward investment make it well placed to capitalise on rising investor appetite for green projects.** The UK's highly competitive labour market, strong legal and institutional structures, and innovative firms all help draw in foreign capital. In addition, the City of London plays an instrumental role in channelling foreign capital by providing a world-leading ecosystem for green investment. The London Stock Exchange was the first major exchange to launch a dedicated green bond segment in 2015 and is now home to a diversified range of green and sustainability bonds.<sup>49</sup> In addition, the UK Government has announced its intention to issue its inaugural sovereign green bond

(or 'green gilt') in September, as it starts to build out a green yield curve, which will reinforce the UK's position as a global leader in sustainable finance. These characteristics make the UK well placed to capitalise on growing investor demand for green projects – as epitomised by the surge in global Foreign Direct Investment (FDI) into renewable energy projects in 2020, which overtook the fossil fuel energy sector for the first time on record (see Figure 8).

**Figure 8: Global greenfield foreign direct investment into the energy sector**



Source: fDi Renewable Energy Analysis (2021)

**Foreign direct investment (FDI) will play a crucial role in funding the development of the UK's green industrial base.** To achieve its net zero commitments, the UK will need to increase its investment in low carbon technologies and associated infrastructure from around £10 billion per year in 2020 to £50 billion per year by 2030.<sup>50</sup> In addition, existing high-carbon industries will require significant investments to transition to more sustainable business models. Channelling cross-border investment into the UK's growing green sectors will be a vital source of finance to help catalyse the net zero transition in all regions of the UK. For example, Meritor – a US-based manufacturer of commercial vehicles – is investing £32m in a new production facility in Wales to develop lightweight electric vehicle powertrains for heavy goods vehicles and is also building a new technology centre in Scotland.<sup>51</sup> FDI already stimulates growth in many sectors of the economy, creating over 55,000 jobs across the UK in 2020/21 and helping to stimulate knowledge and skills transfer.<sup>52</sup> FDI also enhances the UK's capacity to export, with foreign owned businesses in the UK accounting for over 50% of goods exports between 2016 and 2018.<sup>53</sup>

45 Interviews with industry executives published in the Guardian: '[UK imports salad from US, Spain and Poland as heatwave hits](#)'

46 See: Defra (2020) '[Food statistics in your pocket: Global and UK supply](#)'; and [HMRC Overseas Trade Statistics March 2021](#) (imports were £48.4bn in 2019 and 2020)

47 [University of Exeter \(2019\) 'Impact of climate change on global banana yields'](#)

48 The Climate Institute (2016) '[A brewing storm](#)'

49 London Stock Exchange '[Green and ESG Debt Financing Factsheet](#)'

50 Climate Change Committee (2020) '[Sixth Carbon Budget](#)'

51 Advanced Propulsion Centre (2021) '[£54 million investment as UK automotive industry accelerates towards net-zero emissions](#)'

52 DIT [Inward investment results 2020/2021](#)

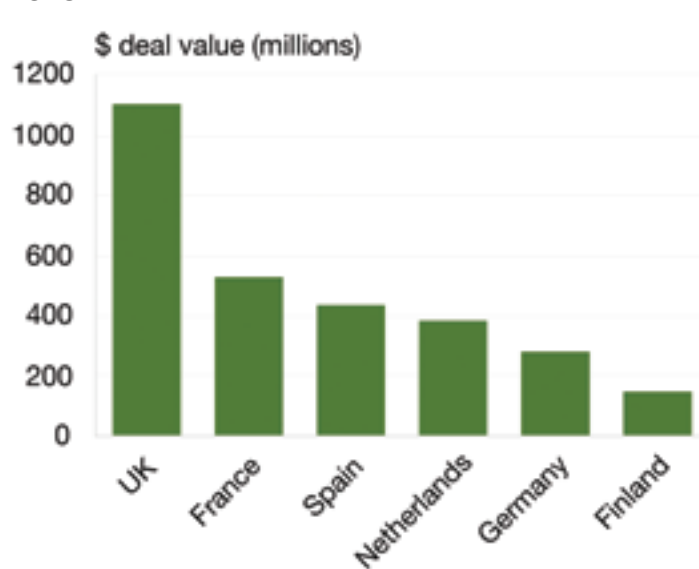
53 ONS (2020) [UK trade in goods by business characteristics 2016-18](#)



Caption: Agricultural drone using infrared imaging technology to reduce the portion of global crop yields destroyed by pests and diseases.

**Inward investment will help fund the development of new green technologies.** Technology will be a key driver of the green industrial revolution. Foreign investors already fund 14% of all UK R&D activity (worth £5.1 billion in 2018) and the majority of investment into the broader UK technology sector (63% in 2020).<sup>54</sup> This reflects the UK's high concentration of world-leading universities and innovative firms – the UK is the fourth most innovative economy in the world according to the Global Innovation Index.<sup>55</sup> Green technologies – such as the UK's energy, infrastructure, transport and agri-tech sectors – have captured the interest of international investors. For example, the £1.4 billion NeuConnect energy interconnector project is being funded by a consortium of international investors and will create the first direct link between British and German electricity networks and deliver over £3 billion of net consumer benefits and a 16 million tonne reduction in carbon dioxide emissions.<sup>56</sup> The UK agri-tech sector is another example of a green sector that is thriving thanks to inward investment. UK agri-tech attracted £1.1 billion of investment in 2019 – higher than any other European country – by offering improvements to agricultural efficiency and investor returns while also protecting the environment (Figure 9).<sup>57</sup>

**Figure 9: Agri-tech investment in Europe, 2019**



Source: agfunder.com, 2020 Europe Agri-Foodtech Funding Report

54 See: ONS (2020) '[Gross domestic expenditure on UK R&D](#)'; and Tech Nation (2021) '[The Future UK Tech Built](#)'

55 [WIPO Global Innovation Index 2020](#) (published)

56 Press Release (2020) '[NeuConnect](#)'

57 See Bloomberg and UK Gov GREAT campaign: '[UK takes leadership role in green innovation](#)'

58 UK Gov (2018) '[Clean Growth Strategy](#)'

59 UK Gov (2020) '[Heat pump manufacturing supply chain research project](#)'

60 Press release (2021) '[Wrightbus wins £8n deal to build 45 buses](#)'

61 Nissan Press Release (2019) '[Nissan Leaf is the top-selling EV in Europe](#)'

62 UK Gov (2019) '[Energy Innovation Needs Assessment](#)'

63 ITM Power (2020) '[Industrial scale renewable hydrogen advances to next phase](#)'

64 BEIS (2020) '[Carbon capture, usage and storage \(CCUS\) deployment at dispersed sites](#)'

## The role of the UK's green exports

**The UK already has existing strengths as a green exporter.** The government's clean growth strategy estimates that the UK's low-carbon economy could grow by 11% per year between 2015 and 2030 – 4 times faster than the rest of the economy – and deliver between £60 billion and £170 billion of export sales of goods and services by 2030.<sup>58</sup> Some UK firms are already capitalising on this growth potential. For example, the Mitsubishi Electric factory in Livingston, Scotland, is manufacturing heat pumps – a leading low-carbon heating alternative to decarbonise housing – which are being installed across the UK and exported to other European countries.<sup>59</sup> Similarly, Northern Ireland-based company, Wrightbus, is to receive £11.2 million from the UK government to develop hydrogen-fuel technology, and has won £8 million worth of export deals to ship its low-emission buses to Hong Kong and Japan, demonstrating the UK's strength in innovative green tech.<sup>60</sup>

**The global green transition means that commercial export opportunities will continue to grow rapidly in the coming decades.** One sector of industrial strength that is growing particularly quickly is clean-energy technologies, which could become one of the largest green economic opportunities for the UK. Electric vehicles are already a sizeable export, with the Nissan Leaf, produced in Sunderland, ranking as one of Europe's best-selling electric vehicles.<sup>61</sup> Exports of electric vehicles could support £11 billion of gross value added per year by 2050, alongside other notable green sectors including Carbon Capture Usage and Storage (CCUS) and offshore wind (see Figure 10).<sup>62</sup> Hydrogen could also be a future sector of UK strength, given the complementarity with the UK's existing oil and gas industry. The UK already has expertise in hydrogen – including through electrolyser and fuel cell companies such as ITM power.<sup>63</sup> In addition, the UK's natural CCUS storage assets – including its offshore saline aquifers and depleted oil and gas fields – provide significant potential for CCUS-enabled hydrogen.<sup>64</sup> These capabilities should support the UK's efforts to develop 5GW of domestic low carbon hydrogen production capacity by 2030 and may enable the UK to export excess green energy produced



Caption: The world's first completely carbon neutral hydro-infrastructure project, produced by Solar Water Plc.



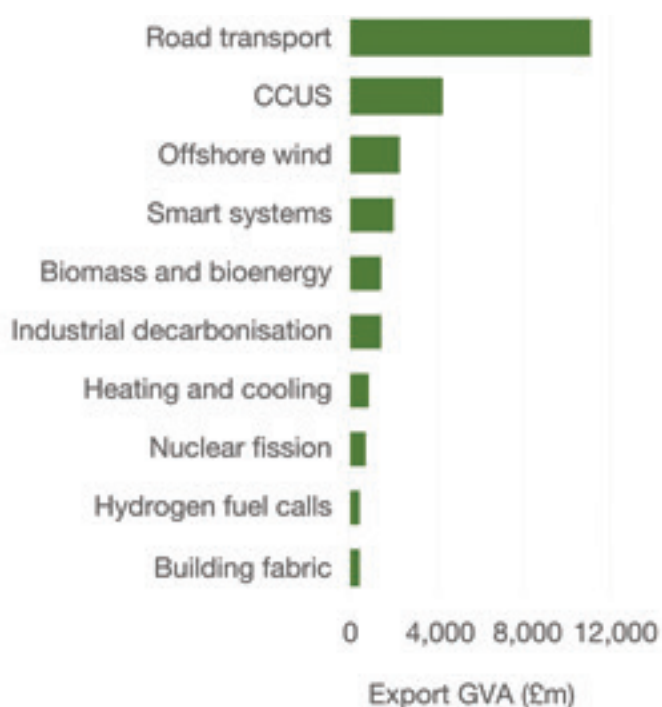
Caption: Engine of the Nissan Leaf, one of Europe's best-selling vehicles



Caption: The construction industry's first ever digger powered by a hydrogen combustion engine, developed by JCB

from offshore wind.<sup>65</sup> Hydrogen has a wide range of uses and represents a diverse market opportunity – including for heating and cooling, industrial decarbonisation, and powering heavy vehicles. Innovative British company JCB has already developed the construction industry's first ever hydrogen combustion powered backhoe.<sup>66</sup>

**Figure 10: Estimates of UK export opportunities in low-carbon energy in 2050**



**As well as offering commercial returns for the UK, green exports are a key route through which the UK can help speed the global green transition.** The UK's green exports are already helping to spread green technology around the world. For example, British company Solar Water Plc has developed the world's first carbon neutral hydro-infrastructure project, designed to produce and supply clean water. This technology has been selected to supply Saudi Arabia's flagship zero-carbon city and demonstrates the dual benefits of developing the UK's green export offer – to maximise commercial returns to the UK and help speed the global green transition.<sup>67</sup>

## The UK's leading role in green finance

**Outward investment will play an essential role in accelerating the global green transition, and the UK is uniquely well-positioned to support this with its world-leading financial sector.**<sup>68</sup> To reach net zero emissions by 2050, annual clean energy investment worldwide will need to more than triple by 2030 to around \$4 trillion.<sup>69</sup> In addition, to protect 30% of the world's land and ocean by 2030, between £103 billion and \$177.5 billion would need to be invested every year.<sup>70</sup> Significant financial commitments will be required from global investors to fund these – and many other – sustainable growth initiatives, and the UK has an opportunity to lead the way in helping to fund the global transition by serving as a global hub for green finance.

**Green finance is not just a nice-to-have, but an essential component of managing the transition to a sustainable global economy.** If businesses fail to transition their businesses and invest in green bonds and other Environmental, Social and Corporate Governance (ESG) assets, they risk getting left behind, exposed to stranded asset risk and unable to borrow. As of 2018, more than \$30 trillion of funds were held in sustainable investments globally – double the level in 2014 (see Figure 11).<sup>71</sup> Market forces will play a fundamental role in driving the green transition, and ESG principles are increasingly likely to dictate the rules of the game going forward. As a world leader in ESG investing, the UK is supporting businesses to capitalise on green growth and get ahead of the curve.<sup>72</sup>

**The UK is already a world leader in green finance, providing a platform for global capital markets to channel investment towards a sustainable, nature-positive economy.** Financial services are a critical enabler in the global drive for net zero, and a significant sector of industrial advantage for the UK.<sup>73</sup> The UK has the world's second largest trade surplus of financial services, and in 2019 the UK's net financial services exports were higher than the value of Singapore, Hong Kong and Germany combined.<sup>74</sup> Green funds raised over one third of all capital raised by in funds in London in 2019,

<sup>65</sup> UK Gov (2020) '[The Ten Point Plan for a Green Industrial Revolution](#)'

<sup>66</sup> JCB Press Release (2020) '[JCB leads the way with first hydrogen fuelled excavator](#)'

<sup>67</sup> UK Government (2021) '[Why the UK for Green Tech](#)'

<sup>68</sup> The City of London Corporation (2021) '[The City of London: an ecosystem enabling international trade](#)'

<sup>69</sup> International Energy Agency (2021) '[Net Zero by 2050](#)'

<sup>70</sup> Waldron et al. (2020) '[Protecting 30% of the planet for nature](#)'

<sup>71</sup> Global Sustainable Investment Alliance (2018) '[Global Sustainable Investment Review](#)'

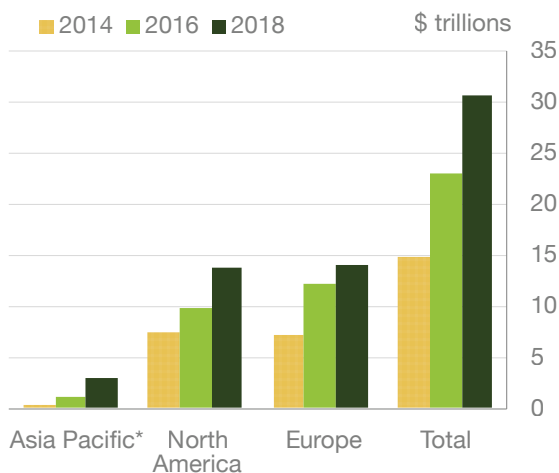
<sup>72</sup> The City of London Corporation (2021) '[London named a world leader in ESG by global institutional investors](#)'

<sup>73</sup> HSBC Centre of Sustainable Finance (2021) '[Net Zero for Financial Services](#)'

<sup>74</sup> UNCTADSTAT '[Exports and imports by service category and by trade-partner, annual](#)'

highlighting the strength of investor demand for green assets and underlining the London Stock Exchange (LSE) as a leading international centre for promoting and raising green finance.<sup>75</sup> Various initiatives have helped cement the UK's position as a green finance hub. For example, the LSE's Green Economy Mark recognises equity issuers with green revenues of 50% or more, and these issuers now have a combined market capitalisation of £135 billion as of 2020.<sup>76</sup> London also remains the largest (re)insurance market in the world with \$110 billion of gross premium in 2018, and UK insurance companies play a critical role in enabling global companies and communities to manage climate related risk.<sup>77</sup> The UK's Professional and Business Services sector - including accountancy, consultancy and legal services - complement the UK's financial sector and play a vital enabling role in supporting global businesses to pursue clean growth opportunities.

**Figure 11: Global sustainable investing assets**



Source: Global Sustainable Investment Review (2018)

Notes: Asia Pacific includes Japan, New Zealand and Australia only  
The deal secured major wins for UK businesses that would have been impossible as part of the EU, including:

**The UK is home to several public financial institutions that help finance the green transition in the UK.** The British Business Bank, Green Finance Institute and new National Infrastructure Bank all support UK companies to green their operations and embed sustainability practices by channelling capital towards clean and resilient growth. For example, the Green Finance Institute has set up the Coalition for the Energy Efficiency of Buildings to help decarbonise the UK's built environment. This is designed

to meet the estimated £65 billion of investment required to improve the UK's housing stock to a C rating on Energy Performance Certificates by 2035.<sup>78</sup> These organisations not only play pivotal roles in funding the green transition domestically, but also help to strengthen the UK's reputation for innovative green finance solutions and encourage future investment from global partners.

**The UK has a world-leading regulatory environment for green finance, making it an attractive international financial centre for green investors.**

The UK has pioneered the development and adoption of recommendations by the Task Force on Climate-related Financial Disclosures (TCFD), becoming the first G20 country to commit to making TCFD-aligned disclosures fully mandatory across the economy by 2025.<sup>79</sup> The UK is also supporting the new Task Force on Nature-related Financial Disclosures (TNFD), to set standards that will help financial institutions to manage their nature-related financial risk. By leading the world in setting and implementing green financial standards, the UK continues to burnish its credentials as a global hub for green finance.

“When we think of industries that will make the biggest sustainable difference, we normally think of the automotive or energy sectors. Very rarely do we think of financial and professional services, like banking and accounting. But these are crucial sectors underpinning the competitiveness and (increasingly) the sustainability of the UK economy. Financial and professional services will be crucial in powering our sustainable aspirations in the free trade arena. We in the City of London therefore eagerly anticipate working closely with partners in Government and the private sector to help make these aspirations reality.”

**Rt Hon. William Russell**  
**Lord Mayor of the City of London**  
**and UK Board of Trade Adviser**

75 London Stock Exchange Group (2020) [Group Sustainability Report](#)

76 London Stock Exchange Group (2020) [Group Sustainability Report](#)

77 The London Market Group (2020) [‘London Matters 2020’](#)

78 Green Finance Institute (2020) [‘Financing zero carbon heat: turning up the dial on investment’](#)

79 UK Gov Press Release (2020) [‘Chancellor sets out ambition for future of UK financial services’](#)



Caption: Large crane vessel installing a transformer platform in a windfarm under construction off the UK coast

## The growing importance of green jobs

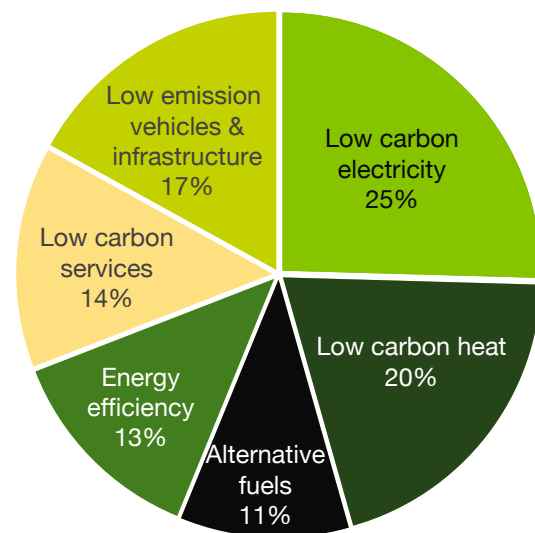
There are already 200,000 full-time equivalent employees directly working in the low-carbon and renewable energy sector in the UK, and one study estimates that by 2050, this could reach almost 1.2 million in England alone.<sup>80</sup> The green transition is likely to offer significant employment opportunities in the UK, which will help offset declines in high-polluting industries. This partly reflects the relative labour-intensity of green versus high-pollution industries – every million dollars of spending in renewables is estimated to create 5 more jobs than the equivalent spending on fossil fuels.<sup>81</sup>

**Green jobs will be spread across a variety of sectors and UK regions, helping to reduce inequality.** The majority of existing green jobs are in products that monitor or improve energy efficiency (for example, smart meters) but as the UK's green industrial base expands, the need for green jobs in other sectors (such as low carbon heat and electricity) is expected to grow rapidly (Figure 12).<sup>82</sup> These employment opportunities are likely to be distributed across the UK, driving the growth of the green economy in all corners of the nation and helping the UK to level up. For example, 30% of the UK offshore wind workforce is already located in Scotland.<sup>83</sup> Within England – where long-term projections are available – each region is expected to host more than 80,000 green jobs by 2050 with high concentrations in the north of England (Figure 13). Green innovation and R&D will play a particularly important role in levelling-up the UK's regions as recent evidence shows disproportionately more clean innovation takes place in Yorkshire, the East Midlands and West Midlands than their typical share of national innovation.<sup>84</sup>

**Green jobs can also improve local areas to support a nationwide green recovery by bringing jobs to the places that need them most.** Research shows that areas of Britain with the greatest labour market challenges contain much of the land identified as having the most potential for habitat restoration, such as planting trees and protecting seagrass meadows.<sup>85</sup> Green jobs are also expected to play a major role in revitalising the UK's

industrial heartlands. The UK's openness to trade and the efforts of HMG's trade and investment policy are already helping to contribute to this growth (as outlined in Box C). For example, Teesside is rapidly becoming a hub for offshore wind manufacturing. The region, which will become a freeport and benefit from up to £20 million of government investment in Teesworks Offshore Manufacturing Centre, is already attracting manufacturing firms such as GE Renewable Energy. GE plans to open an offshore wind blade manufacturing plant that could create up to 750 direct renewable energy jobs and 1,500 indirect jobs to support the wider value chain. The blades produced at this new plant will be supplied to the Dogger Bank wind farm, located off the North East coast, which will be the largest offshore windfarm in the world when it opens in 2026, capable of powering up to 6 million homes.<sup>86</sup>

Figure 12: Share of low carbon jobs per sector in England (2050)



Total low carbon jobs in 2050: 1.18 million

Source: Local Government Association; Local Green Jobs - accelerating a sustainable economic recovery

80 See ONS (2021) '[UK low carbon and renewable energy economy](#)'. 2050 figures for England are obtained from Local Government Association '[Local Green Jobs - accelerating a sustainable economic recovery](#)'

81 Heidi Garrett-Peltier (2017) '[Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy and fossil fuels using an input-output model](#)'

82 62.7% of UK low-carbon jobs were in energy efficient lighting, other energy efficient products, and energy monitoring systems in 2019 - See ONS (2021) '[Low carbon and renewable energy economy, UK: 2019](#)'; and Local Government Association '[Local Green Jobs - accelerating a sustainable economic recovery](#)'

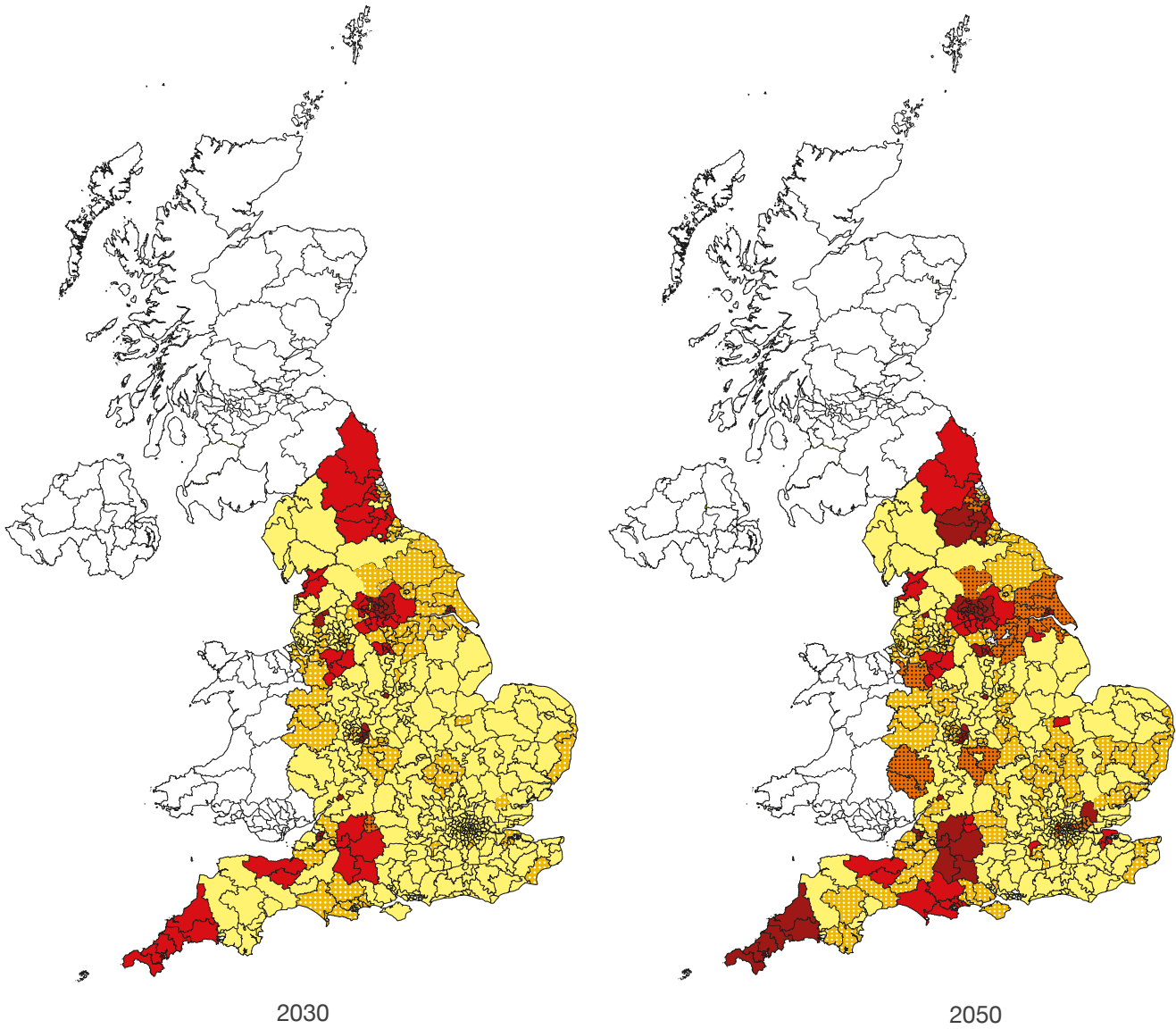
83 Offshore Wind Industry Council (2021) '[Skills Intelligence Report](#)'

84 LSE's Centre for Economic Performance (2020) '[Innovation for a strong and sustainable recovery](#)'

85 Green Alliance policy institute (2021); '[Jobs for a green recovery](#)'

86 UK Gov Press Release (2021) '[Second wind for the Humber, Teesside and UK energy industry](#)'

Figure 13: Estimated distribution of green jobs across England in 2030 and 2050



Estimated total number of direct jobs in low-carbon and renewable energy sector	
No data	
0 to <2,500	
2,500 to <5,000	
5,000 to <10,000	
10,000 to <15,000	
>15,000	

Source: Local Government Association 'Local Green Jobs - accelerating a sustainable economic recovery'

Note: Future projections on a consistent basis are only available for local authorities in England, not the devolved administrations.

## Box C: How HMG is using trade and investment to help support the UK's green transition

### By attracting foreign capital into the UK's green sectors:

- **Office for Investment (OfI)** – Launched in November 2020, the OfI is already attracting more private capital into the UK's green sectors by connecting foreign investors with key private and public sector stakeholders. For example, the OfI recently facilitated a landmark investment partnership with the United Arab Emirates, which will invest up to £5 billion by 2026 across multiple sectors, including energy transition and infrastructure.<sup>87</sup> The OfI helps to maximise the positive role investment plays in the UK economy, including supporting the key government priority of reaching net zero, by making the UK the most attractive destination in the world for green investors.
- **Global Investment Summit** – Taking place in London in October 2021, this summit will focus on landing high value green investments in the UK's industries of the future. The summit will provide a platform to showcase the UK's most innovative green technologies and demonstrate the investment opportunities that they provide across the whole of the UK.<sup>88</sup> For example, the Gravity Project in South West England is seeking a £100 million investment to develop a purpose-built smart campus focused on Clean Growth. This project will provide 4,000 job opportunities and contribute around £500 million to the local economy.<sup>89</sup>
- **Clean Growth Campaign** – This Government run campaign will attract sustainable investment by providing visibility of the UK 'clean growth' project pipeline and UK domestic deployment ambitions. It will also promote supply chain capability, grow near-term exports in existing areas of strength, and support UK businesses to grow green exports for tomorrow.

### By bolstering UK strengths in green finance:

- **Business of Resilience Summit** – Held in March 2021, this conference showcased how the UK's financial sector can help improve resilience to climate change through insurance and finance. The conference – organised by the Department for International Trade – brought together high-level stakeholders from insurance, risk financiers, brokers, engineering and development to create, develop and implement strategies to strengthen regional and global resilience and help close the 'protection gap' – the difference between insured losses and economic losses.<sup>90</sup>
- **Coalition for Climate Resilient Investment (CCRI)** – HMG is a founding member of the CCRI, which aims to create a more resilient global financial industry by fostering more accurate pricing of physical climate risks in investment decisions. The coalition brings together private companies, governments and inter-governmental bodies to build momentum and deliver solutions. These solutions include supporting national decision making, mobilising the global private financial industry, and creating a consistent approach to the assessment of climate risk.<sup>91</sup>
- **Build Back Better for the World G7 plan** – This plan brings together G7 countries under the UK's presidency to develop an offer for high quality financing for vital infrastructure, from railways in Africa to wind farms in Asia.<sup>92</sup> The new approach is intended to give developing countries access to more, better and faster finance, while accelerating the global shift to renewable energy and sustainable technology. The Government will build on this with other countries ahead of the COP26 Summit in November.

87 See Gov.uk press release (2021) '[UAE and UK launch sovereign investment partnership with initial £1 billion in life sciences](#)'; and Financial Times (2021) '[Abu-Dhabi agree multibillion-pound investment in British business](#)'

88 Gov.uk press release (2021) '[UK rolling out green carpet for Global Investment Summit](#)'

89 Great.gov.uk international, Capital Investment, [Gravity Smart Campus, Somerset](#)

90 Great.gov.uk, events, '[The Business of Resilience Conference 2021](#)'

91 Coalition for Climate Resilient Investment [website](#)

92 G7 Leaders (2021) '[Carbis Bay G7 Summit Communiqué](#)'

**By supporting green export growth:**

- **Capitalising on the UK's global platforms** – The Department for International Trade will use the pavilions at COP26 and the Dubai Expo to showcase the UK's green and innovative companies and bring business leaders and international partners together to create new partnerships.
- **UK Export Finance (UKEF)** – The UK's export credit agency has capacity to deploy over £2 billion of direct lending to finance clean growth projects, and a suite of products such as the Export Development Guarantee to support UK companies to transition towards low-carbon business models. UKEF is actively seeking renewable energy projects overseas and has already doubled its support for sustainable projects to £2.4 billion. For example, UKEF recently provided a direct loan of £244 million to support over 100 solar-powered rural healthcare clinics and hospitals in Zambia, supporting sustainable UK exports to developing economies. UKEF also provided a £230 million project finance guarantee to support construction of an offshore wind farm in the Taiwan Strait in 2019, and £47.6 million to construct 2 of the largest private subsidy-free solar plant developments in Spain in 2020, helping to unlock the green export potential of these low-carbon sectors.<sup>93</sup>

**By boosting green jobs across the country:**

- **Ten Point Plan** – The Prime Minister's ten-point plan for a green industrial revolution will mobilise £12 billion of government investment, and potentially 3 times as much from the private sector, to create and support up to 250,000 jobs by 2030.<sup>94</sup>
- **'SuperPlaces'** – Will unite clean industry with regional transport and power hubs to help build Britain's world-leading expertise in green innovation.<sup>95</sup> These will help will reinvigorate the UK's industrial heartlands to maximise the regional impact of green jobs.
- **Freeports** – Part of the government's bold ambition to establish 4 low carbon industrial clusters by 2030, creating high-value green jobs and promoting sustainable export growth whilst levelling up across the country.<sup>96</sup>
- **Green Jobs Taskforce** – Launched in November 2020, the taskforce will: identify the immediate skills needed for the UK to build back greener, such as in offshore wind and home retrofitting; develop a long-term plan that charts out the skills needed to help develop the UK's net zero economy; and support workers in high-carbon transitioning sectors, like oil and gas, to retrain in new green technologies.<sup>97</sup>

93 Gov.uk press release (2021) '[UKEF doubles support for sustainable projects to £2.4 billion in 2020](#)'

94 Gov.uk press release (2020) '[PM outlines his Ten Point Plan for a Green Industrial Revolution for 250,000 jobs](#)'

95 Gov.uk press release (2020) '[PM outlines his Ten Point Plan for a Green Industrial Revolution for 250,000 jobs](#)'

96 Gov.uk press release (2021) '[Green boost for regions to cut industry carbon emissions](#)'

97 Gov.uk '[Green Jobs Taskforce](#)'



Caption: Saint Newlyn East, United Kingdom. Prime Minister Boris Johnson visits Carland Cross Windfarm to see the construction of a new solar farm ahead of the G7 Summit in Cornwall. Picture by Simon Dawson / No 10 Downing Street



## Part 3: The opportunity for Global Britain to speed the global green transition through trade

“Trade can contribute substantially to lower carbon emissions globally, helping to decarbonise our world and make it greener.”

**Dr. Ngozi Okonjo-Iweala**  
WTO Director-General

### UK trade policy can help accelerate the global green transition

Not only can the UK help speed the global green transition by developing green technologies and exporting them to the world, the UK can also use its independent trade policy to help support environmental action overseas. The UK has a range of trade levers that can be used to lower barriers to green trade and help address market distortions (such as industrial subsidies) that incentivise over-consumption of environmentally damaging goods and services. In doing so, the UK can use its trade policy to support 5 of the UN’s Sustainable Development Goals (SDGs) (Figure 14).<sup>98</sup> The SDGs provide an overarching policy framework to advance environmental, economic and social priorities with trade cooperation acting as a ‘means of implementation’ to achieve them.<sup>99</sup>

**Figure 14: Sustainable development goals that can be supported by trade**



**Accelerating the global green transition through trade will not only help bring down emissions overseas it will also help reduce the UK’s own environmental footprint.** The UK has a world-leading reputation for reducing emissions – between 1990 and 2018, the UK’s territorial emissions fell by over 40% (green line, Figure 15). However, the UK’s global emissions footprint, which includes emissions embedded in net trade, has fallen less sharply

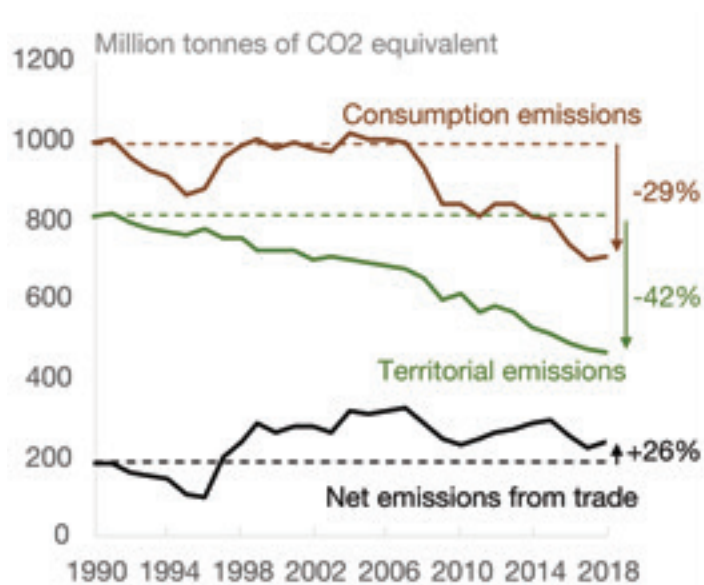
<sup>98</sup> United Nations Sustainable Development Goals

<sup>99</sup> Deere Birkbeck, C. (2021) ‘Greening International Trade: Pathways Forward’

over the same period (blue line, Figure 15). To reduce the UK's total footprint, the UK must also help reduce the environmental impact of its imports, by encouraging other countries to decarbonise and promoting nature-proof supply chains.

**There are two main ways that trade can help accelerate the green transition overseas: a) liberalising green trade; and b) reducing market distortions that encourage environmentally harmful trade.** The following sections outline how the UK can use its trade policy to achieve these objectives and what the UK is already doing to make that happen.

**Figure 15: Greenhouse gas emissions produced and consumed in the UK: 1990-2018**



Sources: Defra UK Carbon Footprint 2000 to 2018, BEIS Final UK Greenhouse Gas Emissions national statistics 2000 to 2019

## Unlocking the potential of green trade through liberalisation

**Trade in environmental goods and services is vital to accelerate the global green transition but definitional issues, tariffs and non-tariff barriers continue to hold back green trade.** There are three main barriers to trade in environmental goods and services:

- **Lack of agreed definitions and scope** – Environmental goods and services are those that help support environmental outcomes. There are various challenges to defining what constitutes

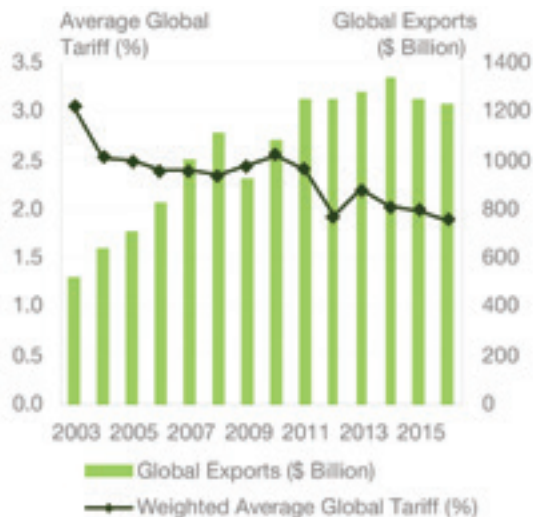
an environmental good or service – a problem that has blocked agreement on how to liberalise them at the World Trade Organization (WTO). One issue with environmental goods is that many have ‘dual uses’ (both environmental and non-environmental uses), so it is difficult to agree a broad list. A lack of agreed definition also makes it difficult to track the size of the market opportunity and the potential gain from liberalisation. For example, under the OECD’s definition, global exports of environmental goods have risen from \$0.5 trillion in 2003 to \$1.2 trillion in 2016 (green bars, Figure 16), however this figure can vary widely if other definitions are used.<sup>100</sup> Environmental services suffer from similar problems of scope. Trade negotiators have long taken environmental services to refer to the few sectors described under division 94 of the UN’s Central Product Classification (CPC), which only includes sewage services, refuse disposal, sanitation services and nature and landscape protection services. However, in practice, the range of services that contribute to environmentally beneficial outcomes is much broader – for example construction and architectural services are often at the cutting edge of developing sustainable buildings.

- **Tariffs (on goods)** – Average global tariffs on environmental goods (based on the OECD’s definition), declined from over 3% to below 2% between 2003 and 2016 (yellow line, Figure 16) – suggesting they are not a major barrier to green trade. However, there is significant variation across countries – tariffs are already low in developed countries (on average 0.5% with few tariff peaks) but are much higher in developing countries (above 10% in some cases).<sup>101</sup> Developing countries have less of an incentive to unilaterally remove tariffs because richer economies typically have a comparative advantage in green goods (as their businesses have already had to cope with more stringent environmental policies). Moreover, average global tariffs on a wider range of environmental goods not included in the OECD’s definition – such as bicycles – are often much higher, which further holds back green trade.

<sup>100</sup> OECD Statistics (2021) ‘Tariffs on Environmental Goods’

<sup>101</sup> Melo and Solleder (2017) ‘What’s wrong with the WTO’s environmental goods agreement’

**Figure 16: Global exports and tariffs levels for environmental goods as defined by the OECD**



Source: OECD “Tariffs on Environmental Goods” dataset and OECD “Environmentally Related Goods” dataset.

Notes: Average global tariffs are calculated using a trade weighted average of national tariff levels. Both datasets use environmentally related goods as defined in the Combined List of Environmental Goods (CLEG) for all countries between 2003 and 2016. Figures are a proxy for the global total, as data are not available for all countries.

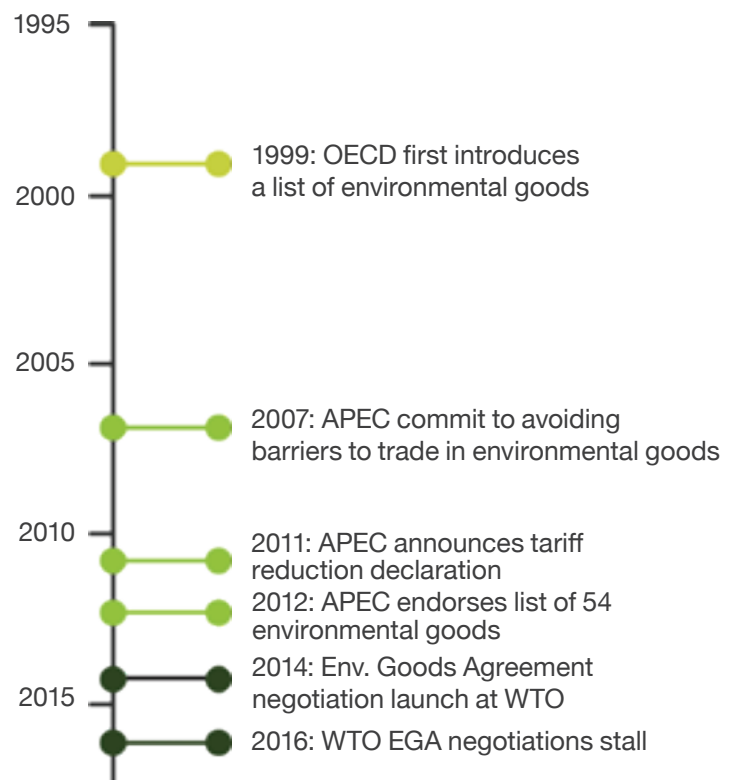
- **Non-tariff barriers (for goods and services)**

These cover any barrier to trade that is not a custom duty at the border, and include ‘behind the border’ regulations, licenses, quotas, and local technical standards. So far, multilateral efforts to tackle non-tariff barriers for environmental goods have been limited – for example, the Environmental Goods Agreement (discussed below) omitted any trade barriers other than tariffs.<sup>102</sup> Product standards and eco-labelling can also act as non-tariff barriers due to the proliferation of different standards across countries. It is estimated that over 400 different ecolabel schemes exist across nearly 200 countries and in 25 industry sectors. This imposes compliance costs on international businesses seeking to ensure their products meet different requirements across countries.<sup>103</sup>

**Liberalisation of green trade – and the challenges associated with it – are not new issues.** The OECD first produced its list of environmental goods in 1999. Then in the late 2000s the Asia Pacific Economic Cooperation (APEC) developed a list of 54 products that formed the basis for subsequent negotiations at

the WTO on the Environmental Goods Agreement (see Figure 17 for a timeline). Fourteen countries – including China, the USA and the EU (representing the UK when it was a member state) – launched the Environmental Goods Agreement negotiations as they accounted for almost 90% of global trade in environmental goods at the time.<sup>104</sup> Their shared goal was to extend the list of environmental goods beyond the 54 items included in the APEC list and eliminate tariffs completely rather than reduce them. However, negotiations ground to a halt in 2016 and have been on hold since. Failure to reach an agreement was due to difficulties in agreeing the scope of products, as well as how to keep the product list up to date given the rapid pace of technological change (for example, in products such as lightbulbs and batteries).<sup>105</sup> In the years since the negotiation stalled, the complexity around green goods and the potential number of them has only increased. The environmental services industry has also grown considerably in the last 15 years due to increased environmental awareness and more stringent environmental standards and regulations, but challenges remain around definitions and regulatory alignment and progress has been limited.<sup>106</sup>

**Figure 17: Timeline of environmental goods discussions in trade fora**



<sup>102</sup> Melo and Solleder (2017) ‘What’s wrong with the WTO’s environmental goods agreement’

<sup>103</sup> Ecolabel Index (2021)

<sup>104</sup> See European Commission (2014) ‘EU in joint launch of WTO negotiations for green goods agreement’

<sup>105</sup> De Mello and Solleder ‘Reviving the Environmental Goods Agreement : why it matters, why it stalled, and how to move forward’

<sup>106</sup> WTO ‘Environmental Services, Services: sector by sector’

**Pursuing green trade liberalisation through the WTO is still seen by many countries as a long-term goal.** In part, this is because it would make liberalisation commitments part of international law with greater accountability and enforcement through the Dispute Settlement Mechanism as opposed to simpler voluntary commitments.

**Recent failure to make multilateral progress on green trade liberalisation has prompted countries to try to go further via unilateral, bilateral and plurilateral negotiations:**

- **Unilateral measures** – Countries have the option to unilaterally liberalise tariffs and grant access to their markets for green goods and services. For example, Singapore famously has zero tariffs on all but 6 tariff lines and all environmental goods imports enter tariff free.<sup>107</sup> However, most countries choose not to liberalise to quite the same extent, partly to retain industrial advantage and partly to retain negotiating capital to encourage other countries to remove tariffs via negotiated trade agreements.
- **Bilateral trade agreements** – Trade partners will often negotiate lower tariffs and improved market access for environmentally friendly goods and services as part of free trade agreements. However, some agreements go further and commit trade partners to work together to liberalise green trade with a wider group of trade partners in the future. For example, the EU-Singapore Economic Partnership Agreement notes that both parties “recognise the importance of working together on trade-related aspects of environmental policies ... [including] the exchange of views on the liberalisation of environmental goods and services”.<sup>108</sup> The EU-UK Trade and Cooperation Agreement also states that both parties shall work together on trade-related aspects of environmental policies and measures. Such cooperation may cover “initiatives to promote environmental goods and services, including by addressing related tariff and non-tariff barriers”.<sup>109</sup>
- **Plurilateral agreements** – Two new plurilateral fora have been set up recently to drive green trade liberalisation among smaller groups of like-minded countries:

**Agreement on Climate Change, Trade and Sustainability (ACCTS)** – An ongoing plurilateral negotiation between 6 countries led by New Zealand with Costa Rica, Iceland, Fiji, Norway, and

Switzerland. ACCTS seeks to agree a common definition of environmental goods and services, remove tariffs on environmental goods, and reduce non-tariff barriers on environmental goods and services through initiatives such as eco-labelling and regulatory harmonisation.

**Structured Discussions on Trade and Environmental Sustainability (TESSD)** – Formed at the WTO in 2020 and comprising 53 WTO members (including the 27 EU Member States), TESSD aims to drive progress through the WTO Committee on Trade and Environment. TESSD members are actively discussing environmental goods and services liberalisation, though members disagree on the best route forward. Some members have proposed restarting the Environmental Goods Agreement negotiations, and for this to be announced at the WTO’s Twelfth Ministerial Conference (MC12) later this year. Other members, such as Japan and the EU, have suggested a more gradual approach to liberalisation focused on more specific environmental objectives – such as climate change mitigation.

**As the climate crisis has worsened, the scale, complexity and availability of green goods and technologies have grown, and the role that trade should play in spreading them around the world has become more important.** The need to agree how to liberalise environmental goods and services has become more pressing over recent years, but international trading rules have not kept pace. Box D outlines how HMG is supporting green trade liberalisation through its independent trade policy and Section 4 discusses how the UK could go even further to ensure that green trade is as free as possible in the future.

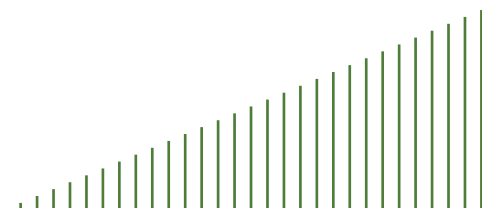
“There’s no doubt that richer countries are best at protecting the environment and that freer trade makes countries richer. So if we want a greener world, we should also want a freer one.”

**The Hon Tony Abbott AC**  
**UK Board of Trade Adviser**

<sup>107</sup> World Trade Organization – [Singapore factsheet](#)

<sup>108</sup> EU-Singapore FTA (2019) ‘[Chapter Twelve: Trade and Sustainable Development](#)’

<sup>109</sup> UK Gov (2020) ‘[UK/EU Trade and Cooperation Agreement](#)’



## Box D: How HMG is supporting liberal green trade through its independent trade policy

### Through unilateral policy measures:

- **UK Global Tariff** – The UK launched its new Global Tariff at the start of 2021, which keeps tariffs at 0% on all environmental goods previously covered by the EU's tariff policy. It also removes tariffs on a further 104 environmental goods (the 'Green 100') to promote the deployment of renewable energy generation, energy efficiency, carbon capture, and the circular economy through recycling and reducing single-use plastics. As a result, the UK now has zero tariffs on around two thirds of goods covered by the most recent round of the Environmental Goods Agreement (EGA) negotiations at the WTO, including over £2.1 billion of imports by value under the Green 100.
- **Reviewing the UK's Generalised Scheme of Preferences (GSP)** – The UK's GSP reduces or removes tariffs on imports from eligible developing countries into the UK. The UK is currently considering how to adapt its GSP to include more generous terms for Least Developed Countries (LDCs) to help them benefit from green trade.

### Through bilateral trade negotiations:

- **Free Trade Agreements (FTA)** – The UK Government has made clear that FTAs must support the UK's ability to achieve its environmental commitments. For example, the UK-Japan agreement has already locked in the benefits of the EU-Japan deal. These include various provisions on climate change such as: those that reaffirm our respective commitments to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement; and provisions that promote trade in low carbon goods and services and support cooperation on trade and climate. The UK and Australia have committed to including a chapter on trade and environment in the forthcoming FTA. When agreed, the chapter will contain provisions affirming commitments under multilateral environmental agreements including the Paris Agreement, and provisions to encourage trade and investment in environmental goods and services that support shared environmental objectives. The UK is currently negotiating FTAs with New Zealand and the US and the Government has publicly stated it will use these to promote trade in low carbon goods and services. The UK also has a pipeline of new FTAs that it plans to negotiate including Canada, India, and Mexico. Across these FTAs, the UK will continue to ensure a high level of environmental protection in line with its international obligations, as well as seeking to promote clean growth.

### Through plurilateral and multilateral routes:

- **Policy Development** – Following the Secretary of State for International Trade's inaugural speech to the WTO General Council in March 2020, which indicated the environment was a key priority for the UK at the WTO, the UK has: joined the Structured Discussions on Trade and Environmental Sustainability (TESSD); is prioritising environmental goods and services liberalisation through TESSD; and has sponsored an exploratory paper at the WTO Council in Services-Special Session (CTS-SS), which proposes improvements to the overall coverage of General Agreement on Trade in Services (GATS) commitments in environmental services.

## Tackling environmentally harmful market distortions through trade

**Trade policy can not only help ensure green trade is ‘free’ but also help ensure trade is ‘fair’ by helping to reduce environmentally damaging market distortions – such as industrial subsidies – that both damage the environment and distort trade.** Existing market failures and distortions in the global economy incentivise over-consumption of environmentally damaging goods and services and warp trade flows. Market distortions can take many forms, including various types of ‘externalities’ that mean market prices fail to account for the social cost of production in terms of its impact on the environment. Historically, one of the chief drivers of environmental trade distortions has been industrial subsidies. Typically, these are direct transfers from government to industry that reduce market prices even further below social costs, incentivise unsustainable consumption, and hamper the ability of newer more efficient technologies to scale-up and compete. Industrial subsidies are still widespread across the global economy – as highlighted in Part 1.

**In addition to industrial subsidies, divergent environmental standards have become a growing source of trade distortion.** Since the Paris agreement in 2015, countries have committed to holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels. However, countries have adopted very different approaches to how quickly they will tighten their environmental standards – with G7 and other advanced countries tending to front-load their commitments and emerging and developing markets often taking a more backloaded approach. Since higher environmental standards often impose a compliance cost on businesses, this differentiated approach across countries can create trade distortions – similar to an industrial subsidy. While this risk should ultimately prove transitory – as more countries commit to net zero targets by the middle of this century – there is a risk in the interim decades that divergent environment standards could become a growing source of distortion in the global trading system and make it harder to agree shared solutions such as global carbon pricing.

**The preferred solution for addressing cross border disparities is for all countries to commit to collective ambitious action – underpinned by robust domestic policy measures like carbon pricing.** Shared goals for 2021 are ambitious outcomes at COP26 in Glasgow and at the Convention on Biological Diversity in Kunming, China on nature loss and biodiversity. Voluntary

contributions supported by ambitious domestic policy are preferable to trade policy solutions that risk green protectionism.

**If trade policy measures are required – in addition to voluntary collective action – policy should be developed collaboratively with as large a group of countries as possible to have global traction.** Global problems, like climate change and nature loss, require global solutions to tackle them. Unlike for the liberalisation agenda, where progress by any policy route – be it unilateral, bilateral, plurilateral or multilateral action – can bring benefits, there are starker trade-offs when using trade policy to tackle market distortions, which mean that collaborative policy solutions developed with a wide group of countries are likely to be most effective and least disruptive to trade. For example, if a country takes unilateral action to try to force other countries to improve their environmental ambition, they may risk stoking trade tensions. Bilateral trade agreements suffer from different problems. FTAs can help liberalise trade in environmental goods and services, enshrine high environmental standards and help raise collective ambition. Where negotiable, the environment chapter of an FTA also presents an opportunity for softer collaboration measures on information sharing and commitment to environmentally friendly policies. For example, FTAs can help to build a likeminded international green trade community and set high standards of precedence for future trade deals. However, there is limited evidence to suggest FTAs are an effective tool for encouraging other countries to address market distortions. Indeed, FTAs can accentuate market distortions if they contain low-quality environmental provisions and can lead to environmentally damaging trade flows simply being re-routed around the FTA to other markets through trade diversion and resource shuffling. This in turn may result in no net improvement in environmental protection. So, while countries should consider all possible routes to improving environmental action, pursuing action via plurilateral, or ideally multilateral, agreements – while complex and slow – is more likely to achieve the greatest environmental impact.

**Making progress at the WTO is challenging as WTO rules are designed to avoid differential treatment between countries – to ensure trade is fair – but this also limits the ability of trade policy to differentiate between ‘like’ products based on their environmental credentials.** Environmental Processes and Production Methods (PPMs) remain a thorny issue within the global trading system and are subject to much debate. Unincorporated or non-product related PPMs leave no trace of the production method in the final product and apply to items where it is impossible to tell whether it has

been produced sustainably or not by looking at it – for example a banana, a wooden table, or an aluminium alloy. Countries differ over how it may be possible to differentiate ‘like’ goods based on environmental credentials.

**Given these challenges, progress on overcoming market distortions through trade has often been limited to date and has typically been pursued on an issue-by-issue basis, rather than holistically.** Figure 18 illustrates the 7 most prominent environmental issues being discussed in trade fora. These can be subdivided into externalities – where domestic environmental

regulations are insufficient to safeguard the environment and trade amplifies their distortive effects – and industrial subsidies, where countries actively promote environmentally damaging practices. The remainder of this section outlines each of these 7 issues, the state of discussion in trade fora, and summarises what HMG is already doing to support action in each area. Given the prominence of carbon leakage in the global debate at present – as highlighted in recent G7 and G20 discussions – the section begins with a more-detailed discussion of carbon leakage.

*Figure 18: Examples of environmentally damaging market distortions*





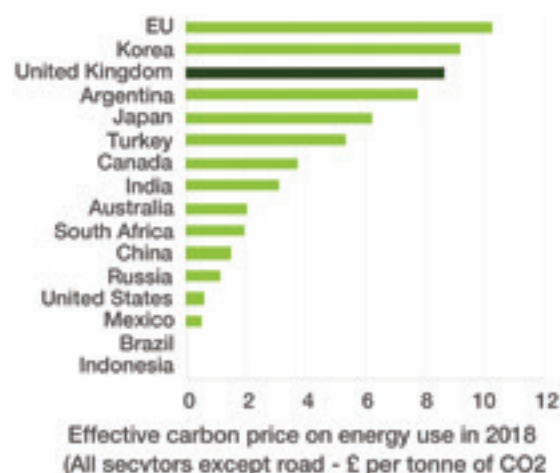
## 1. Carbon Leakage

Carbon leakage is an example of the wider tension between trade and environmental objectives. Carbon leakage is the risk that if a country tightens its domestic environmental standards faster than others (for example, by raising its domestic carbon price), it can lead to greenhouse gas emissions being displaced offshore. This can occur if tighter domestic standards impose a cost on domestic businesses, which then creates a financial incentive for consumers to buy cheaper imports (instead of domestic products) and for businesses to relocate jurisdictions with lower environmental standards. This displacement of emissions then undermines the original environmental objective of climate mitigation policies.

**There is limited evidence of carbon leakage to date, but the risk could grow for highly-traded high-carbon sectors as some economies tighten their environmental standards faster than elsewhere.**

Empirical studies have failed to find significant evidence that stricter environmental policies and higher carbon prices have led to the decline (or offshoring) of heavy industry.<sup>110</sup> This is partly because carbon taxes on industrial energy use have been low – up to £10 per tonne across the G20 in 2018 (Figure 19) – and partly because environmental regulations have often explicitly been designed to minimise the risk of carbon leakage for emissions-intensive trade-exposed sectors. For example, in the EU's emission trading scheme, sectors at risk of carbon leakage are given a greater proportion of allowances for free, to limit the competitiveness impacts to EU firms. Looking ahead, carbon prices may need to rise as high as £160 per tonne by 2050 to deliver the UK's net zero commitments.<sup>111</sup> While the majority of the G20 have net zero commitments in 2050, there is a significant difference in how, and when, each country plans to get there. This can create a risk that carbon prices will diverge over the coming decade and the incentive to offshore carbon-intensive activity will grow. This risk will not be felt evenly across sectors. Emissions-intensive and trade-exposed sectors (such as steel, aluminium, and to a lesser extent cement, electricity and fertiliser) are more likely to be more vulnerable to leakage.<sup>12</sup>

**Figure 19: Effective carbon taxes across G20 countries in 2018 (all sectors excluding road)**



Source: Derived from OECD (2019) 'Taxing energy use 2019'

Notes: The above chart shows effective carbon tax rates on energy use in the non-road sector. These include explicit carbon taxes on energy use, as well as all fuel excise taxes and electricity taxes. Tax rates are converted into effective energy tax rates per gigajoule based on the energy content of the taxed products. The above figures do not account for other non-tax forms of environmental regulation that may also affect carbon prices in aggregate.

**Since carbon leakage is mainly a forward-looking risk, there is time to design an effective policy solution with other countries that seeks to address it.** The first best solution to addressing carbon leakage is to remove the distortions at source. This can be done by getting collective agreement through the UNFCCC COP and other international processes for countries to voluntarily adopt more ambitious environmental standards within fast timeframes, ideally supported at national levels by policy measures like carbon pricing.

**UK approach:** Domestically, the UK is considering a range of ways to holistically address the risk of carbon leakage. These solutions include reviewing the allocation of free allowances for industries under the Emissions Trading Scheme, and considering other policy measures as set out in the Industrial Decarbonisation Strategy and Net Zero Review.<sup>113</sup> If a trade policy solution to address carbon leakage is also eventually needed, the UK's approach will be guided by the following 5 principles:

- **WTO compliant** – Unless carbon leakage policies are designed carefully, they have the potential to disproportionately impose compliance costs on some producers (particularly in emerging markets). Any new carbon leakage policy that may affect trade needs to be designed to be consistent with WTO rules and other international obligations.

110 See OECD (2019) [Carbon pricing and competitiveness: Are they at odds?](#) and OECD (2020) [What role for border carbon adjustments?](#)

111 LSE Grantham Institute (2019) [How to price carbon to reach net zero emissions in the UK?](#)

112 See European Commission (2019) [Carbon leakage impact assessment report](#)

113 Gov.uk (2021) [Industrial decarbonisation strategy](#)

- **Grounded in evidence** – Policy design should be based on clear, objective evidence and contribute towards meeting environmental targets. This will require (to the extent possible), accurate, verifiable, and internationally comparable data on embedded emissions in traded products. In addition, for policies that rely on the price-mechanism an agreed method for measuring the relative price of carbon (and equivalence of environmental regulations) between countries will also be needed.
- **Proportionate** – The purpose of carbon leakage policy is to ensure that tightening domestic environmental standards do not lead to emissions being displaced offshore. Carbon leakage policy can do this by equalising the cost of carbon between jurisdictions with different environmental standards. Due to the technical complexity of measuring embedded emissions, all carbon leakage solutions are likely to involve some administrative costs and impose compliance costs on businesses. Policy measures should therefore be targeted on sectors where differences in carbon pricing and environmental policies create the biggest trade distortions (typically emissions-intensive and trade exposed sectors) and are likely to create the greatest risk of carbon leakage. Also, given the administrative cost of measuring embedded emissions will rise exponentially with the complexity of a good (particularly for those with complex cross-border supply chains) carbon leakage policy should ideally only be pursued in sectors where the efficiency cost of doing so is low.
- **Developed collaboratively** – Carbon leakage is a global problem that requires a global solution. If countries attempt to adopt unilateral measures, they risk being undermined by resource shuffling (where high carbon exports are diverted to countries without a carbon leakage policy). Moreover, if countries adopt different unilateral measures this could lead to a regulatory patchwork emerging across countries, which creates new barriers to trade. To avoid these risks, any policy solution should ideally be developed with as broad a group of countries as possible, agreed multilaterally and open to all.
- **Developed inclusively** – Any carbon leakage solution should consider the concerns of developing and least developed countries and recognise the commitments made under the Paris Agreement (i.e. that countries at different stages of development have different capabilities to reduce their carbon emissions and achieve high environmental standards).

## 2. International Transport Emissions

**International transport emissions are a rising source of environmental tension within the trading system, and a difficult sector to abate.** One of the key environmental criticisms of international trade is the direct impact it has on raising transport emissions. International transport emissions are set to rise as global trade expands – emissions from shipping could rise by up to 44% by 2050.<sup>114</sup> De-carbonising the sector will be important over the long term, but there are significant challenges in providing sufficient quantities of alternative low-carbon fuels, particularly for aviation. One policy challenge is that it is common UNFCCC practice not to include international transport emissions in Nationally Determined Contributions. Instead, action on international shipping and aviation targets is agreed separately through the International Civil Aviation Organization (ICAO) and the International Maritime Organisation (IMO).

**UK Approach:** The UK will incorporate its share of international aviation and shipping emissions in its domestic Carbon Budget 6, setting a new goal of reducing total emissions by 78% by 2035. This is consistent with the independent Climate Change Committee’s recommendation and forms an important part of the Government’s decarbonisation efforts that will allow for these emissions to be accounted for consistently and show UK climate leadership. The UK recognises that international action is essential given the global nature of the international transport sectors and remains fully committed to tackling these emissions through established international processes at ICAO and IMO. HMG has also established the Jet Zero Council to bring together Ministers and Chief Executive Officer-level stakeholders, to drive the ambitious delivery of new technologies and innovative ways to cut aviation emissions, with the aim of delivering zero-emission transatlantic flights within a generation. In March 2021, the UK also launched the £20 million Clean maritime Demonstration Competition to enable the development of novel solutions for clean maritime technologies in the UK, and to help fund the development of zero emission shipping technologies to enable greener, cleaner ports.

“We have to create cleaner, greener forms of travel and transport. That means more investment, more innovation and more opportunities to trade sustainable goods and services in sustainable ways. With railways already the most eco-friendly form of transport between Britain and the continent, I am confident that the UK’s ambitions will be matched by the ambitions of business, consumers, employees and investors.”

**Rt Hon. Patricia Hewitt**  
**Director, Getlink**  
**and UK Board of Trade Adviser**

Caption: Concept for the world's first zero-emission commercial aircraft, which could enter service by 2035. ©Airbus



Caption: Recycled plastic after it is shredded into smaller pieces which can be processed for reuse



### 3. Plastics

**Global plastic waste has surged in recent years and has become interlinked with trade as countries have imposed import bans of plastic waste.** More than 400 million tonnes of plastic are produced globally each year, causing large scale damage to the environment.<sup>115</sup> In 2016, approximately 50% of all plastic waste due for recycling was exported with the majority destined for China. However, after China imposed an import ban on post-consumer plastics in 2017 (due to the high-volume of imported plastic that was ending up in domestic landfill) global trade in plastic waste has been transformed with other countries also introducing import restrictions and bans.<sup>116</sup> As a result, there has been heightened international focus on the role that trade can play in the global plastics economy – both in reducing plastic waste and improving recycling by helping to develop the circular economy. Countries are considering how trade policy could help to reduce the direct and indirect causes of plastic pollution through changes across the entire plastics value chain. The informal dialogue on plastics pollution and environmentally sustainable plastics trade at the WTO – founded by China and Fiji – is one leading initiative and focuses on improving transparency, monitoring trade trends, assessing capacity and technical needs of developing countries and joining up international cooperation across other fora.

**UK Approach:** HMG is supporting environmentally sustainable trade in plastics at the WTO, for example by co-sponsoring the Fiji/China informal dialogue on trade and plastics. Alongside this, UK exporters are now subject to tighter rules on shipping plastic waste as set out in the Basel code that came into force from 1 January 2021.<sup>117</sup> HMG is also considering measures to increase domestic demand for recycled plastics and further tighten regulation of plastic exports.

### 4. Sustainable Supply Chains

**Tackling deforestation by promoting sustainable supply chains is rising up the trade agenda.** Almost three-quarters of global deforestation is due to changes in land use for agriculture. A significant proportion of this deforestation is due to land and tree clearance for grazing animals and to grow internationally traded commodities including soy, palm oil and cocoa (Figure

20).<sup>118</sup> The loss of these terrestrial ecosystems, including tropical forests and peatlands, is a major contributor to greenhouse gas emissions annually. Trade measures could be used as one element in a suite of measures to reset market incentives in favour of a low-carbon, nature positive future, and generate a stronger market signal for sustainably produced commodities. There are currently several barriers to developing sustainable supply chains. These include: a proliferation of differing standards for sustainable commodity production; high costs for producers to transition to sustainable commodity production; a lack of commercial incentives to do so; and gaps in technical and regulatory capacities for the design, implementation and monitoring of institutions and policies. A comprehensive approach is therefore needed to reset the global trading system in favour of sustainable commodity production.

**UK Approach:** Through the 25 Year Environment Plan and response to the recommendations of the Global Resource Initiative, HMG has committed to tackling deforestation in supply chains and promoting trade in sustainably produced commodities. HMG is shaping action internationally through the Forest, Agriculture and Commodity Trade (FACT) dialogue as part of the UK's COP26 Presidency. The FACT dialogue aims to collectively agree a roadmap of actions to protect forests and other vital ecosystems, while promoting sustainable trade and development. It will champion the collaborative effort between consumer and producer countries to work domestically, bilaterally and multilaterally to develop policy approaches that support sustainable supply chains for forest and agricultural commodities and share best practice. The UK has also agreed a 2030 Nature Compact with other G7 members, which commits the G7 to halt and reverse biodiversity loss by 2030 and tackle deforestation, including by supporting sustainable supply chains and demonstrating further domestic action. In addition, the UK is incentivising sustainable farming at home – through funding initiatives like the Sustainable Farming Incentive – and overseas through UK International Climate Finance (ICF) projects to halt deforestation and create profitable new sustainable supply chains.<sup>119</sup>

115 World Economic Forum (2020) '[Plastics, The Circular Economy and Global Trade](#)'

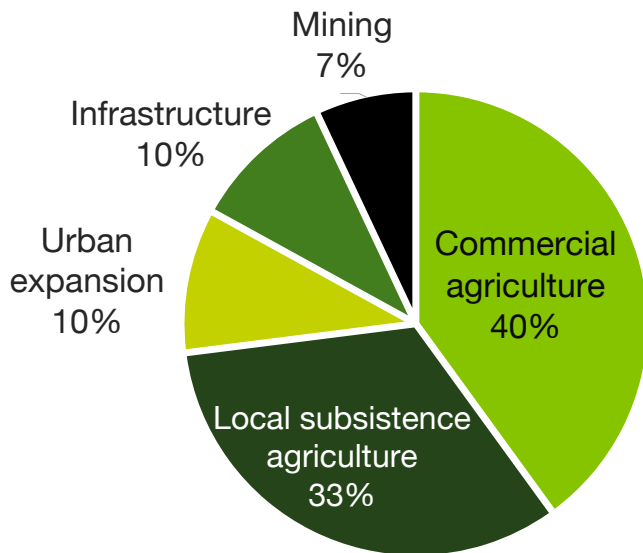
116 Science Advances (2018) '[The Chinese Import ban and its impact on global plastic waste trade](#)'

117 Scottish Environmental Protection Agency '[Guidance on the Basel convention amendments on plastic waste](#)'

118 Noriko Hosonuma et al. (2012) '[An assessment of deforestation and forest degradation drivers in developing countries](#)'

119 See Gov.uk (2021) '[Sustainable Farming Incentive](#)' and Gov.uk (2020) '[International Climate Finance Guidance](#)'

**Figure 20: Drivers of tropical deforestation between 2000 and 2010**



Source: Hosonuma et al, 2012

## 5. Illegal wildlife trade and trade in invasive environmentally harmful species

**Wildlife trafficking and trade in invasive alien species contributes to the loss of biodiversity and puts certain endangered species at risk of extinction.** Increases in invasive environmentally harmful species pose a dramatic threat to biodiversity and trade is a contributing factor.<sup>120</sup> According to one study, a 20-30% increase in alien species could cause significant global biodiversity loss, disrupting the variety of life on Earth, its ecosystems and the lives of humans.<sup>121</sup> International trade can play a role in the introduction of invasive alien species (IAS) into places different from their original natural environment, including through transportation and shipping, with significant negative impacts on biodiversity.<sup>122</sup> Poaching and the illegal wildlife trade has been estimated to be worth up to £17 billion a year, rising to £143 billion if illegal logging and fishing are included.<sup>123</sup> This activity undermines governance, fuels corruption, creates instability, threatens species with extinction and deprives some of the world's

poorest communities of sustainable livelihoods. Illegal wildlife trade and environmental destruction also increase the risk of zoonotic disease (75% of all emerging infection diseases are zoonotic).<sup>124</sup> Combatting the illegal wildlife trade – which represents one of the biggest threats to some of the world's most threatened species – has been a feature of the environment, conservation and trade agenda for many years. Action has been achieved by raising and maintaining political will to eradicate illegal wildlife trade through targeted bilateral and multilateral initiatives, including longstanding agreements such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).<sup>125</sup>

**UK Approach:** HMG recognises the illegal wildlife trade (IWT) as a serious organised crime and has committed to address it in a way that reflects and acknowledges the serious nature of this crime. In 2018, the UK convened the largest ever global IWT conference at which 65 countries signed up to the London Declaration to combat IWT. The UK also provides financial support through the IWT Challenge Fund to practical projects around the world to benefit nature, people, the economy and protect global security. The UK's 2018 Ivory Act includes one of the toughest bans on elephant ivory sales in the world. HMG, with the G7, has also committed to tackling illicit finance associated with IWT, and has led international action on this issue at the Financial Action Task Force.<sup>126</sup> HMG supports the use of the full range of public-private partnerships to identify criminals and their networks, and is continually improving our domestic capabilities through the National Wildlife Crime Unit.

## 6. Fossil Fuels Support Measures

**Fossil fuel support measures have been a long-standing source of distortion in the global trading system and are an area of growing interest at the WTO through the ACCTS and TESSD plurilateral initiatives.** Countries deploy a range of fossil fuel support measures, including: direct subsidies, which have ranged from \$287 to \$566 billion per year over the past decade (Figure 21); international commercial support such as export promotion and finance support from export credit agencies; and encouraging flows of private capital through

<sup>120</sup> Westphal et al. (2008) '[The link between international trade and the global distribution of invasive alien species](#)'

<sup>121</sup> Global Change Biology (2020) '[Drivers of future alien species impacts: an expert-based assessment](#)'

<sup>122</sup> See International Union for Conservation of Nature (2018) '[Invasive alien species and sustainable development](#)'; and Standards and Trade Development Facility (2013) '[International Trade and Invasive Alien Species](#)'

<sup>123</sup> UNEP Interpol Response Assessment (2016) '[The Rise of Environmental Crime](#)'

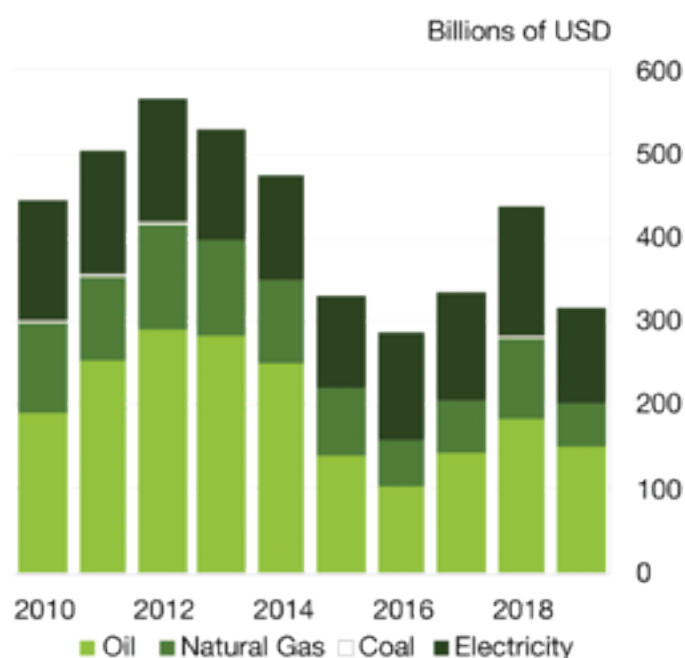
<sup>124</sup> Taylor et al. (2001) '[Risk factors for human disease emergence](#)'

<sup>125</sup> Standards and Trade Development Facility (2013) '[International Trade and Invasive Alien Species](#)'

<sup>126</sup> [G7 Leader's 2030 Nature Compact \(2021\)](#)

funding partnerships and promoting inward investment.<sup>127</sup> Despite rapid growth in the renewable energy sector and volatile commodity prices that have made the fossil fuel sector less attractive, support measures have continued to rise in recent years as governments have sought to shore up a declining industry. Whilst fossil fuels subsidies have not been particularly contested to date in the WTO through the dispute settlement mechanism, there is a revived impetus to address them through the Agreement on Climate Change, Trade and Sustainability (ACCTS) and growing interest at the WTO through the TESSD.

**Figure 21: Global fossil fuel subsidies 2010-2019**



Source: IEA Fossil Fuel Subsidies Database (2020)

**UK Approach:** In December 2020 at the Climate Ambition Summit, the Prime Minister announced that the UK Government would end new direct support – including trade promotion and export finance – for the fossil fuels energy sector overseas. The UK is the first major industrialised country to announce such a shift – which came into effect in March 2021. The policy ends UK support for new crude oil, natural gas or thermal coal projects, with very limited exceptions, and paves the way for others to follow suit. The policy change reflects the Government’s focus on supporting the sector’s transition to low-carbon energy and the ambition to align HMG’s

international support to boost clean energy exports. It is hoped that other countries will adopt similarly ambitious positions. In addition, the UK is supporting the “Statement on Global Fossil Fuel Subsidy Reform” of the Friends of Fossil Fuel Subsidy reform, a network of 9 non-G20 countries, led by New Zealand, whose governments actively support a global reform of fossil fuel subsidies.

## 7. Fisheries subsidies

**WTO negotiations to end fisheries subsidies have been an area of active focus for 20 years.** Fisheries subsidies have kept unprofitable fishing fleets at sea and incentivised over-fishing and over-capacity - in 2017 an estimated 34% of global fish stocks were overfished, up from 10% in 1974.<sup>128</sup> The WTO Multilateral Negotiation on Fisheries Subsidies was launched at the Doha Ministerial Conference in 2001 and aims to deliver on the Sustainable Development Goal to conserve and sustainably use the oceans, seas and marine resources for sustainable development by clarifying and improving existing WTO disciplines on fisheries subsidies.<sup>129</sup> Securing a meaningful outcome to the negotiation by the twelfth WTO Ministerial Conference (MC12), taking place in December 2021, will be crucial for securing the future of the world’s fisheries stocks and demonstrating the WTO’s relevance in the 21st century global economy.

**UK Approach:** HMG strongly supports the multilateral negotiation on fisheries subsidies at the WTO and will continue to support the Chair of the negotiation to reach a conclusion by the twelfth WTO Ministerial Conference in late 2021, including using the UK’s Presidency of the G7 to lock in progress.

“All prevailing subsidies have a historical rationale - distributional justice, national food sufficiency, political pressure from powerful lobbies, and so on - which is why they prove difficult to dislodge. But the resources that would become available to governments if they were removed could be used to finance programmes that benefit not only populations at large, but in particular the most vulnerable in society. Correcting inefficient economic distortions to resolve institutional failures can only serve the common good.”

**Professor Sir Partha Dasgupta**  
Author of ‘The Economics of Biodiversity

<sup>127</sup> International Energy Agency (2020) ‘[Low fuel prices offer an historic opportunity to phase out fossil fuel subsidies](#)’

<sup>128</sup> UN FAO (2020) ‘[The state of world fisheries and aquaculture 2020](#)’

<sup>129</sup> WTO Factsheet: [Negotiations on fisheries subsidies](#)

## Part 4:

### Recommended Priorities

**The UK should build on its existing activity and lead the charge in using trade policy to protect the environment.**

**The Board of Trade view is that:**

**1. The UK should use its Global Britain platform to encourage international ambition on green trade and shape the 21st century international trading system to better support the global effort to tackle climate change and nature loss.**

There is a need to reconsider how the multilateral trading system can help reverse nature loss and achieve the Paris Agreement goal – of holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels. Most of the existing WTO rules date from 1995, before the policy objectives of tackling climate change and nature loss were fully recognised and widely accepted. While WTO members have taken some steps towards reconciling the trade and environmental agendas in recent years, including recent progress at the G7, there is more to do. With a growing global consensus on the need for climate action (net-zero pledges cover more than 70% of global GDP) and the need to ‘build back greener’ from the Covid crisis, there is momentum on which to build the case for reshaping the existing rules.<sup>130</sup> The UK should:

- use its convening power and role at the G7, G20 and MC12 to emphasise how trade can impact on the climate and environment
- be a leading voice in multilateral and plurilateral fora, including via its membership of TESSD, to reframe the narrative on trade and the environment and build consensus for reform

**2. The UK should advocate for making green trade freer and consider all options for advancing environmental goods and services liberalisation.**

**Building on activity already outlined in Part 3, the UK should consider how to further promote liberal green trade by:**

- using its membership of TESSD to re-launch discussions on the Environmental Goods Agreement
- helping shape green policies as part of the Government Procurement Agreement at the WTO, so that Government levers are used to increase the use of green products and services
- seeking ‘best in class’ Free Trade Agreements (FTAs), based on liberal green trade principles, that creates a platform for collaboration and which safeguards the UK’s right to regulate

<sup>130</sup> Based on Oxford Net Zero & ECIU (March 2021) [‘Taking stock: A global assessment of net zero targets’](#), updated for latest commitments made since March 2021.



“When it comes to climate action, so far green trade is the dog that hasn’t barked. We need to stop seeing trade as a threat to the planet, and instead focus on unleashing its sustainability super-powers. Of course, we need to fix distortions and ensure that climate laggards don’t get a free ride, but the big prize is free trade in environmental goods and services. By making the solutions cheap, you make them available to everyone in society and to every country in the world. And you only do that via competition and trade, on a level playing field, not through endless subsidies and trade restrictions.”

**Michael Liebreich**  
UK Board of Trade Adviser

- deploying its trade levers where evidence points to a clear need for action and in a manner that is consistent with the UK’s international obligations
- developing trade policy solutions (if required) that draw in large numbers of countries, ideally developed at the multilateral or plurilateral level
- using bilateral trade levers – including FTAs – to safeguard the UK’s existing environmental standards, promote sustainable trade and, where possible, to raise environmental standards
- pursuing unilateral action in limited circumstances, in a way that ensures trade remains fair
- steering the global debate on carbon leakage, by applying the above policy approach in practice.

**To illustrate how this approach could be applied in practice, Box E sets out how the Board of Trade recommends the UK take forward its work on the issue of carbon leakage via trade fora.**

### **3. The UK should advocate for making trade fairer, making astute use of its trade levers to help address environmentally damaging market distortions.**

**Global problems like climate change and nature loss, require global solutions. When seeking to address market distortions the UK should consider:**

- deploying its diplomatic and/or regulatory diplomacy tools as a priority to encourage environmental action alongside considering proportionate use of trade policy

## **Box E: A suggested way forward on carbon leakage**

**The view of the Board of Trade is that the government should consider the merits of championing the case for a collaborative solution to address the risk of carbon leakage, recognising that a policy solution developed across countries will take time.** As set out earlier in this report, the first best solution to addressing carbon leakage is to obtain collective agreement through the UNFCCC COP process for countries to voluntarily adopt more ambitious domestic environmental standards within fast timeframes.

**The Board of Trade invites the government to consider, as one option for approaching this issue, the following four year approach.** The first phase, which is already underway, starts with initiating dialogue in international fora to agree a shared understanding of the risk and a common approach to tackling it; Phase 2 focuses on developing initiatives to plug data gaps that prevent existing carbon leakage solutions from being effective; Phase 3 focuses on agreeing common international product standards for carbon-intensive products to bring down emissions; and finally Phase 4 offers the option - if still required - to enforce product standards using trade policy levers.

**Since all carbon leakage solutions depend on developing reliable data on embedded emissions, the UK should focus the next leg of its effort on improving data quality.** Carbon leakage solutions rely on two key pieces of information: a) data on the embedded emissions in traded products; and b) data on the relative price of carbon in the home market compared with those overseas. Both pieces of information are hard to come by and are often measured inconsistently across countries. Without these critical pieces of information, policies to address carbon leakage risk relying on imperfect proxies that could end up introducing more trade distortions than they solve.

**Efforts to overcome the data challenges associated with carbon leakage are likely to bear most fruit if focused on industries that have existing well-developed international standards, short supply chains, high carbon intensity and are concentrated among a few large companies.** These criteria suggest a focus on basic industrial commodities, such as steel. The steel sector is a good test case as it already has industrial emissions standards and is making innovative use of technology to improve data quality and trust in reporting on emissions intensity.<sup>131</sup> As part of the data development phase, the UK should consider launching a pilot scheme with other countries that seeks to develop emissions data as a basis for developing a preferred new 'green steel' standard.

**International product standards have high setup costs but offer a route to addressing carbon leakage that could be adopted by a wide range of countries.** It would be both politically and technically complex to agree new international 'green' product standards, but once in place they would be market friendly and transparent and could be adopted by a wide range of countries. Product standards are likely to be easier to apply across countries, including federalised countries, which may struggle to introduce carbon border tax measures due to their state-based approach to environmental regulation and lack of a nationwide carbon price. Standards also keep the carbon leakage debate focused on the few sectors most at risk of carbon leakage.

**Once established, international product standards could be kept voluntary or linked to a number of trade policy levers to enforce their use.** A range of domestic and international policy levers could be deployed. As set out in the Industrial Decarbonisation Strategy, these range from soft levers – such as ecolabelling – that encourage the uptake of green products through product differentiation alone, all the way to domestic regulations that might bar use of products that fall short of the green standard entirely. Standards could also be linked to other trade levers, such as import tariffs or quotas as a halfway house.

<sup>131</sup> [World Steel Association Indicators](#)

“As host of COP26, we want to see similar ambitions around the world and we’re working with everybody, from the smallest nations to the biggest emitters to secure commitments that will keep change to within 1.5 degrees.

...I think we can do it. And to do it, we need the scientists and all of our countries to work together to produce the technological solutions that humanity is going to need.

...Let’s use this extraordinary moment and the incredible technology that we’re working on to make this decade the moment of decisive change in the fight against climate change and let’s do it together.”

**Prime Minister Boris Johnson**



# The Board of Trade

## **Disclaimer**

The Board of Trade's reports are intended to bring new thinking to UK trade policy. They include reflections and recommendations from the Board of Trade's Advisers which may differ from existing HMG policy. The government is under no obligation to pursue these.