UK trade in a decarbonising world
“Those who fail to bet on the green economy will be living in a grey future... those who embrace green technologies will set the gold standard for economic leadership in the 21st century.”

António Guterres, UN secretary general, 2017
UK climate leadership has positioned our businesses to take advantage of the greatest investment opportunity of the century: an estimated £17.5 trillion worth of low carbon investment in emerging economies between now and 2030.²

The UK is redefining its place in the world through new trade negotiations. An industrial policy to match the government’s Clean Growth Strategy, whilst meeting its commitments to protect the natural environment, will enable UK companies to adopt low carbon solutions at home and export them to a rapidly decarbonising global market.

Low carbon trade is not just an economic story. As a major donor of aid focused on the impacts of climate change, and a country that has taken a lead on reducing its own carbon emissions, the UK is an important supporter of emerging economies charting low carbon paths. In the next ten years the majority of infrastructure spending and economic growth will happen in the global south.

Future trade deals must open up opportunities that benefit the UK and our international partners for the coming decades and not reflect the politics, technologies and investment challenges of the past.
The world is going green
High demand for low carbon

To date, 205 jurisdictions across six continents and 43 countries, including California in the USA, Baden-Württemberg in Germany, Jalisco in Mexico, Acre in Brazil, Wales in the UK and Zhenjiang in China, have committed to cut carbon emissions by 80-95 per cent on 1990 levels by 2050.

Together, they represent 39 per cent of the global economy.
“Meeting the goals of the Paris Agreement is an environmental imperative but it is also an unmissable economic opportunity. Those countries that can properly incentivise and support investment in low carbon infrastructure will be best positioned to revitalise their economies, boost innovation and spur competitiveness.”

Lord Stern, 2016
The rise of low carbon investment

Global spending on new low carbon power in 2016 was twice that invested in new fossil fuel plants\(^5\)

Most trade deals now include environmental co-operation as a core factor\(^6\)

Renewable power (excluding large hydro)

- **£172.2 bn**

Fossil fuel

- **£86.5 bn**

2007: 22%

2012: 67%
Opportunities in a changing global market
Low carbon trade is growing fast

Global market values in 2015 vs 2030 projection (£billion/year)\(^7\)

- Low carbon electricity\(^9\)
  - 2015: 126
  - 2030: 362
- Low emissions vehicles\(^{10}\)
  - 2015: 41
  - 2030: 1,960
- Low carbon products and services\(^{11}\)
  - 2015: 227
  - 2030: 968

The UK’s share of these markets in 2015 vs potential in 2030 (£billion/year)\(^8\)

- Low carbon electricity\(^9\)
  - 2015: 3
  - 2030: 11
- Low emissions vehicles\(^{10}\)
  - 2015: 3
  - 2030: 7
- Low carbon products and services\(^{11}\)
  - 2015: 7
  - 2030: 19
The UK’s climate leadership record

2008
Passes the world’s first Climate Change Act

2015
UN Summit, New York
Central to the development of Sustainable Development Goals

2015
UN climate talks, Paris
Instrumental in securing joint ambition to keep the average global temperature well below 2°C

2016
Commits to phase out unabated coal
UK and Australia lead the initiative to publish the OECD roadmap to raise US$100 billion in climate finance by 2020
2017
UN climate talks, Bonn
UK and Canada launch the Powering Past Coal Alliance, a coalition of 20 countries committed to phasing out coal before 2030

2018
As the new Commonwealth chair-in-office until 2020, the UK has an opportunity to push climate up the agenda at the heads of government meeting in London

2020
UN climate talks
Paris Agreement commitments begin

21 April 2017 was the UK’s first day without unabated coal power since the Industrial Revolution

In 2016 the UK was a world leader in reducing its carbon intensity (emissions vs economic growth).¹²
UK reduction -7.7%
Global average -2.6%
UK policies have helped business to thrive

Finance

Forty two green bonds in seven currencies, worth £11.2 billion, are listed on the London Stock Exchange. The global market is predicted to be £98.8 billion by the end of 2017.

In 2014, over a fifth of total UK service exports were financial services with a net trading surplus of £39 billion.

Smart energy

In 2015, the UK spent around £689 million, second only to Germany, on smart grid R&D and demonstration projects.

Investment in smart grids across nine emerging economies to 2020 is estimated to total £211 billion.

Offshore wind

Offshore wind is one of the UK’s largest infrastructure pipelines, attracting £11.5 billion of investment in the UK between 2017 and 2021.

The global offshore wind energy market opportunity is expected to exceed £98.8 billion by 2023.
“The unstoppable global shift towards low carbon technologies gives the UK an unparalleled opportunity. By focusing on clean growth, we can cut the cost of energy, drive economic prosperity, create high value jobs and improve our quality of life.”

Claire Perry, minister of state for climate change, 2017\textsuperscript{20}
A strong position in emerging markets

UK’s winnable share of the global low carbon services market (£ billion)²¹

- Brazil: £0.84
- Mexico: £0.39
- Argentina: £0.18
“There should be no doubt — in developing countries the world over and especially in Africa — the new climate economy of the future will bring benefits ranging from jobs in clean energy to improved air quality and more productive land.”

Ngozi Okonjo-Iweala, former finance minister of Nigeria, 2017
How the UK can increase its share of the global low carbon market
## Export performance in four key sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage of total UK exports&lt;sup&gt;23&lt;/sup&gt;</th>
<th>How much of the export value is created by UK companies?&lt;sup&gt;24&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>9%</td>
<td>68%</td>
</tr>
<tr>
<td>Automotive</td>
<td>5%</td>
<td>55%</td>
</tr>
<tr>
<td>Finance</td>
<td>12%</td>
<td>91%</td>
</tr>
<tr>
<td>Professional services</td>
<td>14%</td>
<td>89%</td>
</tr>
</tbody>
</table>
## Where is the UK competitive?  

<table>
<thead>
<tr>
<th>UK imports more value than it exports</th>
<th>UK exports more value than it imports</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>£3bn</strong></td>
<td>Chemicals are a leading UK export but with high associated carbon emissions. Robust domestic policy on green innovation and carbon capture and storage would keep the sector competitive.</td>
</tr>
<tr>
<td><strong>£24bn</strong></td>
<td>To turn this trade deficit into a surplus, the UK needs to speed up the development of electric and automated vehicles so it can leapfrog its competitors.</td>
</tr>
<tr>
<td><strong>£35bn</strong></td>
<td>As the UK’s biggest export earner, the finance sector needs to stay ahead of the competition by leading on the transparency tools and products needed to decarbonise the financial market.</td>
</tr>
<tr>
<td><strong>-£5bn</strong></td>
<td>UK engineers, designers and architects are in high demand around the world. Expertise gained in building the UK’s low carbon infrastructure will keep them at the forefront of a developing world market.</td>
</tr>
</tbody>
</table>
How to improve UK competitiveness

Chemicals

Address the sector’s high carbon impact

This sector is the fourth largest carbon emitter, making up 13 per cent of all UK manufacturing’s direct emissions. High carbon supply chains are likely to become more expensive as the world decarbonises. Ammonia production (one of the largest emitters in the sector) could reduce its carbon emissions by 65-70 per cent with carbon capture and storage.

Automotive

Go big on electric vehicle batteries

By the early 2020s, electric cars will be as cheap as conventional vehicles. There were 121,000 new registrations for plug-in cars in the UK by the end of October 2017, up from 3,500 in 2013. Jaguar Land Rover is building its first electric vehicle in Austria because of the lack of a battery factory in the UK.
Finance

Don’t let leadership slip

There were 200 measures across 60 countries to green the financial sector in 2016.\textsuperscript{31}

The UK’s ‘big four’ banks were given a ‘D’ grade in 2016 for their lack of climate investment policies and exposure to fossil fuels. France is now home to the top three banks for sustainability, rated by investors.\textsuperscript{32}

Professional services

Increase export potential with strong domestic delivery

In 2014, the UK exported £57 billion worth of professional and technical services.\textsuperscript{33}

Between 2012 and 2016, the UK pipeline for planned low carbon infrastructure fell by 25 percentage points whilst high carbon infrastructure rose by 20 percentage points. This will limit the development of low carbon expertise in the UK.\textsuperscript{34}
What the government should do
The world is cutting carbon fast and demand for low carbon goods and services is rising. To ensure the UK can benefit at home and support decarbonisation abroad, the government needs to:

- **Maintain climate leadership** through its commitment to the Paris Agreement, the Sustainable Development Goals and as the Commonwealth’s chair-in-office.

- **Support emerging economies** in their inclusive low carbon transition, through climate finance, well-targeted aid and trade deals which help them to deliver their clean growth strategies.

- **Invest at home to support exports abroad** by writing clean growth into Industrial Strategy sector deals, regulating for UK energy efficiency and holding auctions for wind and solar.

- **Make clean growth central to UK trade** by ensuring the country’s low carbon sectors are prominent in future trade talks and strategy.
Endnotes

1 António Guterres, 30 May 2017, speech at New York University

2 International Finance Corporation, 2016, *Climate investment opportunities in emerging markets: an IFC analysis*, p.vi. ($23 trillion converted to £17.5 trillion at 1 $US = 0.76 £GBP, November 2017 exchange rate)

3 Under 2 Coalition, 2017

4 Lord Stern, *The Independent*, 5 November 2016, ‘Ratification of the Paris Agreement is an unmissable opportunity for global growth’

5 Frankfurt School-UNEP/BNEF, 2017, *Global trends in renewable energy investment*, p34 ($226.6 billion converted to £172.2 billion and $113.8 billion converted to £86.5 billion at 1 $US = 0.76 £GBP, November 2017 exchange rate)


8 Ibid

9 Low carbon electricity is defined by Ricardo Energy and Environment as: offshore wind, onshore wind, marine, solar PV, CCS and energy storage.

10 Low emissions vehicles are defined by Ricardo Energy and Environment as: battery-electric vehicles, plug-in hybrid electric vehicles, fuel cell electric vehicles, charging solutions and logistics/telematics. It excludes transmission systems, electric motors and batteries.

11 Low carbon products and services are defined as: advanced insulation, alternative batteries, alternative magnets, industrial catalysts, membranes, recycling lithium batteries and smart grids. This definition differs from Ricardo Energy and Environment as it excludes biofuels and industrial bioprocessing where carbon neutrality is contested.


13 London Stock Exchange Group, 2017, *Green bonds*

14 Climate Bonds Initiative, 2017, *Green bonds market summary: Q3 update*, p5, ($130 billion converted to £98.8 billion at 1 $US = 0.76 £GBP, November 2017 exchange rate)


19 Global Market Insights, 2017, *Summary: offshore wind energy market size, industry analysis report*, ($130 billion converted to £98.8 billion at 1 $US = 0.76 £GBP, November 2017 exchange rate)

20 Gov.uk, 12 October 2017, press release, ‘Government reaffirms commitment to lead the world in cost-effective clean growth’

21 ICF, 2017, *Low-carbon energy study*; and Green Alliance analysis of: International Finance Corporation, 2016, *Climate investment opportunities in emerging markets: an IFC analysis*. Figures calculated according to ICF methodology: low carbon infrastructure investment (see International Finance Corporation, 2016) x proportion spent on services (ie 30%) x proportion of services imported x proportion of services imported from UK. (Figures converted at 1 $US = 0.76 £GBP, November 2017 exchange rate)


24 Ibid. Global supply chains mean companies import parts and components which they add to and re-export. The value added percentage of gross exports used here indicates which proportion of UK exports is represented by wages and company profits in the UK and how important global supply chains are to a sector’s production.

25 Ibid (Figures converted at 1 $US = 0.76 £GBP, November 2017 exchange rate)

26 Committee on Climate Change, 2017, Energy prices and bills – impacts of meeting carbon budgets, figure 3.2, ‘UK manufacturing emissions, gross value added (GVA) and employment by sector (2014)’, p94

27 Zero Emissions Platform, 2013, CO2 capture and storage (CCS) in energy-intensive industries: an indispensable route to an EU low-carbon economy, p29

28 UBS, 2017, ‘UBS evidence lab electric car teardown – disruption ahead?’, p4


30 P Campbell and P Clark, Financial Times, 25 July 2017, ‘Electric Mini’s reliance on German batteries highlights UK weakness’

31 UNEP, 2017, Financial centres for sustainability: reviewing G7 financial centres in mobilizing green and sustainable finance, p12

32 Christian Aid, 2016, Our future in their plans: why private finance is the public’s business, p12

33 ICF, 2017, Low-carbon energy study: final report, p9

34 Green Alliance, 2016, The UK infrastructure pipeline, p2
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