Will the UK economy succeed in a low carbon world?

Following the commitments made at the Paris climate agreement in December 2015, the shift towards a low carbon economy, already well underway, is now stepping up a gear.

What does this mean for the UK? We have world leading low carbon expertise and huge potential to benefit from the new export opportunities and expanding global market for low carbon goods and services.

However, according to EY, the UK's ranking in the global renewables market has fallen, from second in 2007, to thirteenth in 2016. And we are going backwards in other areas, notably on low carbon energy policy and infrastructure.

Other countries are now moving ahead much more decisively and we risk losing our competitive edge.

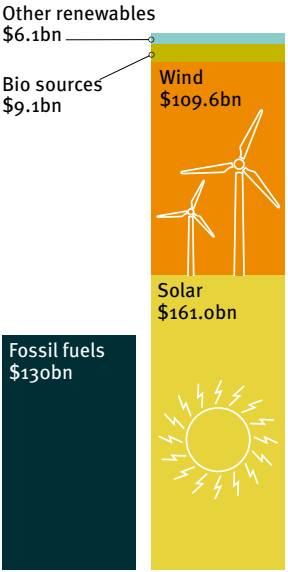
The government should maintain its climate leadership and restore confidence at home through coherent, consistent policy, championing low carbon businesses and keeping the UK at the forefront of this new industrial revolution.

Global markets are changing...

In response to the increasing impact of climate change, government policy, new technology and consumer choice are driving the shift to a low carbon world.

Global investment in renewables, energy efficiency and carbon capture and storage (CCS) since the early 2000s[1]

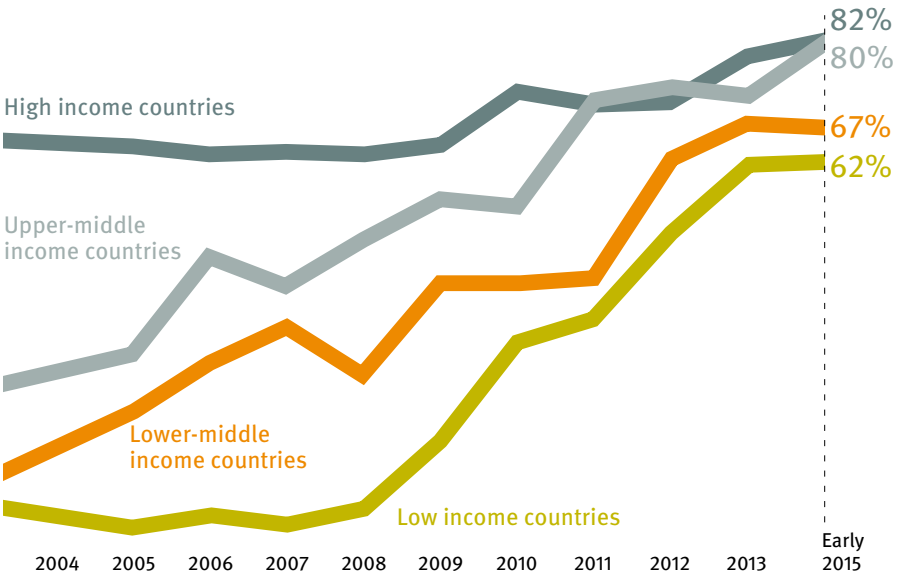
New investment in renewables vs fossil fuels, 2015[2]



...and they are changing fastest in the developing world

All countries are now raising the bar, legislating for clean air and climate friendly development, and the shift is happening fastest in low and middle income countries.

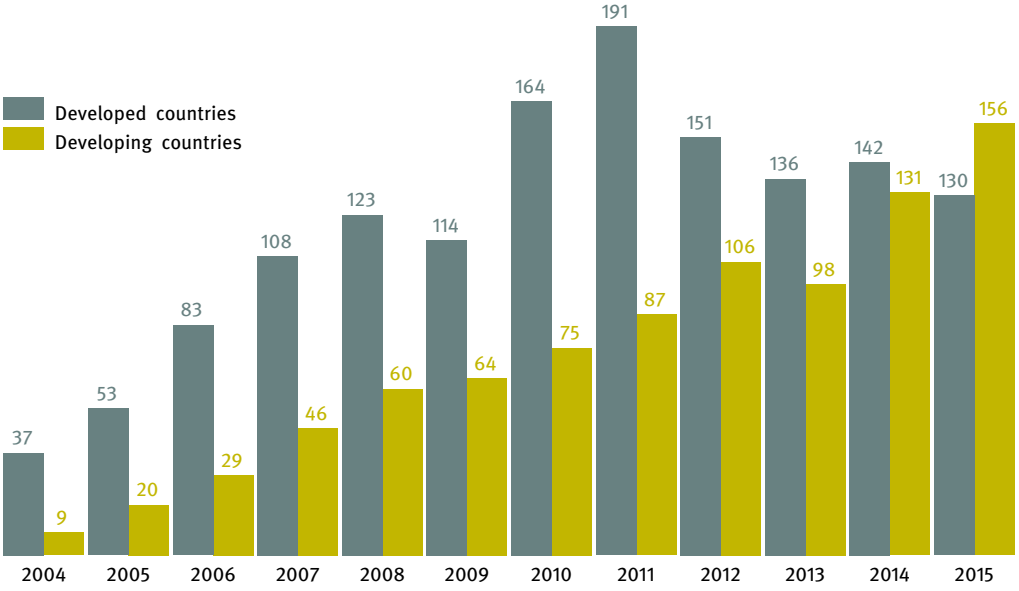
Proportion of countries with renewable energy policies[3]



Developing countries are now in the lead on renewables investment

In 2015, new renewables investment by developing countries overtook developed countries for the first time. With growing energy demand and the need for increased energy access for poor communities, the developing world is likely to continue expanding investment in renewables and off-grid solutions.

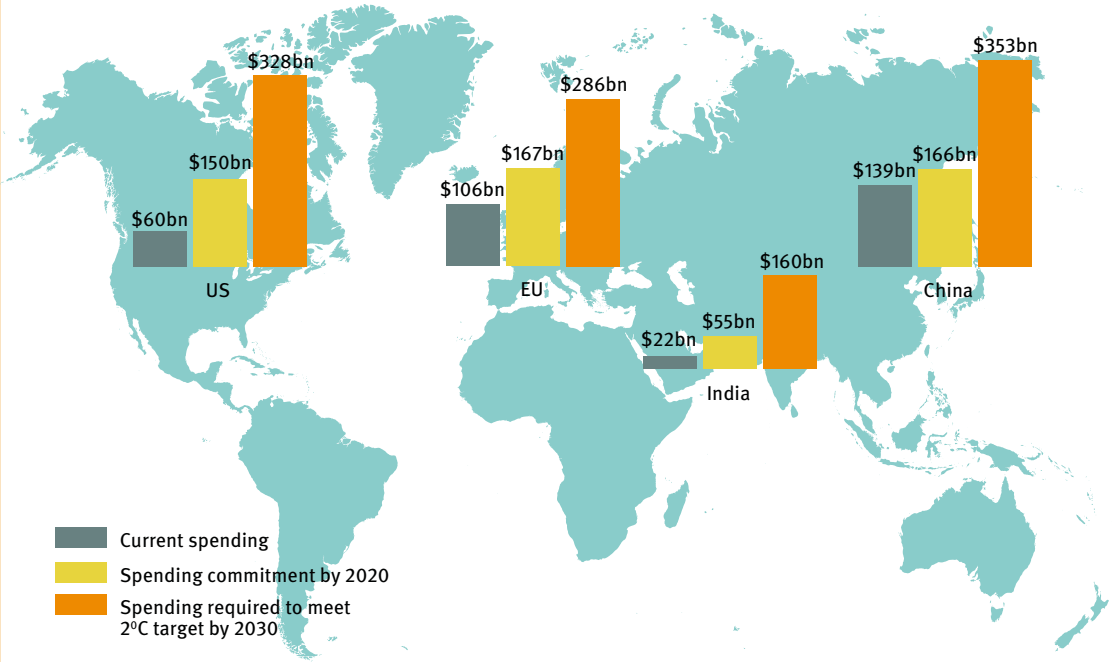
New investment in renewable energy:
developed vs developing countries, US$ billion[4]



Low carbon investment will accelerate

Commitments made at the 2015 Paris climate summit mean the world will spend $797 billion on low carbon generation, energy efficiency and carbon capture and storage by 2020. This investment will rise to over $1,900 billion by 2030, if governments are serious about keeping global warming within two degrees.[5]

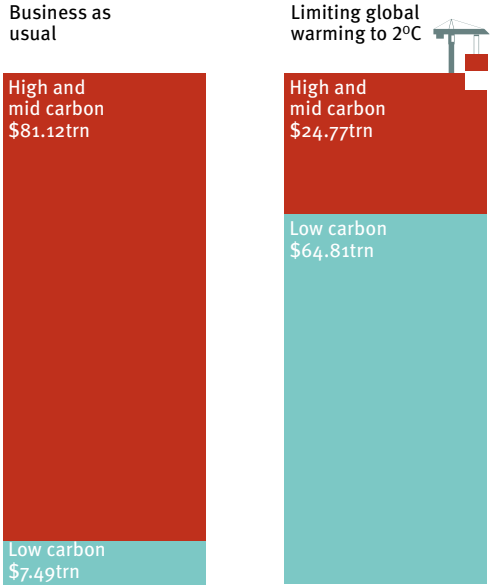
Projected investment to 2030 in low carbon generation, energy efficiency and CCS by the UK's major trading partners[6]



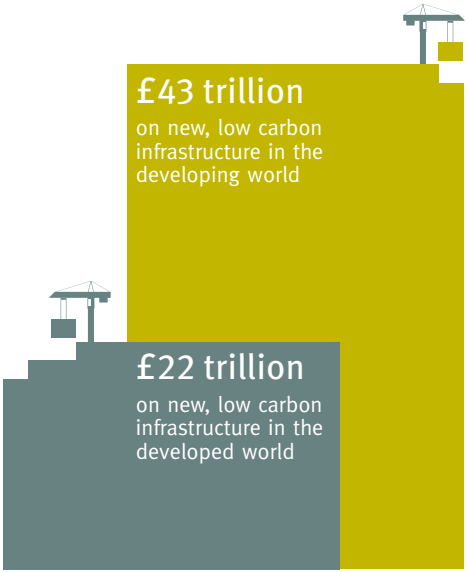
Infrastructure investment is switching from high to low carbon

The world's infrastructure will also need to change to support the new low carbon economy.

Switch to low carbon infrastructure by 2030[7]



Expenditure on infrastructure by 2030, developed vs developing world[8]



How will the UK fit into this new global economy?

Reversing global emissions is going to require a new industrial revolution and produce a wave of innovation. To be successful in this market, the UK must provide the low carbon expertise the world wants and produce the environmental goods and services it needs.

Until now, the UK has been ahead of the game on low carbon

UK action at home has earned us a world leading reputation

The UK is number two in the world for service exports, thanks to our expertise in engineering, architecture, law and finance.[9]

A third of new clean energy projects worldwide from 2007 to 2012 had legal and financial advice from the UK[10]

"The UK is uniquely placed to lead the world in a smart power revolution. Failing to take advantage would be an expensive mistake."

Smart power, National Infrastructure Commission, 2016

“Thanks to the UK’s firm commitment to a low carbon future..., Nissan LEAF will be built at Sunderland, making the UK the third country in the world to produce this revolutionary car.”

Andy Palmer, senior vice president, Nissan Motor Co, 2010

Our low carbon expertise is in high demand around the world

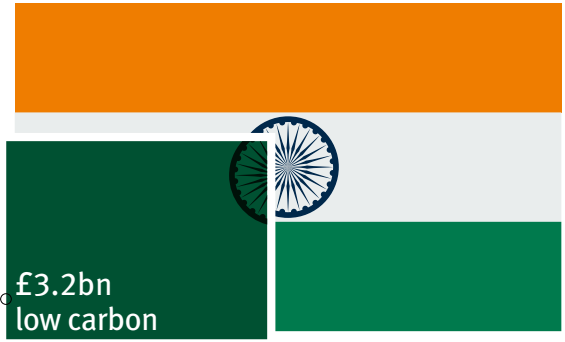
Other countries choose the UK as a business partner in building their low carbon infrastructure.

UK trade deals made in 2015 with China and India include important low carbon business initiatives

£40bn

eg £2 billion to build emission free buses[11]

£10bn



eg £1.2 billion for clean power telecom towers[12]

But domestic policy u-turns in 2015 threaten to hold UK business back

Energy efficiency, renewables and carbon capture and storage are key markets for UK engineers, architects, infrastructure builders, technology specialists and grid managers. We have invested and innovated in all these areas. But recently domestic policy has slowed or gone into reverse.[13]

Energy efficiency

2006 — zero carbon new homes plan introduced

CANCELLED 2015

2008 — zero carbon new business premises introduced

Renewables

2000 — Climate Change Levy introduced

CANCELLED 2015

2010 — feed-in tariffs for small scale renewables introduced

CUT BY 87% 2015

Carbon capture and storage

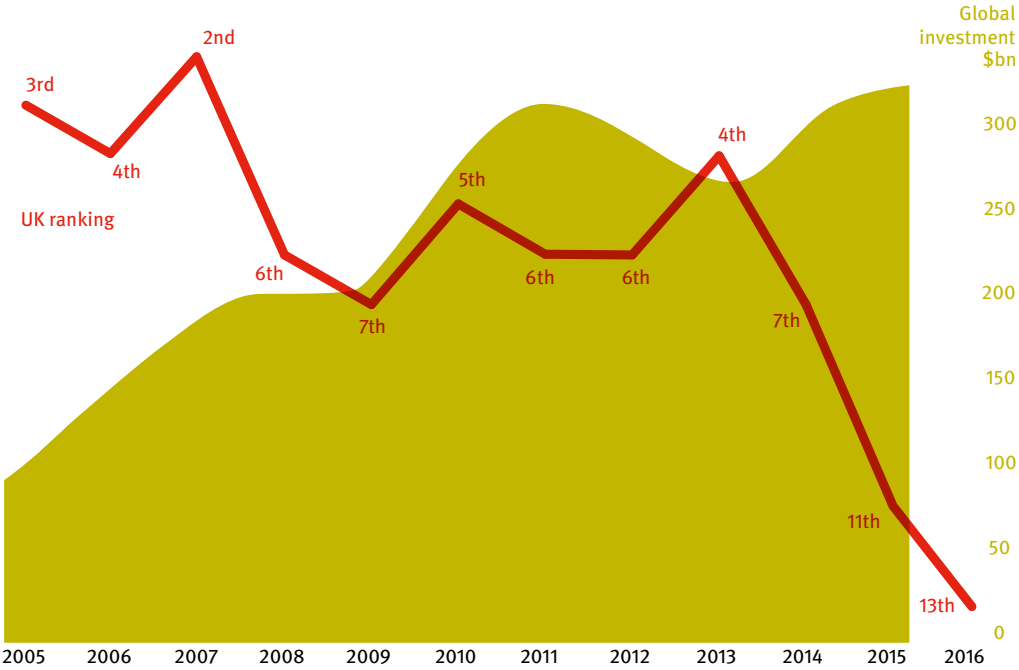
2012 — An industry-led partnership to develop a CCS programme established with a £1 billion government contribution.

WITHDRAWN 2015

Investor confidence is falling sharply

Just as the rest of the world moves forward, the UK's world ranking as a place to do business in renewables is falling. Inward and home grown investors are pulling out of projects and the UK is no longer considered to be the best place to develop the supply chain and project delivery expertise the world wants to buy.

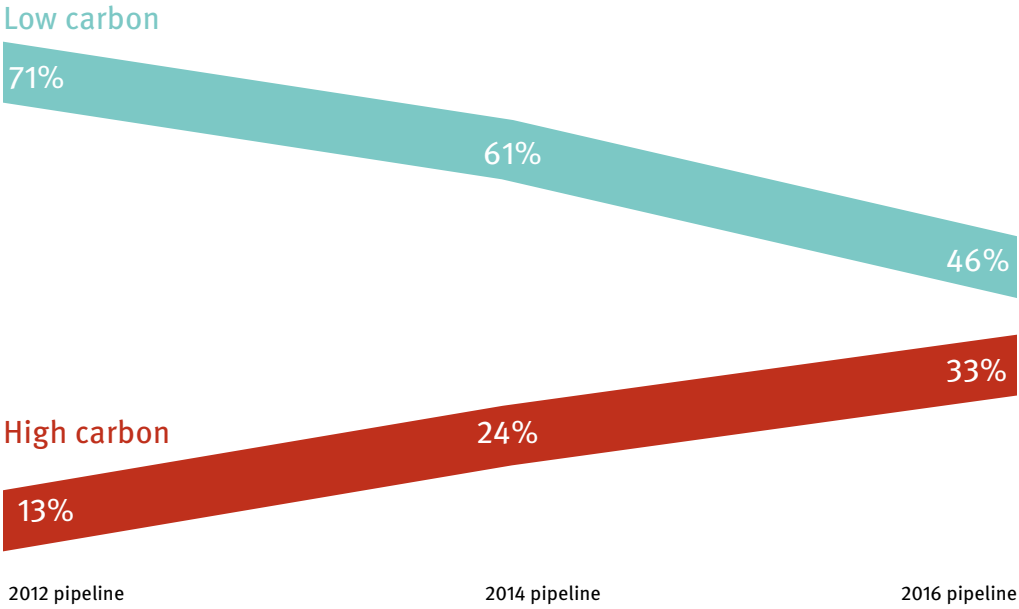
UK ranking in the EY renewable energy country attractiveness index vs global investment in renewables[14]



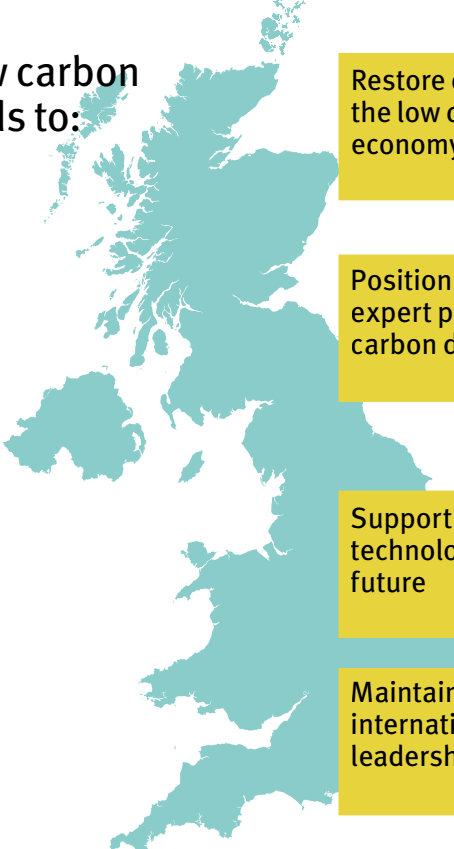
...and UK low carbon infrastructure plans are moving in the wrong direction

The most recent Infrastructure Pipeline has reverted to focus on high carbon projects, which is not only out of line with government commitments to decarbonise the economy, but also reduces opportunities for the UK's low carbon businesses.

The shifting UK infrastructure pipeline to 2020[15]



To succeed in a low carbon world, the UK needs to:



- Restore confidence in the low carbon economy
- Position the UK as an expert partner in low carbon delivery
- Support low carbon technologies of the future
- Maintain its international climate leadership role

Export success depends on thriving domestic industry

Government departments – BIS, DECC, DfT and DCLG – should collaborate to close the carbon policy gap. Businesses need more coherent signals and a robust 2016 carbon plan. This should be supported by the fifth carbon budget and a strong levy control framework, to grow the UK low carbon industry.

The UK's reputation opens the door for our businesses abroad

The government should champion the UK's low carbon experts and projects overseas. It should showcase the work of our financiers, lawyers, architects, engineers, project managers and technology companies. A co-ordinated BIS, FCO and UKTI strategy, to develop partnerships and routes to export for low carbon goods and services, would update the Export 2020 Drive in response to the 2015 Paris climate agreement.

The UK needs to retain its competitive edge in growing markets

Support should focus on innovation and the implementation of technologies and services. This would enable the UK to build competitive, low carbon supply chains, eg for energy efficient buildings, renewable technologies, smart deployment and carbon capture and storage.

UK success will depend on continuing to raise global ambitions

Through its overseas networks, the UK should continue to influence other countries to ratchet up their national climate plans. It should also support climate resilient development and help developing countries to make a sustainable low carbon transition.

Endnotes

1 Bloomberg New Energy Finance, January 2016, *New investment in clean energy 2004-15, clean energy investment: Q4 2015 fact pack*: Global investment in clean energy 2004-2015 (billion $) defined as renewables, low carbon services and energy smart technologies

2 UNEP and Bloomberg New Energy Finance, *Global trends in renewable energy investment 2016,* 'Key findings and data table', p 11-14

3 REN21, *Global status report 2015*, figure 31, 'Share of countries with renewable energy policies by income group', p 91

4 UNEP and Bloomberg New Energy Finance, op cit, p 15

5 International Energy Agency, *World energy outlook special report 2015: energy and climate change*, table 2.2, 'Energy and climate-related indicators by scenario, clean energy investment', p 62. Clean energy is defined as energy efficiency, renewables, nuclear and climate capture and storage in power and industry sectors. Energy efficiency investment is measured relative to a 2012 baseline efficiency level

6 Ibid

7 Green Alliance analysis of: The New Climate Economy, technical note, 2015, *Infrastructure investment needs of a low-carbon scenario,* table 1, p 5. Low, mid and high carbon infrastructure categories were developed in work by Vivid Economics for Green Alliance in 2013, and applied to Green Alliance analyses of the UK's and Scotland's Infrastructure Pipelines. Low carbon: eg public transport, renewable energy, energy efficiency and waste. Mid carbon (or neutral): defined as infrastructure where the carbon impact depends on design and building standards, eg ICT, water, buildings. High carbon: eg fossil fuel generation, roads and airports.

8 Green Alliance analysis of: The New Climate Economy, technical note, 2015, *Infrastructure investment needs of a low-carbon scenario,* table 1, p 5

9 World Trade Organisation, *World trade report 2015,* 'Leading exporters of commercial services 2014', p28; ONS, *International trade in services 2014*, 'Total trade in services, all industries (excluding travel, transport, and banking) analysed by product 2014'

10 Bloomberg New Energy Finance, *Clean energy and energy smart technologies league tables, 2007-2012*

11 *The Guardian*, 24 October 2015, 'The UK's deals worth billions with China: what do they really mean?'; UKTI & China-Britain Business Council, 'The high value opportunities programme'

12 UK government, press release, 13 November 2015, 'More than £9 billion in commercial deals agreed during Prime Minister Modi visit'

13 Green Alliance, press release, 31 July 2015, 'Environmental groups call on the prime minister to intervene as ten green policies are scrapped'

14 EY, *Renewable energy country attractiveness index*, September 2015, 2014, November 2013, 2012, 2011, 2010, 2009, Q1-Q2 2008, Q2 2007, Q32006, Autumn 2005; Bloomberg New Energy Finance, January 2016, *New investment in clean energy 2004-15, clean energy investment: Q4 2015 fact pack*, p 8

15 Green Alliance analysis of the UK Infrastructure Pipeline, 2012, 2014 and 2016

Will the UK economy succeed in a low carbon world?

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