

# Acting on net zero now



**green  
alliance...**



The UK's reputation for successful climate action has been based on growing its economy whilst reducing carbon emissions. It was the first major economy to commit to the phase out of coal power and the first country to set long term climate targets in legislation. But past successes are not necessarily an indication of future achievement.

It is hoped that the UK will be chosen to host COP26, the UN climate summit in 2020. So, with the world watching, it is imperative that it maintains its international reputation for climate leadership.

Currently, the UK is not on track to meet its 4th and 5th carbon budgets, which set reduction targets for the period 2023 to 2032. Although it is considering how to lower its greenhouse gas

emissions to net zero by 2050, the UK's credibility depends on continuing to decarbonise in ways that create prosperity.

Most of the emissions reductions so far have come from the power sector, the majority due to phasing out coal. To keep up the pace, other high emitting sectors will now have to step up their action.

This means expanding beyond the remit of the Department for Business, Energy and Industrial Strategy and turning the spotlight on other government departments responsible for transport, resources, housing, agriculture and land use.

It means players outside Westminster, from devolved governments to metro mayors, being given the powers to achieve their ambitions.

In practice, more funding and a clear policy direction are needed from the Treasury, which has signalled a move towards support for clean growth in the 2019 spring statement.

Decarbonisation is not the only advantage of climate policy. It can also save money in the medium to long term, improve air quality, benefit nature and create new local jobs.

A thriving economy with net zero emissions is desirable and possible but, to get there within the next 30 years, the government has to act now.

We propose five policies that could be put in place immediately to get the UK back on track to meet its carbon budgets and on the road to net zero by 2050 at the latest.

# The carbon target shortfall

The UK is on course to miss its 4th and 5th carbon budgets, set for the period 2023 to 2032. And, if the government introduces a target for net zero emissions by 2050, an even greater change in policy will be needed.

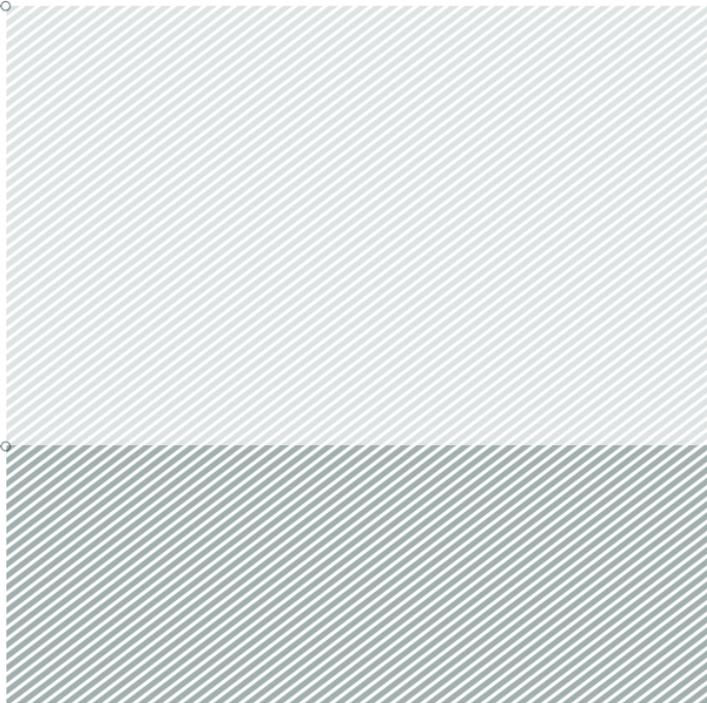
## Additional carbon savings needed by 2032 to achieve net zero by 2050<sup>1</sup>

313 MtCO<sub>2</sub>e

Reductions needed to be on track for net zero 2050

116 MtCO<sub>2</sub>e

Reductions needed to meet 5th carbon budget



# 1

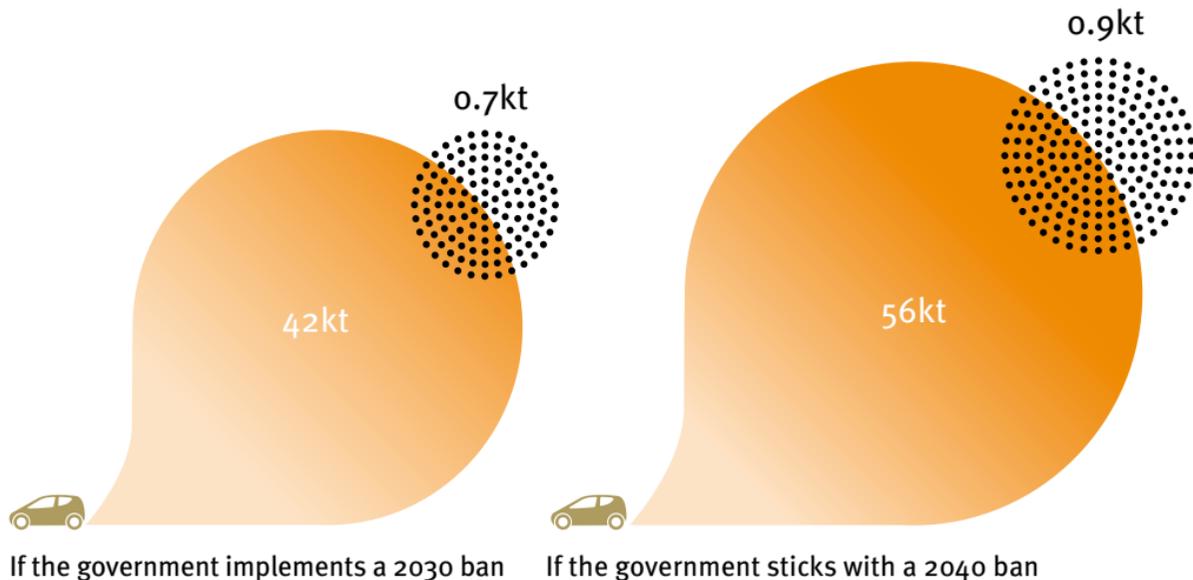
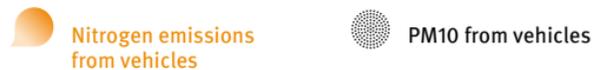
## Bring the 2040 ban on petrol and diesel vehicles forward to 2030

Transport has overtaken the power sector as the biggest emitter of carbon in the UK. At the same time, towns and cities are being blighted by dirty air.

Chancellor Philip Hammond has identified that the global trend towards electric vehicles (EVs) could benefit UK manufacturing but the domestic EV market continues to lag behind other countries.<sup>2</sup>

Bringing forward the ban on new petrol and diesel cars and vans to 2030 would reduce nitrogen and PM<sub>10</sub> particulate pollution by 68 per cent in 2030, compared to 2016.<sup>3</sup>

## An earlier target will ensure cleaner air in 2030



If the government implements a 2030 ban

If the government sticks with a 2040 ban



The impact of toxic air is undeniable. The UK is home to more children suffering from respiratory conditions than anywhere else in Europe. Every 20 minutes a child experiencing an asthma attack is admitted to hospital. Now child health professionals are warning of the seriousness of this growing health crisis.”

**Mike Penrose**  
**Executive director, UNICEF**  
February 2019

## New policy: carbon saving potential



## 2

# Introduce new incentives for better product design and reuse

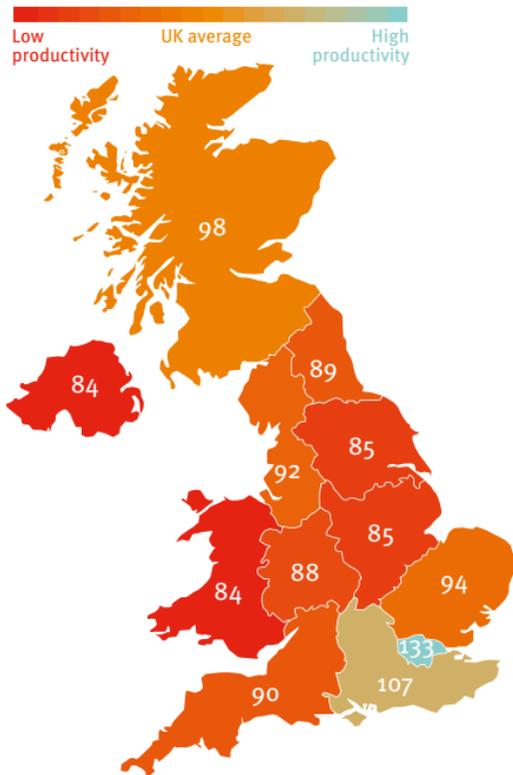
Despite material costs in the UK rising nine times faster than labour costs over the past 15 years, little has been done to use resources more efficiently.<sup>5</sup>

The UK is suffering from a lack of productivity and an imbalanced economy. Manufacturing regions would benefit from the new jobs that a more circular economy would create. Developing this requires a transformative approach and a clearer policy steer from central government.

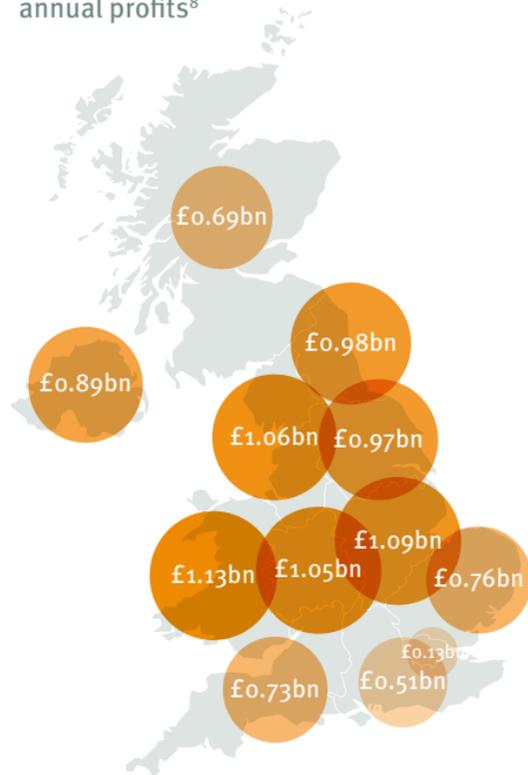
Improvements in resource efficiency could be worth £10 billion in additional profits to manufacturers every year. This would particularly benefit those areas with below average productivity.<sup>6</sup>

## Improving resource efficiency will benefit those regions with below average productivity the most

### 2017 productivity index<sup>7</sup>



### Regional share of additional annual profits<sup>8</sup>





Greater resource efficiency is critical to cutting waste, cutting emissions and improving the competitiveness of our economy.”

**Nick Molho**  
Executive director, Aldersgate Group  
December 2018

## New policy: carbon saving potential



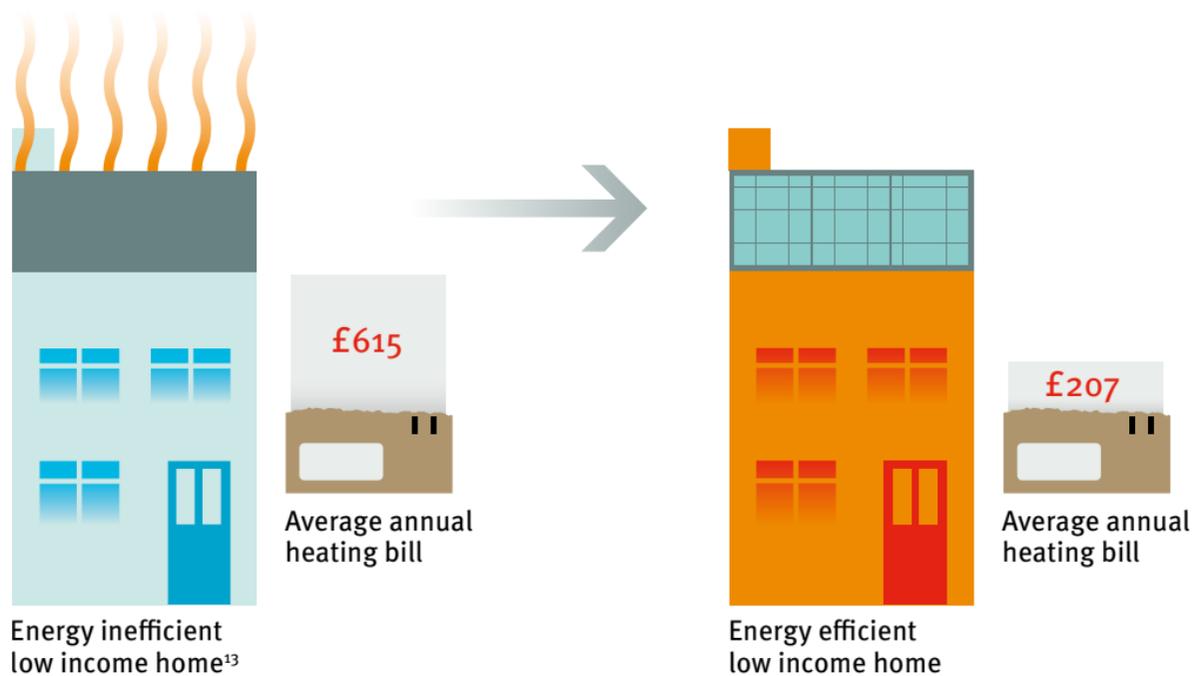
# 3

## Fund an ambitious new home energy efficiency programme

UK homes are some of the least efficient in Europe. Rising energy bills and fuel poverty are a major concern and it is estimated that nearly 10,000 people a year in the UK suffer premature death due to cold homes.<sup>10</sup>

In its Clean Growth Strategy, the UK has set a target to improve the energy efficiency of all existing homes to at least EPC band C by 2035 but it has no clear pathway to achieve it. This needs at least an additional £1 billion of public investment per year.<sup>11</sup>

Better energy efficiency would save nearly six million low income homes £408 a year each on average<sup>12</sup>



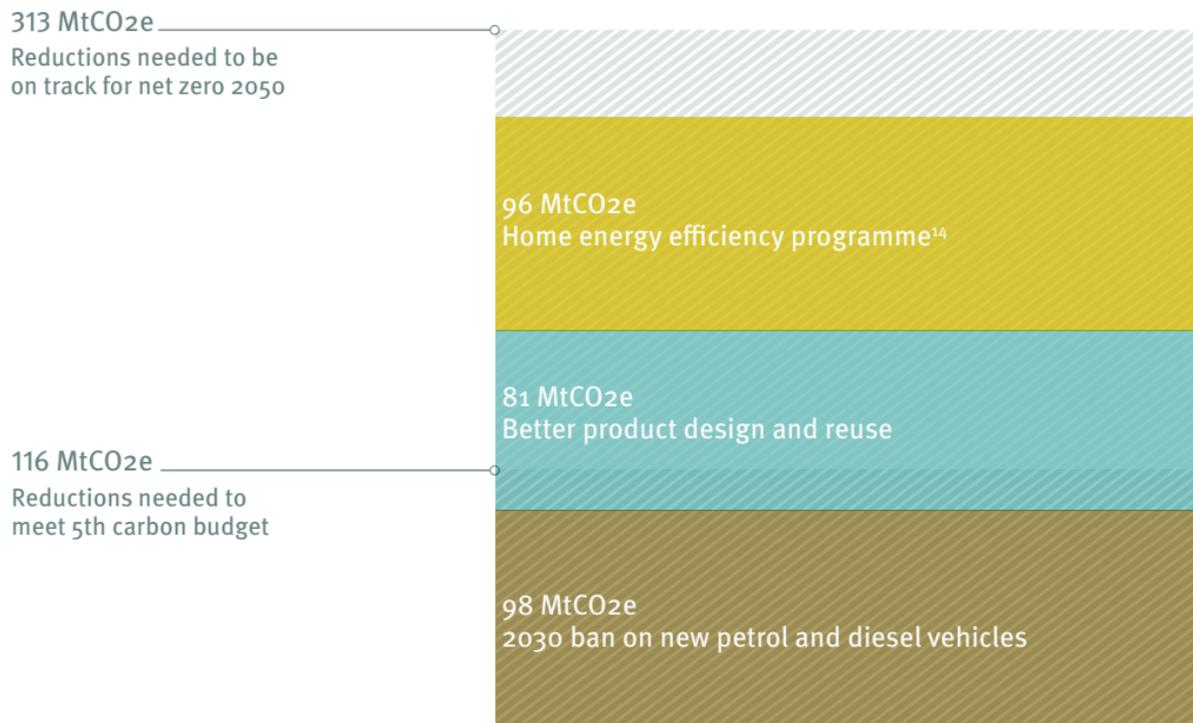


Eradicating fuel poverty is a priority for the government ... a warm home is a right not a privilege.”

**Rt Hon Claire Perry MP**  
**Minister of state for energy**  
**and clean growth**

April 2019

## New policy: carbon saving potential



# 4

## Plant many more trees, restore more peatlands and wetlands, and manage soils better

UK greenhouse gas emissions from farming and land use have flatlined since 2008.<sup>15</sup> Without concerted action, the sector could be one of the largest sources of emissions by 2050.<sup>16</sup> The National Farmers' Union's commitment to net zero carbon by 2040 is recognition of the need to act.

A transformative nationwide programme to plant more trees, restore habitats and manage soils will not only cut carbon emissions but go a long way to solving other problems like nature decline, poor air and water quality, and flood risk.

## Improving soils is better for farmers and saves carbon

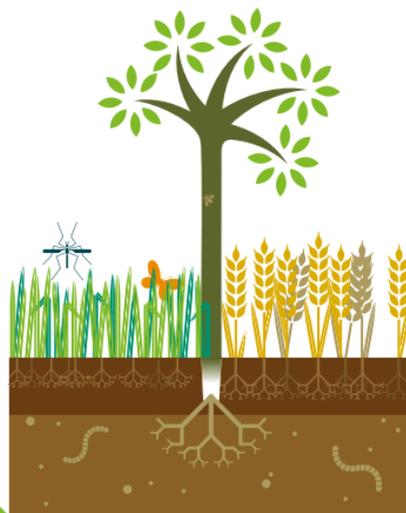
Erosion, compaction and loss of organic soil content is costing farmers £903 million a year<sup>17</sup>



### Poor soil

- Declining yields
- High fertiliser costs
- High water runoff
- High fuel costs
- Low carbon storage

Use organic manures and fertilisers  
Return crop residues to soil  
Topsoil loosening  
Plant crop cover



### Good soil

- Higher yields
- Lower fertiliser costs
- High water retention
- Lower fuel costs
- Higher carbon storage
- Better air quality
- More wildlife



Our aim must be ambitious: to get our industry to net zero across all greenhouse gas inventories by 2040 or before.”

**Minette Batters,**  
**President, National Farmers' Union**  
January 2019

## New policy: carbon saving potential

313 MtCO<sub>2</sub>e

Reductions needed to be  
on track for net zero 2050

36 MtCO<sub>2</sub>e

Cut carbon from agriculture and land use<sup>18</sup>

96 MtCO<sub>2</sub>e

Home energy efficiency programme

81 MtCO<sub>2</sub>e

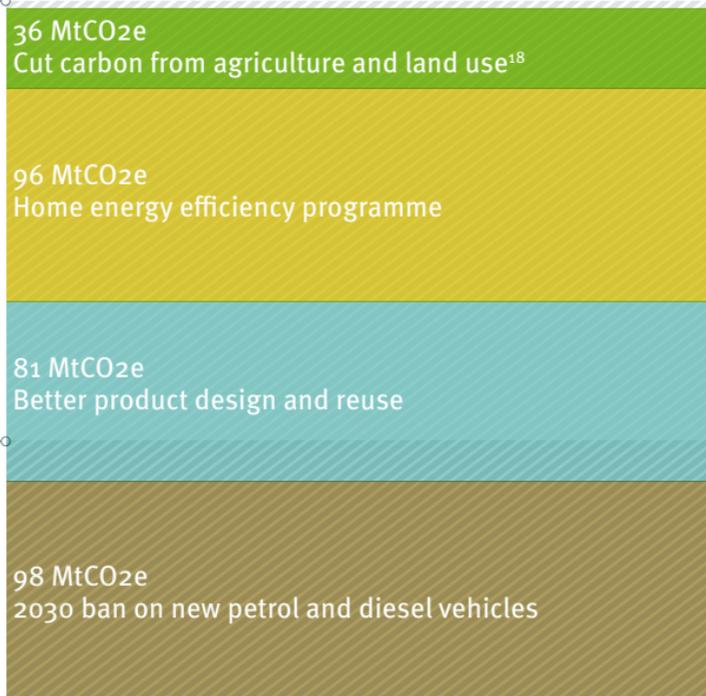
Better product design and reuse

116 MtCO<sub>2</sub>e

Reductions needed to  
meet 5th carbon budget

98 MtCO<sub>2</sub>e

2030 ban on new petrol and diesel vehicles



# 5

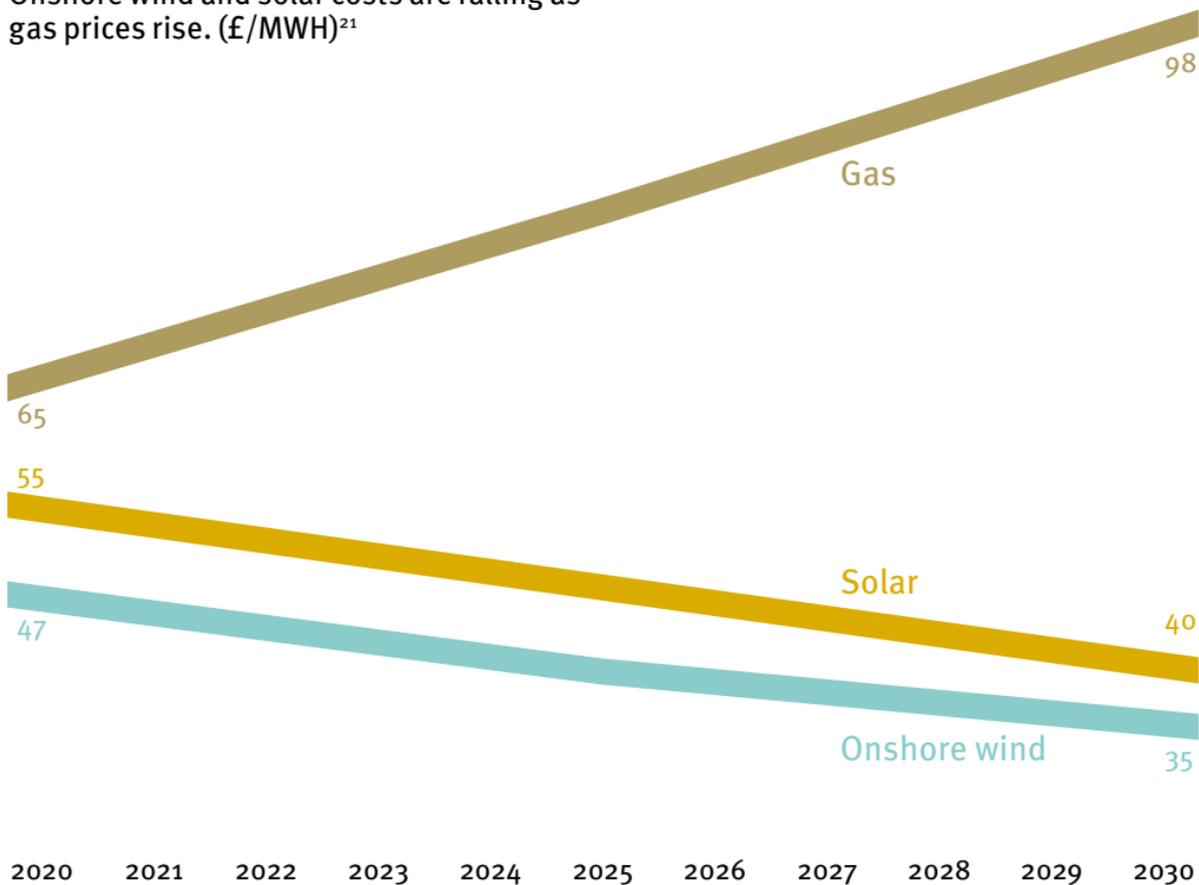
## Open up new routes to market for onshore wind and solar power

The UK has established itself as a global leader in offshore wind, which will be the dominant source of UK low carbon power in future.

However, solar power and onshore wind farms are now the cheapest ways to generate electricity and are continuing to fall in price. But they currently only generate 40.1TWh a year between them.<sup>19</sup>

Allowed to grow, onshore wind and solar have the potential to generate an additional 62TWh of clean power a year, which would amount to 20 per cent of the UK's current power generation.<sup>20</sup>

Onshore wind and solar costs are falling as gas prices rise. (£/MWh)<sup>21</sup>

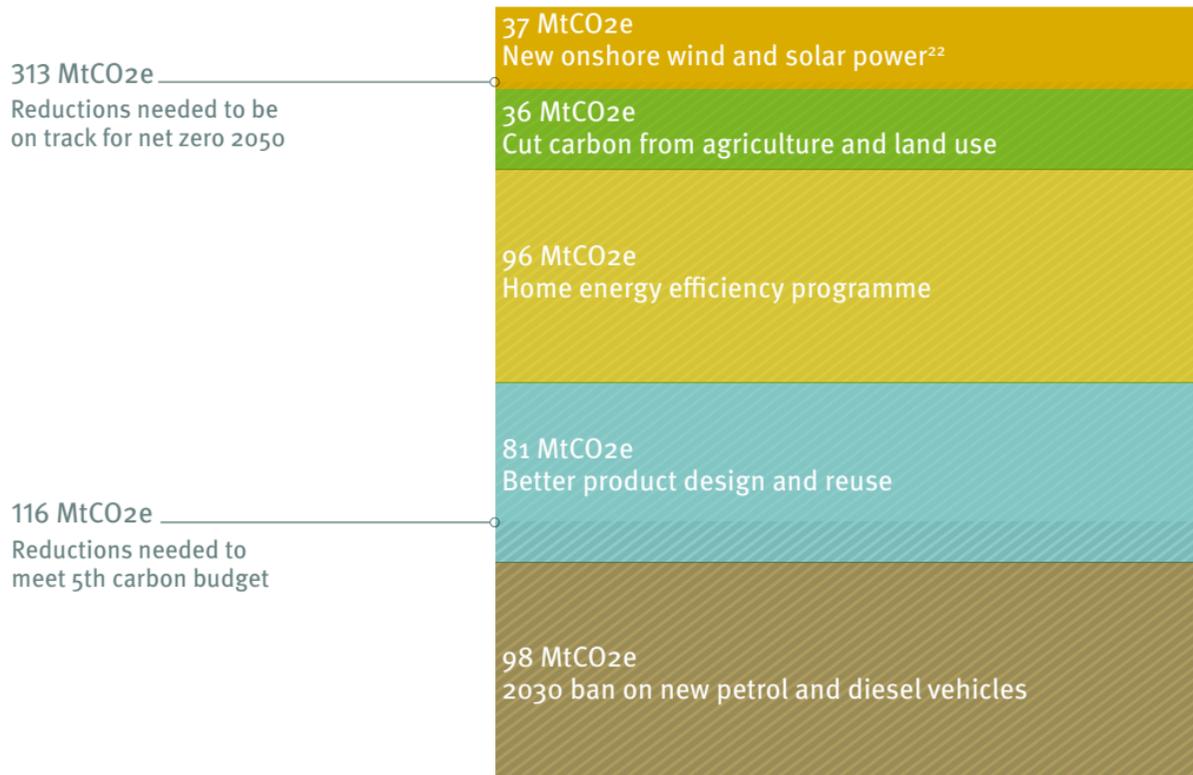




Established technologies, such as onshore wind and solar, are driving costs down for consumers. If this continues, and they have local support, they may play a significant role in the energy mix in future.”

Department for Business,  
Energy and Industrial Strategy  
January 2018

## New policy: carbon saving potential



# Endnotes

- 1 Graph and emissions calculations are based on analysis from Green Alliance, 2018, *How the UK can stop contributing to climate change*, using information from Committee on Climate Change (CCC), 2015, *Advice on the fifth carbon budget*
- 2 edie.net, March 2017, 'Budget 2017: Chancellor confirms electric vehicle funding, announces new recycling targets'
- 3 Vivid Economics for WWF, 2018, *Accelerating the EV transition Part 1*
- 4 Green Alliance, 2018, *How the UK can stop contributing to climate change*
- 5 Green Alliance, 2017, *Lean and clean: building manufacturing excellence in the UK*
- 6 Lavery Pennel, 2degrees and The Institute for Manufacturing, 2013, *The next manufacturing revolution: non-labour resource productivity and its potential for UK manufacturing*
- 7 Office for National Statistics, 2018, *Nominal and real regional gross value added (balanced by industry)*
- 8 Green Alliance analysis based on Office for National Statistics, 2019, *Subregional productivity: labour productivity indices by UK NUTS2 and NUTS3 subregions*
- 9 Green Alliance, 2018, op cit
- 10 E3G, 2018, *Cold homes and excess winter deaths*

- 11 E3G, 2018, *Silver Buckshots? Opportunities for closing the gap between ambition for, and policy and investment to drive, UK residential energy efficiency renovation*
- 12 Verco & Cambridge Econometrics, 2014, *Building the future*
- 13 CCC, 2017, *Energy prices and bills – impacts of meeting carbon budgets*
- 14 Green Alliance, 2018, op cit
- 15 CCC, 2018a, *Reducing UK emissions – 2018 Progress report to Parliament*
- 16 CCC, 2018b, *Land use: reducing emissions and preparing for climate change*
- 17 A R Graves et al, 2015, *Cost of soil degradation*;  
Green Alliance analysis based on Royal Society and Royal Academy of Engineering, September 2018, *Greenhouse gas removal*;  
In line with previous analysis from the Sustainable Food Trust 2017, *The hidden cost of food*, which estimates the total costs of soil degradation for the whole of the UK by assuming that the average level of soil degradation reported for England and Wales (11.2 million hectares of farmland) also occurs on the 7.2 million hectares of farmland in Scotland and Northern Ireland.
- 18 Green Alliance, 2018, op cit
- 19 CCC, 2018a, *Progress report to Parliament*
- 20 Baringa Partners LLP, April 2017, *An analysis of the potential outcome of a further ‘Pot 1’ CfD auction in GB*;  
BEIS, 2018, *Digest of UK energy statistics*
- 21 Green Alliance analysis based on Green Alliance, 2017, *Closing the clean power gap*;  
Department for Business, Energy and Industrial Strategy, 2016, *Electricity generation costs*;  
Catapult, December 2016, *Cost reduction monitoring framework*
- 22 Green Alliance, 2018, op cit





## **Acting on net zero now**

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