

## Executive Summary



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**A wide range of stakeholders** who engaged with us or met with the Committee bilaterally.

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## Foreword

This report - reviewing progress towards meeting our carbon budgets and the 2050 emission reduction target - comes at a critical point in the development of climate policy in the UK. The Government is about to legislate the level of the fifth carbon budget (covering the years 2028-2032). It has committed to publication of an emission reduction plan, setting out how it expects to meet the targets, towards the end of the year.

Development of those plans takes place against the backdrop of the Paris Agreement in December last year, where the countries of the world agreed to increased ambition to tackle climate change. In particular, they agreed an aim to limit the rise in global temperature to well below 2°C, with efforts to hold it to 1.5°C. The Agreement demonstrates the need for countries to work together to meet mutually agreed ambitions.

In that context, the result of the UK referendum, to leave the EU, requires serious consideration. The UK's targets to reduce emissions - enshrined in legislated carbon budgets and the 2050 target - derive from UK legislation. We will still need to meet these targets. We will still need to find ways to reduce emissions. But some of our options for doing so may now be different. At this stage it is too early to say how the policy landscape will need to adapt, but we clearly need to come back to consider this further.

Within the UK there has been progress in reducing emissions. In 2015, emissions fell by 3% and they are now 38% below 1990 levels. Much of the progress, however, has been in the power sector. To meet emission reduction targets going forward, reductions will need to be broadly based, across all sectors of the economy.

The Government recognises this. It recognises that current policies are insufficient to meet the requirements of the fourth and fifth carbon budgets and keep us on a cost-effective path to the 2050 target. It has committed to producing its plans for how these budgets will be met before the end of the year. With that in mind, in this report we review recent progress, but we also set out requirements for the Government's emission reduction plan if it is to succeed in its ambition. We hope this will be helpful to the Government as it develops its thinking. We will return to assess the plan against those requirements in our Progress Report next year.

I am grateful to the Committee members for their help and guidance in producing this report, particularly to our new members - Nick Chater and Corinne Le Quéré - whose first report this is; and I am grateful to the Secretariat for their continued hard work.



**Lord Deben**  
**Chairman, Committee on Climate Change**

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## The Committee



### **The Rt. Hon John Gummer, Lord Deben, Chairman**

The Rt. Hon John Gummer, Lord Deben, was the Minister for Agriculture, Fisheries and Food between 1989 and 1993 and was the longest serving Secretary of State for the Environment the UK has ever had. His sixteen years of top-level ministerial experience also include Minister for London, Employment Minister and Paymaster General in HM Treasury. He has consistently championed an identity between environmental concerns and business sense. To that end, he set up and now runs Sancroft, a Corporate Responsibility consultancy working with blue-chip companies around the world on environmental, social and ethical issues. Lord Deben is Chairman of the Committee on Climate Change, Valpak Limited, and the Association of Professional Financial Advisors.



### **Professor Nick Chater**

Professor Nick Chater FBA is Professor of Behavioural Science at Warwick Business School, having previously held chairs in Psychology at Warwick and University College London (UCL). He is particularly interested in the cognitive and social foundations of rationality, and in applying behavioural insights to public policy and business. He has served as Associate Editor for the journals *Cognitive Science*, *Psychological Review*, *Psychological Science* and *Management Science*. He co-founded and is a Director of the research consultancy Decision Technology Ltd.



### **Professor Samuel Fankhauser**

Professor Samuel Fankhauser is Co-Director of the Grantham Research Institute on Climate Change and Deputy Director of the ESRC-funded Centre for Climate Change Economics and Policy, both at the London School of Economics, and a Director at Vivid Economics. He is a former Deputy Chief Economist of the European Bank for Reconstruction and Development.



### **Professor Sir Brian Hoskins**

Professor Sir Brian Hoskins CBE FRS is the Chair of the Grantham Institute for Climate Change and the Environment at Imperial College London and Professor of Meteorology at the University of Reading. His research expertise is in weather and climate processes. He is a member of the scientific academies of the UK, USA, and China.



### **Paul Johnson**

Paul is the Director of the Institute for Fiscal Studies and is a visiting professor at UCL. He is widely published on the economics of public policy including tax, welfare, inequality and poverty, pensions, education, climate change and public finances. He is also one of the authors of the “Mirrlees review” of tax system design. Paul has previously worked at the Financial Services Authority and has been Chief Economist at the Department for Education and Director of Public Spending in HM Treasury, as well as Deputy Head of the UK Government Economic Service. He is a member of the council and executive committee of the Royal Economic Society and a member of the banking standards board. Paul has previously served on the council of the Economic and Social Research Council. He was a founder council member of the Pensions Policy Institute and in 2010 he led a review of the policy of auto-enrolment into pensions for the new Government.



### **Julia King, The Baroness Brown of Cambridge**

Julia King DBE FEng, The Baroness Brown of Cambridge, is the Vice-Chancellor and Chief Executive of Aston University. After an academic career at Cambridge University, Julia held senior business and engineering posts at Rolls-Royce for eight years. She returned to academia as Principal of the Engineering Faculty at Imperial College, London, becoming Vice-Chancellor of Aston University in 2006. Julia advises Government as a member of the CCC, the Science and Technology Honours Committee and as the UK’s Low Carbon Business Ambassador. She is a member of the World Economic Forum Global Agenda Council on Decarbonizing Energy, and was an inaugural member of the European Institute of Innovation and Technology’s Governing Board. She is Chair of the Sir Henry Royce Centre for Advanced Materials, a non-executive Director of the Green Investment Bank and Offshore Renewable Energy Catapult. In 2015 Julia was elevated to the peerage as a crossbench peer.



### **Lord John Krebs**

Professor Lord Krebs Kt FRS FMedSci ML was Principal of Jesus College Oxford from 2005-2015. Previously he held posts at the University of British Columbia, the University of Wales, and the University of Oxford, where he was lecturer in Zoology, 1976-88, and Royal Society Research Professor, 1988-2005. From 1994-1999, he was Chief Executive of the Natural Environment Research Council and, from 2000-2005, founding Chairman of the UK Food Standards Agency. He is a member of the U.S. National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences and the German National Academy of Sciences (Leopoldina). He was chairman of the House of Lords Science and Technology Select Committee from 2010 to 2014 and currently sits on the Energy and Environment Select Committee. He was President of the British Science Association in 2012.



### **Professor Corinne Le Quéré**

Professor Corinne Le Quéré FRS is Director of the Tyndall Centre for Climate Change Research and Professor of Climate Change Science and Policy at the University of East Anglia (UEA). She conducts research on the interactions between climate change and the carbon cycle. She has authored multiple assessment reports by the Intergovernmental Panel on Climate Change (IPCC), and is a member of the Scientific Committee of the Future Earth research platform for global sustainability.



### **Professor Jim Skea**

Professor Jim Skea has research interests in energy, climate change and technological innovation. He has been RCUK Energy Strategy Fellow since April 2012 and a Professor of Sustainable Energy at Imperial College since 2009. He was Research Director of the UK Energy Research Centre 2004-12 and Director of the Policy Studies Institute 1998-2004. He has operated at the interface between research, policy-making and business throughout his career. He is President of the Energy Institute and was elected co-Chair of IPCC Working Group III in 2015. He was awarded a CBE for services to sustainable energy in 2013 and an OBE for services to sustainable transport in 2004.



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## Executive Summary

This is the Committee's eighth annual report to Parliament on progress towards meeting the statutory carbon budgets and the 2050 target to reduce greenhouse gas emissions by at least 80% relative to 1990. It comes at an important time in the policy cycle: the Climate Change Act requires the Government to set the emissions limit for 2028-2032 through the fifth carbon budget by the end of June and then publish 'proposals and policies' for meeting it.

Emissions have fallen by 13% in the last three years to 38% below 1990 levels in 2015. However, almost all the fall in emissions has been in the power sector, as a result of reduced use of coal and increased generation of electricity from renewables. Emissions reduction in the power sector alone, or any single sector, will not be enough to meet the fourth, or recommended fifth, carbon budgets or the 2050 target. Furthermore, current policies are not sufficient to continue the good progress to date or broaden it to other sectors.

The Government has recognised that current policies are not sufficient and has committed to publish its plans to meet the fourth and fifth carbon budgets by the end of this year. This Progress Report sets out the areas where policy should be developed and strengthened in that 'emissions reduction plan' (summarised in Table 1). We will assess the Government's plans against these criteria in our 2017 Progress Report.

Internationally, the Paris Agreement was reached in December 2015. This reflects and marks significant global progress in the last year and demonstrates that UK efforts are part of international action. The aims of the Agreement (i.e. to limit the rise in global temperatures to well below 2°C, to pursue efforts to hold it to 1.5°C and to reach net zero emissions in the second half of the century) are more ambitious than the basis of the UK's statutory target for 2050 (which aims to limit temperature rise to around 2°C, implying a very low risk of a 4°C change). We will assess further the implications of this for UK climate policy in a report to be published later this year, in time to feed into the Government's emissions reduction plan.

The recent vote to leave the European Union does not change the UK's requirement to reduce emissions nor the required levels of reduction, which were legislated by the UK Parliament. However, it could have an impact on how the UK carbon budgets are met. Insofar as the Leave vote leads to a removal or weakening of policies that derive from the EU (e.g. new car emissions standards, the EU Emissions Trading System, Directives on waste and F-gases), UK policies will have to be developed that meet the UK commitments. It is too early to say what the impact of the vote will be or how UK policy should seek to evolve – the Committee will publish an analysis of this issue in the autumn.

### Progress in reducing emissions

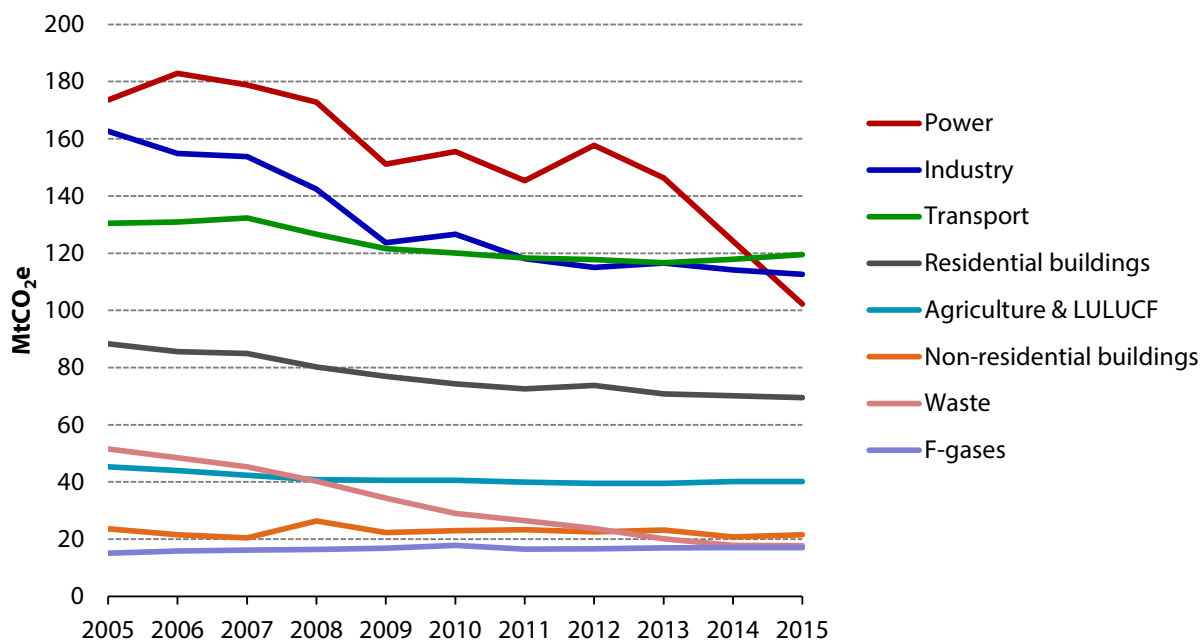
Emissions fell by 3% in 2015, relative to 2014, to 497 MtCO<sub>2</sub>e. Emissions are below the annual average permitted by both the second and the third carbon budgets (2013-17 and 2018-2022). However, the current rate of progress cannot be sustained solely through reductions in emissions in the power sector, which have driven progress in recent years (Figure 1):

- The fourth carbon budget and the fifth carbon budget recommended by the Committee require that emissions are reduced by an average of 10 MtCO<sub>2</sub>e (2-3%) per year across the economy from 2015 to 2030. That would result in a 57% reduction in emissions by 2030 relative to 1990 and keep the UK on the lowest cost path to the 2050 target.

- Whilst emissions have fallen by an average of 4.5% a year since 2012, this has been almost entirely due to progress in the power sector, particularly reduced use of coal as Government policies have driven an expansion of renewable generation.
- There has been almost no progress in the rest of the economy, where emissions have fallen less than 1% a year since 2012 on a temperature-adjusted basis. That is because there has been slow uptake of low-carbon technologies and behaviours in the buildings sector (i.e. low rates of insulation improvement, low take-up of low-carbon heat) and improved vehicle efficiency has been offset by increased demand for travel as the economy has grown and fuel prices have fallen. There is also minimal evidence of progress in the industrial and agriculture sectors.
- Progress will need to be broader to meet the recommended fifth carbon budget and to prepare sufficiently for 2050. For example, while the complete replacement of coal-fired generation with low-carbon generation in the power sector is an important part of our scenarios, this would provide less than half of the total emissions reduction required by 2030.

The Government's emissions reduction plan for the fourth and fifth carbon budgets must lay the foundations for progress across the economy.

**Figure 1.** Progress reducing emissions since 2012 has been almost entirely due to the power sector



**Source:** DECC (2016) *Provisional GHG statistics for 2015*; DECC (2016) *Final GHG statistics for 1990-2014*; CCC analysis.

**Notes:** Chart shows temperature-adjusted emissions in power, residential and non-residential buildings. This smooths out the large changes in heating emissions between years with mild and cold winters to give a clearer impression of genuine progress.

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## The need for stronger low-carbon policies in the emissions reduction plan

The carbon budgets set the direction for the UK's low-carbon transition. Firm policies in specific areas are then needed to deliver the carbon budgets. Investors have been clear that current uncertainty over future climate policy is holding back investment and increasing costs.<sup>1</sup> To meet the Government's stated objective of meeting its climate commitments at the lowest cost to consumers that uncertainty must be removed.

Table 1 sets out the full set of areas that must be addressed to keep the UK on the lowest cost path to meet its statutory targets. In some areas elements of the required policy are in place or planned but require stronger implementation if they are to succeed. In other areas new policies are required. We identify a gap of around 100 MtCO<sub>2</sub>e (47% of the required emissions reduction) between Government plans and the path required to meet the recommended fifth carbon budget in 2030 (this gap is shown in red in Figure 2).<sup>2</sup>

In our 2015 Progress Report, we identified four main recommendations to ensure that progress will continue on electricity, buildings, transport and infrastructure. In part the policy gap reflects mixed progress in developing the policy framework in those areas in the last year:

- **Some areas have progressed**, for example: funding available for offshore wind has been extended to 2026, for renewable heat to 2020/21 and for electric vehicles to 2018.
- **There have been backward steps in other areas:** cancellation of the Commercialisation Programme for carbon capture and storage (CCS), a reduction in funding for energy efficiency and cancellation of the zero carbon homes standard.
- **Other priorities have not moved forward:** no further auctions have been run or planned for the cheapest low-carbon generation (e.g. for onshore wind and solar in windy/sunny sites that are locally acceptable), there is no action plan for low-carbon heat or energy efficiency and there are no vehicle efficiency standards beyond 2020.

Given the need for progress across the economy, it is important that policy gaps are addressed in all areas. This will ensure the UK can meet its legislated targets in the lowest cost way, while maximising the opportunities these bring for UK businesses. Particular priorities are:

- **Heat in buildings**
  - Progress improving the energy efficiency of buildings has stalled since 2012: annual rates of cavity wall and loft insulation in 2013-2015 were 60% down and 90% down respectively on annual rates in 2008-2012. Take-up of heat pumps and low-carbon district heating remains minimal: less than 0.5% of heat demand in 2015.
  - Clear, consistent and credible policies are needed across these areas that are attractive to owners and landlords of both homes and workplaces, that overcome behavioural barriers and that can build up skills and supply chains. Progress in lower cost segments (i.e. in new buildings and those off the gas grid) should be prioritised.
  - We will publish a detailed assessment of options for accelerating progress in the buildings sector later in 2016.
- **Transport policy beyond 2020**

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<sup>1</sup> E.g. Energy and Climate Change Select Committee (2016) *Investor confidence in the UK energy sector inquiry*.

<sup>2</sup> The lowest cost path to the fifth carbon budget (2028-2032) and the 2050 target is likely to involve steady reductions in emissions. We therefore track progress against that path, even though emissions are already below the third carbon budget for 2018-2022.

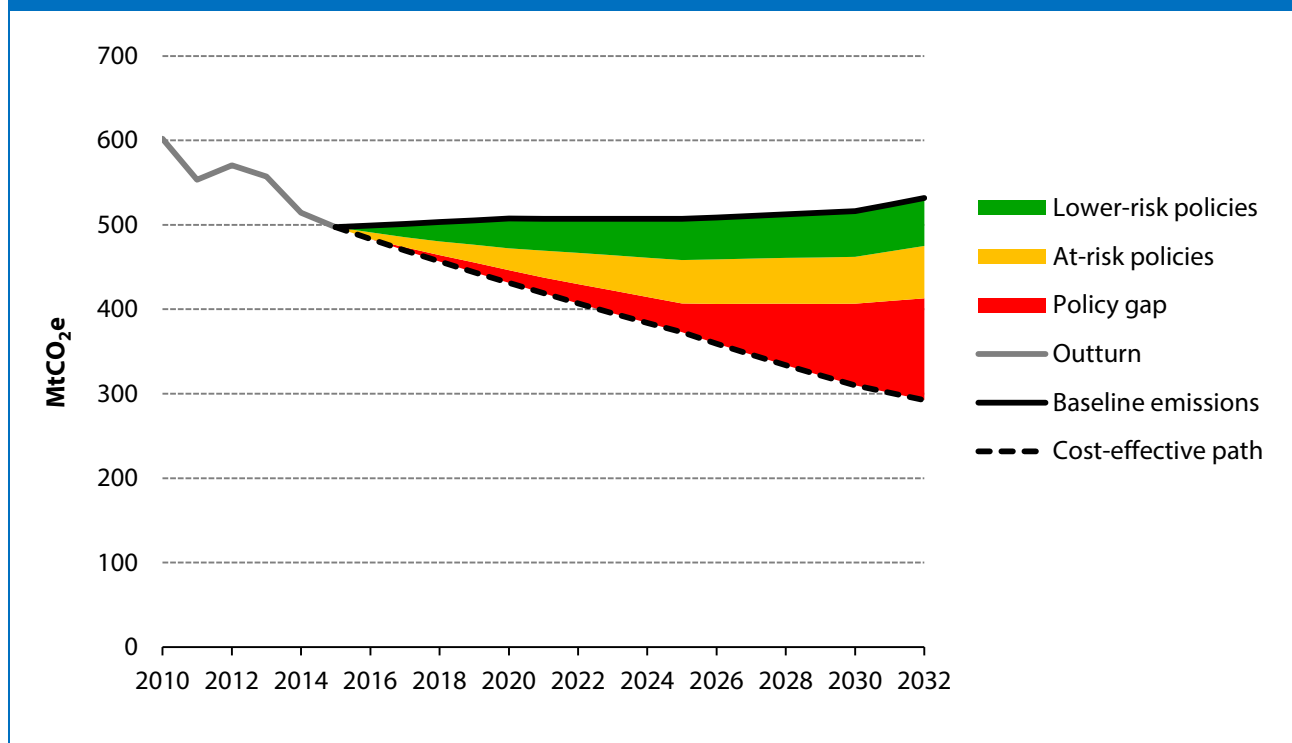
- Policy measures are in place which have improved the efficiency of new cars and vans and can be expected to continue to do so to 2020, provided there is appropriate testing.
- Policy will need to be extended through the 2020s, with stretching standards for vehicle CO<sub>2</sub> emissions based on real-world driving, tested by independent authorities.
- The extended standards should require an increasing share of electric vehicles, supported by action to develop the charging infrastructure and address cost barriers while these remain. This would bring important co-benefits in improved air quality (and potentially in grid balancing), as would measures to moderate demand for travel.
- **Carbon capture and storage (CCS).** CCS is of critical importance to meet the UK's climate targets at least cost, and requires a strategic approach to its development.
  - A number of options to reduce emissions that are being actively considered by Government and industry depend on CCS (e.g. use of hydrogen in heating and transport; the 'action plans' for industry). CCS is also likely to have a key role in the longer term (e.g. in combination with sustainable bioenergy and for seasonal/flexible power generation).
  - There is no strategy for the development of CCS following the cancellation of the Commercialisation Programme in November 2015. Lessons learnt in that process enable a more strategic approach to be adopted, which can support commercialisation of CCS at a lower overall cost to the consumer and taxpayers.
  - The new approach should have separate support for the capture plants and for the infrastructure for transporting and storing CO<sub>2</sub>, reflecting their different technical and economic characteristics. It should be based around shared infrastructure for CCS 'clusters' in areas of industrial activity and requires a new funding mechanism for industrial CCS, to operate alongside contracts for difference for power plants. To access lower costs of capital, risks should be allocated to the party best able to manage them (including Government in the case of policy risk, such as the carbon price).
- **Mature low-carbon generation**
  - Effective policy has been developed to support mature renewable electricity generation (e.g. onshore wind and solar) through contracts for difference allocated by competitive auctions. The first auction in 2015 was successful, and further projects are available without subsidy beyond the Government's published carbon values (i.e. £78/tCO<sub>2</sub> in 2030).
  - However, no further auctions have taken place and none are planned. Excluding these technologies increases the cost of meeting the UK's carbon targets.
  - The Government should provide a route to market for the cheapest low-carbon generation technologies, for example by defining the price at which it would consider low-carbon generation to be subsidy-free and running auctions to reveal the cheapest projects below that price.

Progress in each of these sectors, and in other areas such as agriculture and industry, will be helped by innovations, including new and improved products. The Government's plan to meet the fourth and fifth carbon budgets should include consideration of different ways to promote innovation: for example, the role of pilots and other smaller-scale deployment, larger-scale deployment and research and development. The plan should set out how technological and product innovations (e.g. efficient low-carbon heating systems, new vehicles, new ways of growing food) and demand-side innovations (e.g. smarter temperature control systems for homes and offices) will be supported. The Government's plan should consider the best ways to

promote new innovation in the UK, and how to adopt quickly innovations from elsewhere in the world. The plan needs to consider when different types of innovations are likely to be delivered (e.g. within the next decade, in the 2030s, after 2050) in order to assess their potential contributions to the fourth and fifth carbon budgets, to the 2050 target or to the longer-term, post-2050, ambitions set out in the Paris Agreement.

There are various ways to meet carbon budgets, with scope for the Government to adopt a different balance of effort from the one we have proposed. However, reduced effort in one area must be compensated by increased effort elsewhere. The goal should be to meet carbon budgets through action in the UK. Flexibilities available under the Climate Change Act (e.g. use of credits, banking of over-performance) should only be used to deal with unexpected difficulties, not as an alternative to domestic action. We will assess the overall balance of effort in the emissions reduction plan in our 2017 Progress Report.

**Figure 2.** Assessment of current policies against the cost-effective path to meet carbon budgets and the 2050 target



**Source:** DECC (2015) *Updated energy and emissions projections*; CCC analysis.

**Notes:** 'Lower-risk policies' (green) are those that aim to address known barriers and have sufficient funding and ambition to deliver with reasonable confidence. 'At-risk policies' (amber) either lack sufficient funding, do not address known barriers or have important design elements still to be confirmed. No funded policies exist to close the 'policy gap' (red), even though the Committee's scenarios identify abatement options to do so that are on the lowest cost path to meet the carbon budgets and the 2050 target. 'Baseline emissions' is the likely path of emissions in the absence of policy effort.

**Table 1. Policy requirements for the Government's plan to meet the fourth and fifth carbon budgets**

Policy requirement	New policy required	Stronger implementation required
<b>Power (21% of 2015 emissions): Emissions intensity to fall by around 75% (to below 100 gCO<sub>2</sub>/kWh) between 2015 and 2030, with options developed to allow near-zero emissions by 2050</b>		
<b>A strategic approach to carbon capture and storage deployment in the UK</b>	x	
<b>An approach to bring forward the cheapest low-carbon generation</b> (e.g. auctions for generation from onshore wind, solar and sustainable biomass)	x	
<b>Support for offshore wind as costs are driven down</b> , based on funding and cost goals announced in the 2016 Budget		x
<b>Plans for flexibility options (e.g. storage, interconnection, demand response)</b> , including rapid development of market rules to ensure that revenues available to these options reflect their full value to the electricity system		x
<b>Contingency plans for delay or cancellation of planned projects</b> , for example new nuclear power plants	x	
<b>Buildings (18% of 2015 emissions): Emissions to fall by around 22% between 2015 and 2030, with options developed to allow near-zero emissions by 2050</b>		
<b>Clear, consistent and credible policies to drive deployment of heat pumps and district heating</b> , including: immediate action to address barriers (e.g. upfront cost, low awareness) alongside the Renewable Heat Incentive and development of a more comprehensive policy package to drive the higher uptake needed in the long run	x	
<b>Standards to ensure new-build properties are highly energy efficient and use low-carbon heating systems by default</b>	x	
<b>A stronger policy framework to drive residential energy efficiency improvement by addressing gaps and strengthening existing policies</b> , including: addressing behavioural factors for the able-to-pay, increased funding for fuel poor households, an effective approach to the private-rented sector	x	x
<b>More progress on improving the energy efficiency of non-residential buildings</b> , including: a consolidated reporting mechanism for commercial and public buildings, new emissions reduction targets for the public estate, new policies to support SMEs in England	x	x
<b>Industry (23% of 2015 emissions): Emissions to fall by around 20% between 2015 and 2030</b>		
<b>An overall approach to long-term industrial decarbonisation</b> , developing existing 'Roadmaps' into specific actions and milestones and extending coverage to other industrial sectors		x
<b>A strategic, funded approach to industrial carbon capture and storage</b> , based around clusters alongside power installations and shared infrastructure, with a new funding mechanism for industry	x	
<b>An effective approach to drive sustained uptake of low-carbon heat in industrial processes and buildings</b>	x	

<b>A stronger policy framework for industrial energy efficiency</b> , including reviewed Climate Change Agreements and an effective reporting mechanism		x
<b>Domestic transport (24% of 2015 emissions): Emissions to fall by around 43% between 2015 and 2030 with options developed to allow near-zero emissions by 2050</b>		
<b>Stretching standards for new car and van CO<sub>2</sub> beyond 2020</b> , that require increased electric vehicle sales, are independently enforced and use real-world testing procedures	x	
<b>Policies to achieve a high uptake of electric vehicles by 2030, of around 60% of new sales</b> , including: direct or indirect financial support until costs are driven below conventional vehicles, and development of a national network of charge points		x
<b>Policy to increase uptake of sustainable biofuels to around 8% (by energy) by 2020</b>		x
<b>Policies to reduce emissions from HGVs</b> , including vehicle efficiency improvements based on 'real-world' testing, driver training, more efficient logistics, modal shift to rail and development of ultra-low emission technologies, such as electric and hydrogen options	x	
<b>National and local policies to reduce demand for car travel</b> , sufficient to deliver car-km reductions of around 5% below the baseline trajectory, including through shifts to public transport, cycling and walking	x	x
<b>A plan to limit UK aviation emissions to around 2005 levels by 2050</b> , implying around a 60% potential increase in demand, supported by strong international policies	x	
<b>Agriculture, land use, land-use change and forestry (8% of 2014 emissions): Emissions to fall by around 15% between 2014 and 2030, and afforestation rate to increase to 15,000 hectares per year</b>		
<b>The new Smart Inventory to be introduced in 2017</b>		x
<b>A stronger policy framework for agriculture emissions reduction across all nations</b> , both to 2022, as current progress is not on track, and after 2022; that should move beyond the current voluntary approach of providing information and advice	x	x
<b>Addressing financial and non-financial barriers to increase afforestation and agro-forestry</b>		x
<b>Waste (3% of 2014 emissions): Emissions to fall by around 50% between 2014 and 2030</b>		
<b>Strengthened approaches through the waste chain</b> , including waste prevention, separate collections (e.g. of food waste), diverting biodegradable waste from landfill and increased methane capture at landfill sites	England N Ireland	Wales Scotland
<b>F-gases (3% of 2014 emissions): Emissions to fall by at least 70% between 2014 and 2030</b>		
<b>Monitoring, implementation and enforcement of the existing F-gases regulation</b>		x
<b>Seeking cost-effective opportunities to reduce F-gas emissions further than existing legislation requires</b> , including assessing and addressing barriers to action	x	
<b>Notes:</b> (1) In some areas success will need both new policies and stronger implementation of existing plans/policies – in these cases both columns are checked. In all cases plans and policies, whether new or existing, will need to be strongly implemented. (2) The latest non-CO <sub>2</sub> data is for 2014.		

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## Progress in the devolved administrations

The devolved administrations have an important role to play in achieving the UK's carbon budgets. Scotland, Wales and Northern Ireland together account for 22% of UK emissions (9%, 9%, and 4% respectively in 2014, the latest year for which data are available), while they account for 16% of the UK's population and 13% of GDP.

The devolved administrations have each adopted their own targets to reduce emissions. Scotland has passed its own Climate Change Act and has legislated ambitious annual targets, while in Wales and Northern Ireland targets have been set by the devolved governments. The Welsh Government will legislate emission reduction targets and is due to set carbon budgets, required by their new 2016 Environment (Wales) Act. The new government in Scotland has pledged to bring forward a new Climate Change Act for Scotland that is likely to be more ambitious than the current one.

Additional powers are also being devolved. Where relevant powers are already devolved, these are often used more actively than for the UK as a whole. For example:

- Scotland, Wales and Northern Ireland have allocated tax-payer funds to support uptake of energy efficiency measures in buildings and work with local authorities on area-based delivery. Scotland has also made energy efficiency a national infrastructure priority.
- Scotland and Northern Ireland have improved local provision of electric vehicle charging infrastructure, while all three devolved nations have developed active travel policies (e.g. to encourage walking and cycling as a transport choice).
- Scotland, Wales and Northern Ireland have more active waste policies, with ambitious recycling targets and separate collections for food waste. Scotland is implementing bans on biodegradable waste being sent to landfill, and Wales has a strategy to move towards a zero waste economy.
- Although current rates of tree planting are falling short, the devolved administrations have planted more trees and have more ambitious goals than England, supported by detailed strategies and some funding.

Many of these initiatives have been introduced recently, meaning evidence of their relative success is currently limited. The Committee will continue to monitor progress to ensure that effective approaches can be adopted more widely.

To stay on track to the stretching devolved targets policy strengthening will be required. That should drive increased take-up in the low-carbon heat markets, increased tree planting, and incentives for emissions reduction in agriculture, areas where many policy and funding levers are devolved. We will provide more detailed assessments in our reports and advice to the devolved administrations.

## Next steps

Later this year, the Committee will publish further advice to help inform the Government's emissions reduction plan: on the implications of the Paris Agreement for UK targets and on actions and the challenge for decarbonising the UK's building stock. We will also publish our assessment of the implications of leaving the European Union.

In our 2017 Progress Report, we will assess the Government's plans based on the criteria set out in this report (Table 1) and elaborated in those further reports.



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The rest of this report begins with a chapter giving an economy-wide view of progress, followed by chapters on individual emitting sectors of the economy. The report is supported by a technical annex, which includes data on all indicators of progress tracked by the Committee.