

Executive summary



Summary

This White Paper sets out the UK's first ever comprehensive low carbon transition plan to 2020. This plan will deliver **emission cuts of 18% on 2008 levels by 2020** (and over a one third reduction on 1990 levels).

Key steps include:

For the first time, **all major UK Government departments have been allocated their own carbon budget** and must produce their own plan.

Getting 40% of our electricity from low carbon sources by 2020 with policies to:

- **Produce around 30% of our electricity from renewables** by 2020 by substantially increasing the requirement for electricity suppliers to sell renewable electricity.
- **Fund up to four demonstrations of capturing and storing emissions from coal power stations.**
- Facilitate the building of new nuclear power stations.

Clarifying that **Ofgem**, in its job to protect consumers, both current and future, **should help tackle climate change and ensure security of supply.**

Making homes greener by:

- **Channelling about £3.2 billion to help households become more energy efficient** by increasing the current programme by 20% between 2008 and 2011 and then extending it to the end of 2012.
- Rolling out smart meters in every home by the end of 2020.
- **Piloting “pay as you save” ways to help people make their whole house greener** – the savings made on energy bills will be used to repay the upfront costs.

- **Introducing clean energy cash-back schemes** so that people and businesses will be paid if they use low carbon sources to generate heat or electricity.
- **Opening a competition for 15 towns, cities and villages** to be at the forefront of pioneering green innovation.

Helping the most vulnerable by:

- Creating **mandated social price support** at the earliest opportunity with increased resources compared to the current voluntary system. The Government is minded to focus new resources particularly on older pensioners on the lowest incomes.
- **Piloting a community-based approach to delivering green homes in low income areas**, helping around 90,000 homes.
- **Increasing the level of Warm Front grants** so most eligible applicants can receive their energy saving measures without having to contribute payment themselves.

Helping make the UK a centre of green industry by supporting the development and use of clean technologies, including up to **£120 million investment in offshore wind and an additional £60 million to cement the UK's position as a global leader in marine energy.**

Transforming transport by cutting average carbon dioxide emissions from new cars across the EU by 40% on 2007 levels, supporting the largest demonstration project in the world for **new electric cars**, and sourcing 10% of UK transport energy from sustainable renewable sources by 2020.

The first ever formal framework for tackling emissions from farming.

Producing a longer term roadmap for the transition to a low carbon UK for the period 2020 to 2050 by next spring **and a vision for a smart grid.**

Setting out the Government's assessment of the outlook for energy security.

This White Paper sets out the UK's transition plan for becoming a low carbon country: cutting emissions, maintaining secure energy supplies, maximising economic opportunities, and protecting the most vulnerable.

The challenge

If the world continues emitting greenhouse gases like carbon dioxide at today's levels then average global temperatures could rise by up to 6°C by the end of this century. This is enough to make extreme weather events like floods and drought more frequent and increase global instability, conflict, public health-related deaths and migration of people to levels beyond any of our recent experience. Heat waves, droughts, and floods would affect the UK too.

To avoid the most dangerous impacts of climate change, average global temperatures must rise no more than 2°C, and that means global emissions must start falling before 2020 and then fall to at least 50% below 1990 levels by 2050.

The UK is calling for an ambitious global agreement at UN talks in Copenhagen in December 2009. The Government's approach to this deal is set out in *The Road to Copenhagen* published in June 2009.

To encourage action, the EU, which represents the UK in these UN talks, has promised to cut its emissions to 20% below 1990 levels by 2020, and by 30% if other countries play their part. The UK will make an above average contribution to meeting these, reflecting our relatively high income.

The EU has also created the world's largest emissions trading scheme, which could form the basis of a global system to cut emissions



Changes in our climate mean that two out of every three people on Earth could experience water shortages by 2025

and help fund emissions cuts in developing countries. And it is exemplifying the kinds of further targeted action that is needed by supporting renewable energy, testing new technologies and setting standards to cut emissions from cars and other products.

Driving the transition

We all need to play our part in making these changes. If we get it right, we will have a better quality of life, improved long-term economic health, new business opportunities in a fast-growing global sector, and, by reducing our reliance on fossil fuels, greater security of future energy supplies.

But the transition is not without its challenges. We will need to drive major changes to the way we use and supply our energy and in doing so it is critical that our supplies continue to be safe, secure and reliable. We need new investment in low carbon infrastructure and to manage the risks associated with our increasing

dependence on energy imports at a time when competition for global energy supplies is intensifying. Over time, energy costs will rise, so the Government will be vigilant in ensuring affordable prices and helping the most vulnerable.

The UK has made good progress so far. Emissions have already fallen 21% below 1990 levels, nearly double what was promised at Kyoto, and over 800,000 people are employed in low carbon businesses. But there is more to do.

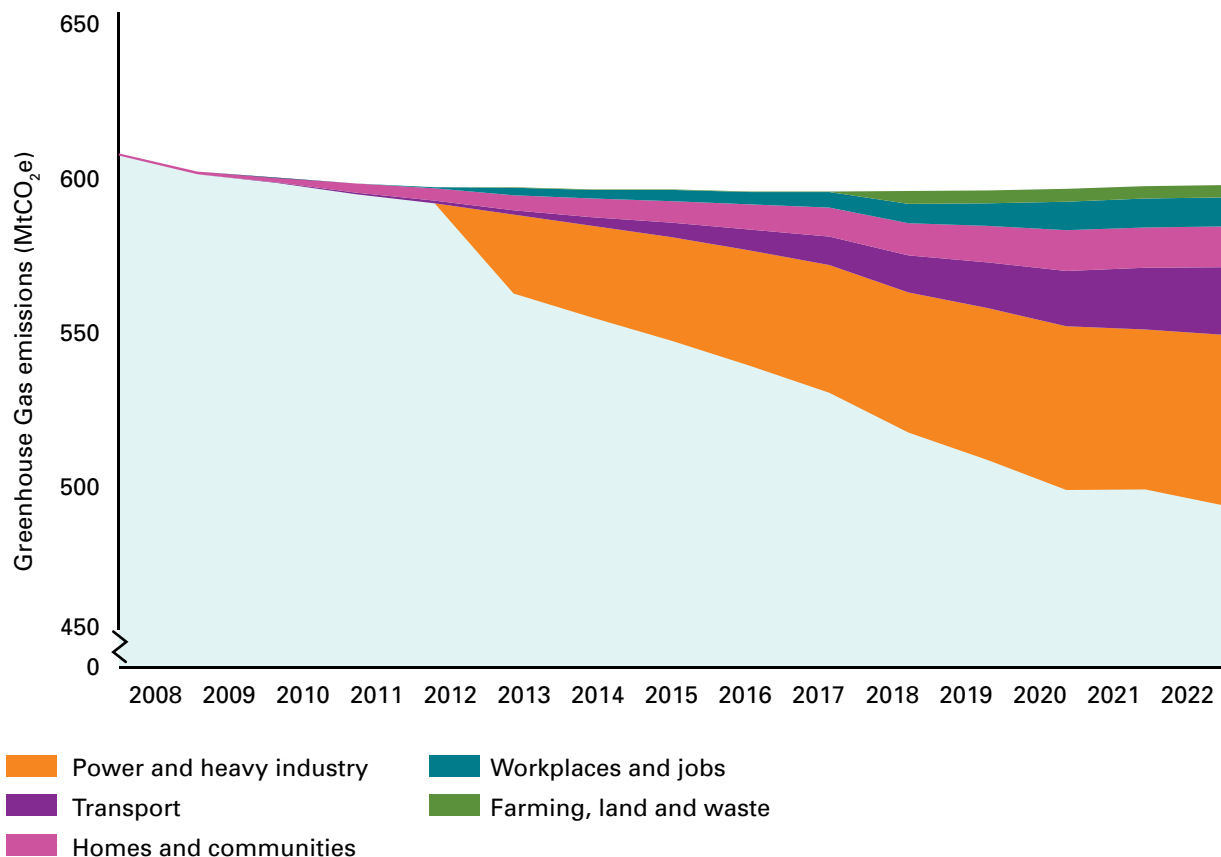
Dynamic, competitive markets, a strategic role for Government, and active communities will be needed to bring about the transition to low carbon.

To drive this transition, the Government has put in place the world's first ever legally binding target to cut emissions 80% by 2050 and a set of five-year "carbon budgets" to 2022 to keep the UK on track.

This White Paper for the first time sets out how these budgets will be met – so that by 2020 UK emissions will be 18% below 2008 levels and over one third below 1990 levels. This will mean emissions falling faster than before: emissions have fallen about 1% a year since 1990, and will now fall 1.4% a year. The UK will go even further if other countries sign up to an ambitious global agreement.

Chart 1

The plan will reduce emissions in every sector



Source: Department of Energy and Climate Change

Note: The impact of policies prior to the 2007 Energy White Paper is included in the baseline; without these policies, UK emissions would be higher.

For the first time, UK Government departments have been allocated their own carbon budgets. Every delivery department will produce its own plan to show how it will stay within its carbon budget. If the Government fails to ensure that the UK lives within its carbon budgets then it will have to purchase credits from abroad.

One of the key ways the UK will achieve its carbon budgets is through a commitment in law to get 15% of all our energy – for electricity, heat and transport – from renewable sources by 2020. **This White Paper sets out the Government's plan to achieve this seven-fold increase**, with more detailed plans in the *Renewable Energy Strategy* published in parallel with this Transition Plan.

This White Paper sets out the Transition Plan to 2020 for transforming our power sector, our homes and workplaces, our transport, our farming and the way we manage our land and waste, to meet these carbon budgets, secure energy supplies, maximise economic opportunities and protect the most vulnerable. These are detailed in the sections below.

To deliver these goals the Government will:

- Drive decarbonisation, by providing a carbon price, supporting the new technologies and infrastructure we need and helping households and businesses overcome barriers to low carbon choices.
- Secure energy supplies by ensuring a supportive climate for the substantial new investment needed to bring forward low carbon infrastructure, and maximise the economic production of oil and gas from the North Sea to help secure the continued fossil fuel supplies needed during the transition.

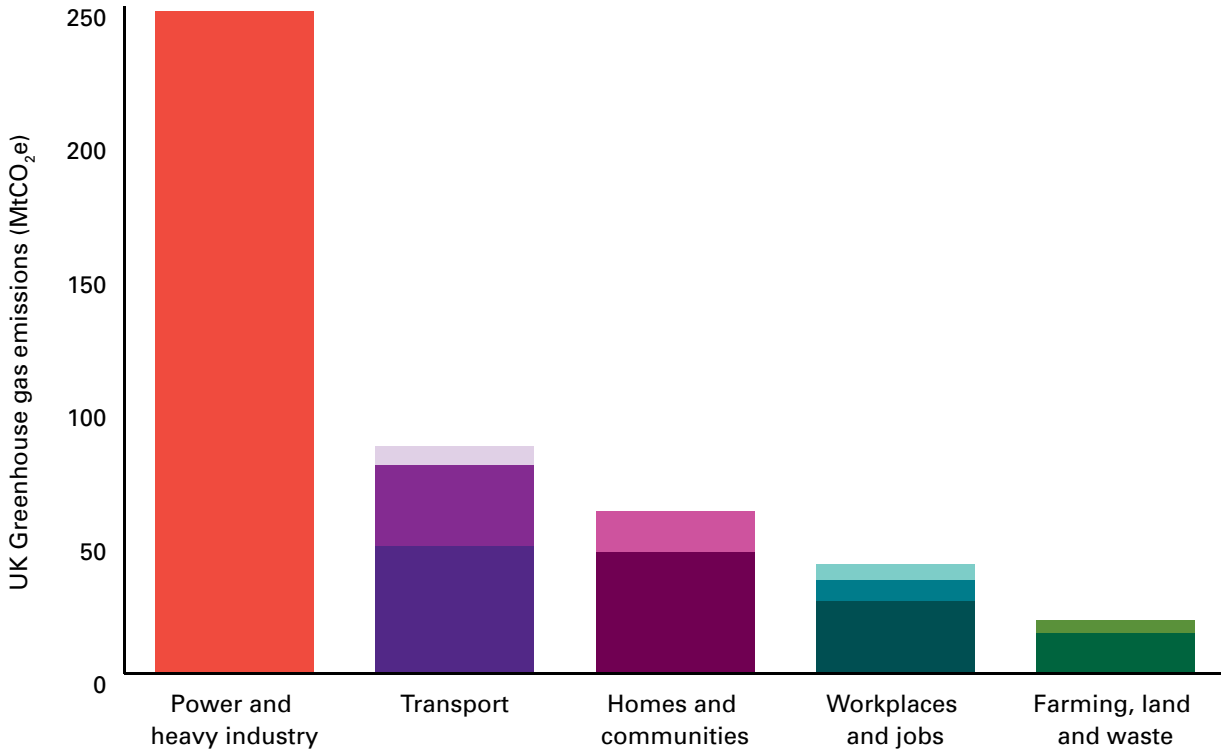


The plan will keep our energy supplies safe and secure

- Help UK low carbon and energy businesses to grow.
- Protect consumers, in particular the most vulnerable.
- Help businesses manage the costs of tackling climate change and help everyone adapt to climate impacts.
- Protect the environment by making the most of measures which bring wider environmental benefits and minimising impacts where they are unavoidable.

Chart 2

The main policies driving emission reductions are the EU Emissions Trading System, energy efficiency policies, and increased use of renewable energy for heat and transport



- European Union Emissions Trading System
- New vehicle CO₂ policies
- Additional renewable transport fuels
- Low carbon buses, car improvement technologies, driver training, illustrative rail electrification of 750km of track
- Energy efficiency, smart metering, Community Energy Saving Programme, and zero carbon homes
- Clean energy cashback (renewable heat incentive)
- Clean energy cashback (renewable heat incentive)
- Climate Change Agreements and other policies
- Carbon Reduction Commitment and other policies
- Farming (crop management, manure management etc.)
- Waste policies (diverting waste from landfill, increased landfill tax)

Source: Department of Energy and Climate Change

Note: The impact of policies prior to the 2007 Energy White Paper is included in the baseline; without these policies, UK emissions would be higher.

Transforming our power sector

Three quarters of our electricity comes from coal and gas, and the power and heavy industry sector accounts for 35% of UK emissions. But by 2050 virtually all electricity will need to come from renewable sources, nuclear or fossil fuels where emissions are captured and safely stored for the long term. Electricity is likely to be used more extensively for heat and transport, so we will probably need more than today.

The plan to 2020 will secure power supplies and cut emissions from power and heavy industry together by 22% on 2008 levels, over half of the savings needed to meet carbon budgets, so that by 2020 around 40% of our electricity will come from low carbon sources.

A key tool for delivering this is the EU Emissions Trading System which places a

limit on emissions from electricity and heavy industry (and, from 2012, aviation too).

But this alone will not be enough to enable the rapid development and use of low carbon technologies. So the Government is providing additional tailored support:

- **Renewables: renewable electricity will increase to around 30% by 2020**, a five-fold increase. The Government is now **launching the Office for Renewable Energy Deployment** to help make this change happen, including developing supply chains to bring jobs to the UK, and is publishing a short list of possible Severn Tidal projects.
- **Nuclear:** the Government is streamlining the planning and regulatory approvals processes for new nuclear power stations. It is currently assessing sites where developers would like to bring new nuclear power stations into operation by 2025,



The UK will need a bigger, smarter electricity grid for the future

and this assessment will be included in a draft National Policy Statement for nuclear power, which the Government will consult on later in 2009.

- **Carbon capture and storage:** the Government has announced plans for a mechanism to **support up to four demonstrations** and a proposed requirement for any new coal power stations to demonstrate this technology, and measures to prepare the UK for roll out if the technology is proven. A consultation on these plans was launched in June 2009.

We will also need a **bigger, smarter electricity grid**. The Government has therefore endorsed industry plans to increase grid capacity, taken action to speed up connection of renewable electricity to the grid and is supporting development of new technologies which could enable the grid to work better in the future. **The Government will later this year publish a high level vision for a future smart grid** and subsequently a plan for delivering this.

The scale and pace of the transformation that the Government expects to see in the electricity sector means that it needs to be alert to new challenges. Ensuring security of supply is a particular challenge because of the lead times for building new power stations and the requirement for significant capital investment. The Government is therefore creating a supportive climate for timely investment in a diverse mix of low carbon technologies. The Government is also ensuring that the market and regulatory framework can adapt to cope with the different characteristics of low carbon electricity generation technologies.

The Government believes that the risk to security of electricity supplies over the next decade is low but that the scale and pace of change required will test the electricity market during the transition to a low carbon

economy. The Government will shortly issue a call for evidence on electricity markets to further explore these issues.

Transforming our homes and communities

Three quarters of the energy we use in our homes is for heating our rooms and water, most of which comes from gas-fired boilers. Together this accounts for 13% of the UK's greenhouse gas emissions, and by 2050 emissions from homes need to be almost zero by using energy more efficiently and using more low carbon energy.

The plan to 2020 will cut emissions from homes by 29% on 2008 levels, introduce further measures to protect the most vulnerable, and improve the security of our gas supplies, a third of which is used in our homes.

Two thirds of the homes we will live in by 2050 have already been built, so we will need to make our existing homes much more energy efficient and heat and power them from low carbon sources. So the Government is:



Energy efficiency improvements could save households an average of £300 a year

- **Increasing the obligation on energy suppliers to help households reduce emissions and save energy, the Carbon Emissions Reduction Target, by 20%** between April 2008 and March 2011, so that about £3.2bn will be invested. Six million households have already been helped since 2002. But now the **obligation will be extended to the end of 2012**, which is expected to benefit 1.5 million additional households.
- **Introducing a community-based approach to delivering significant energy efficiency treatments to 90,000 homes in low-income areas**, the Community Energy Saving Programme.
- **Piloting a move from upfront payment to 'pay as you save' models of long-term financing for energy saving**, so it will be more affordable to make the changes needed to make the whole house low carbon.
- **Introducing "clean energy cash-back" schemes** so that people, businesses and communities will be paid if they use low carbon sources to generate heat or electricity. A household with well-sited solar panels could receive over £800, plus bill savings of around £140 a year.
- **Developing more proactive services from the Energy Saving Trust** to provide households with information and advice when it is most likely to be useful.
- Launching a competition for 15 communities to be at the forefront of pioneering green initiatives.

Bigger changes will require new approaches, so the Government is:

- Consulting on **requiring Energy Performance Certificate** ratings for rented properties to be put on property advertisements; and consulting on extending access to the performance information to help target efficiency offers and support.
- Requiring new homes to be built to higher environmental standards and from 2016 all new homes will be 'zero carbon homes'.
- Considering how best to deliver significant 'whole house' energy saving treatments in the longer term, setting out the strategy this autumn.

The policies in this Transition Plan will increase household energy bills. By 2020, the additional impact of all the policies in this plan, relative to today, is equivalent to approximately a 6% increase from current energy bills. When previously announced climate policies are included this figure is 8%.

The Government intends to clarify Ofgem's remit. The Government continues to believe that effective competition remains the central way by which consumers' interests can be protected. However, there are contexts in which means other than competition may be a preferable way to protect their interests.

The Government proposes to amend the legislation to make this clearer, building on the existing legislation.

We all need to act, and the Government is helping encourage collective action by:

- **Rolling out smart meters** in every home by the end of 2020, which will enable people to understand their energy use, maximise opportunities for energy saving, and offer better services from energy companies.
- Encouraging the provision of smart displays for existing meters now, benefitting some 2-3 million households, and launching **a new personal carbon challenge with rewards and incentives for saving energy.**

Tackling fuel poverty is a priority for the Government and it has set itself a target to end fuel poverty, as far as reasonably practicable, in vulnerable households by 2010 and in all other households by 2016.

To help the most vulnerable, Government has already put in place a £20 billion package of support with payments for older and more vulnerable people, and subsidised energy efficiency measures and new heating systems. The Warm Front programme fits or repairs a central heating system every minute of every working day in vulnerable households across England. And more than 800,000 vulnerable households in, or at risk of, fuel poverty currently receive discounts and other help with their energy bills as part of a voluntary agreement negotiated between Government and the energy companies.

Now, in addition, the Government is:

- Creating **mandated social price support** at the earliest opportunity with increased resources compared to the current voluntary system. The Government is minded to focus new resources particularly on older pensioners on the lowest incomes.
- **Increasing the level of Warm Front grants** so most people receiving benefits get their energy saving measures without having to contribute payment themselves.
- Working to ensure that fuel poor households can benefit from new low carbon schemes, such as the Renewable Heat Incentive, to help reduce bills.

Most homes rely on gas for heating. This Transition Plan will reduce UK gas demand across the economy by 27% compared to 2008 levels. But the UK remains heavily dependent on gas and so the Government is helping to ensure that the UK has reliable supplies. The UK is expected to rely on

net imports to meet around 45% of its net gas demand in 2020, compared to the level of around 60% expected without the Government's policies. But the diversity of its gas supplies has helped the UK to remain largely unaffected by international disputes. Future security of supply will also require that the UK improves its capacity to import and store gas and develops strategic partnerships with international gas suppliers.

The Government will shortly issue a commentary on the outlook for the security of UK gas supplies. Malcolm Wicks MP has reviewed how the UK can maintain secure energy supplies during the transition to a low carbon economy, and his report will be published in the coming months.

Transforming our workplaces and jobs

The changes we need to make to 2020 and beyond will transform our workplaces and our whole economy. Our workplaces are responsible for 20% of UK emissions. By 2050 all of our workplaces will need to be using less energy and making use of clean energy to reduce greenhouse gas emissions and potentially save billions of pounds each year.

The plan to 2020 will cut emissions from our workplaces by 13% on 2008 levels, and build the UK's position as a global centre of green manufacturing in low carbon sectors such as offshore wind, marine energy, low carbon construction and ultra-low carbon vehicles.

The Government will help reduce emissions from workplaces by:

- Including high carbon industries in the EU Emissions Trading System, which will save around 500 million tonnes of carbon dioxide a year across the EU by 2020.

- Providing financial support and incentives for business and the public sector to save energy and invest in low carbon technologies including the Climate Change Levy and Climate Change Agreements, Carbon Reduction Commitment and low cost loans and grants for businesses and the public sector.
- Providing advice to help all workplaces change through the Carbon Trust, Business Link, the Waste and Resources Action Programme and Envirowise.

But there will be costs from this transition: the additional impact in 2020 of the policies in this Transition Plan, relative to today, is equivalent to approximately a 15% increase in current energy bills for businesses consuming a medium amount of energy. When previously announced climate policies are included this is 17%. The Government is working to ensure that competitive energy markets deliver low cost energy and EU frameworks are fair to business.

But there are also huge opportunities for UK businesses to take part in the £3 trillion world low carbon market that will employ over 1 million people in the UK by the middle of the next decade.

To help make the UK a world centre of the green economy, the Government is:

- **Investing in research and development of new low carbon technologies, including by using the £405 million announced in April 2009 to deliver a major boost to technologies where the UK has the greatest potential**, as described in more detail in the *UK Low Carbon Industrial Strategy* published in parallel with this Transition Plan.
 - This includes **up to £120 million of investment in offshore wind, and investment of up to an additional £60 million to cement the UK's position**

as a global leader in marine energy and help develop the South West of England as the UK's first Low Carbon Economic Area.

- **The plan will also deliver support for a smart electrical grid, ultra-low carbon vehicle infrastructure and exploration of deep geothermal power.**
- Helping businesses to take up new opportunities by strengthening delivery of support for research and development, and taking action to help employees develop new skills.
- Supporting businesses through the global financial crisis and facilitating access to up to £4 billion of new capital for renewable and other energy projects from the European Investment Bank.



There could be 1.2 million people in the UK working in green sectors by 2015

Transforming transport

A fifth of our greenhouse gas emissions come from transport but by 2050 they will have to be radically reduced by using energy more efficiently and moving to more low carbon forms of energy.

The plan to 2020 will cut emissions from transport by 14% on 2008 levels and secure the oil supplies needed during the transition to a low carbon country.

As set out in *Low Carbon Transport: a Greener Future* published in parallel with this Transition Plan, the first step is to improve the fuel efficiency of new conventional vehicles, so the Government is:

- **Cutting average carbon dioxide emissions from new cars across the EU to 95g/km by 2020**, a 40% reduction from 2007 levels.
- Ensuring that the Government leads by example by setting targets for government departments and their agencies to procure new cars for administrative purposes that meet the EU standard for 2015 in 2011, four years early
- **Pressing the EU to require new vans to be more efficient.**
- **Investing up to £30 million over the next two years to deliver several hundred low carbon buses.**

We must move away from petrol and diesel in the long term. So the Government is testing out options for the radically different technologies needed by:

- **Demonstrating 340 new electric and lower carbon cars** on the UK's roads, the largest project of its kind in the world.
- **Providing help worth about £2,000 to £5,000 per vehicle towards reducing**



The Government is improving cycle storage facilities in railway stations

the price of ultra-low carbon cars, from 2011, and up to £30 million to support the installation of electric vehicle charging infrastructure in six or so cities across the UK.

- Committing to source 10% of UK transport energy from sustainable renewable sources by 2020.

Cutting transport emissions is not just about changing technologies. We all need to make low carbon travel choices, and the Government is helping by:

- **Launching a competition** for the country's first Sustainable Travel City, building on projects in towns which saw reported car trips fall by 9%, walking increase by 14% and cycling increase by 12%.
- Investing £140 million in promoting cycling in England in 2008-11, and a **new £5 million investment in improving cycle storage at rail stations.**

Emissions from international flights and ships are growing. The Government is pushing hard for an international agreement to cut them, the only truly effective way to do so, and meanwhile is:

- Putting a cap on emissions from all flights arriving at or leaving from European airports by including them in the EU Emissions Trading System from 2012.
- Introducing a target to limit UK aviation emissions to below 2005 levels by 2050, despite forecast growth in passenger demand, which is likely to be met through more efficient engines and other new technologies, and supported by government policies such as changes to airport passenger duty.

In the longer term the UK needs to reduce its dependence on oil for transport but it will still be an important fuel for some time to come and the Government needs to help ensure that the UK has safe and secure supplies of the oil products it requires. The Government's approach is to maximise the economic exploitation of the UK's own oil reserves, to work with other countries to ensure a well-functioning global oil market, and to improve UK fuel infrastructure.



For the first time farming and land use emissions will be included in a framework for tackling emissions

Transforming farming and managing our land and waste sustainably

Farms, changes in land use and waste contribute 11% of UK greenhouse gas emissions. We need to find ways of emitting less while safeguarding our environment and producing food sustainably. The equivalent of around 37 billion tonnes of carbon dioxide is currently locked into natural reservoirs of carbon like soils and forests – we need to carefully manage our land to keep these stores locked away.

The UK now recycles or composts a third of its waste, but we need to do more because rubbish dumped on landfills continues emitting greenhouse gas for many decades.


The plan to 2020 will cut emissions from farming and waste by 6% on 2008 levels through:

- **Encouraging English farmers to take action themselves to reduce emissions to at least 6% lower than currently predicted by 2020**, through more efficient use of fertiliser, and better management of livestock and manure.
- Support for anaerobic digestion, a technology that turns waste and manure into renewable energy.
- Reducing the amount of waste sent to landfills, and better capture of landfill emissions.

The plan will also **encourage private funding for woodland creation.**

Changes over the next

Power

<p>Wind (onshore and offshore) produces over 4GW of power</p> <p>Government publishes a high level vision for a future smart grid</p> <p>Third round of leases for 25GW offshore wind sites awarded</p> <p>Shortlist of possible Severn Tidal schemes published</p> <p>Pay as you save pilots start</p>	<p>New planning regime under Infrastructure Planning Commission begins</p> <p>Anticipated first deployment of wave and tidal energy demonstration projects under the Marine Renewables Deployment Fund</p> <p>Reforms to the Renewables Obligation are introduced</p> <p>Government makes a decision on Severn Tidal scheme</p> <p>Government introduces new long-term grid access rules</p>	<p>Levy on electricity suppliers to fund CCS demonstration projects in place</p> <p>Commissioning of Wave Hub energy testing centre in Cornwall and first deployment of wave energy devices</p> <p>Expansion of wave and tidal energy testing sites in Northumbria and Orkney completed</p>		<p>The cap for the EU Emissions Trading System starts to be tightened every year from now</p> <p>The power sector starts paying for every tonne of carbon emitted by purchasing allowances in EU Emissions Trading System auctions</p> <p>Construction of first new nuclear power stations expected to be underway</p>	<p>First UK commercial scale carbon capture and storage demonstration intended to be operational</p> <p>Larger-scale wave and tidal energy generation (>10MW) starts to be deployed</p>
2009	2010	2011	2012	2013	2014

4% of total energy (including power, heat and transport) to come from renewable sources

Over 5% of total energy from renewable sources

Homes and communities

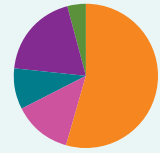
<p>Community Energy Saving Programme starts trialling "whole house" treatments in low income areas</p>	<p>About 95% of social housing stock in England meets improved Decent Homes standard</p> <p>Clean energy cash back for electricity starts (Feed in Tariffs)</p> <p>Building Regulations improve energy efficiency by 25% compared to 2006 regulations</p>	<p>Energy wasting traditional light bulbs are no longer sold</p> <p>6 million homes will have been insulated under the Carbon Emissions Reduction Target, Decent Homes, the Community Energy Saving Programme and Warm Front</p> <p>Clean energy cash back for renewable heat starts in April (the Renewable Heat Incentive)</p>	<p>The Community Energy Savings Programme will have helped 90,000 homes to improve their energy efficiency in 100 areas around Great Britain</p>	<p>Building Regulations improve energy efficiency by 44% compared to 2006 regulations</p>	
2009	2010	2011	2012	2013	2014



10 years

Share of 2018-22 emissions savings

- Power and heavy industry 54%
- Homes and communities 13%
- Workplaces and jobs 9%
- Transport 19%
- Farming, land and waste 4%



The EU will have selected 12 carbon capture and storage demonstration projects for support across the EU



2015

Plans show first new nuclear power station operational



2017

2018

2019

Around 30% of electricity is generated from renewable sources
Up to four carbon capture and storage demonstration projects operational in the UK

2020

7.5% of total energy to come from renewable sources

Over 10% of total energy to come from renewable sources

15% of total energy to come from renewable sources

2015

All lofts and cavity walls in Great Britain insulated where practical

400,000 homes will benefit from "whole house" packages of energy efficiency and low carbon energy per annum

2016

All new homes zero carbon

2017



2018



2019

2020

By end of 2020 every home in Great Britain will have a smart meter

1.8 million homes will benefit from "whole house" packages of energy efficiency and low carbon energy per annum

Around 12% of heat is generated from renewable sources, equivalent to supplying 4 million households based on current heating demand

Changes over the next

Workplaces and jobs

880,000 people work in the green sector

Government provides £1.4 billion of targeted support for low carbon industries in the world

Central Government departments take on carbon budgets for their own estate and operations

Carbon Reduction Commitment introductory phase begins

Central government buildings will be 15% more efficient than in 1999/00

First sale of allowances for the Carbon Reduction Commitment for 2010 and 2011 in April

New period for Climate Change Agreements begins



Emissions from large businesses and public sector become capped under the Carbon Reduction Commitment

Current Climate Change Agreements end



2009

2010

2011

2012

2013

2014

Transport

2009

Almost 340 ultra-low emission cars on the road in the coming 18 months, the largest project of its kind in the world

Delivery of several hundred low carbon buses over 2009 and 2010

Improved cycle storage facilities at up to 10 major railway stations during 2009-10

2010

Renewable Transport Fuel Obligation is amended or replaced to deliver renewable transport goals

Following High Speed Two's report to Government at the end of 2009, Government intends to consult on proposals for a new high speed rail line between London and the West Midlands

2011

The Government provides £2,000-5,000 per vehicle to help reduce the cost of ultra low carbon cars

Government departments and agencies meet target to procure new cars for administrative purposes that meet EU standard for 2015 by 2011

2012

All flights arriving in or departing from European airports part of the EU Emissions Trading System

500,000 more children trained to ride safely through the Bikeability programme

Government to set an environmental target for train operators for the period 2014-19

2013

Fuel suppliers are required to ensure that 5% of road transport fuel comes from renewable sources by 2013/14



2014

New Super Express trains which are greener and less noisy are rolled out from 2014

2009

2010

2011

2012

2013

2014

Farming, land and waste

2009

Anaerobic digestion implementation plan published, Government responds later in the year

Government publishes consultation on landfill bans

2010

Government publishes: options for action if agricultural emissions do not reduce fast enough; improvements to food labelling; and plans for tighter control of emissions from landfill

2011

2012

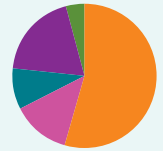
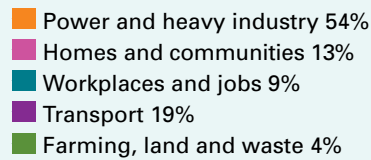
Government reviews voluntary action by farmers to address agricultural emissions and decides whether to intervene

2013

2014

10 years

Share of 2018-22 emissions savings



1.2m people could be working in the green sector

Low carbon economy could be worth £150m a year in UK and £4.3bn a year globally

The NHS expects to have reduced its carbon footprint by 10% compared to today

All new schools proposed to be zero carbon (subject to consultation and confirmation)

Climate Change Agreements extension to 2017 ends

Carbon Reduction Commitment first capped Phase ends. Cap for second Phase set

New nuclear power stations could create or sustain up to 9000 jobs during the course of construction and operation (including supply chains)

Carbon Reduction Commitment second capped phase starts



Government ambition for all new public sector (non-domestic) buildings to be zero carbon (subject to further work)



Government ambition for all new non-domestic buildings to be zero carbon from this date (subject to consultation and confirmation)

Up to half a million additional jobs in the UK renewable energy sector, including supply chains

Central government departments (and wider public sector) will have cut their greenhouse gas emissions by 30% from 1999/00

2015 **2016** **2017** **2018** **2019** **2020**

2015	2016	2017	2018	2019	2020
Average level of emissions from new cars sold in Europe is 130g CO ₂ /km					Average carbon dioxide emissions from new cars in Europe will be 95g CO ₂ /km – representing a 40% improvement from 2007 levels
2015	2016	2017	2018	2019	2020

2015	2016	2017	2018	2019	2020
			Agriculture is efficient, competitive, and climate-friendly		
			Very little biomass is landfilled, emissions are tightly controlled, and material formerly landfilled is used for renewable energy, compost and fertilizer		