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## Key findings

- Economy-wide emissions **fell by 7%** in 2011.
- The **mild winter weather** in 2011 (relative to very cold winter weather in 2010) reduced emissions by around 3%. Rising fuel prices, falling incomes and transitory factors in power generation also had an impact.
- Carbon-saving measures reduced emissions by around 0.8%. **Progress against indicators was mixed**, with some areas still lagging behind.
- To remain on track for future carbon budgets, there is now an **urgent need to move from policy planning to delivery**, and to accelerate the pace at which measures are implemented.
- There is a need to do more across almost the **full range of measures** including low-carbon power generation, energy efficiency, renewable heat, electric vehicles, and travel behaviour change.
- There has been **progress on policies** to drive delivery, but a number of **challenges remain**, most pressingly around Electricity Market Reform, the Green Deal and residential renewable heat.



## Key findings

- Power sector **emissions fell by 7%** in 2011, driven by reductions in demand and the carbon intensity of generation.
- **Carbon intensity of electricity fell** from 496 g/kWh to **486 g/kWh**, reflecting an increase in nuclear and renewable generation.
- **Achievable emissions intensity fell** from 308 g/kWh to **273 g/kWh**, reflecting investment in 2.9 GW of renewable capacity.
- **Wind capacity increased** by 1.1 GW, bringing total installed capacity to 4.6 GW onshore and 1.8 GW offshore. A **higher rate of investment is needed** in the future, and there is a risk that the strong project pipeline will not translate into operational capacity.
- The **first CCS competition failed** to award funding, but a second competition has been launched. It is vital now to maintain **momentum** and award funding for projects in 2012 to ensure CCS is available at scale in the 2020s.
- Progress has been made on **nuclear**, but **significant risks remain** and the project pipeline is weak.
- **Electricity Market Reform** will be based on **long-term contracts** for low-carbon capacity. Successful completion of the EMR is **crucial** to bringing forward investment in low-carbon power generation.
- **A clear objective** for EMR is needed (i.e. to **decarbonise** to a level of the order of **50 g/kWh by 2030**, through investment in and development of a low-carbon portfolio) to provide confidence in the long-term market for low-carbon plants that are built to schedule and cost.



## Key findings

- Buildings CO<sub>2</sub> emissions **fell by 12% in 2011**, mainly due to the milder weather compared to 2010. Gas consumption in homes also fell – by 23%.
- There was an increase in insulation rates, with **a total of 1.6 million** of lofts, cavity walls and solid walls insulated.
- Our trajectories **require a substantial increase** from 2012 which is unlikely to happen in the case of lofts and cavity walls under the new policy framework.
- There is uncertainty around the likely uptake of measures under the Green Deal and Energy Company Obligation. **Additional measures may be needed.**
- The Government should retain the **CRC Energy Efficiency scheme** and strengthen reputational incentives.
- Ambitious standards should be set for private rented commercial premises to ensure a **high level of uptake** for the non-residential Green Deal.
- There remains **a major challenge to support renewable heat** investment in the residential sector.



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## Key findings

- Industry emissions **fell by 5% in 2011**.
- It is unlikely that the emissions reduction was driven by fuel switching or output, suggesting that **energy efficiency improvements may have been implemented in 2011**.
- **Incentives for abatement have been weakened** through limiting coverage of CCAs to non-energy-intensive sectors, and the low price of carbon in the EU ETS.
- Government should set out an approach for **large-scale biomass applications in industry** in line with meeting future carbon budgets, and closely monitor uptake.
- Government should set out an approach to **industrial CCS development** to achieve deployment in the late 2020s.
- The Governments **forthcoming industry strategy** is an opportunity to fill the gaps in the current policy framework and provide more confidence over implementation of measures in line with carbon budgets.



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## Key findings

- **Surface transport emissions were unchanged** in 2010, following two years of decline...
- ... **further significant cuts are needed** to achieve future carbon budgets.
- **New car emissions outperformed** our indicator, falling to **138.1 gCO<sub>2</sub>/km** in 2011.
- Conditions are in place to support development of the **electric vehicle market**.
- Government plans to **remove company car tax exemptions** for zero and ultra low-emission vehicles threaten progress and **should be reversed**.
- Progress on behaviour has been mixed: **progress on Smarter Choices** roll out but **slow progress on eco-driving** and risk of **higher emissions if motorway speed limits are raised**.



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## Key findings

- Agricultural emissions **increased by 0.9%** in 2010, but given emissions reductions in previous years, agriculture remains **on track** to broadly meet the first carbon budget.
- Emissions increased due to higher agricultural output in 2010, but while the **emissions intensity** of livestock production improved it **worsened for** crop production.
- The **evidence base** for assessing progress in reducing emissions remains **incomplete**.

We recommend that:

- As part of its **policy review**, the Government consider a full range of policy options, and performance triggers for the introduction of new policies.
- Government should establish as a matter of urgency a **framework of indicators** and supporting data on farm practice, and establish **clear intermediate milestones** for delivery of the smart inventory.
- There is a lack of detail on **Phase 2** of the **Industry Action Plan** which should be resolved to provide more confidence emissions savings will be achieved.



## Key findings

- Waste emissions fell by **3% in 2010**, and are now 64% below 1990 levels. This is largely due to reduced methane emissions from landfill, driven by reductions in the amount of biodegradable waste sent to landfill and an improved rate of methane capture at landfill sites.
- The **Government** has **ambition** to further reduce emissions by **22% (4 MtCO<sub>2</sub>e) by 2020**, in line with further reduction in waste sent to landfill required under the EU Landfill Directive.
- There is potential to go beyond these reductions, given further opportunities for waste prevention, recycling, and treatment through other methods such as anaerobic digestion. This **increased ambition should be considered**.
- If full **technical potential** to divert waste from landfill could be delivered, 2020 emissions would be further reduced by around **3 MtCO<sub>2</sub>e**.
- The current policy approach should be closely monitored, with **stronger incentives** for waste reduction and diversion from landfill introduced as required.
- Specific strategies should be developed to increase diversion of **food, paper and card waste** from landfill.



## Key findings

- Emissions in Scotland, Wales and Northern Ireland together account for **20% of the UK's total GHG emissions**.
- In 2009 **emissions fell 7%, 14% and 8% in Scotland, Wales and Northern Ireland respectively**, primarily due to the drop in economic activity and energy demand as a result of the recession.
- The cold winter months are likely to have **increased energy demand and emissions in 2010** across the devolved administrations.
- **Emissions are likely to have fallen in 2011** due to milder temperatures and significant emission reductions in the energy intensive sectors.
- Progress includes **increased renewable capacity** (e.g. Scotland now accounts for half the UK's installed capacity), commitments to continue **fuel poverty programmes** in each devolved administration, and **ambitious waste reduction targets**, supported by legislation.
- Future carbon budget and devolved targets **require an increase in the current rate of underlying emission reduction** in each sector.
- Key areas of devolved powers include **transport demand-side measures, energy efficiency, waste, agriculture and land use**, while there is also an important role in supporting implementation of UK policy, such as the Electricity Market Reform.