



Department
of Energy &
Climate Change

Decarbonisation and Carbon Capture and Storage Progress

A report on progress in decarbonising electricity generation and in the development and use of Carbon Capture and Storage (CCS) technology in Great Britain during the period April 2010 - December 2011.

December 2012

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Presented to Parliament pursuant to Section 5 of the Energy Act 2010.

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Decarbonisation and CCS Progress

Under Section 5 of the Energy Act 2010, the Government is required to prepare a report on progress during a specified reporting period in decarbonising electricity generation and in the development and use of Carbon Capture and Storage (CCS) technology in Great Britain. This is the first progress report and covers the period beginning with the passing of the Energy Act 2010 and ending 2011.

Introduction

The Government's energy policy is guided by a number of objectives: energy security, climate change, affordability, growth and fairness. With ageing plant, now is the right time to invest in the UK's energy infrastructure and to replace it with a diverse low carbon, efficient, energy mix. This investment is also key to getting our economy moving.

Investing now will protect consumers from long term international fuel price volatility resulting in more stable and lower bills. As the costs of low carbon energy are driven down by a more open and competitive market, energy consumers will ultimately get a better deal as they will benefit from more stable and lower energy bills in the longer term.

Investing in low carbon energy infrastructure is critical to preventing dangerous climate change and keeping us on a cost effective pathway to meet our legally binding carbon targets. Carbon Capture and Storage has a crucial role to play in this. Without CCS, the IEA estimate that the delivery cost of meeting a 50% global emissions reduction target by 2050 will be 70% higher¹.

Section 5 of the Energy Act 2010 requires that a progress report on decarbonising electricity generation and the development and use of Carbon Capture and Storage (CCS) technology in Great Britain is produced for set reporting periods.

This is the first progress report and covers the period April 2010 to December 2011. It presents headline generation figures and details of policies introduced over the period to bring about further decarbonisation over time.

A more detailed breakdown of energy statistics is available in the Digest of United Kingdom Energy Statistics (DUKES)². Where appropriate, recent updates to policies introduced over the reporting period are included³.

Where relevant, note is made of the recommendations of the Committee on Climate Change (CCC) and how these have been addressed.

¹ [IEA 2009 Technology Roadmap](#)

² [DUKES website](#)

³ As per section (3) of the reporting requirements

General progress - Decarbonisation statistics

We are making steady progress in reducing the carbon emissions from electricity generation. The Government's provisional estimates indicate that carbon dioxide emissions in the power sector⁴ fell by nearly 7 per cent to 146 MtCO₂e in 2011 (from 156.3 MtCO₂e in 2010). This followed an increase in emissions of 3.6 per cent in the previous year, from 150.9 MtCO₂e in 2009⁵ to 156.3 MtCO₂e in 2010 (see Figure 1). The carbon intensity for all fuels (including nuclear and renewables) was 443gCO₂/kWh in 2011⁶, a reduction from 456gCO₂/kWh in 2010.

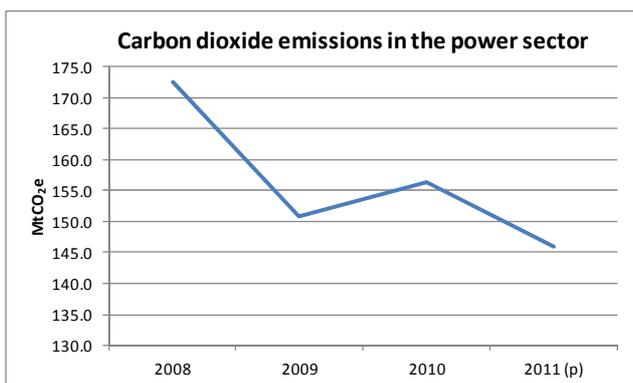


Figure 1: Carbon dioxide emissions in the power sector between 2008 and 2011.

In 2011, the decrease in emissions was primarily the result of reductions in demand and the carbon intensity of generation. The fall in demand was the result of warmer winter weather, whilst the reduction in carbon intensity was the result of an increased share of renewables and nuclear generation in the mix (see Table 1). In 2010, the increase in power sector emissions was largely due to outages at nuclear power stations leading to reduced nuclear electricity generation and an increase in coal and gas electricity generation to compensate.

⁴ The carbon dioxide emissions figures referred to in this section cover the UK and Crown Dependencies. Emissions for 2011 are provisional. [See 2011 provisional UK figures.](#)

⁵ Data is collated on an annual calendar basis and cannot be disaggregated to show the emissions produced on a monthly or quarterly basis. Statistics from DUKES are for the whole of the UK. [DUKES 2012 Chapter 5](#)

⁶ [DUKES 2012 Chapter 5](#)

Fuel Type	2010 (GWh)	2011 (GWh)
Coal	107,694	108,583
Oil	4,805	3,665
Gas	175,655	146,814
Nuclear	62,140	68,980
Thermal renewables	11,987	12,973
Other ⁷	2,482	2,444
Hydro natural flow	3,644	5,686
Hydro Pumped Storage	3,150	2,906
Wind ⁸	10,216	15,750
Total	381,772	367,802

Table 1: Breakdown of UK electricity generation by fuel type in 2010 and 2011. Source: [DUKES 2012](#)

The CCC confirm that power sector emissions are currently in line with the CCC's decarbonisation trajectory set out in their indicator framework⁹.

Generation by renewables

Total electricity generation from renewables in 2011 amounted to 34,410 GWh – an increase of 33 per cent on 2010. The largest absolute increase in generation came from onshore wind which increased by 3,235 GWh (45 per cent higher than in 2010). This reflected increased installed capacity over the course of the year and also higher average wind speeds. Similar factors helped offshore wind generation contribute the second largest absolute increase (2082 GWh, 68 per cent higher than in 2010). Between 2010 and 2011, there was also a 56 per cent increase in generation from hydro schemes, reflecting higher rainfall¹⁰.

⁷ Other thermal sources include coke oven gas, blast furnace gas and waste products from chemical processes.

⁸ Wind and other non-thermal sources, including wave and solar photovoltaics.

⁹ [CCC Progress Report](#)

¹⁰ [DUKES 2012, table 6.4](#)

Generation by nuclear

Total electricity generation from nuclear in 2011 amounted to 68,980 GWh – an increase of 11 per cent on 2010. Electricity generation decreased by 10 percent between 2009 and 2010 (69,098 GWh to 62,140 GWh) due to maintenance outages, particularly to Sizewell B which was offline for six months¹¹.

Generation by gas

Total electricity generation from gas in 2011 amounted to 146,814 GWh, a decrease of 16 per cent on 2010. This was due to high gas prices making it comparatively more expensive to generate, as well as greater generation from nuclear and renewables. As a result, several stations have been running at zero or minimal levels during 2011¹².

Generation by coal

Total electricity generation from coal in 2011 amounted to 109 TWh, an increase of 0.8% on 2010¹³. While the 2011 winter was milder than 2010 (which had increased demand for generation from coal), generation levels were maintained in 2011 as coal acted as a substitute for high price gas for much of the year.

There are currently 17 coal power stations operational in Great Britain with a combined capacity of around 28 GW, with UK sourced coal accounting for around half total annual usage. Of the current 28 GW of coal plant, 8 GW has opted-out of the Large Combustion Plant Directive (LCPD), an air quality Directive which places limits on the emissions of sulphur and nitrogen dioxide. This will require these plants to close by the end of 2015 at the latest, with 5 GW set to close by the end of March 2013. The remaining fleet will need to make substantial investment decisions by 2014 on whether to opt in to the Industrial Emissions Directive (IED), which replaces the LCPD and sets more stringent limits. It is uncertain what proportion of the remaining capacity will opt-

in to the IED. However, where operators choose not to make the significant investment needed to meet the IED limits, they will be required to close by 2023 at the latest.

Supportive Policy Developments

The Government is encouraging the decarbonisation of electricity generation through a package of policy interventions. The next section outlines the policies and reforms implemented during the reporting period, and where relevant, revisions and updates made to these policies since the end of the reporting period.

Electricity Market Reform

The Government published its White Paper on Electricity Market Reform (EMR), "Planning our electric future: a White Paper for secure, affordable and low-carbon electricity"¹⁴ on 12 July 2011. This set out the Government's commitment to transform the UK's electricity system to ensure that our future electricity supply is secure, low carbon and affordable. The White Paper was informed by previous recommendations made by the CCC.

The key elements of EMR are:

- Contracts for Difference (CfDs) to stimulate investment in low carbon technologies by providing predictable revenue streams that encourage investment and make it easier and cheaper to secure finance.
- A Capacity Market to ensure security of supply.
- A Carbon Price Floor to provide a clear economic signal to drive the move towards a low carbon economy by increasing the cost of emitting carbon dioxide.

¹¹ [DUKES 2012, table 5.6](#)

¹² [DUKES 2012, table 5.6](#)

¹³ [DUKES 2012, table 5.6](#)

¹⁴ [EMR White Paper](#)

- An Emissions Performance Standard (EPS) to provide a regulatory backstop to prevent the construction of the most carbon intensive forms of electricity generation, such as unabated coal fired power stations.

In May 2012, DECC published an indicative implementation roadmap which set out the key milestones, processes and activities on EMR between 2012 and 2020 and further detail on each of the main elements¹⁵.

The Bill was introduced into Parliament in November 2012, together with further detail on implementation and policy development. A number of changes were made to the draft Bill, including a commitment to take a power to set a decarbonisation target range for 2030 in secondary legislation. The power will provide for flexibility in the setting or reviewing of the range by consideration of wider economic factors. The decision on whether to set a range for carbon emissions in 2030 will be taken once the Committee on Climate Change has provided advice in 2016 on the 5th Carbon Budget which will cover the corresponding period (2028 – 2032), and once the Government has set that budget. In the meantime, the Government will issue guidance to National Grid setting out an indicative range of decarbonisation scenarios for the power sector in 2030 consistent with the least cost approach to the UK's 2050 carbon target.

Renewables

Renewable electricity is currently supported in the UK by the Renewables Obligation (RO)¹⁶, supporting large-scale renewable generation, and the Feed-In Tariff (FITs)¹⁷ scheme, supporting small-scale renewables generation.

Since 2002, the Renewables Obligation has been the mainstay of financial support for large-scale renewable electricity. It has helped to bring about a five-fold increase in

the proportion of electricity generation that is renewable, from 1.8 per cent of total electricity generation in 2002 to 9.7 per cent by the end of 2011. Projections indicate that this strong progress is set to continue.

Electricity generated in the UK from renewable sources eligible under the Renewables Obligation in 2011 was 33 per cent greater than in 2010; this compares with a 6 percent growth in 2010¹⁸. The FITs scheme has been a success since its launch in April 2010, with 147,086 installations (657 MW capacity) registered at end December 2011¹⁹.

The Renewables Obligation for England and Wales was updated on 25 July 2012 when the Government published its decision on the levels of financial support that will be available through the scheme for large-scale renewable electricity generators over the period 2013-17 (the equivalent publication for the RO in Scotland was made on 13 September 2012²⁰). This is in line with the CCC's recommendation. On 23 November 2012, the amount of market support available for low carbon electricity investment (under the Levy Control Framework) was agreed. This will increase the amount of electricity coming from renewables from 11 percent today to around 30 percent by 2020²¹.

The UK's renewable energy roadmap²², published July 2011, represented the Government's plan of action to drive renewables deployment and reduce costs. It focused on 8 key technologies which have the greatest potential to meet the 2020 target in a cost effective way, or offer the greatest potential for the UK in the decades that follow. DECC will publish an update to the Renewables Roadmap shortly.

In 2011 a new industry-led task force, the Offshore Wind Cost Reduction Task Force,

¹⁵ [Draft Energy Bill](#)

¹⁶ [Further information on the Renewables Obligation](#)

¹⁷ [Further information on Feed-in Tariffs](#)

¹⁸ [DUKES 2012, table 6.4](#)

¹⁹ [FITs statistics table](#)

²⁰ [Scottish Government response to the RO banding review](#)

²¹ [Levy control framework](#)

²² [Renewable Energy Roadmap](#)

was appointed to set out a path and action plan for reducing the levelised costs of offshore wind to £100 per MW/h by 2020²³. Offshore wind is also one of the Green Investment Bank's five priority sectors. This reflects the CCC's recommendation of ensuring a major role for the Green Investment Bank²⁴ in mobilising project finance for offshore wind investment.

Planning

The Government agrees with the importance that the CCC places on an effective planning system. In England, we have embarked on an ambitious programme of reform to deliver a simpler, swifter and more positive local planning system: both in its outlook and operation. In the Plan for Growth, published in 2011 alongside the Budget, the Government announced a range of measures to speed up the processes in England that applicants have to go through to obtain planning permission. These measures include a 'Planning Guarantee' that no planning application should take longer than one year to reach a decision, including any appeal, and reducing the information required to accompany planning applications.

In July 2011, the six National Policy Statements (NPSs) for Energy were approved by the House of Commons and designated by the Secretary of State for Energy and Climate Change²⁵. Designation of the Energy NPSs will ensure that we have a clear, robust and legitimate framework for decisions on major energy infrastructure projects.

The Government is helping people generate their own energy through new permitted development rights for small scale renewables. Permitted development rights introduced by DCLG in December 2011 remove the need for a planning application for domestic micro wind turbines and air source heat pumps. Further permitted

development rights were introduced in April 2012 that remove the requirement for planning permission for microgeneration technology installed on non domestic land, including solar panels, ground and water source heat pumps, and flues for biomass and combined heat and power systems.

Nuclear

Eight sites have been identified in the Nuclear National Policy Statement as potentially suitable for the deployment of new nuclear.

Industry has already set out its plans to develop approximately 16GW of new nuclear power²⁶ in the UK by 2025, with the first new station at Hinkley Point potentially coming online from 2019. These are broken down as follows:

- NNB GenCo, a consortium of EDF and Centrica, intends to build four new EPR reactors (amounting to 6.4GW) at Hinkley Point and Sizewell²⁷.
- NuGen, a consortium of GDF SUEZ (French/Belgian) and Iberdrola (Spanish) plans to build up to 3.6GW of new nuclear capacity at Moorside near Sellafield²⁸.
- Japanese technology firm Hitachi Ltd has acquired Horizon Nuclear Power, the venture set up in 2009 by RWE and E.ON to develop around 6GW of new nuclear capacity in the UK at sites in Wylfa and Oldbury²⁹.

The Office for Nuclear Development (OND) in DECC continues its work on developing and delivering a policy framework that will enable commercial investment in new nuclear generating capacity. As part of this work, OND engages with potential developers and key stakeholders, in order to identify potential barriers to investment and discuss the development of key policy areas.

²³ [Offshore Wind Cost Reduction Task Force](#)

²⁴ [Further information on the Green Investment Bank](#)

²⁵ [Further information on the NPSs](#)

²⁶ [Further information on nuclear power](#)

²⁷ [Further information on NNB GenCo](#)

²⁸ [Further information on NuGen](#)

²⁹ [Further information on Hitachi nuclear investment](#)

In addition, our Electricity Market Reforms (EMR) will encourage the right conditions for private sector investment in low carbon energy development. This will enable new nuclear projects, alongside other low carbon energy technologies, to play a key role in our power generation sector from the early 2020s.

Carbon Capture and Storage

The Government is committed to the development and deployment of carbon capture and storage in Great Britain. The Government is providing a programme of support to enable the technology to be cost competitive with other low carbon technologies in the 2020s.

The following sections highlight progress in the development and use of carbon capture and storage technology in the UK over the reporting period, including updates to these policies where relevant.

CCS Demonstration One

The CCS industry is in its early stages of development. Practical experience and knowledge sharing reduces the risk and costs associated. As a result the Government encourages deployment of the technology at commercial scale and is providing capital funding through a competition process.

The period covered by this report includes the negotiations on CCS Demonstration One. Despite all parties working extremely hard on the project, the Government was not able to reach a satisfactory deal for CCS demonstration on that particular project at that time.

The Government remains committed to CCS. Work on this project made clear that the technology is feasible and demonstration remains possible and affordable within the £1billion we have committed. All parties involved in the project agreed that commercial scale CCS projects can be delivered for £1bn.

In November 2011, the Government reasserted its objective to lead the world on CCS, by opening the funding process to gas projects. This could bring forward what could be one of the first ever commercial-scale CCS projects on a gas-fired plant in the world.

Knowledge Sharing

Knowledge sharing was key to the first UK CCS competition. The Government made the complete engineering designs from the Longannet and Kingsnorth³⁰ projects freely available on the DECC website and through further dissemination events to support worldwide development of the technology. The engineering designs included invaluable knowledge on all aspects of the end-to-end CCS chain, including project design, technical design, health and safety, environmental impact, consent and permitting, chain operation, risk management and project management. Feed-back from the CCS community noted that the breadth and depth of information was a world first.

The Government remains committed to sharing knowledge generated through the UK CCS Programme and learning from other projects around the world, to help accelerate cost reduction and support development and deployment of CCS.

Commercialisation Programme

While the specifics of the particular project proposed for Demonstration 1 meant that it was not possible to proceed with it in 2011, the Government's commitment to CCS remained clear. The funding earmarked for Demonstration 1 was retained, and built upon with an expanded offer developed over this period and launched in April 2012 in the CCS Roadmap, including a new Competition for capital funding.

³⁰ [Further information on the FEED studies released following the conclusion of the Demonstration 1 Competition](#)

The CCC noted in their progress report that ideally the UK portfolio of projects would include at least one post-combustion gas project. The Government agreed with the CCC that gas CCS projects are strategically important and a decision was taken to allow gas as well as coal projects to bid for support under the new Competition.

The five key components outlined in the Roadmap are:

- The CCS Commercialisation Programme with £1bn in capital funding and additional support available during the operating period in the form of Contracts for Difference.
- A £125m, 4-year, co-ordinated Research & Development and innovation programme and a new UK CCS Research Centre.
- Development of a market for low carbon electricity through Electricity Market Reform, including availability of Feed-in Tariff Contracts for Difference for low carbon electricity
- Commitments to working with industry to address other important areas including developing the CCS supply chain, storage and assisting the development of CCS infrastructure.
- International engagement focused on sharing knowledge generated through the UK programme and learning from other projects around the world.

With regard to when the use of CCS will be demonstrated on a commercial scale, the Government's new Commercialisation Programme has four promising short-listed projects vying for the £1bn capital fund. The programme was designed to attract projects that will demonstrate the technologies at scale, helping improve confidence, reduce risk and bring costs down. The intention is to select the projects to be supported early in

2013 and for those to start to become operational from 2016.

The UK CCS competition is complemented by developments in other countries. Internationally, there are two commercial scale electricity generation projects with CCS currently under construction: Kemper County in the US and Boundary Dam in Canada. Both projects are scheduled for operation in 2014 and will demonstrate commercial operation of 2 different capture technologies. Kemper County is building a new Integrated Gasification Combined Cycle coal power plant and capture the CO₂ at the pre-combustion stage, whilst Boundary Dam will capture CO₂ at the post-combustion stage from an existing coal power plant retro-fitted with carbon capture.

The challenges of CCS in commercial power generation include the additional risks and cost from scale up and the first-of-a-kind nature of incorporating capture technology. However, the construction of these projects show that the technical risks can be managed and the economics made to work.

Research and Development

Over the reporting period, the Government supported research and development in CCS through a wide range of initiatives including:

- The 5MWe Ferrybridge post combustion carbon capture pilot plant at SSE Ferrybridge in West Yorkshire: Government (DECC, Technology Strategy Board and Northern Way) has provided more than £6.3M in funding towards the £21M project which was launched in November 2011 with partners SSE, Doosan Power Systems and Vattenfall. The plant is fully operational and is carrying out its test programme during 2012 and 2013 to optimise technology performance as well as gain knowledge to decrease risks and near term scale up and deployment.

- The 40MW Oxyfuel Project, Doosan Power Systems Clean Combustion Test Facility in Renfrew: DECC provided around £1.6M funding towards this £8.2M project to adapt a test rig for oxyfuel capture technology on pulverised coal. The project started in December 2007 and completed its test programme in early 2011. The project increased knowledge, capacity and confidence in oxyfuel technology in the UK.
- ETI UK Storage Appraisal Project (UK SAP): The Energy Technologies Institute (ETI) invested £3.8M in the UK SAP which started in October 2009 and completed in Autumn 2011. The project - a storage atlas looking at existing data and modelling for nearly 600 storage sites was set up to provide a reliable estimate of the UK's offshore CO₂ storage capacity to inform the future roll out of CCS in the UK. This results will be published as a web-enabled atlas in December 2012.
- A £4.5M call by the Technology Strategy Board in November 2011 for Carbon Abatement projects.

Research and development, and innovation such as those supported through these initiatives are critical in bringing forward cost competitive CCS.

Carbon Capture Readiness

The CCR requirement ensures that any new thermal³¹ power plant (including new coal) must be built so as to enable its entire capacity to be fitted with CCS.

The Government's ambition is for CCS to be cost competitive with other low-carbon forms of generation in the 2020s, with the expectation that once cost competitive any new coal plant will be built with full CCS and that any coal plant built under the CCS

Commercialisation Programme will, where applicable, retrofit CCS to any unabated capacity.

Carbon Capture and Storage on New Coal Plant

Coal remains an important part of the electricity mix and in 2011 accounted for 30% of overall electricity generated. However, coal is more carbon intensive than other forms of fossil generation (its emissions being around double that of gas), so it is clear that the UK cannot sustain investment in new wholly unabated coal plants if it is to meet its decarbonisation objectives.

Retaining coal in the UK energy mix through the use of carbon capture and storage is an attractive proposition. It can allow coal to continue to make a significant contribution towards security of supply and affordability of our electricity supplies while being consistent with our decarbonisation objectives.

The National Policy Statements for Energy issued under the Planning Act 2008, reflect the policy position in respect of the future sustainability of coal, and require that any new coal plant be equipped with at least 300 MW (net) of CCS.

Emissions Performance Standard

Proposals for an Emissions Performance Standard (EPS) that will strengthen the CCS requirement for new coal plant by placing a regulatory limit on carbon dioxide emissions from fossil fuel plant were set out as part of the Government's consultation on Energy Market Reforms issued in December 2010.

Further detail on the EPS design was set out in the Energy White Paper published in July 2011, with legislative proposals for an EPS forming part of the Draft Energy Bill published in May 2012 and introduced into Parliament in November 2012.

³¹ At or over 300MWe and of a type covered by the Large Combustion Plant Directive.

Scotland

The Scottish Government aims to achieve full decarbonisation of Scotland's electricity supply by 2030, consistent with the recommendations of the CCC. The detail of our policy on electricity generation was published for consultation in our draft Electricity Generation Policy Statement in March 2012³². The responses to this draft are currently being considered and a revised version will be published in early 2013.

The first Scottish Greenhouse Gas Emissions Annual Target Report 2010³³ was published on October 23, 2012. It estimated that the carbon intensity of Scottish electricity generation in 2010 was 347 tCO₂e/GWh (CO₂ accounting for 99.4% of these GHG emissions). Equivalent data for 2011 is not yet available although DECC estimate that renewable generation in Scotland displaced 8,364,000 tonnes of CO₂ in 2011. The breakdown of electricity generation by fuel type in 2010 in Scotland is shown below in Table 2.

Fuel Type	2010 GWh
Coal	14,715
Oil	1,212
Gas	8,381
Nuclear	15,293
Thermal renewables	1,387
Hydro natural flow	3,267
Hydro Pumped Storage	779
Non thermal renewables	4,862
Wastes	14
Total	49,908

Table 2: The breakdown of electricity generation by fuel type in 2010 in Scotland. Source: [Scottish Greenhouse Gas Emissions Annual Target Report](#)

Finalised renewable electricity generation figures for Scotland during 2011 show that generation during that period was 13,728 GWh – up 27.9% on 2009, the previous record year for renewables. Wind generation in 2011 was 6,992 GWh, up 43.8% on 2010 (previous record year for wind) and Hydro generation in 2011 was 5,332 GWh - up 63.2% on 2010 (when output was reduced due to low rainfall) and up 9.3% on 2009 (previous record year for hydro).

Our target for renewable electricity generation is for renewables to generate the equivalent of 100% of gross annual consumption by 2020, with an interim target of 31% by 2011. In October, the Scottish Government published an update to the 2020 Routemap for Renewable Energy³⁴, in which we adopted a new interim target of 50% by 2015 as the next vital milestone in our journey towards the 2020 target of 100%.

Carbon Capture and Storage

The Scottish Government's CCS Roadmap, published in March 2010 and updated in May 2011, highlights that Scotland has considerable natural advantages in CO₂ storage, alongside our world-leading research and development expertise. Our ambition is for Scotland to lead the UK and EU through best use of the existing infrastructure from the oil and gas industry, the clustering opportunities available within the central belt and the Central North Sea storage sites which are have been characterised in much more detail than any other area in UK territorial waters.

The technical and economic viability of CCS is currently under review with the aim of making a decision on retro-fitting by 2018 with the likelihood of existing plants being retro-fitted by 2025 to ensure full decarbonisation of the electricity supply.

³² [Electricity Generation Policy Statement](#)

³³ [Scottish Greenhouse Gas Emissions Annual Target Report](#)

³⁴ [Routemap for Renewable Energy](#)

Successfully demonstrating CCS could create 13,000 jobs in Scotland by 2020 and could increase to 20,000 by 2030. Scotland is well positioned to lead in the development of CCS on gas, and is supporting the proposals to fit CCS to Peterhead power station.

Wales

In March 2010, the First Minister for Wales, Carwyn Jones, launched the 'Energy Wales: A Low Carbon Transition' report, which describes Wales' aim to transition to low carbon whilst enhancing the economic, social and environmental wellbeing of the people and communities of Wales. 'Energy Wales' sets out what Welsh Government will do to lead, drive benefits for Wales and secure our long term future through innovation.

The energy opportunities for Wales are hugely significant. If Wales is to maximise the opportunity, Welsh Government must prioritise its support of businesses, investors and communities.

Energy Wales set out the high level priorities. The Energy Wales Programme has been mobilised to further prioritise, coordinate delivery of the transition to a low carbon economy and to ensure Wales benefits at every stage.

Significant progress has been made since March 2010, including:

- identifying ways to simplify the planning and consenting regimes in Wales;
- developing options for marine energy site development;
- improving our ability to drive greater benefit from onshore wind;
- securing a buyer for the nuclear new build project in Anglesey; and
- linking our local authorities and private sector to funding routes to drive forward our Smart Living agenda.

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