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Renewable energy: delivering green jobs, growth and clean energy

The UK has a target to source 15% renewable energy by 2020. By the end of August this year, a **record 15.5%** of all the UK's electricity was being generated by renewable sources. Overall capacity has **grown by 38%** over the period July 2012 to June 2013 and now stands at 19.5 GW. This demonstrates the progress that is being made to decarbonise our economy and secure our future electricity supply.

Between January 2010 and September 2013, DECC recorded announcements worth **£31 billion** of private sector investment in renewable electricity generation. This investment has the potential to support over **35,000 jobs**.

The Gwynt y Mor, North Wales offshore wind project supports **100 jobs**. Belfast Harbour, Northern Ireland is expected to create up to **300 jobs** ranging from welders to electricians and engineers.

The renewable energy sector in the UK is a key driver of green growth and many UK-based supply chains are able to make the most of this opportunity. In October 2013 we launched the Offshore Wind Industrial Strategy. This will provide a long term framework to promote innovation,

investment and economic growth. In the Ernst & Young Renewables Attractiveness Index, the UK has been rated as most attractive in the world for offshore wind investment.

Overall the UK is now **rated in the top four** by [Ernst & Young](#), for worldwide destinations to invest in renewable energy. The renewables industry continues to enjoy consistently high levels of public support. Our latest research shows that

76% of the British public are in favour of renewables and we are working to encourage further investment.

We are committed to ensuring that the UK maximises the opportunity that cost effective renewable energy presents – not just jobs and investment but also providing energy that will underpin our long term economic prosperity and help to address climate change.



Plans for offshore wind construction at Belfast Harbour

Giving certainty to low carbon generation

Supporting £40 billion of investment in renewable electricity to bring green jobs and growth to the UK

On 4 December the government announced, ahead of schedule, the final strike prices for renewable technologies to 2018/19 and key contract terms under the Government's Electricity Market Reform (EMR) programme.

These reforms will help to underpin around **£40bn of investment** in renewable electricity generation to 2020, helping to double the share of electricity coming from renewable sources from over 15% today to more than 30% by 2020, cutting emissions, boosting energy security and reducing our dependence on fossil fuels.

At the same time the government announced that 16 projects have reached the next stage of the Final Investment Decision (FID) Enabling for Renewables process to award Investment Contracts. DECC will assess final applications against the available budget in Spring 2014 and successful projects will then sign their contracts with the Secretary of State.

Secretary of State for Energy and Climate Change, Edward Davey said:

"This package will deliver record levels of investment in green energy by 2020. Our reforms are succeeding in attracting investors from around the world so Britain can replace our ageing power stations and keep the lights on.

"Investors are queuing up to express their interest in these contracts. This shows that we are providing the certainty they need, our reforms are working and we are delivering ahead of schedule and to plan.

"With sixteen new major renewable projects progressing in our "go early" stage we are able to begin the move to the world's first low carbon electricity market faster than expected."

These announcements form part of the government's updated [National Infrastructure Plan](#). Energy is the single largest part of the UK's infrastructure needs.

Doug Parr, Chief Scientist and Policy Director at Greenpeace said:

"Today's cuts to onshore wind and solar support schemes show how quickly the cost of clean energy technologies are falling.

"Given the increasing affordability of these renewable energy sources, it's right ministers should now put emphasis onto helping drive down the cost of offshore wind so that the UK can reap the rewards of new turbine factories and thousands of new jobs."

Further information is available [here](#).

£5 million boost for energy storage innovation

Two British entrepreneurs have been awarded a share of over £5million to spur on innovation in energy storage. Contracts have been awarded to [REDT UK Ltd](#) and [Moixa Technology Ltd](#), as part of DECC's Small Business Research innovation competition to support energy storage research and demonstration. Up to two further energy storage projects are set to be awarded contracts before the end of 2013.

REDT UK Ltd has developed a flow battery technology to store electricity from wind turbines, and Moixa Energy Ltd has developed small battery-based storage

units which could be installed directly into people's homes to store power and re-use it at times of peak demand.

Parliamentary Under Secretary of State for Energy and Climate Change, Baroness Verma said:

"This investment will give these organisations the boost they need to develop energy storage designs, helping cut costs and bringing new technologies to market in this sector.

"The ability to store energy in this way will become increasingly important in the move towards a low carbon economy."

One of the award winner's, Simon Daniel, CEO and founder of Moixa Technology said,

"Energy storage aims to help customers save money and reduce peak energy demand, by using low carbon, night, wind and solar resources. Government's funding will ensure that we can continue our work to make energy storage cost-effective for wide deployment."

Accelerating Carbon Capture and Storage

Carbon Capture and Storage (CCS) is a critical part of our future low carbon energy mix. That is why DECC is working to bring forward projects in the UK, as well as engaging internationally to encourage global deployment.

In October 2013, DECC published its response to the recommendations of the industry-led [CCS Cost Reduction Task Force](#) and an update on key policy developments since the [2012 CCS Roadmap](#). The response focussed on the wider development of CCS setting out a vision of three areas of CCS development in the UK which include:

1. Current CCS Commercialisation projects, including the Peterhead Project in Aberdeenshire Scotland and the White Rose Project in Yorkshire

2. Future projects to implement our electricity market reforms
3. Building the wider industry and recognising the potential enhanced oil recovery may play in future Carbon Capture and Storage projects

The Cost Reduction Task Force report also highlighted the importance of transport and storage infrastructure to help reduce the capital costs of other CCS projects and those of industry in transporting carbon dioxide for storage under the sea bed of the North Sea. The Yorkshire / Humber CCS Trunkline is one example which government believes, could be supported under the [White Rose CCS Project](#).



White Rose model

Open engagement with CCS industry

Government has committed to shape a joint industry work programme to identify further opportunities in the Carbon Capture and Storage industry.

To encourage further dialogue with CCS stakeholders, Michael Fallon has asked Michael Gibbons OBE, former managing director of Powergen's UK gas business, to become his industry co-chair of a re-juvenated CCS Development Forum. Michael Gibbons has accepted this appointment and the Forum will meet early in 2014.

Internationally, Edward Davey attended the [Carbon Sequestration Leadership Forum](#) in Washington on Thursday 7 November. He joined US Energy Secretary Ernest Moniz and other Energy Ministers and industry leaders from around the world to discuss how to accelerate deployment and routes for collaboration.



Edward Davey attends the Carbon Sequestration Leadership Forum in Washington DC

Collective switching saves £131 off bills

Collective switching offers a great opportunity to look for a better energy deal. Consumers register their interest with a collective scheme and then local councils (or their representative) negotiate deals with the energy companies on their behalf.

If a consumer likes the deal they are offered they can switch, but there is no obligation to proceed with the deal.

The report, *'Helping Consumers Switch: Collective Switching and Beyond'*, reviewed 27 collective switching schemes across the country. It found that participating households saved a total of **£2.7million**, an average of **£131 per household**. One scheme in Nottingham saved an average of **£200 per household**. You can read the report [here](#).

Edward Davey welcomed the report and said:

“The competition we are introducing to the energy market means people have a real choice. They can look for the best deal available; including from smaller suppliers.

Up and down the country, collective switching schemes have saved people money and increased engagement in the energy market. Collective switching gives power to communities by bringing people together to find the best deal for them.

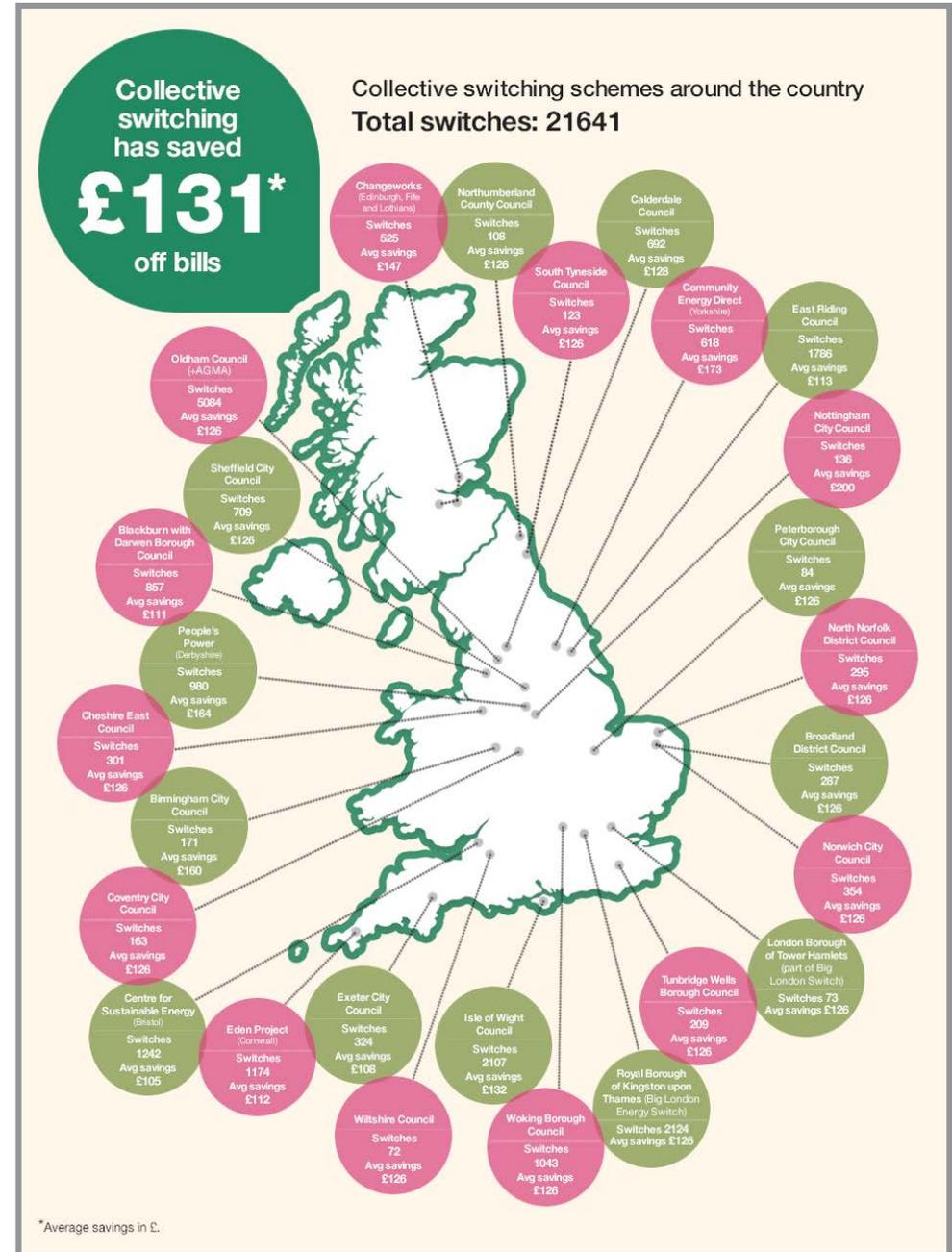
Looking ahead, we will continue to facilitate the development of new collective switching schemes that will further help consumers get the best deal. For example, we know that 77 more local authorities are set to run further collective switching schemes soon.”

Those interested in community switching can register here bigcommunityswitch.ichoosr.com



Follow

#collectiveswitching
to join the debate and share any experiences you have.



Competition to help consumers

According to a [BBC study](#), more than **150,000 people** have signed up to smaller energy firms since the start of October 2013 showing customers are checking the market for better deals for cutting their energy bills.

There are many online comparison sites that can help people find the best energy deal. To find an Ofgem accredited switching comparison site, click [here](#).

The screenshot shows a BBC News Business article from 18 November 2013. The main headline is "Small energy firms win new customers after price rises" by Beatrice Pickup and Joe Kent. The sub-headline reads: "More than 150,000 people have signed up to smaller energy firms since the start of October, the BBC has learned." The article text mentions that inflation-busting price rises announced by five of the "big six" electricity and gas firms have led to public anger, and that many smaller firms have seen big increases in their customer weeks alone. It also notes that overall, smaller energy companies still account for only 3% of the market. A "Who are the Big Six?" section lists British Gas, EDF, E.ON, Npower, Scottish Power, and SSE. The article is part of a "You & Yours" programme.

Helping consumers with energy

A guide to help consumers save money this winter

DECC has produced a simple guide, [Helping Consumers with Energy](#) to explain what support is available for consumers and where they can go for help on energy this coming winter.

The guide can help consumers get the best energy deal and how to save money this winter.

Many organisations and individuals contributed to this guide. We would like to thank Energy UK, National Energy Action and uSwitch for working in partnership with government to produce this guide, that supports organisations who advise consumers.



You can download the guide [here](#).

Manchester family get a warmer deal

Across the country, the Green Deal and the Energy Company Obligation (ECO) are inspiring action among householders to make energy saving home improvements.

In Manchester, the Green Deal Pioneer Places scheme helped Fissa replace her rotten windows with new energy efficient double glazing.

For the last 13 years, single mum Fissa has lived with her young son in a flat with rotten windows, condensation and draughts all-year round. The pair were constantly cold and consequently had the heating on all day and night, resulting in expensive heating bills. The housing scheme, which owned Fissa's property, decided to carry out a full Green Deal assessment and replace her windows through the [Pioneer Places Go Early Scheme](#).

Following the assessment they replaced the old windows with uPVC double glazing and put in two new doors. "The difference is incredible," says Fissa, "I used to have the heating on the whole time and now I only need to put it on for an hour or so and the flat stays warm."

Since the improvements have been completed, Fissa lives in a warm and comfortable home with no draughts and as a result it has reduced her energy bills.

To access the Green Deal please access www.gov.uk/green-deal-energy-saving-measures

International talks on climate change

Following a busy two weeks in Warsaw, the UK left the international conference on climate change with an agreement that all nations will now prepare for a global climate change deal in 2015.

The UK also announced that it is joining the United States policy of ending support for public financing of new coal-fired power plants overseas.

Edward Davey said:

“The world now has a work programme, with timetables. While the long negotiations in Poland showed there are many tough talks ahead of us, the determined diplomacy of the UK and EU achieved our aims, building alliances with our friends across the world.

“From a new rulebook and finance to strengthen our work to tackle deforestation around the world to a vital new package on measuring, reporting and verifying emissions, this was a conference that dealt with the nuts and bolts for the global agreement we believe is possible in 2015.”



International partners announce fresh action to protect forests and reduce greenhouse gas emissions



Key international partners came together for the international climate change talks, Conference of Parties (COP) in Warsaw in November to announce fresh action to protect forests and reduce Greenhouse Gas (GHG) emissions.

Working with the World Bank, the Kingdom of Norway, the UK and the US all announced significant resources for a new initiative called ‘BioCarbon Fund Initiative for Sustainable Forest Landscapes’ a joint public-private partnership established to help to combat the loss of the world’s

forests and significantly reduce emissions from deforestation and forest degradation before 2020.

This public-private partnership will support countries to help protect forests and reduce emissions, provide food, feed, fibre and fuels, and protect biodiversity and livelihoods. Norway, UK and USA have come together to pledge approximately **£170 million** to sustain the world’s forests, to support this initiative in its first year, with more partners expected to join.

Edward Davey said:

“Our global forests are the lungs of the world, and protecting them is fundamental for our survival. When we hand these forests over to future generations, we must be able to say we exercised our stewardship wisely and responsibly.”

US Secretary of State John Kerry said:

“The Initiative for Sustainable Forest Landscapes is a critical new tool to help us meet our responsibilities to future generations. It will help countries move forward on REDD+ and continue to make progress on sustainable land use practices.”

Paul Polman, CEO of Unilever, said:

“This is exactly the type of initiative that we are delighted to support. We need to find new forms of public private partnership to address global challenges such as deforestation. Multilaterals like the World Bank play a critical role in catalysing these new business models and Unilever is interested to learn how we can participate and partner with the Bio Carbon Fund.”

New case studies are available showcasing 2013 projects funded by the UK International Climate Fund, ranging from tackling deforestation, climate change in Africa, local communities adapting in Nepal and mobilising the private sector. Read them all [here](#).

Baroness Verma addresses Nuclear Decommissioning Authority supply chain



Speaking at the event, Baroness Verma, said: “This conference takes place at a critical time for nuclear power in the UK. We are on the cusp of a new build renaissance.”

“In the coming years the kinds of services and equipment you all provide will see significant global growth:

- ✓ **69 reactors** are under construction with a further **272 proposed**. The World Nuclear Association predicts about **\$1.5 trillion** of potential investment in New Nuclear Build by 2025, across circa **30 countries**.
- ✓ By 2030 the International Atomic Energy Authority estimates that **145 reactors** will have been decommissioned at a cost of **£250bn** with the total liability for reactors, fuel cycle facilities and research activities over the next 50 years estimated at approximately **\$1000 billion**.

“This is clearly a sector with a long, bright and prosperous future ahead of it. By working together, we can take advantage of the opportunities for the sector both locally at home, and internationally in the global race for jobs and growth.”

Barker launches solar panel research laboratory

On 25 November 2013 Minister of Energy and Climate Change Greg Barker visited Abingdon and Oxford to find out more about a local hydro project.

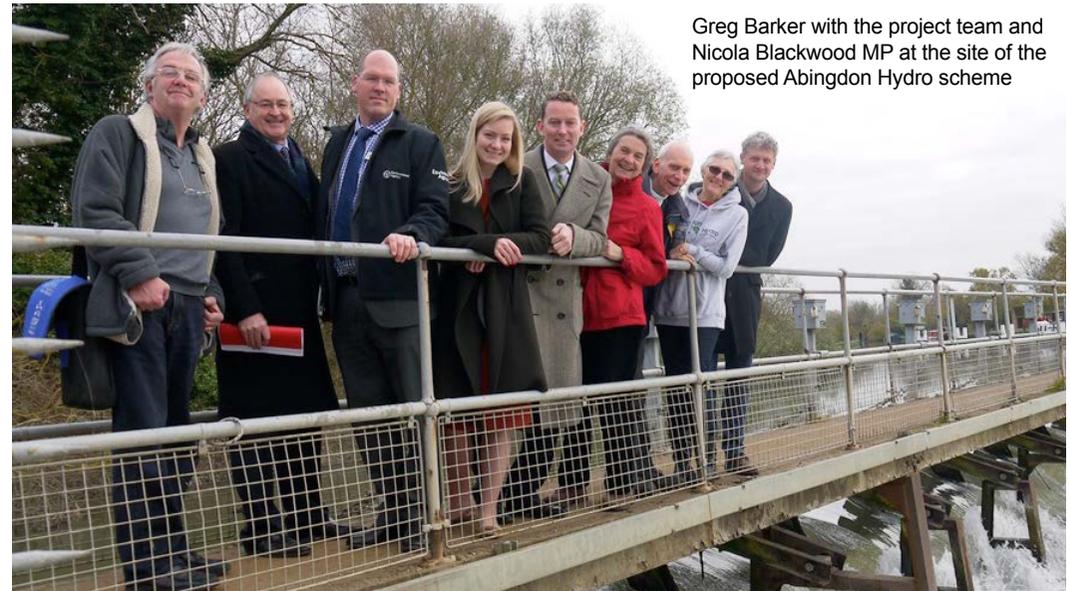
During his visit Greg Barker launched Oxford Photovoltaics’ new research and test facilities at the company’s HQ at Begbroke Science Park.

Greg Barker learned all about the history of this Oxford University spin-out and the firm’s plans to develop its innovative energy generating coating for glass, designed to harness the power of the sun.

Greg Barker said:

“Solar PV has an important part to play in our energy mix so it’s great to see British businesses rising to the challenge and showcasing what Britain has to offer.

“Oxford Photovoltaics’ new research and testing facility is a putting the UK at the forefront of the international market for solar, providing state of the art resources to test a pioneering approach to harnessing the power of the sun and putting us in pole position to compete in the global race for jobs and growth.”



Greg Barker with the project team and Nicola Blackwood MP at the site of the proposed Abingdon Hydro scheme

UK offshore oil and gas: Sir Ian Wood's interim report published

On 11 November, Sir Ian Wood former industry chief executive and chairman of the Wood Group, published an interim report on the economic and energy security opportunities available from the UK's offshore oil and gas resources. Sir Ian Wood's review was commissioned by Edward Davey in June 2013 to look at how we could maximise the economic recovery of the UK's remaining resources.

Sir Ian Wood's key recommendations include:

- A new shared strategy for "maximising economic recovery for the UK", with commitment from Government (HM Treasury and a new Regulator) and the oil and gas industry.
- The creation of a new arm's length regulatory body to oversee and develop this programme of change and growth.

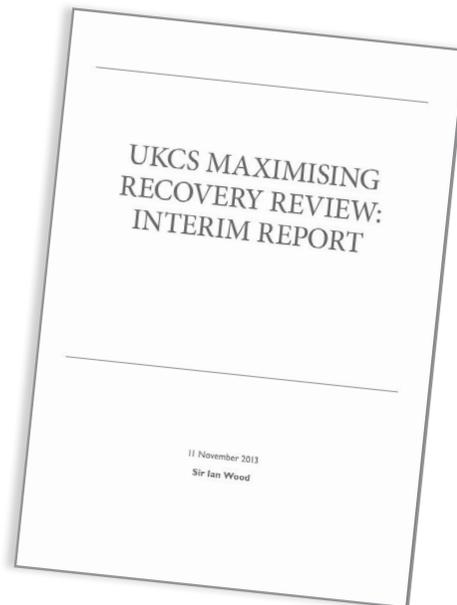
Sir Ian Wood's interim report estimates that full and rapid implementation of his recommendations will deliver at least 3-4 billion barrels of oil equivalent more than would otherwise be recovered from the UK's waters over the **next 20 years, bringing over £200bn** additional value to the UK economy.

The second half of the review that will begin in 2014 will focus on strategies to make the most of the economic

opportunities offered by retrieving offshore oil and gas.

Edward Davey said:

"Our offshore oil and gas fields are one of Britain's great natural assets, and I'm determined that they should stay that way. They are good for our energy security, because if we improve what we're recovering domestically, we reduce our reliance on foreign imports. They are good for the economy, supporting jobs and thriving communities. And they are extremely good value for taxpayers."



Communities to be consulted on wind turbine proposals and siting

Communities will have a much greater say over wind turbine proposals and siting when early consultation between local people and developers becomes compulsory.

Planning works best when people have the opportunity to influence decisions that affect their lives and when developers hear concerns early on.

New measures, to be laid before Parliament shortly, will provide that developers seeking planning permission for onshore wind development involving more than 2 turbines or any turbine exceeding 15 metres height will need to consult the local community before submitting a formal planning application.

When a proposal meets the criteria, the developer will need to consult to ensure communities views about siting and other

relevant planning issues can be heard first.

Minister for Energy, Michael Fallon, said:

"These new rules will help ensure that in future people have a say earlier on in the process over where onshore turbines are sited.

Wind is an important part of the UK's energy mix, and both government and industry agree that these proposals will ensure that new turbines are appropriately sited.

The measures build on existing industry best practice that already takes place for most commercial scale applications, where early engagement is required, and complement the need for good local plan making."



Civil Service awards

2050 energy calculator wins Civil Service Award

Staff at the Foreign & Commonwealth Office (FCO) and at the Department for Energy and Climate Change (DECC) have been awarded a prestigious Civil Service Award for its 2050 calculator, an open source tool that helps the public to understand the scale of the UK's energy challenge.

The tool allows users to easily explore the full range of options to reduce its greenhouse gas emissions to 2050 and the associated trade-offs of costs, air quality and land use.

What began as a UK tool, the 2050 Calculator is now helping to create the conditions for more evidence based energy and climate decisions worldwide through its promotion internationally by the FCO. A key breakthrough came when China successfully adapted the Calculator to its own national priorities.

Read more about it on the [DECC blog](#), or visit the [2050 GOV.UK](#) pages.

The Rhum Cross-Whitehall Programme Board were also shortlisted for a Growth award. Rhum, is a high pressure, high temperature North Sea gas field valued at many hundreds of millions of pounds. It is operated by BP and partnered by the Iranian Oil Company (IOC). Production was suspended in 2010 when EU sanctions against Iran were put in place.

Led by DECC with FCO, Cabinet Office and HMT participation, the Rhum board has succeeded in finding a fast, efficient and legally-robust solution to preserving the value and safety of the field and limiting its environmental risks, while maintaining the rigour of sanctions against Iran.

The project will safeguard about five per cent of UK's gas production, as well as avoiding environmental disaster in the North Sea.

The 2050 Calculator is now being adopted by a range of countries around the world, 10 of which are being supported by International Climate Finance and technical advice from the Cross-Whitehall Team.



Interview with David Mackay



David MacKay was appointed DECC's Chief Scientific Advisor in October 2009, after the publication of his highly acclaimed book 'Sustainable Energy - without the hot air' - which he dedicates to those who will not have the benefit of two billion years accumulated energy reserves.

DECC Review grabbed a few minutes of David's time to ask him some topical questions...

Why did you want to work for DECC?

"I'd written a book *Sustainable Energy - without the hot air* with the goal of enhancing the public discussion of energy options. DECC was created at the same time that my book came out, and working for DECC seemed a great opportunity to make use of what I'd learned in writing the book; my goal was to try to help government make the best possible policies for energy security and climate change action, rooted in the laws of physics and the realities of engineering."

DECC is a department with a massive mission: to power the country and protect the planet - do you think we can do it?

"I think one of my main roles here is to ensure we understand the scale of action required. I do think it is technically possible to deliver our targets, and the political will seems to be there too, with cross-party support for The Climate Act and The Carbon Plan."

"I think that success will depend on ensuring people understand how the numbers add up, and which are the options that can really make a big contribution to a sustainable solution."

What do you think the major challenges will be?

"One difficult challenge is the way in which economic activity and growth currently is coupled to buying lots of stuff and then throwing it away. When a fridge, clothes-washer, or microwave develops a fault we throw

it away instead of repairing it. Car manufacturers love us to buy a new car every few years.

The whole system could use significantly less energy if we designed things to last, if we only bought things we need to use, if we used them for their full life, repairing them when necessary, and then disassembled them carefully so that components could be re-used. How can we get there from here?"

A piece of wisdom you would pass on...

"I've got two: **Read your meters.** Know about actual energy consumption; and more generally know about the real world... reading my meters changed my life, and it might change yours too."

"**Use units in all calculations.** This is a bit of a geeky technical point, but I think it is very important for everyone as well as scientists: most calculators and spreadsheets simply represent quantities by plain numbers, omitting the units (such as pounds, people, or kWh)."

Consultations

Repealing legislation prescribing the maximum temperature to which particular premises may be heated

Started: 28 October 2013

Closes: 20 December 2013

The Gas Act 1986 (Exemptions) (Revocations) Order 2013 Notice

Started: 11 November 2013

Closes: 20 December 2013

Proposals for implementation of Electricity Market Reform

Started: 24 October 2013

Closes: 24 December 2013

Energy - review of the balance of competences

Started: 24 October

Closes: 15 January 2014

Click here for more information on [DECC consultations](#)

For further information on this and other events, [please contact us](#).

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