

Monthly Report on Research and Policy Developments - Energy and Climate Change

July 2017

Purpose: This document provides a summary of recent key developments in policy and research relating to energy and climate change. It has been prepared by the [ClimateXChange](#) Secretariat and is intended to keep Scottish policymakers informed of issues relevant to the Scottish Government's Energy and Climate Change policy portfolio.

International Climate and Energy Research and Policy

G20 leaders' statement on climate change

The Hamburg G20 summit [communique contained](#) text on climate change to which US President Donald Trump did not agree. A separate paragraph on the US's position regarding the Paris Agreement, and fossil fuels, was added to the communique.

Reacting to the summit outcome, Prof Dr Uwe Schneidewind of the Wuppertal Institute, has [written](#) on how global climate protection can proceed after US withdrawal from the Paris Agreement. He comments on the isolation of the US as the remaining 'G19' states reaffirmed their climate change commitments, and states a 'new chapter in international climate policy has begun'.

World Energy Investment 2017 report

The International Energy Agency (IEA) has released its 2017 World Energy Investment [report](#), showing that investment in coal-fired plants has fallen sharply, amidst concerns about local air pollution and the emergence of overcapacity in some markets. Figures for investment decisions taken in 2016 signal a further dramatic slowdown ahead for coal power once the current wave of construction comes to an end. Carbon Brief has produced a [summary](#) of the report's key findings.

In a Guardian [report](#) on how coal as a major energy source has lost its power in Britain, Dr Iain Staffell, Imperial College London, has described as 'unprecedented' the speed at which coal has declined. While the UK government has said it will phase out coal power by 2025, Dr Staffell has commented that 'we will probably get to the position of just a couple of stations left reasonably soon'. These comments came at the same time as [reports](#) that Drax Group, operator of the UK's largest power station, are considering switching one of three remaining coal-fired units to gas.

France presents new climate plan

French Minister for the Ecological Transition, Nicolas Hulot, has launched a new '[Plan Climat](#)', setting out a strategy for France to limit greenhouse gas emissions, and deliver on the Paris Agreement. Further to announcements to end new hydrocarbon exploration licenses, and to end the sale of petrol and diesel cars from 2040, a target to achieve carbon neutrality by 2050 has also been set. WWF France [welcomed](#) this announcement as the 'first time that France also undertakes clearly on a goal of carbon neutrality in 2050'.

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Australian local councils lead the way in tackling climate change

Local councils across Australia are scaling up climate action in the absence of strong federal policy. Thirty-five councils have pledged to switch to renewable energy, build sustainable transport, and develop greener, efficient and more climate-resilient communities. The pledges were made as part of the Climate Council's launch of the [Cities Power Partnership](#).

IRENA report on stranded assets and renewables

IRENA has released a [Stranded Assets and Renewables working paper](#) on *how the energy transition affects the value of energy reserves, buildings and capital stock*. The paper examines the potential magnitude of asset stranding in the global energy sector due to a shift to renewable energy and energy efficiency that would be needed to fulfill the Paris Agreement.

COP23: information hub launch

The UNFCCC has launched an [information hub](#) for the COP23 conference which will take place in Bonn, Germany, hosted by the UNFCCC secretariat, and presided over by Fiji.

UK Climate and Energy Research and Policy

UK switch to electric vehicles

The UK government has [announced](#) that the sale of all new conventional diesel and petrol vehicles will be banned from 2040 in a bid to tackle air pollution. A new Clean Air Fund for £255 million to support councils to tackle emissions, including through the use of charging zones for the dirtiest vehicles, has also been unveiled.

The announcement has been met with mixed opinion. Some commentators feel the ban does nothing to address more immediate public health issues arising from vehicle emissions. The [Guardian](#) has pointed to government analysis which shows Clean Air Zones (CAZs) to be the most effective way to reduce pollution, and asks what happens in areas of the UK where CAZs aren't already being mandated.

CarbonBrief deals with '[inflated claims](#)' about the demand for power that would result from the UK switching to electric vehicles; some of which resulted from the reporting of the recently released National Grid's [Future Energy Scenarios](#).

[Research](#) produced by Cambridge Econometrics in 2015 has also become part of this debate, as it showed clear economic benefits of moving to electric vehicles (EVs). Using a scenario where EVs make up 70% of new vehicle sales by 2040, it shows: lower costs to consumers; substantial reductions in imported oil; a positive net impact on jobs and GDP; and local environmental benefits. Importantly the research also shows an increase in electricity demand of only 10%.

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Increasing UK biomass production through more productive use of land

ETI has published a report on [increasing UK biomass production through more productive use of land](#). The report builds on previous ETI work on how much sustainable biomass could be produced, through identifying suitable land, and estimating how much could be dedicated to bioenergy crops, taking into account other demands for land. The report brings together these previous findings and sets out a suggested approach to delivering energy crops in the UK.

RAE report on the sustainability of biofuels

The Royal Academy of Engineering has published a [report](#) which backs increased use of biofuels but says more should come from waste rather than food crops. The report, which was requested by the UK government, suggests that there will be an increasing need for biofuels for aircraft and ships in the decades to come. The report also states that some biofuels, such as diesel made from food crops, have led to more emissions than those produced by the fossil fuels they were meant to replace.

State of the UK climate

The Met Office has published its [State of the UK Climate](#) report for 2016. The report shows that 2016 was 0.5°C warmer than the average for 1981-2010; winter 2016 was the mildest on record for England and Wales; 8 out of the 10 warmest years have occurred since 2002 and; winter 2016 was the second wettest on record.

High risk of unprecedented rainfall

New innovative research, published by the Met Office in [Nature Communications](#), has found that for England and Wales there is a 1 in 3 chance of a new monthly rainfall record in at least one region each winter. The research has demonstrated that even with the current climate it is likely that there will be one or more monthly regional rainfall record events in the coming decade. The new Met Office computer simulations, used to produce this research, could also be applied to assess other climate related risks and help policy makers, contingency planners and insurers plan for future events.

Push to establish UK as leader in battery technology

UK Business Secretary Greg Clark has [announced](#) the launch of the £246 million Faraday Challenge to boost expertise in battery technology. The first phase of the scheme includes a launch of a £45 million 'Battery Institute' competition to establish a centre for battery research to make technology more accessible and affordable.

Schroders issues climate change warning

UK asset manager, Schroders, has [issued a warning](#) about climate change, cautioning that global temperature rise will potentially put trillions of pounds of investors' money at risk. Their analysis of www.climatexchange.org.uk

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the biggest drivers of climate change suggested global temperatures are poised to rise by 4°C above pre-industrial levels. Schroders have also launched a [climate progress dashboard](#) tool, based on indicators which include oil and gas investment, and political ambition, which will provide a snapshot of likely temperature rises and help fund managers evaluate future climate change challenges.

Scotland sets renewable energy record

In the first six months of 2017 enough power was generated to supply more than all of Scotland's national demand for six days. [Analysis by WWF Scotland](#) of data provided by WeatherEnergy found wind turbines provided around 1,039,001MWh of electricity to the National Grid during June. Renewable energy figures show the power generated last month was enough to supply the electrical needs equivalent to 118 per cent of Scottish households or nearly three million homes. The figures for January to June this year showed an increase of 24 per cent compared to 2015.

Scotland's new climate change bill consultation

The Scottish Government is [consulting](#) on a new climate change bill with more ambitious targets. Proposals include increasing the 2050 target to 90% emissions reduction.

Fund to restore English peatland

The UK government has [announced](#) a £10 million grant scheme to restore England's iconic peatlands. In England, peatlands store more than 3.2 billion tonnes of CO₂, and it is estimated that as much as four fifths of it is in need of restoration. The funding is in addition to funds already allocated by DEFRA to Natural England restoration schemes.

Climate Science, Impacts and Adaptation

Larsen C iceberg breaks away from Antarctic

The previously growing rift across one of the Antarctica Peninsula's largest ice shelves has ended, resulting in a trillion-ton iceberg beginning to drift away from Antarctica. Satellite imagery has [shown](#) that in the week since the iceberg cut away, that it has already moved 1.5 miles from the main ice shelf.

Importance of pre-industrial baseline for likelihood of exceeding Paris Agreement goals

Research [published](#) in Nature Climate Change investigates the implications of different choices of the pre-industrial baseline on the likelihood of exceeding the 1.5°C and 2°C temperature thresholds written into the Paris Agreement. The research found that the probability of exceeding temperature thresholds and timing of exceedance is highly dependent on the pre-industrial baseline.

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Assessment practices for noise impacts from renewable technologies

ClimateXChange has [published](#) research on how noise impacts from wind turbines, hydro schemes, and air source heat pumps are considered in the planning process in Scotland, including the guidance and standards these impacts are judged against.