

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

### February 2018

**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

#### The IPCC special report on 1.5°C – key messages emerging from draft

A [draft summary of the IPCC's special report on the 1.5°C climate goal](#) has been leaked. The report, which is due to be finalised in September 2018, will answer questions around the impacts of 1.5°C global warming, compared to 2°C. [Climate Home](#) has published its 11 takeaways from the draft which says missing the 1.5°C target will multiply hunger, migration and conflict. The draft report flags the risks associated with reaching 1.5°C and 2°C temperature rises; addresses the huge challenge involved in meeting the rapid and deep emissions cuts that are needed to limit temperature rise; and explores the trade-offs associated with radical action.

#### Countries reaching peak greenhouse gas emissions

The World Resources Institute (WRI) has [found](#) that the number of countries that have reached peak GHG emissions levels, or have a commitment that implies a peak in emissions in the future, grows from 19 countries in 1990 to 57 countries in 2030. The share of global emissions covered by these countries grows from 21% in 1990 to 60% in 2030. Among these 57 countries are some of the world's biggest emitters such as China, the US and Russia. However, the number of countries peaking and the emissions level at which they are peaking is insufficient to meet the Paris Agreement temperature goals.

#### BP energy outlook 2018

BP has published the 2018 edition of its '[Energy Outlook](#)' which considers the forces shaping the global energy transition out to 2040 and the key uncertainties surrounding that transition. [Analysis](#) by Carbon Brief shows that BP has significantly increased its global outlook for wind and solar energy – the main scenario in the report shows renewables rising four-fold to 2,000 million tonnes of oil equivalent (Mtoe) by 2035. This is an upwards revision of around 400 Mtoe compared to the 2017 forecast. The projections also show, for the first time, global oil demand peaking by 2040. Oil remains the world's largest fuel source however.

#### Renewable energy prospects for the EU

The International Renewable Energy Agency (IRENA) and the European Commission have produced a [study](#) into cost-effective renewable energy options for all EU Member States, spanning a wide range of sectors and technologies. Some of the key findings highlighted in the report include; the EU could

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double the renewable share in its energy mix cost-effectively from 17% in 2015 to 34% in 2030; all EU countries have cost-effective potential to use more renewables and; the European electricity sector can accommodate large shares of solar photovoltaic (PV) and wind power generation.

### **EU to refuse trade deals with countries that don't ratify the Paris Agreement**

Cecilia Malmstrom, the EU's trade chief, [said](#) a binding reference to the Paris Agreement would be needed in all future EU trade agreements. It has been included in a deal with Japan, and will be included in upcoming deals with Mexico and the South American trade bloc Mercosur. A European Commission spokesperson has confirmed that the new EU policy will also apply to a post-Brexit trade deal with the UK – meaning Britain would risk its trade deal with the bloc were it to try to back out of the accord.

### **Balearics to phase out greenhouse gas emissions by 2050**

The Government of the Balearic Islands (Ibiza, Majorca, Menorca and Formentara) has [launched](#) a plan to phase out GHG emissions by 2050. Under a proposed new climate law, the islands are aiming to move to 100% renewable electricity by 2050; currently the islands get just 2% of their power from renewable sources. Proposals also include a ban on new diesel cars from 2025; and all street and road lighting replaced by LEDs in 2025.

### **Denmark ends drilling for onshore oil and gas**

The Danish government has [announced](#) that it is stopping all future oil and gas extraction from Danish land and internal waters. According to Lars Christian Lilleholt, the Ministers for energy, utilities and climate, the decision was made in response to overwhelming public resistance to new oil and gas extraction. The Geological Survey of Denmark and Greenland has also demonstrated that there is no economic justification for new oil and gas exploration projects in the country.

### **Ireland to ban exploration licenses**

The Dáil (Irish Parliament) has [voted](#) to ban the issuing of oil and gas exploration licenses in Irish waters. TDs (Members of the Parliament) voted against the Government to pass the Bill introduced by the People Before Profit party. The Petroleum and Other Minerals Development (Amendment) (Climate Emergency Measures) Bill now goes to committee for consideration.

## **UK Climate and Energy Research and Policy**

### **Met office forecast indicates further warming**

A new [forecast](#) published by scientists at the Met Office indicates the annual global average temperature is likely to exceed 1°C and could reach 1.5°C above pre-industrial levels during the next five years. There is also a small chance (around 10%) that at least one year in the period could exceed

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1.5°C above pre-industrial levels, although it is not anticipated that it will happen this year, it is the first time that such high values have been highlighted within these forecasts.

### **Mapping the UK heat sector and understanding business risks of heat decarbonisation**

In their paper 'A transformation to sustainable heating in the UK: risks and opportunities for UK heat sector and businesses' [UKERC](#) has shone light on the businesses present in the heat sector. UKERC has also developed an [interactive map](#) which displays many of the companies active in the sector, providing information on business interests and company size. It is anticipated that this will be a useful tool for policy makers and others working on the decarbonisation of UK heat.

### **Climate change means more frequent flooding, warns Environment Agency**

The UK Environment Agency has [warned](#) that intense bouts of flooding are set to become more frequent, following a pattern of severe flooding over the past 10 years linked to an increase in extreme weather events as the country's climate changes. The Environment Agency has launched a Flood Action Campaign, targeting younger people through social media and online advertising to encourage them to check their flood risk at GOV.UK, and sign up for free warnings.

### **Removing barrier to mature renewables key to lowering industrial electricity prices**

A [report](#) by the Aldersgate Group has set out what the UK government can do to support competitive industrial electricity prices as it deliver its Clean Growth and Industrial Strategies. The report recommends that the UK government improves investment conditions in low-cost renewable energy technologies such as onshore wind, coordinates investment in power generation and network infrastructure more efficiently and ensure that the UK leaves the EU in a way that support increased interconnection with European power grids and cross-border electricity trading.

### **Local heat and energy efficiency strategy pilots evaluation**

The Scottish Government has published an [interim report](#) on the Local Heat and Energy Efficiency Strategy (LHEES) pilots evaluation. The report, produced from research funded by ClimateXChange, is based on an initial set of interviews conducted with lead officers from the 12 local authorities undertaking pilot projects. The interviews sought to understand the expectations and objectives of the 12 local authorities at the start of the pilot process, and identify key areas of concern upon which to focus the on-going evaluation.

### **Scottish Climate Change Plan**

The Scottish Government has published its [Climate Change Plan](#) which sets out how it will meet emissions targets over the next 15 years. The Climate Change Plan, along with the Scottish Government's Energy Strategy, provides the strategic framework for the transition to a low carbon Scotland. The plan includes measures to significantly cut emissions from transport, buildings and industry to help the government meet its target of a 66% cut in GHG emissions by 2032, compared to [www.climatexchange.org.uk](http://www.climatexchange.org.uk)

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1990 levels. Carbon Brief has [published analysis](#) of the plan, including where the Scottish Government does and does not expect to cut emissions over the next 15 years, and how plans for a new Scottish Climate Change Bill could affect its ambition.

## Climate Science, Impacts and Adaptation

### The risk of overheating in healthcare buildings

[Research](#) commissioned by ClimateXChange shows that given the complex, and in many cases, site specific nature of thermal comfort and overheating issues in hospital buildings, it may not be appropriate to link / group common overheating 'issues' to common hospital archetypes. Whilst anecdotal evidence of overheating was identified, the study found a significant lack of data that would enable a robust assessment of overheating in in-patient areas. The study recommends that consideration be given to undertaking a programme of cost effective monitoring (of selected in-patient facilities) to capture data that will enable a robust assessment of the nature and severity of overheating at selected sites.

### Limited emission reductions from fuel subsidy removal

Researchers have [explored](#) whether the removal of fossil-fuel subsidies would have a large impact on climate change mitigation. They have found that the removal of such subsidies would have an unexpectedly small impact on global energy demand and carbon dioxide emissions and would not increase renewable energy use by 2030. The research also concludes that the removal of subsidies would lead to bigger emissions reductions in oil and gas exporting regions than promised by their pledges under the Paris Agreement. In all other regions, removing fossil fuel subsidies would not have as large an impact as the Paris pledges.

A researcher, not linked to the research, is [quoted in Carbon Brief](#) as saying that comparing the effects of subsidy removal to the Paris pledges is "unnecessary and inappropriate", since these economy-wide pledges are generally composed of many other policies and actions that just subsidy removal.

### Sea-level rise and delayed mitigation action

Researchers have [found](#) that each five-year delay in near-term peaking of CO2 emissions increases median year 2300 sea-level rise estimates by approximately 0.2m, and extreme sea-level rise estimates at the 95<sup>th</sup> percentiles by up to 1m. The research underlines the importance of near-term mitigation action for limiting long-term sea-level rise risks.