



Scotland's centre of expertise connecting
climate change research and policy

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

February 2019

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

French zero carbon legislative proposals

[Climate Home News](#) reports on legislation proposed by the French government that would require France to achieve carbon neutrality by 2050. The bill is expected to be submitted to the French Parliament in April. The proposals would result in France postponing a commitment to reduce reliance on nuclear power to a 50% share from 2025 to 2035 and reduce the proportion of energy powered by fossil fuels by 30% by 2030 to 40%.

Australia potential to meet carbon goals at zero net cost through renewables

In a [report](#) published by the Australian National University researchers have concluded that Australia can easily meet its 2030 carbon emissions target (a 26-28% reduction on 2005 levels) by replacing coal-fired power stations with renewables at zero net cost. The authors report that at the current rate of wind and solar photovoltaic deployment renewable energy could meet more than half of Australia's electricity consumption needs by 2030 and Australia's entire Paris greenhouse emissions reduction target.

2018 fourth warmest year on record

According to [analysis](#) published by NASA and the National Oceanic and Atmospheric Administration (NOAA) the Earth's global surface temperature in 2018 was the fourth warmest since 1880. Global temperatures in 2018 were 1.5 degrees Fahrenheit (0.83 degrees Celsius) warmer than the 1951 to 1980 mean, according to scientists at NASA's Goddard Institute for Space Studies (GISS) in New York. Globally, 2018's temperatures rank behind those of 2016, 2017 and 2015. The past five years are, collectively, the warmest years in the modern record.

BP 2019 Energy Outlook

BP published their 2019 [Energy Outlook](#). The document explores the forces shaping the global energy transition out to 2040, uncertainties surrounding that transition and considers the energy transition through three different lenses: sectors, regions and fuels. The outlook presumes growth in energy demand from fast growing economies with industry and buildings accounting for much of this growth.

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Renewables are the fastest growing source of energy in the outlook, accounting for around half of the increase in energy and by 2040 renewables overtake coal as the largest source of global power.

UK Climate and Energy Research and Policy

Climate-proofing UK Housing Stock

The Committee on Climate Change (CCC) published a [report](#) looking at how prepared UK housing stock is for the challenge of adapting to the impacts of climate change and reducing emissions from UK homes. In their assessment the CCC make recommendations that include strengthening enforcement of building standards, addressing skills gaps in housing design, construction and installation of measures and ensuring that by 2025 new homes are heated by low carbon sources (and not connected to the gas grid).

UK 2017 Greenhouse Gas Emissions Data Published

The UK Government has [published](#) the 2017 UK Greenhouse Gas Emissions Data. The data highlights that greenhouse gas emissions fell by 3% between 2016 and 2017 and by 42% between 1990 and 2017. The energy supply sector has accounted for around half of the overall reduction in UK emissions since 1990. In 2017 transport was the biggest source of emissions (27%) in the UK followed by energy supply (24%), business (17%), residential (15%) and agricultural (10%) sectors.

Modelling demand-side energy policies for climate change mitigation in the UK

UKERC has undertaken a [Rapid Evidence Assessment](#) to examine energy models that have informed energy policy documents published by the UK government between 2007 and 2017. The review seeks to address how suitable the energy models used to inform UK government energy policy are, with regard to the contributions that demand-side energy policies can make to climate change mitigation.

Swansea Tidal Lagoon

According to a [report](#) in the Guardian the firm behind the Swansea Tidal Lagoon have suggested that the scheme could be developed without UK Government subsidy based on potential interest from a number of significant energy users signing up to a Power Purchase Agreement (PPA) that would commit them to purchase electricity generated from the scheme. The company have suggested that an investment decision would be made in early 2020 based on the level of PPA commitments secured.

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Climate Science, Impacts and Adaptation

Met Office Global Temperature Forecast

According to Met Office [forecasts](#) the global average surface temperature for the five-year period to 2023 is predicted to be near or above 1.0°C above pre-industrial levels. If the observations for the next five years track the forecast that would make the decade from 2014 to 2023 the warmest run of years since records began.

BECCS deployment: a reality check

A new [briefing paper](#) from the Grantham Institute explores the role that bioenergy with carbon capture and storage (BECCS) technologies can really play in meeting global climate change targets. BECCS is presented as a pivotal technology in most pathways for limiting global warming to 1.5° or 2°C but this paper states that it is doubtful BECCS can fulfil this role alone. The paper also states that BECCS is not a single technology and that understanding the value and challenges associated with each technology is complex but vital. The research highlights that depending on the conditions of its deployment, BECCS may be beneficial but it can also be detrimental to climate change mitigation, due to its lifecycle carbon dioxide balance, energy balance and resource use.

Climate Adaptation and Health Services – a model for Sydney

A research [report](#) published by Australian Health Review explores how Local Health Districts can prepare for the effects of climate change by focusing on applying an adaptation model to metropolitan Sydney.