

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

July 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

#### **Heatwave claims lives around the world**

As countries around the world experienced heatwaves in July, new research indicates that increasing incidents of [heatwaves could lead to reduced cognitive function](#) whilst [a study published in the journal Nature Climate Change](#) links increases in heatwaves with higher rates of suicide. A [report](#) from the House of Commons Environmental Audit Committee found that unless the UK Government takes decisive action, [future heatwaves could claim over 7000 lives a year by 2050](#) and made a number of recommendations aimed at protecting health and wellbeing

Carbon Brief has [summarized the media's response to the heatwave](#), including the extent to which media outlets connect the extraordinary weather with climate change.

#### **[Ireland votes to divest from fossil fuels](#)**

Ireland's Parliament voted this month to sell the strategic investment fund's shares in coal, oil and gas in a world first for national level divestment.

#### **[Global investment in renewables falls](#)**

The International Energy Agency has warned that global investment in renewable energy fell by 7% last year whilst the proportion of global investment in fossil fuels increased.

#### **[Temperature increases could be double those predicted by climate models](#)**

Temperature rises as a result of global warming could eventually be double what has been projected by climate models and sea levels could rise by six metres or more even if the world does meet the 2 degree target of the Paris accord – that's according to research from an international team of researchers from 17 countries and published in Nature Geoscience. The research is based on observations from three warm periods in the past 3.5m years in which global temperatures with between 0.5 and 2°C greater than pre-industrial 19<sup>th</sup> century temperatures.

#### **European Commission edges towards Paris-compliant 2050 strategy**

The European Commission has [outlined its plans](#) for a long-term climate strategy for the EU to comply with the Paris Agreement but [Euractiv notes that problems with the modelling used could undermine the strategy's credibility](#).

#### **[Costa Rica aims for carbon neutrality by 2021](#)**

Vox examines recent announcements by Costa Rica's government that it aims to be carbon neutral by 2021. The article notes that the aim does not involve a legal ban on fossil fuels, but instead policies aim to make fossil fuels a less viable option for buildings and transport than renewable alternatives.

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## UK Climate and Energy Research and Policy

### Electric vehicle news

The UK Government's long awaited [Road to Zero strategy to decarbonise road transport](#) was published in July, setting out plans to end the sale of new petrol and diesel cars by 2040 and proposing that new street lamps and new build homes must be fitted with charge points to support a transition to EVs. See Business Green's [detailed assessment of the strategy here](#). [The Committee on Climate Change accused the Department of Transport of "falling short of expectations"](#) and warned that a lack of clarity over the 2040 target could see the UK Government failing to meet climate targets.

Meanwhile the National Grid [doubled its projections for the number of EVs on Britain's roads](#) by 2040 and reported that the grid would comfortably cope with such an increase. The report states that the use of smart chargers and vehicle-to-grid technology means EVs can "support the continued trend towards more low-carbon generation". Read Carbon Brief's [analysis](#) of the future energy scenarios here.

### [National Infrastructure Commission: low carbon future possible at no extra cost](#)

July saw the first Assessment from the National Infrastructure Commission – a body established by the UK Government to advise on infrastructure investment. The report concludes that making a switch towards low-carbon and renewable sources for both the UK's power and heating, combined with a move towards electric vehicles, would mean the customer of 2050 would pay the same in real terms for their energy as today. The commission recommended that half of the UK's power should be provided by renewables by 2030 and called on the UK Government, Ofgem and local councils to ensure the delivery of EV charging infrastructure to prepare for 100 % of new car sales to be electric vehicles by 2030.

### [CCC report shows new renewables cheaper than existing gas by 2030](#)

New power scenarios from the Committee on Climate Change (CCC) show that it could be cheaper for the UK to build new wind and solar farms in the 2020s than to keep running some existing gas plants. Wind and solar play a much bigger role in the new power scenarios, published as part of the CCC's annual report to Parliament, with reliance on nuclear and carbon capture and storage (CCS) reduced.

## Climate Science, Impacts and Adaptation

### [How use of land in pursuit of 1.5C could impact biodiversity](#)

A guest post by ClimateXChange co-director Prof Pete Smith of the University of Aberdeen highlights how important it is for the world to think collectively about the land-management decisions it makes in the pursuit of climate mitigation.

### [UK Government launches National Adaption Plan](#)

The [UK Government has published its updated strategy](#) for tackling the impacts of climate change, including higher temperatures, drought and flooding. However the plan faced [criticism from the UK CCC](#) with Head of Adaptation Kathryn Brown writing "this looks like only a partial plan. In my view...on its own, [it] isn't meeting the goals the government has set itself." [Read Carbon Brief's analysis here](#).

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### [Decarbonising key sectors “difficult but not impossible” says Imperial study](#)

A new study from researchers at Imperial College London and the University of California, Irvine suggests that although many areas of the economy are difficult to decarbonise, solutions using current technology exist for the majority of sectors. The study urges more research and investment in finding solutions for the harder to treat sectors such as aviation, cement and steel. [Read the research here.](#)

### [Emissions from wetlands and permafrost could cut carbon budget “by 5 years”](#)

New research published in Nature has found that emissions of CO<sub>2</sub> from wetlands and thawing permafrost could reduce the amount of carbon the world can burn if temperature increases are to be limited to 1.5C. The findings suggest that human-caused emissions will need to reduce by an additional 20% in order to meet the Paris Agreement.

### [Norwegian researchers claim historic breakthrough in lithium ion batteries](#)

Researchers in Norway’s Department of Energy Technology (IFE) say they have perfected a way to substitute silicon for the graphite commonly used in the anodes of lithium ion batteries. The discovery will lead to batteries that can power an electric car for 600 miles or more, the researchers claim.

### [Burgeoning EV battery reuse industry could see batteries “chilling beers in 7-Elevens”](#)

Car manufacturers are looking for ways to reuse batteries from electric vehicles as they seek opportunities in a burgeoning market, reports Bloomberg.

### **Carbon Tax proposals**

A economy-wide carbon tax paid by both domestic and international producers would prevent carbon leakage, level the playing field for Britain’s heavy industry, fund a dividend to be paid to taxpayers and tackle climate change, argues the [new report from think tank Policy Exchange](#). Meanwhile research published in the journal Climate Policy examines [what lessons have been learned from carbon taxes](#) and emissions trading schemes around the world.

### [Digest of UK Energy Statistics \(DUKES\) 2018 published](#)

Key findings include an increase in UK energy production of 0.4 per cent, driven by growth from wind, solar and hydro and bioenergy and waste. Overall fossil fuel production contracted with coal reaching a record low. Meanwhile primary energy consumption is down 1.2 per cent.