



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

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

May 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

#### Bonn climate talks

Governments met in Bonn to discuss the Paris 'rulebook' – details of the rules and processes associated with implementing the Paris Agreement. Some of the key areas for discussion included transparency, accountability and financing of the Agreement. Governments failed to agree on a single negotiation text required for the COP24 meeting in December 2018 and a further week of talks has been scheduled for September.

The meeting also saw the first session of the 'Talanoa Dialogue', a process proposed to open discussion between countries and stakeholders on the level of ambition included in the nationally determined contributions (NDCs).

#### EU to push for net zero emissions goal

The EU Commission's energy and climate lead, Miguel Arias Canete, has [revealed](#) that the EU will push for a 2050 net zero emissions goal as part of its new long-term decarbonization strategy. A target of net zero by 2050 would be a significant ramping up of ambition from the bloc's current goal of reducing emissions to 80-95% below 1990 levels by the middle of the century. The new target is being considered as part of preparations for climate change negotiations next year where nations will face pressure to stretch emissions reductions further as part of meeting the Paris Agreement.

#### Costa Rica to ban fossil fuels

Costa Rica's new president, Carlos Alvarado, has [announced](#) a plan to ban fossil fuels and for the country to become the first fully decarbonized country in the world. Last month, Mr Alvarado said the country would begin to implement a plan to end fossil fuel use in transport by 2021. Costa Rica already generates more than 99% of its electricity using renewable energy, but achieving zero carbon transport quickly will be a significant challenge.

#### California first US state to mandate solar on homes

California is the first US state to [mandate solar panels on new homes](#) and apartment buildings built after 1 January 2020. California State law already required that 50% of all electricity comes from non

May 2018

carbon-emitting sources by 2030. Critics have notes that the solar panel mandate will add between \$8,000 and \$12,000 to a home's cost. The Energy Commission however estimates that homeowners will only see an additional \$40 to monthly mortgage repayments, and will save \$80 on heating, cooling and lighting costs.

## UK Climate and Energy Research and Policy

### Warming and wind energy generation

A [study](#) has found that a rise in global temperature of 1.5 oC could result in a 10% increase in UK onshore wind energy generation. The largest increase is forecast to occur in the summer months and the findings are the result of a new climate modelling tool.

### Green finance

A [report](#) by the House of Commons Environmental Audit Committee on Green Finance has raised concerns about a fall in investment in green energy in the UK, noting that annual clean energy investment is at its lowest since 2008. The report identifies that impact of this fall may have been cushioned by a reduction in the electricity generation costs from wind and solar but refer to a potential reduction in investor confidence associated with changes in clean energy policy in 2015. The report also refers to potential disruption resulting from the Green Investment Bank privatisation and reduction in European Investment Bank lending associated with the vote to leave the EU. The Committee call for clarity on how the UK Government intend to deliver the Clean Growth Strategy and as part of this suggest the scope for green bonds to help deliver it should be explored.

### Renewable Heat Incentive

The House of Commons Committee of Public Accounts published a [report](#) on the Renewable Heat Incentive (RHI) in Great Britain. The report notes that take-up of the scheme has been considerably lower than originally anticipated and suggest that the scheme does not work for many householders or businesses who are unable to pay the high upfront costs.

### Incumbency in the UK heat sector and implications for the transformation towards low-carbon heating

This project investigates issues surrounding the decarbonisation of heating, which is increasingly seen as a priority by energy policy makers. It considers the move towards low carbon heating from the perspective of incumbency, a topic which has received only limited focus. [Papers recently published](#) by the UK Energy Research Centre (UKERC) focus on what the policy implications of incumbency in the UK heat sector are for the decarbonisation of UK heat. Findings show that incumbents are supportive of heat decarbonisation pathways and approaches which maintain similar business practices in the future and are not opposed to decarbonisation. The paper is accompanied by a [blog](#) on encouraging rapid low carbon heat deployment, and encouraging new entrants and ideas.

May 2018

### **SSE to cut carbon intensity**

SSE have [committed](#) to reduce the carbon intensity of its electricity generation to 150 grams of carbon dioxide equivalent per kilowatt-hour (gCO<sub>2</sub>e/kWh) by 2030. This reflects a 50% cut from current (2017-2018) levels.

### **UK wave and tidal potential**

A [report](#) by the Offshore Renewable Energy (ORE) Catapult has concluded that renewable energy generated from tidal stream technology could generate £1.4bn for the UK and support the creation of 4000 jobs by 2030. The report highlights the potential for wave energy to contribute a further £4bn and support over 8,000 jobs by 2040.

### **New Climate Change Bill introduced in the Scottish Parliament**

The [Climate Change \(Emissions Reduction\) \(Scotland\) Bill 2018](#) has been introduced in the Scottish Parliament. The Bill follows a programme of stakeholder engagement and consultation and advice from the Committee on Climate Change. The Bill increases Scotland's 2020 and 2050 emission reduction targets to 56% and 90%, respectively and sets interim targets of a 66% cut by 2030 and 78% reduction by 2040. The Bill requires Scottish Ministers to regularly review when it is appropriate to set a net-zero emissions target. The Bill has been referred to the Scottish Parliament's [Environment, Climate Change and Land Reform Committee](#)

## **Climate Science, Impacts and Adaptation**

### **New UK-US research programme on Thwaites Glacier**

A new five year research [programme](#), funded by the UK Natural Environment Research Council (NERC) and the US National Science Foundation (NSF) to learn more about ice sheet stability and predict whether Thwaites glacier in West Antarctica could collapse and what impact this would have on global sea level.

### **Negative emissions – natural climate solutions**

Many global climate models that consider how global warming can be limited to 1.5°C by 2100 rely on the use of bioenergy with carbon capture and storage (BECCS) to achieve net negative emissions. In such scenarios growing the necessary amount of biomass could require a significant land area. [Carbon Brief](#) have drawn on data from a recently published study of 'natural climate solutions' to assess what role reforestation and improved land management could play in removing carbon dioxide from the atmosphere. According to their analysis natural climate solutions could reduce the need for BECCS and offer a number of other potential benefits, for example for soil health and biodiversity.