



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

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

June 2020

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

#### **UN climate negotiations postponed**

There will be no UN climate negotiations this year after preparatory talks scheduled for October were postponed a second time, into 2021. [UN Climate Change](#) said the intersessional meeting, held every year between UN climate summits in Bonn where it is based, could no longer take place due to Germany's Covid-19 restrictions on large events.

#### **US Democrats publish climate change blueprint**

The US would target net-zero GHG emissions by 2050 according to an extensive climate change [blueprint](#) released by House of Representatives Democrats. Republican control of the Senate means the proposals have little chance of passing at present, but this could change if the Democrats win control of the White House and Congress in November's elections.

#### **US climate change lawsuits**

Minnesota and Washington DC have joined Massachusetts, New York and others in launching lawsuits against the oil and gas industry for allegedly deceiving the public about climate change. Minnesota's suit is the first such case against the American Petroleum Institute, [Reuters](#) reports. Washington DC's case [alleges](#) that ExxonMobil, BP, Chevron and Shell have been aware of the impact of fossil fuels on the environment since the 1950s.

#### **Ireland sets ambitious new climate goals**

Ireland's new three-party coalition government has committed to reduce the country's GHG emissions by an average of 7% a year, reaching up to 51% by 2030. In a [coalition agreement](#), it also promised to enshrine in law a target to reach net-zero emissions by 2050 in its first 100 days. Plans include renewables delivering at least 70% of electricity by 2030, retrofitting 500,000 homes for energy efficiency over the decade, and banning new petrol and diesel cars from 2030.

### **Indian government's first climate change assessment**

India's average temperature is expected to rise by more than 4°C relative to the 1976-2005 average by the end of the century, according to its government's first ever climate change assessment [report](#). The warming climate is already negatively impacting rainfall patterns with lower but more intense summer rains and more dry spells, it said.

### **EU Green Deal**

The EU should strengthen its 2030 target for GHG reductions to at least 55% according to an [assessment](#) of the Green Deal by the University of Cambridge and the Corporate Leaders Group. It says a stronger pipeline for green investments needs to be built and action taken to ensure investments are actually green, including lifting climate-related spending's share of the new EU budget to well beyond the 25% envisaged.

### **Statistical Review of World Energy**

Primary energy consumption growth slowed to 1.3% last year, less than half the rate of growth in 2018 (2.8%), according to BP's influential [annual review](#) of world energy. The increase was driven by renewables and natural gas, which together contributed three quarters of the expansion.

### **IEA sustainable recovery plan**

The International Energy Agency (IEA), with analysis from the IMF, has set out a three-year [plan](#) for a sustainable recovery from the coronavirus pandemic that it says would help save or create 9m jobs and boost global GDP by an average of more than one percentage point a year. [Carbon Brief](#) has a detailed analysis of the plan.

### **Renewable energy investment**

The cost of installing renewable energy has hit new lows, meaning future investments will deliver far more capacity, according to a new UNEP [report](#). Renewable energy capacity, excluding large hydro-electric dams, grew by 184GW in 2019, up 12%, the biggest ever annual expansion, but the cost was just 1% higher at \$282bn. Costs for electricity from new solar photovoltaic plants in the second half of 2019 were 83% lower than a decade earlier, it said. Nearly 78% of the net new GW of generating capacity added globally in 2019 was in wind, solar, biomass and waste, geothermal and small hydro. However, future commitments are far below what is needed to meet the Paris Agreement: 826GW of new non-hydro renewable power capacity is planned against the 3,000GW needed by 2030.

### **Battery energy storage growth**

The use of batteries for energy storage is expected to grow faster than that of other flexible assets in the period to 2030 and beyond, as renewable energy generation expands according to research from Wood Mackenzie reported by [Reuters](#). Battery storage will increase from 3GW in 2020 to 26GW by 2030 across Europe's five big European power markets, Britain, Germany, France, Italy and Spain, the consultancy forecast. The cost of

batteries had already fallen by 85% since 2010, it said. Separately, in a new [report](#), the Electricity Storage Network said almost 4GW of energy storage capacity was now connected to the UK network (of which just over 850MW is from batteries), with a further 9GW in the planning process.

### **Unilever €1bn fund**

Unilever, the consumer products group, is to invest €1bn in a new [Climate and Nature Fund](#) and achieve net-zero emissions by 2039. It aims to make its supply chain deforestation-free, promote regenerative agriculture and transition to biodegradable ingredients by 2023. It will use satellite monitoring, geolocation tracking and blockchain and other digital technologies to monitor its supply chain.

### **Rising dairy emissions**

The combined GHG emissions of 13 of the world's largest dairy corporations rose by 11% in just two years (2015-17) with some increasing their emissions by 30% according to a [report](#) by the Institute for Agriculture and Trade Policy. It says none of the companies have clear commitments to cut their overall emissions from their dairy supply chains while fewer than half even report their emissions. The report also draws attention to the expansion of the corporate dairy industry and its impact on rural communities.

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

### **CCC annual progress report**

The UK has failed against 14 of 21 sectoral indicators of progress with just two of 31 key policy milestones met in full, the Committee on Climate Change (CCC) said in its latest annual progress [report](#). It urges the government to seize the opportunity for a green recovery and get back on track ahead of hosting COP26. Among other recommendations, it says the UK should bring forward the ban on new petrol and diesel cars by three years to 2032 and increase taxes on fossil fuels. Carbon Brief has published a detailed [summary and analysis](#) of the CCC's findings.

### **UK Government unveils New Deal**

The UK Government is to provide up to £100m in new funding to help develop Direct Air Capture (DAC), a new technology that captures CO<sub>2</sub> from ambient air, as part of its [New Deal](#) for Britain. It also said it was looking at carbon pricing and incentives such as the government paying per tonne of carbon captured. The New Deal, aimed at spurring a green recovery from the pandemic, also pledged to reforest Britain by planting 75,000 acres of trees every year by 2025 and to help attract investment in 'gigafactories', which mass produce batteries and other electric vehicle components.

### **Scotland's 2018 GHG target not met**

Scotland's GHG reduction target for 2018 has not been met, according to [annual statistics](#). Using the GHG Account method of reporting, emissions fell by 50% on the baseline, against a target of 54%. Over the year source emissions rose 1.5% on 2017 levels, although they fell 45% compared to 1990. The biggest falls were in emissions from energy supply (down 70% since 1990) and waste management (down 72%) while the worst performing domestic sector was transport which only declined 5%.

### **Green loan for UK-Denmark power link**

National Grid [said](#) it had secured a \$734m green loan to help finance a \$2bn interconnector linking the UK and Denmark. The Viking Link, a joint venture with Denmark's Energinet, is expected to be able to supply renewable energy to around 1.4m households and is on the EU's Projects of Common Interest list. The loans are covered by multi export credit agencies in the largest such financing of a green project of this size.

### **New CCS project for Drax**

Drax and Japan's Mitsubishi Heavy Industries are to launch a 12-month [pilot project](#) to capture CO<sub>2</sub> emissions from bioenergy at Drax's Selby plant, the UK's largest. It is the plant's second carbon capture pilot as part of Drax's commitment to be carbon negative by 2030.

### **Wildlife Trusts urge restoration**

A [report](#) by the Wildlife Trusts says restoring natural habitats, such as peatland, salt marshes and coastal seagrass meadows, could provide 37% of the CO<sub>2</sub> mitigation needed by 2030 for the UK to meet the Paris Agreement. It [said](#) restoring peatland soils would be one of the most cost-effective nature-based solutions.

### **Energy transition and the UK economy**

Energy UK and PwC have published a [report](#) detailing how the energy transition can drive the recovery from Covid-19 in a fairer, cleaner and more resilient way. It recommends launching a housing infrastructure upgrade scheme, accelerating regional low carbon industrial clusters and low carbon transportation, unlocking more private investment and supporting local authorities.

### **BECCS siting and size**

New [research](#) considers the environmental and social implications of Bioenergy with Carbon Capture and Storage (BECCS) at the regional scale, looking at six potential UK sites. It finds considerable differences in impact between sites and that deployment over 500MW reduces benefits. The [findings](#) suggest the UK will benefit most from an increased number of smaller plants.

### **Economic benefits of electric cars**

The shift to electric passenger cars could deliver a £24bn boost to the UK's automotive supply chains over the next five years, but the sector must ramp up capacity sharply to meet demand, according to a new [report](#) from the Advanced Propulsion Centre (APC). The APC is a government and industry backed R&D venture to help accelerate the transition to net-zero road transport. The research focuses on batteries, electric machines and power electronics.

### **Onshore wind to proceed in Shetland**

SSE is to move ahead with a 103-turbine, 443MW wind farm on Shetland, set to become the UK's biggest onshore wind project. The £580m project is conditional on Ofgem's approval of a 600MW transmission connection to the mainland. Shetland's current power station is to close in 2025.

### **First offshore wind in a decade**

Crown Estate Scotland (CES), manager of Scotland's seabed, has [launched](#) the first round of offshore wind leasing in Scottish waters for a decade. It said total investment in the ScotWind Leasing round could exceed £8bn and deliver more than enough green electricity to power all Scottish homes. Separately, [CES](#) said it had bought Zero Four, a commercial development site with strong potential to support offshore renewables, near the coastal town of Montrose.

### **Total invests in Scottish offshore wind**

[Total](#), the French energy group, is to take a 51% stake in the Seagreen 1 offshore wind farm in the North Sea under an agreement with SSE Renewables. The \$3.7bn 1140MW project will be Scotland's largest offshore wind farm. It has a 15-year Contract for Difference (CfD) award from the UK government for 454 MW, with an additional 30% of capacity to be contracted under a CfD with SSE.

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

### **Arctic heatwave**

The Arctic is warming at around twice the global rate in a phenomenon known as 'Arctic amplification', says a [commentary](#) on this summer's Siberian heat wave in The Conversation. Western Siberia recorded its hottest spring on record, according to the EU's Copernicus Earth Observation Program, with above-average temperatures forecast across most of the Arctic until at least August.

### **Rising UK temperatures**

The chances of any part of the UK hitting 40°C, a temperature not yet recorded in the country, are likely to increase rapidly in the coming decades, according to a new Met Office [study](#). At present, the UK is only expected to experience 40°C heat once every 100 to 300 [www.climateexchange.org.uk](http://www.climateexchange.org.uk)

years, but this could rise to every 15 years by 2100 under moderate climate change or to every 3.5 years in a high emissions scenario. South-east England is set to be the most affected.

### **Warning on affluence**

Far-reaching lifestyle changes and different economic paradigms are urgently needed to help combat climate change; technology alone will not be enough, according to a new paper published in [Nature Communications](#). The [paper](#) reviews existing academic discussions on the link between wealth, economy and associated impacts. It finds that for over half a century, worldwide growth in affluence has continuously increased resource use and pollutant emissions far more rapidly than these have been reduced through better technology.

### **Record CO<sub>2</sub> capture**

Researchers in Australia have set a record for CO<sub>2</sub> capture using a Metal Organic Frameworks (MOFs) nanocomposite which they said could be regenerated with remarkable speed and low energy cost. The technology, which resembles a sponge filled with tiny magnets, can capture CO<sub>2</sub> from many sources including ambient air. It used one third of the energy of any other reported method, the [research](#) found.

### **Climate change and health**

Two new reports, from the Institute of Advanced Sustainability Studies (IASS) and from the European Commission's Group of Chief Scientific Advisers (SAM), both urge policymakers to do more to integrate health into climate change adaptation policies. In a [policy brief](#), IASS says there is an urgent need for strategic communication to raise awareness of climate-health synergies to overcome the misperception that climate and health are two independent agendas; the present fragmentation is a significant barrier. It says climate finance should be used to unleash health co-benefits and that gender-just solutions should be scaled up within climate change projects. In a [Scientific Opinion](#), SAM says the EU should support the resilience of the health sector as part of broader disaster management strategies and should also design policies to support the most vulnerable social groups and geographical areas.