

Monthly report on research and policy developments Energy and climate change

November 2023

Purpose: This document provides a summary of recent key developments in policy and research related to energy and climate change. It has been prepared by [ClimateXChange](#) and is intended to keep policymakers informed of issues relevant to the Scottish Government's energy and climate change policy portfolio.

International climate and energy research and policy

Video: What to expect from COP28

30 November

In this video, Professor Dave Reay, ClimateXChange Policy Director, talks about what he expects from COP28 regarding commitments from countries around the world that may keep the hope of limiting warming to 1.5C above pre-industrial levels. Professor Reay considers this to be the most important COP since Paris because it is the first global stocktake on what nations need to do to reach the Paris climate goals.

Source: [ClimateXChange](#)

Paris pledges not enough to halt global warming

20 November

The planet will warm 2.5C to 2.9C by the end of this century if current policies continue, according to the Emissions Gap Report from the UN Environment Programme. The annual report compares emissions forecasts under current international policies and commitments for the coming decade with requirements from the Paris Agreement to limit global warming to under 2C. The report concludes that while there has been progress in some climate policies and low-carbon energy development, the world is on track for 2.7C warming by 2100. Globally, emissions are forecast to fall by only 2% by 2030.

Sources: [UN](#); [Carbon Brief](#); [Reuters](#)

COP28 opens with climate fund agreement

30 November

Delegates at COP28, the UN climate summit in the United Arab Emirates, agreed on the adoption of a new fund to support the poorest countries with the costs of loss and damage from climate disasters, according to Reuters. The fund agreement came on the first day of the 14-day conference. The host nation and Germany both pledged £79 million to the fund.

Sources: [Reuters](#); [The Guardian](#)

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COP28 president denies oil deals claim

19 November

The president of COP28, Sultan Al Jaber from the United Arab Emirates, denied alleged plans to use the occasion to make oil deals with other countries, according to the Guardian. Leaked documents show that he planned to meet with 13 countries prior to the start of COP to develop fossil fuel projects, according to the BBC.

Sources: [The Guardian](#); [BBC](#)

Energy efficiency measures must accelerate to meet climate goals

29 November

Countries need to double the pace of energy efficiency improvements this decade to meet global climate targets, according to a report from the International Energy Agency. There has been a 45% growth in energy efficiency investments globally since 2020, but the report notes that improvements in energy efficiency need to double from 2% in 2022 to over 4% annually until 2030.

Sources: [IEA](#); [Energy Live News](#)

Oil and gas industry need to reduce emissions

23 November

Oil and gas producers need to cut emissions in the production, transport and processing of their operations, according to The Oil and Gas Industry in Net Zero Transitions by the International Energy Agency. The report sets out recommendations for oil and gas companies and producer economies to be active in a green economy, while working to limit the impacts of climate change. It also warns against over-reliance on carbon capture and storage to meet net zero targets.

Sources: [IEA](#); [Reuters](#)

Indonesia launches US\$20 billion decarbonisation plan

21 November

Indonesia plans to cut carbon dioxide emissions from its power sector from 350 metric tonnes to 250 metric tonnes by 2030. Plans also include increasing power generation from renewable energy from 12% in 2022 to 44% by 2030.

Source: [Reuters](#)

Urgent acceleration in emission cuts required

14 November

Countries must urgently accelerate climate action this decade to limit global warming to 1.5C, according to the State of Climate Action 2023 report led by the World Resources Institute. The world is behind on almost every policy. The report highlights where action must urgently accelerate this decade to reduce greenhouse gas emissions, scale up carbon removal and increase climate finance.

Sources: [World Resources Institute](#); [The Guardian](#)

China publishes methane plan

9 November

The Chinese government has published a plan detailing measures to cut methane emissions from coal mines, rice paddies, landfills and other methane sources. It does not include emission reduction targets.

Source: [Climate Home News](#)

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US and China to cooperate on methane and renewable energy 15 November

The world's two biggest carbon emitters agreed to support global efforts to triple renewable energy by 2030. They also agreed to include methane as a warming gas in submissions to the UN, according to the BBC.

Sources: [BBC](#); [Climate Home News](#)

EU introduces methane limits on fossil fuel imports 16 November

EU countries have agreed to impose methane limits on imported fossil fuels by 2030, putting pressure on companies exporting oil and gas to cut emissions.

Source: [Climate Home News](#)

EU agrees on Nature Restoration Law 10 November

A new European law will require member states to implement measures to restore nature on at least 20% of the EU's land and seas by 2030. There are binding targets to restore 60% of degraded habitats by 2040 and 90% by 2050, according to the Guardian.

Sources: [Euronews](#); [The Guardian](#)

UK climate and energy research and policy

Reducing car use through parking policies: an evidence review 13 November

Parking standards, parking pricing, parking levies and parking capacity inventions all have an impact in reducing either car kilometres, the number of travellers using cars, or car ownership, according to this ClimateXChange (CXC) report. Park and ride can have a positive impact on reducing car use when located close to journey origins.

Source: [ClimateXChange](#)

Economic analysis of Scotland's wind and hydrogen sectors 14 November

The onshore and offshore wind sectors have good prospects for strong growth in Scotland, with the biggest economic growth expected in offshore wind, according to this CXC report. The report breaks down and measures these sectors into distinct economic value chain activities such as project development, manufacturing, installation, operation and maintenance, specialised consultancy services and end-of-life, and assesses their economic potential.

Source: [ClimateXChange](#)

Processing farming waste through anaerobic digestion 15 November

There is strong potential to expand the market for anaerobic digestion plants in Scotland using manures and slurries, with an initial focus on cattle, particularly dairy, followed by pig and poultry. This CXC report examines the potential to reduce greenhouse gas emissions by processing agricultural wastes through anaerobic digestion plants, which generate a methane-rich biogas from organic resources such as manure.

Source: [ClimateXChange](#)

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Interlinked practices for effective net zero policymaking

29 November

Scottish Government could consider taking an interlinked practices approach to improve net zero policy development and enact societal change, according to this CXC research. The project found that interlinked practices can help to reframe a behaviour problem and help policymakers and practitioners work towards positive societal shift. However, policymakers would require support with developing and implementing this theoretical approach, which views lifestyles as a network of interrelated practices consisting of competencies, materials and meaning.

Source: [ClimateXChange](#)

Major power grid upgrades required for UK electricity demand

25 November

Over 600,000km of electric lines will need to be either added or upgraded across the UK, according to analysis by the International Energy Agency reported in the Guardian. The additional electrical infrastructure is required to reduce reliance on fossil fuels and meet climate targets. The transition to electric vehicles and heat pumps is forecast to more than double UK electricity demand by 2040.

Source: [The Guardian](#)

Government financial plans could disadvantage UK green economy

22 November

The UK Chancellor Jeremy Hunt announced £960m funding to expand domestic low-carbon supply chains and power grid projects in the autumn statement. Environmental groups claimed that there was a lack of required investment in low-carbon industries, which will financially disadvantage the UK in the green transition, according to the Guardian.

Sources: [Carbon Brief](#); [The Guardian](#)

EU funding for tidal energy project in Orkney

29 November

A 16-turbine tidal energy farm is to be installed in Orkney by Nova Innovation and a pan-European consortium, with £20 million of EU funding. The project will kick-start mass manufacturing of tidal turbines at its headquarters in Edinburgh, according to Renewables.

Source: [Renews](#)

Biomethane introduced into Northern Irish gas network

20 November

Biomethane from food waste was successfully introduced into Northern Ireland's gas supply network for the first time. It can be used as a direct replacement for natural gas and is more environmentally friendly, according to the BBC. Northern Ireland plans to use biomethane for up to 80% of its gas demand by 2030.

Source: [BBC](#)

Climate science, impacts and adaptation

Record levels of greenhouse gases in 2023

15 November

Heat-trapping greenhouse gases in the atmosphere reached another new record last year and the rising trend is continuing, according to the Greenhouse Gas Bulletin from the World Meteorological Organization (WMO). Carbon dioxide emissions were 50% above the pre-industrial era for the first time, with methane and nitrous oxide levels also increasing.

Sources: [WMO](#); [UN](#)

www.climatexchange.org.uk

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Global warming of 2C would have catastrophic impacts of ice loss 16 November

Sustained global warming at 2C would cause catastrophic impacts, according to a report from the International Cryosphere Climate Initiative. Impacts would include a rapid and irreversible rise in sea levels and a negative impact on key fisheries and species.

Source: [Carbon Brief](#)

Report on climate inequalities calls for taxation 20 November

The richest 1% are responsible for more carbon emissions than the poorest 66%, according to a report on global climate inequality led by Oxfam. The report authors call for taxes on wealth and fossil fuel companies to fund an equal transition to renewable energy, according to the Guardian.

Sources: [Oxfam](#); [The Guardian](#)

UK electric airline buys 70 engines 29 November

The UK's first all-electric airline is purchasing 70 new aircraft engines, which can fly with zero carbon emissions, according to the BBC. The aircraft uses hydrogen to generate electricity in the air and power the propellers to fly, with water being the only emission. The aircraft can carry up to 20 passengers and there have been 10 successful test flights to date.

Source: [BBC](#)

Joint funding of £60 million to tackle climate change 28 November

Academics, industry and policymakers are to collaborate on food sustainability and tackling climate change, with £60 million joint funding from the Irish government, UK government and Northern Ireland government departments.

Source: [UKRI](#)

Severe drought in Syria and Iran linked to climate change 8 November

Climate change exacerbated a severe drought in Syria, Iraq and Iran and made it far more likely to occur, according to a World Weather Attribution (WWA) study. The region has experienced extremely low rainfall and persistent heat since 2020, which has led to a devastating drought displacing millions of people and destroying crops.

Sources: [WWA](#); [DW](#)

Heatwave in Madagascar caused by climate change 23 November

Madagascar experienced a record-breaking heatwave in October, which would have been virtually impossible without human-caused climate change, according to WWA. The extreme temperatures damaged the lives of millions of people, but as heatwaves in all regions of sub-Saharan Africa are underreported, there is little awareness around the dangers of extreme heat, according to the Guardian.

Sources: [WWA](#); [The Guardian](#)

Brazil records record temperature of 44.8C 21 November

Extreme heat in Brazil has been attributed to the El Niño weather phenomenon and climate change, according to the BBC.

Source: [BBC](#)

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Floods in Libya create climate refugees

12 November

Thousands of people are sheltering in government schools in Libya after their houses were destroyed in the floods caused by Storm Daniel in September. It is unknown how many refugees are climate refugees, as the term is not recognised under international law, according to Al Jazeera.

Source: [Al Jazeera](#)

Risk of hunger crisis in Somalia due to climate change

14 November

Drought and floods caused by climate change are putting a quarter of Somalia's population at risk of crisis-level hunger this year, according to the UN's World Food Programme.

Source: [Reuters](#)

Gap found in measurements of carbon emissions from land use

22 November

Researchers have found a gap that equates to around 10%, or 4 to 7bn tonnes, of global annual carbon dioxide emissions. This gap is due to the different definitions of what is managed land and the human-caused carbon removals on that land, between scientific models and the national greenhouse gas inventories submitted to the UN Framework Convention on Climate Change (UNFCCC). The researchers say that the impact of this gap complicates policy processes such as the global stocktake, which checks on action towards Paris Agreement goals. The researchers suggest that nations will need to increase the collective ambition of climate targets to limit warming and meet the Paris goals.

Sources: [Nature](#); [Carbon Brief](#)

Climate crisis increasing UK household food bills

27 November

The global climate emergency and rising energy costs have increased British household food bills by more than £600 in the past two years, according to a report from the Energy and Climate Intelligence Unit.

Source: [The Guardian](#)

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