

Monthly report on research and policy developments  
Energy and climate change

October 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.

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## International climate and energy research and policy

### Preparations for the United Nations climate change conference, COP28 UAE 30 November to 13 December

**UN report urges global end to fossil fuel exploration by 2030** 5 October  
Global fossil fuel exploration should end by 2030 and funding to rescue poorer countries from the impacts of the climate crisis should reach at least £165 billion a year by 2030, according to proposals in the UN's synthesis report on the global stocktake. The report, published by UN Climate Change, is designed to help governments reach a decision on the global stocktake at COP28.  
Sources: [UN Climate Change](#); [The Guardian](#)

**COP28 agenda pushes for more ambition before 2030** 18 October  
Sultan Ahmed al-Jaber, the president-designate of COP28, has sent a comprehensive plan for the summit to world leaders, focusing on finances for countries affected by climate change and more ambitious emissions reduction targets by 2030.  
Source: [Axios](#)

**EU to push for COP28 deal on phasing out fossil fuels** 13 and 16 October  
Climate ministers from the 27 EU member countries agreed unanimously on a call to phase out unabated fossil fuels at COP28, according to Reuters. The decision came days after the new EU climate commissioner, Dutch politician Wopke Hoekstra, was criticised for failing to confirm the commitment, as reported by Euractive.  
Sources: [Reuters](#); [Euractive](#)

**India to push developed nations to become carbon negative at COP28** 14 October  
At COP28, India will propose that developed nations become carbon negative by 2050, rather than carbon neutral as planned, to give emerging market economies more time using fossil fuels. India is resisting calls to commit to a deadline for phasing out coal and other fossil fuel use, according to Reuters.  
Source: [Reuters](#)

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**Impact of farming prioritised for first time at COP28** 20 October

There will be a dedicated food day, as well as 22 major events focusing on food, agriculture and water at COP28. This marks a change from previous COP meetings, where discussions on the world's food systems were on the sidelines, according to the Guardian.

Source: [The Guardian](#)

**Loss and damage talks end in failure** 23 October

The transitional committee working on loss and damage, following the landmark COP27 agreement to provide money to countries negatively affected by the consequences of climate change, did not reach agreement on a proposal for COP28 in their October meeting. A further meeting has been scheduled and it is hoped that agreement will be reached in advance of COP28, according to Euronews.

Source: [Euronews](#)

**Conflict in Middle East could impact COP28** 13 October

The Israel-Hamas war could affect attendance and outcomes of COP28, as governments may be distracted dealing with the crisis, according to Axios.

Source: [Axios](#)

**Renewable energy booming but global emissions still too high** 24 October

Although renewable energy sources will provide half of the world's electricity by 2030, the phase down of fossil fuels is not happening quickly enough, according to World Energy Outlook 2023 by the International Energy Agency (IEA). The report states that investment in fossil fuels needs to be halved, according to the BBC. Carbon dioxide emissions from global energy use and industry might peak this year, according to Carbon Brief analysis.

Sources: [IEA](#); [BBC](#); [Carbon Brief](#)

**Global emissions from energy are set to increase until 2050** 11 October

Global energy consumption is forecast to increase through to 2050 and outpace energy efficiency progress, according to the International Energy Outlook from the US Energy Information Administration (EIA), which explores long-term energy trends across the world. Renewables and nuclear power could provide up to two-thirds of global electricity generation by 2050, but global population growth and other factors resulting in increased consumption will mean carbon dioxide emissions from energy will increase.

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

**Wind and solar power are generating 14% of global electricity** 5 October

The growth in renewable energy sources means that carbon emissions from electricity generation are nearing their peak, according to Global Electricity Mid-Year Insights 2023 from Ember. The report covers 92% of global electricity demand in the first six months of 2023. The effects of drought on hydropower resulted in a delay on emissions reductions, according to Reuters.

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

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**UN calls for climate policy focus on women** 10 October

Only 38 of the 119 countries that have published plans to tackle the climate crisis consider access to contraception, maternal and newborn health services, according to a UN Population Fund (UNFPA) report. It calls for action to recognise the disproportionate impact of the climate crisis on women and girls.

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

**Europe accelerates energy transition** 24 October

Renewable sources of electricity surpassed total fossil electricity generation in the EU in May, according to the eighth report on the state of the energy union. A new record was set in 2022 for installed new solar photovoltaic capacity, which was 60% more than in 2021, with onshore and offshore wind capacity rising 45% in the same period. Greenhouse gas emissions also decreased by 3% over the year. However, the report warns against complacency, noting that countries need to further accelerate the expansion of renewable energy to reach the 2030 legally binding target.

Sources: [European Commission](#); [Euronews](#)

**World's first carbon tariff launched in Europe** 1 October

The EU has launched the first phase of its emissions tariff system on imported goods. Carbon dioxide emission charges at the border will not come into effect until 2026, but importers now have to report the greenhouse gas emissions embedded during the production of imported products such as steel, aluminium, cement, fertilisers and hydrogen.

Source: [Reuters](#)

**US government spending US\$7 billion on hydrogen hubs** 16 October

The United States President Joe Biden announced the recipients of US\$7 billion in federal grants for the development of seven regional hydrogen hubs, intended to boost clean hydrogen production and embed the new infrastructure required for industry uptake.

Source: [Reuters](#)

**US announces US\$3.5 billion power grid investment** 19 October

The largest ever investment in the aging US power grid to protect it from extreme weather and fires, and to connect more renewable energy sources of electricity, will provide funding for 58 projects across 44 states.

Source: [Reuters](#)

**China aims to invest over US\$13.7 trillion in power sector by 2060** 2 October

The investment runs in the same timeframe as their pledge to reach net zero emissions of greenhouse gases. If achieved, researchers calculate this could reduce likely global warming by up to 0.3C this century, according to Reuters.

Source: [Reuters](#)

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**IMF warns that private sector finances are necessary to cut emissions** 2 October

Governments are urged to take bold, swift and coordinated action to contain global warming by the International Monetary Fund (IMF). Two IMF reports, including the Fiscal Monitor, warn that a big boost from the private sector is required to cut greenhouse gas emissions, and that public funding is not enough.

Sources: [IMF](#); [Axois](#)

**Global electricity grid requires urgent upgrades** 17 October

To reach global climate goals and ensure reliable power supplies, 80 million km of grid needs to be added or refurbished by 2040, according to the International Energy Agency.

Source: [The Guardian](#)

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## UK climate and energy research and policy

**Low-carbon transport fuels – an evidence review for Scotland** 5 October

Low-carbon fuels will be essential in decarbonising the aviation and maritime sectors in Scotland, according to this ClimateXChange report reviewing the evidence and policy surrounding low-carbon fuels in transport. The report investigates the suitability of biomass and other renewable or reusable carbon sources for use in the Scottish transport sector.

Source: [ClimateXChange](#)

**Network investment costs of the heat and transport transition in Scotland** 24 October

This research looks at different scenarios for heat pump uptake and electric vehicle use in Scotland. The report assesses likely network investment recovery costs and potential impacts on Scottish consumer bills.

Source: [ClimateXChange](#)

**Changes to UK government climate policies will cost households more** 12 October

The delays to key climate targets recently announced by UK Prime Minister Rishi Sunak will be more costly to many UK households, rather than saving them money as was claimed, according to government advisers in the Climate Change Committee (CCC). The changes will also make it more difficult for the UK to meet its climate targets, as reported by the BBC.

Sources: [CCC](#); [Sky News](#); [BBC](#)

**Conservative and Labour party conferences discuss climate policy** 4 and 11 October

The Conservative and Labour parties both confirmed they will meet UK climate targets but took different approaches to discussions on climate change during the recent political party conferences. The Conservative party's plans to cancel high-speed rail links and build more roads will weaken net zero policies, according to the Guardian. The Labour party discussed new green policies, including plans for community renewable energy and a windfall tax on fossil fuel companies.

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

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**World's largest offshore windfarm project starts powering UK grid** 9 October

The first of 277 turbines in the Dogger Bank offshore windfarm has been connected to the UK electricity grid. The North Sea project will be the world's largest offshore windfarm, producing 3.6 gigawatts of power, enough for 6m homes, when it is completed in 2026. It is jointly developed by SSE and Norway's Equinor and Vårgrønn.

Source: [The Guardian](#)

**No public policy case for hydrogen in home heating** 21 October

Hydrogen is not suitable for home heating, and is many times less efficient than heat pumps, according to the UK's infrastructure watchdog, the National Infrastructure Commission. The UK Government has indicated that it will continue to explore it as a possibility with the heating industry, according to the Guardian.

Source: [The Guardian](#)

**UK's offshore oil regulator criticised over Rosebank** 2 October

The North Sea Transition Authority, the UK's offshore oil regulator, has been criticised over its approval of the new Rosebank oil field to the north-west of Shetland. Experts argue that it is failing the public good in not avoiding economic, environmental and social harms, in an article in The Conversation.

Source: [The Conversation](#)

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## Climate science, impacts and adaptation

**World set to reach 1.5C warming in six years** 30 October

It will take six years to emit the further 250 gigatonnes of carbon dioxide that will raise global warming over 1.5C, according to a paper published in Nature Climate Change. If countries fully implement current national climate policies, warming may stay below 2C, according to the researchers in the Conversation.

Source: [The Conversation](#)

**Over 99% chance that 2023 will be hottest year on record** 16 October

A variety of factors, including the El Niño and the effects of human-caused greenhouse gases, have resulted in the virtual certainty that 2023 will be the hottest year on record, according to Carbon Brief analysis.

Source: [Carbon Brief](#)

**September 2023 breaks monthly temperature record** 17 October

Following on from June, July and August, September continues the run of record-breaking months as the hottest ever on record, and by a record-breaking margin, according to the World Meteorological Organization (WMO).

Source: [WMO](#)

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**South American heatwave 100 times more likely due to climate change** 10 October  
Human-induced climate change made the recent winter heatwave in South America 100 times more likely, according to the World Weather Attribution Service.  
Sources: [World Weather Attribution](#); [Euronews](#)

**Increased melting of West Antarctic ice shelf unavoidable** 23 October  
Antarctic ice sheet melting will rapidly increase over the course of this century, regardless of any reduction in greenhouse gas emissions in future decades, according to researchers. The impact on rising sea level is unknown at this stage but the shelf contains enough ice to cause up to 5 metres of sea-level rise.  
Sources: [The Conversation](#)

**World is approaching multiple environmental tipping points** 25 October  
Threats of catastrophic impacts, with systems humans rely on ceasing to function, are fast approaching, according to the Interconnected Disaster Risks report 2023. Six interconnected risk tipping points, including the melting of mountain glaciers and unbearable heat, are analysed in the report by the United Nations University – Institute for Environment and Human Security. The report presents a new framework to categorise risk mitigation solutions, which is designed to aid evaluation of the potential outcomes and trade-offs of a solution.  
Source: [UN](#)

**Solar power to provide over half of global electricity by 2050** 26 October  
With current climate policies, solar power is expected to be the dominant source of electricity generation by the middle of this century, according to a study discussed in the Conversation. Increasing affordability and speed of construction are identified as factors in the rapid growth of solar power worldwide.  
Source: [The Conversation](#)

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