

Energy



The UN Climate Change Conference (COP30) will take place in Belém, Brazil, from November 10-21. Key expectations include the presentation of new national climate action plans (NDCs), progress on finance from COP29, and discussions on scaling innovative climate finance mechanisms. The conference will also feature the COP30 Action Agenda, a program to engage businesses, civil society, and various levels of government in practical climate solutions.

Overview

Energy is the engine of development, powering homes, businesses, transportation, healthcare, education, communications, and agriculture. A reliable energy system supports modern economies and enables innovation across all sectors. Yet energy accessibility, availability and affordability remain challenging for many developing countries.

Approximately **733 million people still lack access to electricity, and 2.3 billion people lack access to clean and safe cooking fuels**. Many communities also face unreliable or unaffordable power.

Energy-related activities continue to dominate global emissions, with fossil CO₂ accounting for approximately **68% of total greenhouse gas emissions in 2024**.

Energy efficiency is helping to reduce electricity waste, lower costs, and support the decarbonization of the sector.

But more needs to be done to integrate renewables and energy efficiency into a robust energy system that shifts from fossil-fuel-intensive sources to clean, climate-friendly alternatives.

Achieving this balance will be central to delivering the Paris Agreement goals and the 2030 Agenda for Sustainable Development.

Key messages

Energy is at the heart of development. Reliable, modern energy drives progress in health, education, farming, and economic growth.

Access for all is urgent. Clean energy must reach everyone, and a just transition should make sure vulnerable groups are included and benefit from the new opportunities it creates.

Efficiency is the quickest win. More than half of the world's electricity is used for lighting, refrigeration, air conditioning, motors, and transformers. Making these products more efficient can deliver huge savings right away.

Rapid cooling demand is impeding the energy transition. **Fast action on sustainable cooling** through a triple strategy of passive cooling, efficiency and refrigerant phasedown can cut energy bills, emissions and provide life-saving access to cooling.

One-third of global energy demand comes from buildings, placing the buildings sector **at the heart of net-zero and climate-resilience goals**.

Renewables must grow. Expanding renewable energy, combined with efficiency and stronger electricity grids, offers a powerful way to move away from fossil fuels and support cleaner alternatives.

Scale-up is essential. To stay on track for net zero, the world needs to **triple renewable energy capacity and double efficiency improvements** by 2030.

Energy in climate plans. Nationally Determined Contributions (NDCs) should include strategies to optimize energy supply, distribution, and demand, helping countries reach climate and development goals while strengthening energy security.

Markets and finance matter. Governments and businesses can use their purchasing power to boost markets for efficient, low-carbon products. At the same time, closing the **USD 2.5 trillion annual gap to stay on track with net zero energy systems** will require new capital flows and more private investment.

What to Expect at COP30?

Building on the outcomes of the Paris Agreement's Global Stocktake, Parties are called on to **triple renewable energy capacity and double the global rate of efficiency improvements by 2030**, phase down unabated coal, and phase out inefficient fossil fuel subsidies that hinder just transitions.

Negotiations will also focus on reducing methane emissions from the oil and gas sector, which accounts for approximately 30% of global warming according to the [International Energy Agency](#).

Mobilizing finance and investment to expand clean energy access in developing countries will remain a critical issue, alongside ensuring that investments address both mitigation and development priorities.

Side events and the COP30 Action Agenda will spotlight innovations in storage, green hydrogen, and integrated planning, while emphasizing the leadership of national, regional and local interventions in driving transitions through urban infrastructure, sustainable mobility, and efficient buildings.

The Action Agenda provides a platform for businesses, civil society, and other stakeholders to showcase solutions and commitments, bridging policy with real-world implementation.

What's UNEP doing?

UNEP works across the energy value chain to support sustainable transitions in energy, agriculture, residential, and urban sectors, reducing emissions, expanding access, and strengthening safeguards.

United for Efficiency (U4E): Supporting governments to transform markets with efficient appliances that boost energy security, cut bills, lower emissions and avoid costly new power plants.

Local, Integrated Energy Systems initiative: Supporting cities and regions to plan and implement local energy solutions, including modern electricity, heating and cooling systems that integrate renewable energy and efficiency solutions.

International Methane Emissions Observatory: Supporting governments and companies to reduce methane emissions from the oil and gas sectors.

UNEP-hosted Global Alliance for Buildings and Construction (GlobalABC): Strengthening the case for high-efficiency measures in buildings.

Digital Demand-Driven Electricity Networks Initiative (3DEN): Supporting countries to use digital solutions for energy efficiency and test new ideas through pilot projects.

Seed Capital Assistance Facility (SCAF): Working with private investors in Africa and Asia to launch renewable energy projects, secure funding and deliver clean energy where most needed.

EmPower: Mobilizing investment for low carbon technologies and enabling women and marginalized groups to run enterprises and lead resilient livelihoods through renewable energy technologies.

Through these programmes, UNEP delivers multiple benefits: lowering costs, improving health, strengthening climate resilience, and enabling just transitions.

Further Reading

UN Sustainable Development Goal 7: Affordable and Clean Energy

Supercharging the new energy era

Energy at UNEP

UNEP'S United for Efficiency (U4E)

UNEP's Integrated Energy Systems programme

SCAF

EmPower

International Energy Agency: World Energy Outlook

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