BSAMUN 2026

Balancing the rising power consumption of developing technologies, including the mass usage of AI, with its effects on climate change.

Economic and Social Council
ECOSOC

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Introduction to AI usage

Throughout recent years, AI has become a prominent tool in our everyday lives. Approximately 1 billion people use AI at least once a month. According to Similarweb, 550 million people use ChatGPT's mobile app, with 500 million people using the web version in August 2025, with approximately 557 million people used their app in October 2025, along with other, much smaller figures, such as 70.1 million users for the mobile app of Google Gemini. The National Bureau of Economic Research (partnering with OpenAI) released a research report that states 750 million people weekly use ChatGPT by September 2025, and 800 million weekly users in early October 2025 (reported by Sam Altman, OpenAI's CEO). The International Energy Agency considers that the demand for data centres will double in the next 2 years, reaching the usage of electricity in Japan.

Key Terms

The National Bureau of Economic Research - a private, non-profit, non-partisan organisation dedicated to conducting economic research.

OpenAI - an artificial intelligence research and deployment company with the mission of ensuring that artificial general intelligence (AGI) benefits all of humanity.

International Energy Agency - an intergovernmental organisation that works to ensure reliable, affordable, and sustainable energy for all.

World Economic Forum - an independent, international organisation that convenes leaders from business, government, academia, and civil society to discuss global issues and shape agendas.

Green mobility - the movement of people and goods using environmentally friendly methods that reduce the ecological footprint, emit fewer pollutants, and rely on sustainable or renewable energy sources.

International Methane Emissions Observatory - a UN Environment Programme (UNEP) program that provides open, reliable, and actionable data to help reduce human-made methane emissions.
UNEP - a UN Environment Programme.

UNESCO Recommendations on the Ethics of Artificial Intelligence - a global policy framework adopted by 193 Member States in November 2021 to provide ethical guidance for AI development and implementation.

Carbon Offset - an action intended to compensate for the emission of carbon dioxide into the atmosphere as a result of industrial or other human activity, especially when quantified and traded as part of a commercial scheme.

Cloud Providers - a company that delivers computing services, like storage, servers, and software, over the internet.

Data Centres - a large group of networked computer servers typically used by organisations for the remote storage, processing, or distribution of large amounts of data.

General Overview

Positives

Reported by the World Economic Forum, AI usage could cut 4% of carbon emissions by 2030. This can be seen by tools such as:

- Smart grids,
- Sustainable farming,
- Green mobility,
- Waste reduction,
- Analysis of chemical reactions.

The UN Environment Programme's Climate Technology Progress Report 2024 explains that AI has an important role in:

- Optimising efficiency,
- Mapping renewable energy potential.

The International Methane Emissions Observatory, in 2021, created a UNEP under the name 'An Eye On Methane'. This observes and calculates the usage of methane and locates hotspots around the world. Sensing an unusual plume, the Government gets an early warning to start implementing mitigation measures. AI can be used in energy sectors to directly combat emissions, such as but not limited to:

- Methane regulations and reductions for oil and gas supplies: the vast majority of issues throughout this production are leakages. AI can detect these and send warnings to companies and governments, allowing them to hire repairs.
- Power sector emissions reductions: fossil-fuelled power plants become more efficient, for example, ensuring the optimum conditions for processes.
- Industry emissions reductions: Lowering related emissions by monitoring and optimising the process of manufacturing, for example, improving emissions by 2% by improving the mix of cement and fuel.
- Transport emissions reductions: More efficiency in vehicle operations, for example, improving route choices or driving tweaks, can lead to an efficiency of 5-10%, therefore reducing carbon emissions.
- Buildings emissions reductions: Equipping more sustainable heating measures throughout infrastructure, for example, optimising ventilation, heating and air conditioning, saving 10% of carbon emissions.

Negatives

This AI technology still uses non-renewable energy sources, such as:

- 24/7 high-performance servers,
- Overheating of cooling systems,

- AI equipment is stored in large data centres.

A study by the University of Massachusetts Amherst states that over 600,000 pounds of carbon dioxide are released into the atmosphere. As the use of AI increases, so does the pressure on power stations. A singular ChatGPT request wastes 10 times more energy than a normal Google search, leaving behind a large carbon footprint.

Major Parties Involved

US: Responsible for 45% of the global data centre energy consumption in 2024, followed by China with 25% and Europe at 15%. These data centres represented over 4% of the nation's electricity consumption in 2023, up to 26% for some specific states such as Virginia. This consumption is expected to double by 2030, largely due to AI and other digital technologies. They also have the highest per capita data centre electricity consumption globally

UAE: Currently building their 'Stargate' AI campus located in Abu Dhabi, a 25km server farm set to consume 5GW of energy. They aim to achieve this through a combination of nuclear plants, wind farms such as Mohammed bin Rashid Al Maktoum Solar Park, and natural gas. They aim to minimise the carbon footprint and achieve carbon neutrality by 2050 through the use of renewables and optimisation. The venture is supported by entities such as Mubadala, G24, MGX, OpenAI, Microsoft, and Nvidia

Developing countries: In Malaysia, electricity usage of data centres could rise sevenfold by 2030 and reach 30% of national consumption. While in Singapore, these data centres were responsible for around 7% of electricity consumption in 2020. India's data centre capacity is expected to increase dramatically through a 3% rise in total consumption. With a fossil-fuel-dependent grid and a water consumption approaching 1.5 million litres per day, data centres are particularly harmful for the environment. They also introduce conflict over water between cities and data centres, adding to the water stress that India is already predicted to experience, with 60-80% experiencing high levels of water stress within the decade. This conflict has led to much more community opposition and regulatory scrutiny, with moratoriums being imposed on data centres for their water use.

China: Responsible for 25% of global data electricity consumption in 2024. Demand for electricity from data centres has been skyrocketing with an annual estimated rate of 15% between 2015 and 2024. Demand has been stated to almost triple by 2030 due to the development of AI. Due to the Chinese energy grid's reliance on coal—accounting for 60.5% of its power mix—the grid has a high carbon intensity of 560gCO2/kWh. This is significantly higher than the global average of 472gCO2/kWh.

EU: Responsible for 15% of the world's data centres' electricity consumption in 2024. Demand projected to double by 2030, rising from 96TWh in 2024 to 168TWh, estimated to be around 3.1% of total electricity demand. By 2035, this is projected to be 236TWh. Over 60% of this comes from Germany, the Netherlands, the UK, France, and Ireland.

Timeline of Key Events

2020: Measuring carbon footprints becomes normalised, with estimations of CO2 emissions of computational tasks.

2023: Cloud computing + data centres reach huge energy demands, with early papers proposing energy-efficient resource management.

2024: The International Telecommunication Union (ITU) publishes the Greening Digital Companies Report, highlighting transparency of GHG emissions in data centres and stating the point ofthe 'rapidly growing field of AI'.

2024: IEA starts a thorough scenario demonstrating AI-driven power demands, with base case projections establishing a dramatic growth in electricity demand by data centres.

April 2025: IEA releases an energy and AI report, emphasising that AI will cause global data centre electricity to double by 2030.

June 2025: ITU complains that large companies are the cause of global emissions rising due to the growing popularity of AI usage.

2025: Oeko-Institute, Greenhouse Germany, releases a trend analysis stating that electricity consumption of AI data centres could rise by an elevenfold by 2030, as of 2023, associated with GHG emissions.

2025 (Mid Year): A Euronews article, 'Beyond Fossil Fuels' expresses its concern that Europe's data centres could 'strain power supply' if large amounts of fossil fuels are consumed by 2030.

July 2025: 'AI and the Net-Zero Journey' (preprint) establishes an AI demand that there is an increase in CO2 emissions, stating that this will help make AI climate-positive by approximately 2035.

2024-2025: 'AI, Climate and Regulation' academic study debates for regulatory frameworks (Under the EU's AI Act) to mandate energy reports and establish renewable energy targets for data centres.

UN Involvement & Relevant Resolutions

High-Advisory Body on AI: The Secretary-General of the UN shared this to establish governance for AI internationally, implementing Sustainable Development Goals with human rights.

Green Digital Action: The COP29 declaration on Green Digital Action calls for the need to mitigate the carbon footprint of technologies and use their potential to fight against the climate crisis issues.

Global Digital Compact: Frameworks proposed that stride toward as a global approach to monitor digital technologies such as AI to accelerate progress and remain a responsible development.
Artificial Intelligence for Climate Action in Developing Countries: Resolution was formed for developing countries combating climate change that cannot fund the use of AI.

Previous Attempts to Solve the Issue

1 - International Energy Agency Analysis and Policy Guidance,

Countries and global institutions are increasingly recognising the energy and impact of AI and data centres. The IEA estimates that the data centre electricity use could more than double by 2030 due to AI and digital growth, posing risks for climate goals unless efficiency and renewable energy deployments keep pace. However, the IEA also highlights that AI can support energy system optimisation and emissions reductions if coupled with effective policy.

2 - Calls for Mandatory Reporting and Regulation,

Civil society and expert groups have urged governments to mandate transparency and reporting in data centres' energy and water use, especially as AI usage expands. Such reporting would allow regulators to design policies that actually limit environmental harm from digital infrastructure.

3 - Corporate Net-Zero and Renewable Energy Commitments,

Many tech companies powering AI (including cloud, big data and computing providers) have pledged net-zero emissions targets and renewable energy sourcing by 2030. These commitments often rely on: Power Purchase Agreements (PPAs) for renewable energy, Energy-efficient hardware, and Innovative cooling systems for data centres.

4 - Emerging Government Actions on Grid and Infrastructure,

National energy regulators are beginning to respond to tech-driven demand. For example, the US Federal Energy Regulatory Commission (FERC) has directed transmission rule changes to manage large electricity users like AI data centres, highlighting rising grid stresses and the need for integrated planning between energy and digital sectors.

5 - Criticisms and Identified Gaps in Existing Efforts,

Despite these attempts, many experts warn that AI's energy growth could outpace policy responses if they remain voluntary or fragmented. Recent research suggests the climate impact of AI could be comparable to major global emitters, underlining the urgent need for stronger regulation and transparency.

Possible Solutions

Over 190 countries in the UN have signed the UNESCO Recommendations on the Ethics of Artificial Intelligence, examining the application, along with the environmental impact. Along with this, the European Union has signed the AI Act, regulating the environmental impact.

The UN recommends solutions such as, but not limited to:

- Countries develop standardised methods to measure AI's environmental footprint,
- Governments develop regulations requiring companies to disclose the environmental impact of AI-based products and services.
- Tech companies make AI algorithms more energy-efficient, reducing their energy demand whilst recycling water and reusing components where feasible.

- Countries encourage organisations to use renewable energy and carbon offset to green their data centres. AI-related policies should also be integrated into broader environmental regulations.

Companies suggest solutions such as, but not limited to:
Adopt Green AI Practices:
- Work with sustainably-focused cloud providers,
- Optimise models for energy-efficiency and reduce redundant computations,
- Train models in regions with low carbon intensity on the grid.

Use AI to Manage Sustainability:
- Track emissions with smart meters,
- Automate reporting with machine learning,
- Implement AI in logistics to reduce travel distance and emissions.

Collaborate and Share:
- Join open-source projects focused on climate technologies,
- Partner with green AI start-ups,
- Share data and best practices for industry-wide improvements.

Bibliography

https://cogentibs.com/ai-and-the-carbon-footprint-balancing-ghg-impact-and-climate-solutions/

https://unepccc.org/wp-content/uploads/2025/01/the-climate-technology-progress-report-2024.pdf

https://datareportal.com/reports/digital-2026-one-billion-people-using-ai

https://www.nber.org/system/files/working_papers/w34255/w34255.pdf

https://www.businessinsider.com/chatgpt-users-growth-openai-growth-sam-altman-ai-llm-2025-10

https://unesdoc.unesco.org/ark:/48223/pf0000380455/PDF/380455eng.pdf.multi

https://www.europarl.europa.eu/doceo/document/TA-9-2024-0138_EN.html

https://www.un.org/digital-emerging-technologies/ai-advisory-body

https://www.itu.int/initiatives/green-digital-action/

https://www.un.org/digital-emerging-technologies/global-digital-compact

https://unu.edu/ehs/commentary/artificial-intelligence-help-or-harm-climate

https://www.iea.org/reports/energy-and-ai/ai-and-climate-change

https://www.investopedia.com/terms/i/international-energy-agency.asp

https://www.nber.org

https://www.weforum.org

https://www.considerate-consumer.com/green-mobility#:~:text=Green%20transportation%20or%20green%20mobility,renewable%20resources%20or%20our%20environment.

https://www.unep.org/topics/energy/methane/about-imeo

https://unesco.nl/sites/default/files/inline-files/Rec%20on%20Ethics%20of%20AI%20-%20Flyer%20-%20UNESCO%20HQ.pdf

https://cloud.google.com/learn/what-is-a-cloud-service-provider#:~:text=A%20cloud%20service%20provider%2C%20or,(software%20as%20a%20service).

https://www.iea.org/reports/energy-and-ai/executive-summary#:~:text=Data%20centres%20account%20for%20a,electricity%20consumption%20in%20local%20markets.

https://www.carbonbrief.org/explainer-how-china-is-managing-the-rising-energy-demand-from-data-centres/#:~:text=04.16.25-,Yuan%20Ye,carbon%20dioxide%20equivalent%20(MtCO2e).

https://www.csis.org/analysis/united-arab-emirates-ai-ambitions#:~:text=At%20the%20same%20time%2C%20the,agreement%20between%20the%20two%20nations.

https://www.bbc.com/news/articles/cgr417pwek7o#:~:text=An%20S&P%20Global%20study%20predicts,this%20limited%20resource%2C%20experts%20say.

https://ember-energy.org/latest-insights/from-ai-to-emissions-aligning-asean-digital-growth-with-energy-transition/setting-the-scene/#:~:text=Data%20centre%20boom%20could%20drive,in%20areas%20already%20facing%20scarcity.

https://www.bbc.com/news/articles/cgr417pwek7o#:~:text=An%20S&P%20Global%20study%20predicts,this%20limited%20resource%2C%20experts%20say.https://ember-energy.org/latest-insights/from-ai-to-emissions-aligning-asean-digital-growth-with-energy-transition/setting-the-scene/#:~:text=Data%20centre%20boom%20could%20drive,in%20areas%20already%20facing%20scarcity.

https://www.iea.org/reports/energy-and-ai/ai-and-climate-change?

https://www.iea.org/reports/energy-and-ai/executive-summary%C2%A0?

https://www.theguardian.com/technology/2025/feb/07/call-to-make-tech-firms-report-data-centre-energy-use-as-ai-booms?

https://www.rinnovabili.it/wp-content/uploads/2025/09/AI-for-energy-management-report-EN.pdf?

https://www.reuters.com/business/energy/us-energy-regulator-directs-pjm-launch-rules-ai-connections-2025-12-18/

https://www.theguardian.com/technology/2025/dec/18/2025-ai-boom-huge-co2-emissions-use-water-research-finds?