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1. Why AI's present and future bring some serious environmental concerns**Why in News?**

In its annual environment report released earlier this month, Google reported a 13% increase in its emissions footprint in 2023 compared with the previous year. The rise was attributed mainly to the increased electricity consumption in its data centres and supply chains. Google said its data centres consumed 17% more electricity in 2023, and added that this trend was expected to continue in the coming years because of greater deployment and usage of its artificial intelligence (AI) tools.

**Power guzzling intelligence**

AI, which is expected to enable transformative changes across several domains, including attempts to find solutions to climate change, has a very heavy emissions footprint, the scale of which is becoming evident only now.

Studies have shown that a simple AI query, like the ones posted to OpenAI's chatbot ChatGPT, could be using between 10 and 33 times more energy than a regular Google search. Image-based AI searches could be using even more energy.

Why emissions are higher

AI models typically work much more than a simple Google search even when the same question is addressed to both. They sift through much more data while processing and formulating appropriate responses. More work means a greater number of electrical signals are required when the computer is processing, storing, or retrieving data.

More work also generates and releases more heat, which then requires more powerful air-conditioning or other forms of cooling in the data centres.

A worrying prognosis

As AI tools are deployed more widely, their impact on energy consumption worldwide is expected to rise sharply. Already, data centres account for between 1% and 1.3% of the global electricity demand. This could double (become between 1.5% and 3%) by 2026, according to recent projections of the International Energy Agency (IEA). By contrast, despite the large number of electric vehicles on the road, their share of global electricity consumption was just about 0.5%, the IEA said.

At the level of countries, the electricity consumption of data centres as a share of the national demand has already crossed double digits in several regions.

In Ireland, which has a disproportionately large number of data centres because of the tax breaks and incentives it offers, this share has reached 18%, IEA numbers show. In the United States, the country with the largest number of data centres, this number was estimated to be between 1.3% and 4.5%. The numbers for India were not available.

Alternative view

Other estimates suggest that the large-scale deployment of AI could help in significant reductions of emissions globally. A recent study by the Boston Consulting Group found that application of AI to corporate and industrial practices could result in a 5-10% reduction in global emissions by 2030, while generating a value worth \$1.3 trillion to \$2.6 trillion through additional revenues or cost savings.

Emissions reductions can happen if AI is deployed to monitor and predict emissions in existing processes, and optimise these to eliminate wastage or inefficiencies.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

2. Why Paris Olympics will be the most climate friendly in history

Introduction

Paris 2024 is set to be the greenest Games in history. The Games' organising committee has pledged to halve the Olympics' carbon emissions — from roughly 3.5 million tonnes each in Tokyo 2020, Rio 2016, and London 2012 to 1.75 tonnes this time around.

Olympics during climate crisis



All evidence points to the planet being in a climate emergency, driven by anthropogenic emissions of greenhouse gasses (GHG). In this context, mega sporting events, with their massive carbon footprint, might appear to be profligacy humanity can ill-afford.

At the same time, such events can also act as opportunities to further the fight against climate change. "Mega-events like the Olympic Games and the FIFA World Cup require massive public investments. Therefore, they should be good stewards of the public interest,"

Paris 2024's climate efforts

Paris 2024 will majorly be powered by renewable energy sources like geothermal and solar power. A number of climate-friendly moves are being implemented.

Eating: Paris 2024 is trying to promote plant-based, local and sustainable food. The Food and Agriculture Organization has estimated that the meat and dairy industries account for 18% global GHG emissions. All food-related infrastructure developed for the Games will see reuse after the Olympics.

Transport: Most Olympic venues are easily accessible by public transport. Paris will run special services to ensure that tourists do not have trouble getting around. Moreover, Paris has developed 1,000 km of dedicated cycle lanes, with an additional 3,000 pay-as-you-go cycles available for rent during the Games.

Construction: Unlike London, which built eight new venues for the Olympics, and Tokyo, which constructed 11 new sites, 95% of events in the Paris Games will be held in existing buildings or temporary infrastructure. The competition venue that Paris is building, the Aquatics Centre in Saint-Denis, is solar-powered, and uses recycled, natural bio-based building material. Globally, the construction industry is among the highest GHG emitters, responsible for 37% of global emissions.

Living arrangements: While the high temperatures in Paris have forced organisers to install 2,500 temporary cooling units for athletes, instead of being AC-free as originally planned, the athletes' living arrangements are nonetheless fairly sparse. Their mattresses are made from recycled fishing nets, and beds made from reinforced cardboard. Significant amount of the furniture being used during the Games is rented, rather than bought, and will see reuse after the Olympics. The 2,800 new apartments in the Olympic Village will be converted to homes after the event.

Not completely eco-friendly

The Olympics will host 15,000 athletes, 45,000 volunteers, and 26,000 media professionals. Paris expects to host more than 10 million tourists during the Games. This means a lot of air travel, and consequently, a lot of GHG emissions.

Alternative view

Many experts however say that offsetting amounts to little more than "greenwashing". It gives you a guilt-free feeling, a feeling that you have done your part to be 'carbon neutral'. In reality, many offsetting projects are not implemented, and even if they are, there is no monitoring to ensure that they continue to work as intended.

Nonetheless, Paris 2024 will still go down as the most climate-friendly Olympics in history, and provide a blueprint for major sporting events in the future. As Orr put it, the developments for the Games, such as the use of rented and reused material wherever possible, and improvements in public transit infrastructure and cycle lanes, "will all offer long-term benefits to Parisians".

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

3. The history of Rashtrapati Bhavan's Durbar Hall and Ashok Hall, now renamed

Why In News?

President Droupadi Murmu announced the renaming of two halls in the Rashtrapati Bhavan – 'Durbar Hall' and 'Ashok Hall' – as 'Ganatantra Mandap' and 'Ashok Mandap', respectively. The press release said, "There has been a consistent endeavour to make the ambience of the Rashtrapati Bhavan reflective of the Indian cultural values and ethos" and the terms 'Durbar' and 'Hall' have therefore been replaced. 'Durbar' "refers to courts and assemblies of Indian rulers and the British. It lost relevance after India became a Republic, that is, 'Ganatantra'", it said.

Construction of the Rashtrapati Bhavan was completed in 1929 after King George V declared that the capital of British India would be shifted from Calcutta to Delhi in 1911. What is the history of these halls? We take a look.

What is the Durbar Hall of the Rashtrapati Bhavan?



The hall hosts Civil and Defence Investiture Ceremonies, where the President confers honours to the recipients. Swearing-in ceremonies, like those of the Chief Justices of India, are also conducted here. Durbar Hall witnessed a historic moment in the swearing-in ceremony of independent India's first government in 1947.

What is the history of the Ashok Hall?



'Ashok Hall' was originally a ballroom. It is now used for the presentation of credentials by Heads of Missions of foreign countries and as a formal place of introductions for the visiting and Indian delegations before the commencement of the State Banquets hosted by the President. A loft-like space is used for playing the national anthem during important functions.

Relevance: GS Prelims; Governance

Source: Indian Express