Redrawing the not so pretty energy footprint of AI

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Context

• **Generative Artificial Intelligence (AI)** has undoubtedly **eased access to art and reduced the time and the effort required to complete certain tasks.**

• For example, ChatGPT-4o can generate a **Studio Ghibli**-inspired portrait in seconds with just a **prompt.** But this ease comes at a **significant energy cost that is often overlooked.**

• **AI is not free**. Every time one uses ChatGPT or any other AI tool, somewhere in the world, there is a **data centre chugging electricity, much of which is generated from fossil fuels.**

• Projections indicate that these **data centres could account for 10% of the world's total electricity usage by 2030**.

• Though these estimates mirror worldwide energy trends, it is necessary to highlight that **India currently has sufficient capacity to generate electricity for its own domestic AI needs.**

• Training an AI model, whether it is a conversational tool such as ChatGPT or an image generator tool such as Midjourney, can generate the same amount of CO2 as five cars running continuously across their life.

• Once deployed, **AI tools continue to draw immense power from data centres as they serve countless users around the globe. This resource consumption is staggering, and it is becoming more unsustainable as AI adoption grows.**

• Another, perhaps controversial, solution would be to address the energy source behind all of this technological growth. It is time **nuclear energy, particularly SMRs, is discussed seriously**.

• However, the adoption of **SMRs is not without challenges**. Significant policy shifts will be required to create a robust regulatory framework that addresses **safety, waste management and public perception**.

• There is also the matter of substantial upfront **investment**, as the technology is still maturing and may face issues of cost competitiveness when compared to established energy sources.