

MEMORANDUM

SUBJECT: Release S.3732 - Artificial Intelligence Environmental Impacts Act of 2024 to Senate Floor
DATE: February 27, 2024
FROM: Olivia Curreri, Legislative Assistant
TO: Chair of U.S. Senate Committee of Commerce, Science, and Transportation
Senator Maria Cantwell

Executive Summary

As we stand before the precipice of the artificial intelligence revolution, we must gather data on the environmental impact of AI infrastructure to prevent exacerbated effects on the environment. S.3732 - Artificial Intelligence Environmental Impacts Act of 2024 aims to address this concern, and therefore the Senate Committee of Commerce, Science, and Transportation must release this bill. Currently, there is a policy window to enact impactful change as focusing events have brought AI regulation to center stage, with broad public support for increased regulation regarding the environment and AI, and policy entrepreneurs' increased concerns over AI's water and energy use. This proposed legislation aims to facilitate comprehensive data gathering on the environmental impact of AI, allowing us to prepare our infrastructure for its energy-intensive operations and foster sustainable innovation. This bill must be released to capitalize on this policy window.

Background & Methods

S.3732 - Artificial Intelligence Environmental Impacts Act of 2024 proposes "to require the Administrator of the Environmental Protection Agency to carry out a study on the environmental impacts of artificial intelligence, to require the Director of the National Institute of Standards and Technology to convene a consortium on such environmental impacts, and to require the Director to develop a voluntary reporting system for the reporting of the environmental impacts of artificial intelligence, and for other purposes" (Congress.gov, 2023). The bill was introduced on February 1st, 2024, read twice and referred to the Committee on Commerce, Science, and Transportation.

The Multiple Streams Framework is an analytical policymaking tool that posits that there are three streams, problem, policy and politics, that must intersect to create a policy window and lead to policy change. The problem stream arises when an issue gains attention because of a focusing event or stakeholder persuasion. A political stream occurs when a change in public opinion and institutional factors creates a window of opportunity for political action. Finally, the policy stream is independent and ongoing as policy entrepreneurs consistently work on solutions to propose when streams align.

Key Findings

Rapid Expansion of AI Brings Potential for Harm

2023 was coined as generative AI's breakout year, as organizations rapidly employed AI tools to optimize work. However, regulation has not kept up with the rapid implementation of this powerful technology, exposing the public to risk. This was especially evident in late January 2024, as the Taylor Swift deep fake pornography controversy brought AI regulation to center stage. This focusing event occurred after the mass distribution of sexually explicit AI-generated deep fake images of Taylor Swift on social media platforms 4chan and X (formerly Twitter). Several artificial images of Swift of a "sexual or violent nature were quickly spread with one post reported to have been seen over 47 million times before its eventual removal" (NME, 2024). This focusing event led to international attention and increased discussion about AI regulation, leading to a problem stream to form.

Public Opinion Demands Increased Protection and Regulation

There is a common sentiment regarding AI and the environment, with most Americans calling for increased government oversight and protections. In a Pew Research Center study, about "two-thirds of U.S. adults (67%) say the federal government is doing too little to reduce the effects of climate change, and similar shares say the same about government efforts to protect air (67%) and water quality (68%)"

(Pew Research Center, 2019). Public opinion demands government action to protect the environment and our future from climate change, and that includes regulating current and future polluting sectors like AI. For example, a Pew Research Center study found that “67% of [respondents] who are familiar with chatbots like ChatGPT say they are more concerned that the government will not go far enough in regulating their use than that it will go too far”(Pew Research Center, 2023). As AI continues to expand, Americans widely agree that regulations must evolve as well. The growing public concern over government inaction regarding AI and environmental issues creates a political stream and presents a window of opportunity for political action.

Experts Bring Evidence Concerning AI’s Impact on the Environment

Scientists and experts in the space are concerned and are studying AI’s potential to exacerbate energy and water usage globally, thus creating a policy stream. A peer-reviewed analysis published in Scientific American estimates that, in a middle-ground scenario, “by 2027 A.I. servers could use between 85 to 134 terawatt hours (Twh) annually. That’s similar to what Argentina, the Netherlands and Sweden each use in a year, and is about 0.5 percent of the world’s current electricity use”(Tollefson, 2023). Not only is AI energy-extensive, but its data centers use large quantities of water as well. For example, in 2022, “Microsoft’s water usage increased by 34%, a trend that analysts have pinned to the corporation’s growing investment in generative AI” (Reuters, 2023). As AI rapidly expands across sectors to improve efficiency, data on its environmental impact must be collected to ensure a sustainable infrastructure to keep up with demand and prevent further environmental harm.

Recommendations

I urge Madam Chair Senator Cantwell to release S.3732 - the Artificial Intelligence Environmental Impacts Act of 2024 - to the Senate floor. The convergence of the problem, politics, and policy streams creates a unique policy window that we must seize. This bill is not merely about addressing a future concern; it's about addressing an issue that is rapidly unfolding before our eyes.

The recent Taylor Swift deep fake controversy serves as a stark reminder of the risks posed by unregulated AI technologies. This focusing event has spurred public opinion and brought AI regulation to the forefront of national discourse. We cannot afford to wait for another crisis; the time to act is now. Furthermore, there is heightened public demand for government oversight and regulation, particularly in areas affecting the environment and AI. Failure to act risks undermining public trust and exacerbating environmental degradation. Additionally, experts warn of the significant environmental impact of unchecked AI expansion, particularly in energy and water usage. Without robust legislation in place, we risk irreversible harm to our planet's ecosystems. By passing this legislation, we demonstrate our commitment to protecting our environment, promoting sustainable innovation, and safeguarding the well-being of current and future generations.

I implore the Senate Committee on Commerce, Science, and Transportation to act swiftly and decisively. Release S.3732 to the Senate floor without delay. Let us seize this opportunity to lead the way in responsible AI governance and environmental stewardship. The time for action is now.

Resources

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