***Artificial Intelligence Environmental Impacts Act***

**Senator Edward J. Markey (D-Mass.) and Senator Martin Heinrich (D-NM)**

Artificial intelligence (AI) has huge potential for both positive and negative environmental impacts. For example, AI could [accelerate energy innovation](https://www.iea.org/commentaries/why-ai-and-energy-are-the-new-power-couple), [improve environmental research](https://www.climatechange.ai/), and [protect biodiversity](https://gpai.ai/projects/responsible-ai/environment/biodiversity-and-AI-opportunities-recommendations-for-action.pdf). But AI poses serious risks to the environment as well, particularly due to the [significant amounts of energy](https://www.nytimes.com/2023/10/10/climate/ai-could-soon-need-as-much-electricity-as-an-entire-country.html) used to train and run AI models, [water required](https://oecd.ai/en/wonk/how-much-water-does-ai-consume) for cooling data centers, and [electronic waste](https://www.datacenterdynamics.com/en/opinions/energy-and-e-waste-the-ai-tsunamis/) generated from the disposal of outdated AI hardware. These risks are only likely to increase: A [2022 study](https://epochai.org/blog/compute-trends) estimated that the computing operations used to create the largest AI models doubled every ten months, and OpenAI CEO Sam Altman [recently highlighted](https://www.reuters.com/technology/openai-ceo-altman-says-davos-future-ai-depends-energy-breakthrough-2024-01-16/) the intense energy demands of AI, stating that a further “energy breakthrough” would be needed to power AI models.

In spite of these rapid changes, the AI developers and users currently lacks precise measurement and reporting standards for AI's environmental effects. This gap hinders the public’s understanding of and ability to mitigate the ecological footprint of AI, making it harder to steer AI’s development to a more environmentally friendly path.

To address these environmental concerns, Senator Markey and Senator Heinrich authored the ***Artificial Intelligence Environmental Impacts Act***, which will enhance public understanding of these environmental impacts and help ensure that environmental benefits are balanced against the cost. Specifically, the bill will:

1. **Require a Study on the Environmental Impacts of AI:** The Environmental Protection Agency (EPA) will conduct a comprehensive study on AI's environmental impacts within two years. The study will examine AI models' and hardware's lifecycle, including energy consumption, pollution, and e-waste, as well as assessing the positive and negative environmental impacts of AI’s applications.
2. **Convene an AI Environmental Impacts Consortium**: The National Institute of Standards and Technology (NIST) will convene a consortium of stakeholders to identify measurement needs and standards for AI's environmental impacts.
3. **Create a Voluntary Reporting System**: NIST will develop a system for entities developing or operating AI to voluntarily report the full range of AI’s environmental impacts.
4. **Direct a Report to Congress**: Within four years, the EPA, the Department of Energy, and NIST must submit a joint report to Congress, detailing the consortium's findings and describing the voluntary reporting system, as well as providing recommendations for further legislative and executive action.