Artificial Intelligence/Generative AI's Environmental and Human Effects: April 22nd U.S. GAO Report

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The United States Government Accountability Office ("GAO") released on April 22nd a report titled:

Artificial Intelligence: Generative AI's Environmental and Human Effects ("Report").

See GAO-25-107172.

GAO was asked to conduct a technology assessment of generative AI effects. In particular, GAO was tasked to assess risk. As a result, it examined:

1. Potential environmental effects of generative AI technologies.
2. Potential human effects of generative AI technologies.
3. What policy options exist to enhance the benefits or mitigate the environmental and human effects of generative AI technologies.

Generative AI can acquire/consume data, learn from it, and subsequently generate data with similar characteristics. Through such activities, it can produce various types of content which might include images, music, speech, video, computer code, and product designs.

The April 22nd GAO Report notes that generative AI can both:

- Dramatically increase productivity and transform workloads in many industries.
- Be used to respond to questions in customer service chats, create schedules, summarize information, produce Internet content, etc.

Concurrently, the Report also addresses environmental and societal concerns such as:

- Significant consumption of water and electricity.
- Replacement of workers.
- Use to create deepfakes.

Referenced as a potential additional issue, but one that has not been quantified because of AI's rapid evolution and lack of disclosure of certain information is described as:

…unsafe systems may produce outputs that compromise safety, such as inaccurate information, undesirable content, or the enabling of malicious behavior.

Nevertheless, GAO notes:

…Most estimates of environmental effects of generative AI technologies have focused on quantifying the energy consumed, and carbon emissions associated with generating that energy, required to train the generative AI model. Estimates of water consumption by generative AI are limited. Generative AI is expected to be a driving force for data center demand, but what portion of data center electricity consumption is related to generative AI is unclear.

The Report identifies the policy options that GAO believes should be considered that may enhance the benefits or address the challenges of environmental and human effects. They are described in detail in the Report and include:

- Maintain the status quo.
- Improve data collection and reporting.
- Encourage innovation.
- Encourage use of AI frameworks.
- Share best practices and establish standards.

GAO notes that it plans to assess in a future report federal research, development, and adoption of generative AI technologies.

GAO describes itself as an independent, non-partisan agency that works for Congress. It is tasked to examine how taxpayer dollars are spent and provides Congress and federal agencies with objective, non-partisan, fact-based information to help the government save money and work more efficiently.

A copy of the Report can be downloaded here.