Letter from the Chairs

Dear Delegates,

Welcome to the 42nd Mid-South Model United Nations Conference (MSMUN). My name is Soumitro Shovon Dwip, and I will be your United Nations Entity for Commission for Science and Technology for Development (CSTD) chair. I am so excited to have you join my committee this year!

CSTD plays a critical role in furthering worldwide support for sustainable development and environmental protection in all aspects of life and is the leading entity in addressing global environmental challenges. While much of the work that CSTD undertakes involves generating programs, policies, and standards meant to uphold and ensure environmental sustainability, CSTD is also committed to the mission to address the environmental impacts of emerging technologies, including Artificial Intelligence (AI). This committee has the power to shape policy and leadership around the world, and I hope that you all will recognize the important role that this committee plays on the global stage, especially given the current state of environmental degradation and the growing energy demands of AI systems.

I look forward to meeting every one of you at the conference, and cannot wait to moderate all of the amazing debate you will bring to the table. Should you have any questions or concerns, please feel free to reach out to me using the email listed below!

Sincerely,

Soumitro Shovon Dwip: dwiso-28@rhodes.edu

Committee: CSTD

Topics: Environmental Impact of Artificial Intelligence & Future To-dos

The environmental cost to train an AI model is roughly equivalent to five cars' lifetime impact. Hence, it's not hard to infer that Artificial Intelligence, while revolutionizing industries and offering innovative solutions to global challenges, has a significant impact on the environment. On one hand, AI-driven technologies are being utilized to combat climate change, optimize energy consumption, and promote sustainable practices; on the other hand, the rapid growth of AI systems, particularly those reliant on energy-intensive data centers and computational processes, contributes to increased carbon emissions and resource depletion. As the world embraces AI, it becomes imperative to balance its transformative potential with the need for environmentally sustainable practices.

Topic 1: **AI's energy consumption and Carbon Footprint**

How exactly AI does the harm …

[1]Most large-scale AI deployments are housed in data centers, including those operated by cloud service providers. These data centers can take a heavy toll on the planet. The electronics they house rely on a staggering amount of grist: making a 2 kg computer requires 800 kg of raw materials. As well, the microchips that power AI need rare earth elements, which are often mined in environmentally destructive ways, noted *Navigating New Horizons.*

The second problem is that data centers produce electronic waste, which often contains hazardous substances, like mercury and lead.

Third, data centers use water during construction and, once operational, to cool electrical components. Globally, AI-related infrastructure may soon consume six times more water than Denmark, a country of 6 million, according to one estimate. That is a problem when a quarter of humanity already lacks access to clean water and sanitation.

Finally, to power their complex electronics, data centers that host AI technology need a lot of energy, which in most places still comes from the burning of fossil fuels, producing planet-warming greenhouse gases. A request made through ChatGPT, an AI-based virtual assistant, consumes 10 times the electricity of a Google Search, reported the International Energy Agency. While global data is sparse, the agency estimates that in the tech hub of Ireland, the rise of AI could see data centers account for nearly 35 percent of the country's energy use by 2026.

Driven in part by the explosion of AI, the number of data centers has surged to 8 million from 500,000 in 2012, and experts expect the technology's demands on the planet to keep growing.

Some Data …

Consumption	CO$_2$e (lbs)
Air travel, 1 passenger, NY↔SF	1984
Human life, avg, 1 year	11,023
American life, avg, 1 year	36,156
Car, avg incl. fuel, 1 lifetime	126,000
Training one model (GPU)	
NLP pipeline (parsing, SRL)	39
w/ tuning & experimentation	78,468
Transformer (big)	192
w/ neural architecture search	626,155

Research Data from UMass Amherst

[1] United Nations Environment Programme. (n.d.). *AI has an environmental problem – here's what the world can do about it.* UNEP. https://www.unep.org/news-and-stories/story/ai-has-environmental-problem-heres-what-world-can-do-about
The same research focuses on the Global contenders.

Consumer	Renew.	Gas	Coal	Nuc.
China	22%	3%	65%	4%
Germany	40%	7%	38%	13%
United States	17%	35%	27%	19%
Amazon-AWS	17%	24%	30%	26%
Google	56%	14%	15%	10%
Microsoft	32%	23%	31%	10%

Global Stake Holders and Tech Giants

The central point is AI's impact on environment is massive, contrary to "nearly negligible" theory; and that's the reason why moral and ethical dilemma is involved. There are, in fact, adverse impacts on the environment, but at the same time, we are bound to acknowledge that the development and advancement of AI in the coming years means almost the same as *future of mankind in the coming years*. Therefore, an effective and imposable global consensus in this regard is paramount. Particularly, the question is whether global stake holders of AI (USA/ China/ Germany) and tech giants will conform to such a global policy, which necessarily means putting on extra resources to maintain a commitment to world environment.

Key points to focus

1. How do global contenders and tech giants acknowledge and see this phenomenon; -
   Would USA and China come to a common ground, agreeing on a UN AI policy?
   - *How would USA/ China/Germany impose state vs. private AI institution policy?*
2. Scale of Resource Consumption and policy in regard;
   - *How much "resource" consumption is "OK"?*

- How much "pollution" and "harm" is acceptable?
3. OpenAI's recent request to use 10x more electricity than Google searches;
4. US-China "cold-war" on AI and if this tension will value *nature* in future regards;
5. Question of compliance from major stakeholders (USA, China, Germany);
6. Question of compliance from Tech giants (Microsoft, Google, Meta);
7. Relationship between state and tech giants.

Delegations:
United States of America (USA)
Austria
Portugal
Brazil
Guatemala
Peru
Latvia
Hungary
China
Islamic Republic of Iran
Zambia
Burkina Faso

Note: The commission is ordinarily made up of eleven members from the African States, nine members from Asia-Pacific states, eight members from Latin American and Caribbean States, five members from Eastern European States, and ten members from Western European and other states. However, when adapting the committee to fit MSMUN, we have selected two to three nations from each of these categories.