Team ID: U38

CAAVV Consulting

Team Member Name	Year	Major
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Topic Title: Ethics and Sustainability of Microsoft AI Data Centers

Audience: Microsoft Board of Directors

Sustainable Development Goal

SDG #7: Ensure access to affordable, reliable, sustainable, and modern energy for all.

SDG #9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Executive Summary

Microsoft, a global leader in software, cloud computing, and artificial intelligence, is making significant strides in sustainable innovation. With an estimated $80 billion investment in AI-focused data centers, the company is driving growth while striving to meet ambitious environmental goals. A key target is to make all data centers carbon-negative by 2030, aligning with Sustainable Development Goals SDG #7 and SDG #9. We believe that by investing in on-site renewable energy and green technologies focusing on supply chain, Microsoft can meet the environmental standards they have set.

To achieve this, Microsoft is heavily investing in clean renewable energy by expanding wind and solar farms in states like Texas, Iowa, and Virginia. Additionally, it is supporting the development of sustainable building materials, including Swedish green steel and zero-carbon cement. A notable $800 million has been allocated to startups focused on eco-friendly construction materials, such as cross-laminated wood, to reduce the carbon footprint of AI infrastructure. Furthermore, Microsoft has implemented a carbon pricing system within its business units, ensuring that sustainability efforts are continuously funded.

Despite these initiatives, Microsoft faces challenges in managing Scope 3 emissions, which account for the environmental impact of raw material sourcing, transportation, and disposal. In 2023 alone, the company used 23 million megawatt-hours of power and released over 15 million metric tons of carbon dioxide—five times the emissions of Seattle in a year. While carbon credit programs help offset emissions, critics argue that they do not address the root causes of environmental impact.

To address this, Microsoft is implementing closed-loop water systems in data centers to eliminate water evaporation. However, the company must balance AI-driven expansion with real progress in sustainability, ensuring that carbon reduction efforts go beyond offsets. Greater transparency in supply chain emissions and investments in groundbreaking green technologies will be essential to achieving meaningful environmental impact. By prioritizing genuine carbon reduction strategies over symbolic offsets, Microsoft can reinforce its role as a leader in sustainable and responsible AI innovation.