Congress of the United States
Washington, DC 20515

January 28, 2026

The Honorable Michael Krastios
Director, Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, D.C. 20502

Director Krastios,

We write to urge the Office of Science and Technology Policy (OSTP) to consider the expanded deployment of silicon carbide (SiC) as your team seeks to implement "America's AI Action Plan" and, more broadly, in securing the United States' leadership in the global artificial intelligence economy. As the Administration seeks to combat the growing threat posed by China's AI development by promoting American-built AI systems, SiC is a critical national security component that will determine whether our country can generate, distribute, and sustain the unprecedented levels of power required for next-generation AI.

The demands of frontier AI are outpacing the capabilities of traditional energy and semiconductor systems. Training and deploying today's largest models consumes enormous quantities of electricity, with energy usage doubling over the past several years and projected to accelerate sharply this decade. Data centers—particularly those optimized for high-density AI workloads—are moving toward 800-volt and higher power architectures, a shift that cannot be supported efficiently or reliably by legacy silicon-based technologies alone. Silicon carbide, by contrast, is purpose-built for this new era.

SiC devices operate at voltages ranging from 650V to 10kV, switch with up to 70% lower energy loss than silicon, and deliver 3× higher thermal conductivity, enabling data-center equipment to run cooler, more efficiently, and with fewer conversion stages. These advantages directly result in reduced energy consumption, lower cooling loads, and greater power density for the next-generation architecture required to build out America's AI ecosystem.

As a result, the mass deployment of silicon carbide will allow the United States to build more computing capacity per megawatt than global competitors. SiC-enabled high-voltage DC architectures can also reduce infrastructure losses across the power-delivery chain, from long-distance transmission to rack-level conversion, unlocking efficiency gains at every stage of the AI lifecycle.

Equally important is the strategic opportunity SiC presents for American competitiveness. While other critical semiconductor materials are dominated by overseas suppliers, the United States is uniquely positioned to lead in the global SiC market. Demand for SiC is projected to grow at double-digit annual rates, fueled by its performance, reliability, and system cost savings in use cases including AI data centers, aerospace, grid modernization, and defense applications.

Over 50% of the current marketplace is addressable by SiC, which currently holds a $3.4 billion market share. Between 2024 and 2030, the SiC marketplace is expected to grow at a 15% compound annual growth rate (CAGR), outpacing both silicon and gallium nitride. America's ability to capture the advanced manufacturing, innovation, and workforce opportunities this market brings directly aligns with the AI Action Plan's goals of strengthening domestic supply chains, promoting secure AI infrastructure, and expanding America's global technological leadership.

America's leadership in global AI development ultimately hinges on whether our nation can support the compute-intensive systems that drive innovation across science, medicine, national security, and the broader economy. In practice, it is essential to develop an energy and semiconductor foundation capable of powering the most advanced AI systems. Silicon carbide is essential to that foundation. By enabling higher-efficiency power electronics, more resilient infrastructure, and scalable high-density compute environments, SiC directly reinforces the AI Action Plan's focus on fostering responsible innovation while enhancing America's economic and strategic competitiveness.

We respectfully urge OSTP to ensure that silicon carbide is recognized and incorporated as a critical enabling material in the implementation of *America's AI Action Plan*. Doing so will help secure America's position at the forefront of the global AI race, strengthen our domestic industrial base, and ensure that the United States defines the next generation of AI infrastructure.

Thank you for your consideration and we look forward to continuing to advance policies that promote the nation's scientific and technological might in the global AI race.

Sincerely,

Richard Hudson
Member of Congress

Pat Harrigan
Member of Congress

David Rouzer
Member of Congress

Chuck Edwards
Member of Congress

Tim Moore
Member of Congress