

United States Senate
WASHINGTON, DC 20510-4705

COMMITTEES:
COMMERCE, SCIENCE, AND
TRANSPORTATION
ENERGY AND NATURAL
RESOURCES
FINANCE
INDIAN AFFAIRS
SMALL BUSINESS

June 30, 2023

The Honorable Gina M. Raimondo
Secretary, U.S. Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Dear Secretary Raimondo:

Recent advances in the commercialization of fusion energy could deliver abundant supplies of reliable and affordable emissions-free power, promote continued American leadership in science and technology, and open up massive new export opportunities. That's why U.S. leadership in fusion is a matter of economic, environmental, and national security, as recognized by the White House last year when it released its "bold decadal vision" for commercial fusion deployment last year. Congress has also shown its bipartisan support for fusion development, including in the CHIPS and Science bill which authorized nearly \$7 billion for fusion related R&D and pilot projects over the next five years.

No longer is fusion the elusive power source of the future. Recent expert testimony before the Senate Energy and Natural Resources committee highlighted how fusion energy may be ready to deliver electricity to the grid within a decade. Just last month a leading fusion company in Washington state signed the world's first power purchase agreement, committing to put power on the grid as early as 2028. This announcement followed a recent determination by the U.S. Nuclear Regulatory Commission on the need to right-size a regulatory pathway for fusion, apart from fission, since it is an inherently safer way to generate electricity.

Unfortunately, this remarkable progress is threatened by limited domestic supplies of fusion-relevant power semiconductors and other microelectronic-driven components that play an essential role for many of the leading U.S. fusion companies. In particular, pulsed fusion approaches are reliant on semiconductors that can transfer large amounts of current over very short time periods. These power semiconductors comprise one of the most expensive and critical aspects of many fusion concepts, however, like with many other types of microchips, key aspects of the supply chain have moved offshore.

With over \$5 billion in private investment to date, and several fusion energy companies already building, or planning to build, millions of square feet of domestic manufacturing space in the United States, I am concerned that the lack of adequate supplies of domestically manufactured power semiconductors will slow or inhibit the commercialization of some incredibly promising fusion approaches. Onshoring power semiconductor manufacturing would also facilitate domestic manufacturing and deployment of other products in the national interest including high voltage power lines, electric vehicles and charging stations, aluminum smelting and refining, and a number of cutting-edge national defense applications.

I am writing to urge you to ensure the CHIPS for America Fund plays a role in addressing this power semiconductor shortfall. I am confident that doing so will help ensure that our nation's leadership in fusion innovation and commercialization translates into substantial and concrete benefits to America's future growth, security, and prosperity.

Sincerely,



Maria Cantwell
Chair, Senate Committee on Commerce, Science, and Transportation

cc Mike Schmidt, Director of the CHIPS program office