

## **Micron Technology: National Security vs. Climate Security**

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This April, in awarding an Air Permit to Micron Technology for its huge planned semiconductor factory in Clay, New York, on the outskirts of Syracuse, the New York State Department of Environmental Conservation found, “the Project would be inconsistent with the attainment of the statewide GHG [greenhouse gas] emission levels under the Climate Act...” Nevertheless, the agency “determined that permitting the Project is justified because it directly and materially serves national security interests.”

This justification is unsound for two principal reasons:

1. No one has demonstrated that the volume of Micron’s anticipated memory chip output is essential for national security, and
2. Past investments in national security, such as the nation’s nuclear weapons production complex, have caused massive, costly irreversible environmental degradation that could have been avoided if those programs had been subject to environmental regulation.

No doubt some semiconductor production is essential to weapons production as well as the operation of the U.S. military and other security agencies. However, one doesn’t have to read much in the trade press to see that most of Micron’s chips will go into hyperscale data centers, used for cloud computing and large-language model “artificial intelligence” (AI).

Despite the clamor to defeat China in the AI arms race, it’s not at all clear that an iPhone with AI features developed in the U.S will serve us better than iPhones with Chinese intelligence, particularly since most iPhones are produced in China.

It has been argued that domestic chip production is essential, because in an East Asian war or other emergency, the flow of chips to the U.S. market could be cut off. Seems to make sense, until one looks at Micron’s latest report to the U.S. Securities and Exchange Commission. Assembly is the last stage of chip production, and none of Micron’s assembly takes place in the U.S. In fact, it’s all in Asia, including both Taiwan and China.



Location	Principal Operations
Taiwan	R&D, wafer fabrication, component assembly and test, module assembly and test
Singapore	R&D, wafer fabrication, component assembly and test, module assembly and test
United States	R&D, wafer fabrication, reticle manufacturing
Japan	R&D, wafer fabrication
Malaysia	Component assembly and test, module assembly and test
China	Component assembly and test, module assembly and test
India	Component assembly and test, module assembly and test

Furthermore, even when activities are central to national security, the argument for regulatory exemption is historically unsupported. Regardless of what one thinks about U.S. foreign and military policy, it's clear that the development of nuclear weapons is an element of national security. Unfortunately, the environmental mess created during World War II and the ensuing years has created the need for what appears to be the largest environmental remediation program in the world. In 2024, the authoritative Government Accountability Office reported, "The Department of Energy has spent over \$215 billion since 1989 to clean up hazardous and radioactive waste. It estimates that the remaining work will cost about \$675 billion more." This year, the U.S. Army Corps of Engineers is demolishing homes in Missouri that were built on top of radioactive materials left by the WWII Manhattan project.

Pollution at Defense Department sites is even more widespread, contaminating thousands of active and former domestic military facilities. At the end of fiscal year 2024, the Department projected the cost to complete its cleanup was over \$56 billion, including more than \$10 billion (and growing) to address its releases of PFAS "forever chemicals."

In 1992, recognizing the enormous cost of addressing national security pollution after the fact, Congress enacted the Federal Facilities Compliance Act, clarifying that the Defense and Energy Departments were subject to the nation's hazardous waste laws. Other major environmental laws now also apply to national security Departments.

Given that history, there is no justification for exempting semiconductor plants, which have weaker national security claims, from environmental regulation.

Furthermore, failure to equitably regulate planned greenhouse gas emissions undermines global efforts to slow global warming and its associated, disastrous impacts. While we tend to focus on climate change's threats to human health and economic survival, as early as 2007 a panel of retired U.S. generals and admirals warned, "Projected climate change poses a serious threat to America's national security." Subsequent reports have catalogued the impact of natural disasters and rising sea level on military infrastructure, to say nothing of the global instability enhanced by climate change.

Thus, excusing Micron's emissions is actually bad for national security.

The semiconductor industry makes a strong argument that it cannot manufacture chips without using hazardous substances, including greenhouse gases. That may be true, but in the interests of both global climate security as well as national security, stronger state and federal regulation—with enforcement—is necessary. The companies and engineers who create these miraculous, nanoscopic integrated circuits must devote much more of their resources and talent to protecting both the local and global environment from their continuing and growing pollution.