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SUMMARY

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Semiconductor Fabrication Facilities Funded by the CHIPS Act: Project Status and Considerations for Congress

Integrated circuits on silicon semiconductors—commonly called semiconductor microchips or "chips"—are components in electronic devices that perform functions such as data processing and storage. These chips are essential inputs for many industries, including advanced technology and defense applications.

Congress has passed legislation to bolster the semiconductor industry in the United States. Legislation included the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (CHIPS Act; P.L. 117-167, Division A), which appropriated $39 billion for an incentives program to support companies to build or expand commercial semiconductor fabrication facilities (fabs) that manufacture chips or inputs for chip production. The CHIPS Act aimed to increase chip manufacturing capacity in the United States, address supply chain vulnerabilities, and improve the competitiveness of the semiconductor and technology industries. In addition, some Members of Congress sought to improve national security by ensuring the domestic production of chips employed in weapons systems.

The U.S. Department of Commerce (DOC) oversees the CHIPS Act incentives program, which offers financial assistance in the forms of direct funding, loans, and loan guarantees to eligible entities. By January 2025, DOC had funded 19 semiconductor companies with $30.7 billion in awards and $5.5 billion in loans for 40 commercial semiconductor fab projects. In addition, 12 companies signed preliminary agreements with the National Institute of Standards and Technology (NIST, part of DOC) for 18 projects, with final awards dependent on DOC's satisfactory due diligence reviews of their project proposals. As of June 2026, public records do not indicate whether these 12 companies have received final awards.

In March 2025, President Trump stated his intention to renegotiate award agreements with funding recipients. Subsequently, two awardees, Micron and Taiwan Semiconductor Manufacturing Corporation, separately announced plans to increase the total capital expenditure of their projects being funded with the federal award. The total award amount for Micron was revised to include an additional $275 million after its announcement. Another award recipient, Intel, provided the U.S. government with its equity in exchange for a direct funding award. As of July 2026, other award recipients have not publicly announced changes to their total capital expenditure or awards.

Before DOC began announcing final awards in the second half of 2024, some companies had postponed the expected start or completion of their projects. Some companies cited uncertainties around federal funding as their reason for postponement; others attributed their delay to concerns about the lack of skilled workers who could build and equip commercial semiconductor fabs. Customer demand also appeared to shape some projects' timelines. In addition, challenges relating to mitigation planning for the potential environmental effects of the construction and operation of the award-funded fabs may have contributed to schedule changes.

Congress may look to evaluate implementation progress to date and weigh policy options regarding the incentives program's future. FY2026 is the final year for which DOC is to receive CHIPS Act funding for incentivizing the domestic production of semiconductors. Further, the 35% investment tax credit for capital expenses associated with the production of semiconductors and equipment for manufacturing semiconductors is available only to projects that begin fab construction before December 31, 2026. Congress may consider whether to extend additional public resources for commercial fabs built or expanded under the incentives program beyond FY2026.

Either in conjunction with or as an alternative to providing additional appropriations, Congress might consider whether and, if so, how it might address challenges that have emerged during the implementation of the CHIPS Act incentives program. Congress may require DOC to report more frequently on the status of award negotiations and due diligence reviews of applicants awaiting an award. Congress may choose to change the criteria for funding eligibility to accelerate the review process. Congress may ask DOC to study the efficacy of funded programs to develop the semiconductor industry workforce. Congress also may choose whether to prioritize legacy chips used in less advanced applications to address market demands.

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Introduction

Integrated circuits on silicon semiconductors—commonly called semiconductor microchips or "chips"—are components in electronic devices that perform functions such as data processing and storage. These products are essential inputs for many industries, including advanced technology (e.g., robotics) and defense applications (e.g., vehicle and missile guidance systems).

Chip manufacturing begins with design, raw materials acquisition, and silicon wafer production. Semiconductor fabrication facilities (fabs) place microelectronic components, such as transistors, on the silicon wafers. The wafers are cut into individual dies and tested for performance. The dies are then encapsulated or packaged so that they can interact with the devices they are intended to serve. This packaged product is referred to as a chip. Each stage of production relies on equipment and materials sourced from various locations.[1] Many fabs specialize in different stages of production, and unfinished chips are often shipped across national borders between fabs.

U.S. companies play a leading role in many of the early stages of chip production, including chip design and the manufacture of equipment used in fabs. The U.S. semiconductor industry faces growing competition in the later stages of chip production. For example, the share of the global chip fabrication capacity in the United States has declined from around 37% in 1990 to approximately 10% in 2022.[2] In the same period, some economies in East Asia, such as Taiwan and South Korea, hosted a significant share of new chip fabrication capacity. This development has led some U.S. industry stakeholders to express concerns about supply chain risks and cost disadvantages for U.S. chip users.[3]

Congress has passed legislation intended to promote growth in domestic chip manufacturing capacity and to support semiconductor technology research and development. In particular, the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (CHIPS Act; P.L. 117-167, Division A) appropriated $50 billion to the CHIPS for America Fund. The act authorized the Secretary of Commerce to use $39 billion from this fund through FY2026 to incentivize semiconductor companies to develop domestic chip manufacturing capabilities. Congress may continue to weigh policies designed to increase domestic chip production capacity in light of continued stress in the chip supply chain and the expiration of appropriations from the CHIPS Act to the U.S. Department of Commerce (DOC) at the end of FY2026.[4]

This report outlines the implementation of the semiconductor manufacturing incentives program funded by the CHIPS Act and reviews selected factors that have reportedly affected the speed of expanding domestic chip manufacturing capacity. In addition, this report discusses selected

[1] Akhil Thadani and Gregory Allen, "Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region," May 30, 2023, https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region. See also CRS Infographic IG10073, *Taiwan's Role in Global Semiconductor Supply Chains*, by Karen M. Sutter.

[2] Semiconductor Industry Association (SIA), *2025 State of the U.S. Semiconductor Industry*, https://www.semiconductors.org/2025-state-of-the-u-s-semiconductor-industry/.

[3] For example, see John Drake and Jordan Crenshaw, "Congress Must Fund Semiconductor Legislation to Bolster Innovation and Supply Chains," U.S. Chamber of Commerce, November 22, 2021, https://www.uschamber.com/security/congress-must-fund-semiconductor-legislation-to-bolster-innovation-and-supply-chains.

[4] David Park, "Legacy Process Nodes Are Critical To Many Industries," Semiconductor Engineering, September 19, 2024, https://semiengineering.com/legacy-process-nodes-are-critical-to-many-industries/; and Arjun Kharpal, "Memory chip shortage to last through 2027, semiconductor boss says," *CNBC*, January 26, 2026, https://www.cnbc.com/2026/01/26/memory-chip-shortage-synopsys-lenovo-ai-data-centers.html.

challenges facing the domestic semiconductor industry and policy options for Congress's consideration.

Legislative Context

Throughout 2021, some Members of Congress raised concerns about the U.S. semiconductor industry or industries where semiconductor chips are key inputs for final products. These concerns ranged from the loss of industrial and technological competitiveness—particularly in relation to China—to inadequate domestic manufacturing capability to meet domestic security needs.[5] Some Members of Congress also pointed to difficulties with semiconductor chip importation due to the COVID-19 pandemic as a vulnerability.[6]

Since the 116th Congress, Congress has passed several laws to support the expansion of domestic semiconductor production capacity. For example, Section 9902 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (FY2021 NDAA; P.L. 116-283) authorized the Secretary of Commerce to provide financial assistance to "incentivize investment in facilities and equipment in the United States for semiconductor fabrication, assembly, testing, advanced packaging, or research and development."[7] The FY2021 NDAA authorized related funding in various forms, including grants, cooperative agreements, loans, and loan guarantees. One provision in the FY2021 NDAA authorized the Secretary of Commerce to award these resources in pursuit of the "national security and economic competitiveness of the United States."[8] In addition, the law authorized the Secretary to fund activities that support semiconductor industry workforce development and to pay "reasonable costs" for expenses relating to the operation of a semiconductor facility.

Subsequently, Congress passed and President Biden signed into law the CHIPS Act (P.L. 117-167, Division A) on August 9, 2022.[9] The CHIPS Act appropriated $39 billion through FY2026 for the incentives program authorized in Section 9902 of the FY2021 NDAA. The CHIPS Act specified amounts to be made available in each fiscal year and authorized the Secretary of Commerce to designate up to $6 billion of the $39 billion as direct loans or loan guarantees for eligible

[5] House Committee on Foreign Affairs, "McCaul Talks Semiconductors, Promotes CHIPS Act with President Biden," press release, February 24, 2021, https://foreignaffairs.house.gov/news/press-releases/mccaul-talks-semiconductors-promotes-chips-act-with-president-biden; Office of Senator John Cornyn, "Cornyn, Colleagues Ask Biden to Fund Initiatives to Increase U.S. Semiconductor Production," press release, April 12, 2021, https://www.cornyn.senate.gov/news/cornyn-colleagues-ask-biden-to-fund-initiatives-to-increase-u-s-semiconductor-production/; and Office of Senator Gary Peters, "Peters Bipartisan Bill to Strengthen Domestic Semiconductor Manufacturing Advances in Senate," press release, December 15, 2021, https://www.peters.senate.gov/newsroom/press-releases/peters-bipartisan-bill-to-strengthen-domestic-semiconductor-manufacturing-advances-in-senate. See also CRS Report R47523, *Frequently Asked Questions: CHIPS Act of 2022 Provisions and Implementation*, by Emily G. Blevins, Yong W. Kwon, and Karen M. Sutter.

[6] Office of Senator Jon Ossoff, "Following Ossoff-Warnock Push, U.S. Senate Passes Bipartisan Legislation to Boost Domestic Semiconductor Production," press release, June 8, 2021, https://www.ossoff.senate.gov/press-releases/following-ossoff-warnock-push-u-s-senate-passes-bipartisan-legislation-to-boost-domestic-semiconductor-production/; and Office of Senator Cindy Hyde-Smith "Wicker, Hyde-Smith Join Bipartisan Push to Increase U.S. Semiconductor Production," April 14, 2021, https://www.hydesmith.senate.gov/wicker-hyde-smith-join-bipartisan-push-increase-us-semiconductor-production.

[7] P.L. 116-283.

[8] P.L. 116-283, §9902(a)(4)(A).

[9] Division A of P.L. 117-167.

manufacturers. The act also offered a 25% investment tax credit for capital expenses relating to the production of semiconductors and equipment for manufacturing semiconductors.[10]

The CHIPS Act directed the Secretary of Commerce to prioritize funding for eligible applicants to

- "manufacture semiconductors necessary to address gaps and vulnerabilities in the domestic supply chain across a diverse range of technology and process nodes"[11] and
- "provide a secure supply of semiconductors necessary for the national security, manufacturing, critical infrastructure, and technology leadership of the United States and other essential elements of the U.S. economy."

Congress amended the CHIPS Act through the Building Chips in America Act (P.L. 118-105) and the FY2025 reconciliation law (P.L. 119-21). The Building Chips in America Act exempted certain types of chip manufacturing activities funded by the CHIPS Act from environmental reviews required under the National Environmental Policy Act of 1969, as amended (NEPA; P.L. 91-190), and historic preservation review required under the National Historic Preservation Act of 1966, as amended (P.L. 89-665).[12] The FY2025 reconciliation law increased the investment tax credit for capital expenses relating to the production of semiconductors and equipment for manufacturing semiconductors from 25% to 35%.[13]

CHIPS Incentives Program Implementation

The National Institute of Standards and Technology (NIST) at DOC established the CHIPS Program Office (CPO) to administer the semiconductor incentives program funded by the CHIPS Act.[14] President Biden issued Executive Order (E.O.) 14080 in August 2022 to further direct DOC to ensure that funding recipients adopt "strong compliance and accountability measures," reduce reliance on "overly concentrated foreign production," "ensure long-term leadership in the microelectronics sector," attract private investments to the industry, encourage linkages to underserved regions and populations, and expand "regional manufacturing and innovation ecosystems."[15]

[10] Additional resources and funding were set aside for research and development.

[11] Process nodes refer to levels of chip performance, often measured by how many microelectronic components are located on a silicon die. Typically, industry divides the chip nodes into three levels: leading-ledge, current generation, and mature.

[12] P.L. 118-105. The National Environmental Policy Act (NEPA; 42 U.S.C. §§4321 et seq.) establishes a national policy with respect to environmental quality and a process for integrating environmental considerations into federal decisionmaking (i.e., through environmental review). Unless Congress exempts a certain action from environmental review, NEPA requires agencies to identify and evaluate the impacts of "major Federal actions significantly affecting the quality of the human environment" prior to finalizing certain decisions. See CRS In Focus IF12560, *National Environmental Policy Act: An Overview*, by Kristen Hite and Heather McPherron. Similarly, the National Historic Preservation Act (54 U.S.C. §§300101 et seq.) established a process by which agencies must "take into account" the effects of undertakings on any historic properties, including properties listed on or eligible for listing on the National Register of Historic Places. The law and its implementing regulations require a review and consultation process if any historic properties may be affected to seek ways to avoid, minimize, or mitigate any adverse effects. See CRS Report R45800, *The Federal Role in Historic Preservation: An Overview*, by Mark K. DeSantis.

[13] P.L. 119-21, §70308.

[14] U.S. Department of Commerce (DOC), Office of Inspector General (OIG), *CHIPS Act Programs Status Report*, OIG-25-021-I, June 2, 2025, https://www.oig.doc.gov/wp-content/OIGPublications/OIG-25-021-I.pdf.

[15] Executive Order 14080 of August 25, 2022, "Implementation of the CHIPS Act of 2022," 87 *Federal Register* 52847, August 30, 2022, https://www.federalregister.gov/documents/2022/08/30/2022-18840/implementation-of-the-chips-act-of-2022.

On February 13, 2023, NIST published a notice of funding opportunity (NOFO) for the "construction, expansion, or modernization" of commercial semiconductor fabs under the CHIPS incentives program.[16] NIST opened the application period from February 2023 to June 18, 2024. The NOFO offered three types of incentives to awardees: (1) direct funding in the form of grants, cooperative agreements, or other transactions; (2) loans; and (3) loan guarantees. The NOFO indicated that eligible applicants needed to demonstrate their capacity to "substantially finance, construct, expand, or modernize a facility [engaged in] fabrication, assembly, testing, advanced packaging, or production of semiconductors."[17] Foreign entities of concern and companies that DOC deemed to be controlled or involved with such entities were ineligible for awards. NIST published a separate NOFO under the incentives program for facilities that produce semiconductor materials and manufacturing equipment.

DOC reviewed applications and signed a preliminary memorandum of terms (PMT) with applicants that it determined were "reasonably likely to receive an award" for commercial semiconductor fabs under the terms set out in the NOFO. DOC undertook due diligence on the proposals of applicants that received a PMT. For those applicants that received a satisfactory due diligence review, DOC negotiated and agreed on final award terms and then publicly announced the awards. DOC entered into its first PMT with an applicant in December 2023 and publicly announced the first final award contract in September 2024 (see **Table A-1**).

By January 31, 2025, NIST's CPO had awarded 19 companies with a total of up to $30.7 billion in funding for 40 commercial semiconductor fab projects.[18] Two of the nineteen companies also received a total of $5.5 billion in loans. Approximately 59% of the award funding was for projects planning to produce leading-edge logic chips,[19] approximately 20% was for projects planning to produce leading-edge memory chips, and 10% was for projects planning to make current generation and mature-node chips.[20] According to the U.S. Government Accountability Office (GAO), awardees negotiated individual project milestones with the CPO. DOC is to disburse award funds according to the completion of these milestones by awardees (i.e., reimbursing the company for investments made toward the project). Awardees' expected completion dates span from November 2024 to October 2033.[21]

Entrance into a PMT is not a guarantee of an award. As of June 2026, 12 companies that had received a PMT have not received a final award (see **Table A-2**).

On March 4, 2025, President Trump critiqued the CHIPS Act, stating that the companies that received awards under the CHIPS Act "don't spend" the awards to construct and expand

[16] DOC, National Institute of Standards and Technology (NIST), "Notice of Funding Opportunity: Commercial Fabrication Facilities," updated October 17, 2025, https://www.nist.gov/document/notice-funding-opportunity-chips-incentives-program-commercial-fabrication-facilities (hereinafter NIST Commercial Fabs NOFO).

[17] NIST Commercial Fabs NOFO.

[18] NIST referred to incentive awards as "direct funding" in its award announcement. The law authorized NIST to utilize various funding mechanisms, including grants and cooperative agreements. CRS is unclear on the exact funding mechanism NIST employed for direct funding of commercial fabrication facilities awardees. When awards included loans, NIST's website distinguished the amounts offered as a loan separate from the direct funding amount. For example, see NIST, "SK hynix (Indiana)," accessed April 21, 2026, https://www.nist.gov/chips/sk-hynix-indiana-west-lafayette.

[19] Calculation by CRS using Figure 3 in DOC, OIG, *CHIPS Act Programs Status Report*. The $3 billion awarded through the Secure Enclave program was subtracted from the total when making the calculation.

[20] DOC, OIG, *CHIPS Act Programs Status Report*.

[21] U.S. Government Accountability Office (GAO), *Semiconductors: Information on Projects Funded to Strengthen U.S. Supply Chain*, GAO-26-107882, December 11, 2025, https://www.gao.gov/products/gao-26-107882.

semiconductor fabs.[22] He pointed to tariffs on semiconductors as a more effective incentive for companies to build commercial semiconductor fabs in the United States and stated, "You [Congress] should get rid of the CHIP[S] Act. And whatever is left over, Mr. Speaker, you should use it to reduce debt or any other reason you want to." On March 31, 2025, President Trump issued an E.O. establishing the U.S. Investment Accelerator within DOC with a stated goal of administering the CPO.[23] A White House fact sheet on the E.O. included the negotiation of "better CHIPS Act deals than the previous [Biden] Administration" as one of the objectives of the Investment Accelerator.[24]

In June 2025, Secretary of Commerce Howard Lutnick testified to the Senate Committee on Appropriations that some of the contracts made between DOC and awardees of direct funding under the CHIPS Act could be improved. He noted that "4% or less" of funding for a project's total value from DOC appeared "more appropriate."[25] According to GAO, 2 of the 40 projects had received direct funding awards from DOC that made up 5% or less of their total projected capital expenditure.[26]

As of July 2026, CRS has not identified any awards that have been publicly rescinded or reduced.[27] Two awardees, Taiwan Semiconductor Manufacturing Corporation (TSMC) and Micron, brought their awards' share of their total investment to under 4% by increasing their capital commitments.[28] As part of this revision, Micron received an additional $275 million in funding from DOC.[29]

No awardee has publicly announced plans to bring the award share below 4% by foregoing part of the federal funding award. TSMC and Micron have separately announced increases to their projects' capital commitments; other award recipients have not. This raises questions for stakeholders and policymakers on the status of awards for many projects. For example, Samsung's estimated total investment for the expansion and construction of fabs in Austin, TX,

[22] U.S. President (Trump), "Address Before a Joint Session of the Congress," *Compilation of Presidential Documents*, DCPD-202500325 (March 4, 2025), https://www.govinfo.gov/app/details/DCPD-202500325.

[23] Executive Order 14255 of March 31, 2025, "Establishing the United States Investment Accelerator," 90 *Federal Register* 14701, April 3, 2025, https://www.federalregister.gov/documents/2025/04/03/2025-05908/establishing-the-united-states-investment-accelerator.

[24] White House, "Fact Sheet: President Donald J. Trump Establishes the United States Investment Accelerator," March 31, 2025, https://www.whitehouse.gov/fact-sheets/2025/03/fact-sheet-president-donald-j-trump-establishes-the-united-states-investment-accelerator/.

[25] See video at 1:38:16 for Testimony of Secretary Howard Lutnick in U.S. Congress, Senate Committee on Appropriations, *A Review of the President's Fiscal Year 2026 Budget Request for the Department of Commerce*, hearing, 119th Cong., 2nd sess., June 4, 2025, https://www.appropriations.senate.gov/hearings/a-review-of-the-presidents-fiscal-year-2026-budget-request-for-the-department-of-commerce; and Kate Magill, "Lutnick says Commerce Department 'renegotiating' CHIPS contracts," *Manufacturing Dive*, June 5, 2025, https://www.manufacturingdive.com/news/lutnick-chips-act-renegotiating-contracts-trump-budget-bill/749857/.

[26] GAO, *Semiconductors: Information on Projects Funded to Strengthen U.S. Supply Chain*, GAO-26-107882.

[27] CRS review of the NIST page. Final awards can be found at NIST, "CHIPS for America Awards," updated September 19, 2024, https://www.nist.gov/chips/chips-america-awards.

[28] Taiwan Semiconductor Manufacturing Corporation (TSMC), "TSMC Intends to Expand Its Investment in the United States to US$165 Billion to Power the Future of AI," March 4, 2025, https://pr.tsmc.com/english/news/3210; and Micron, "Micron and Trump Administration Announce Expanded U.S. Investments in Leading-Edge DRAM Manufacturing and R&D," press release, June 12, 2025, https://investors.micron.com/news-releases/news-release-details/micron-and-trump-administration-announce-expanded-us-investments.

[29] This additional award brought the total direct funding awarded by the CHIPS incentives program to date to $30.9 billion, alongside $5.5 billion in loans. DOC, NIST, "President Trump Secures $200B Investment from Micron Technology for Memory Chip Manufacturing in the United States," June 12, 2025, https://www.nist.gov/news-events/news/2025/06/president-trump-secures-200b-investment-micron-technology-memory-chip.

and Taylor, TX, was $37 billion. The approximately $4.7 billion funding award from DOC to support this project constituted 12.8% of the expected investment for this project.[30]

The Trump Administration proposed another change to the structure of the incentives awards. In August 2025, Secretary Lutnick announced the Administration's interest in exchanging equity in Intel Corporation for the CHIPS Act funding awarded to the company (see text box, below).[31]

Public Equity in CHIPS Act Awardee

In November 2024, the California-headquartered Intel Corporation received a direct funding award of approximately $7.9 billion from the CHIPS Act incentives program for building, expanding, or modernizing commercial semiconductor fabrication facilities (fabs).[32] The Department of Defense (DOD) announced that the company received an additional $3 billion through the Secure Enclave program, which was funded by the CHIPS Act and overseen by DOD with the aim of securing a supply of advanced chips needed for national security.[33]

In August 2025, the U.S. government negotiated the conversion of the federal funding into a 9.9% ownership stake in Intel.[34] In a filing with the U.S. Securities and Exchange Commission (SEC) in August 2025, Intel elaborated that the government would disburse $5.7 billion "as promptly as practicable" from the direct funding award for commercial semiconductor fabs. [35] The SEC document noted that the company would be released from obligations to meet project milestones established in the original award contract. Meanwhile, Intel announced that its award from Secure Enclave was $3.2 billion and is to be disbursed "on the terms and conditions of Secure Enclave."[36] In total, the U.S. government agreed to release $8.9 billion in direct funding to Intel in return for equity.

On completion, this equity transfer would make the U.S. government the largest single shareholder in Intel. The agreement between Intel and the U.S. government permits the government to take an additional 5% stake in Intel at $20 a share if the company were to cease to own 51% of its chip manufacturing (foundry) business. In its August 2025 filing with the SEC, Intel noted the possibility that financial arrangements with the Administration could be voided in the future by the courts, Congress, or the Administration.

Intel's chief financial officer noted that the conversion of awards from the CHIPS Act into equity is intended to deter Intel from selling its chip manufacturing unit.[37] Some analysts suggested that the company may become a

[30] DOC, NIST, Chips for America, "Samsung Electronics (Texas)," accessed June 15, 2026, https://www.nist.gov/chips/samsung-electronics-texas-austin; and DOC, NIST, "Biden-Harris Administration Announces CHIPS Incentives Award with Samsung Electronics to Solidify U.S. Leadership in Leading-Edge Semiconductor Production," December 20, 2024, https://www.nist.gov/news-events/news/2024/12/biden-harris-administration-announces-chips-incentives-award-samsung.

[31] Andrea Shalal et al., "US examines equity stake in chip makers for CHIPS Act cash grants, sources say," Reuters, August 20, 2025, https://www.reuters.com/business/media-telecom/us-examines-equity-stake-chip-makers-chips-act-cash-grants-sources-say-2025-08-20/.

[32] DOC, NIST, "Biden-Harris Administration Announces CHIPS Incentives Award with Intel to Advance U.S. Leading-Edge Chip Capacity and Create Tens of Thousands of Jobs," November 26, 2024, https://www.nist.gov/news-events/news/2024/11/biden-harris-administration-announces-chips-incentives-award-intel-advance.

[33] The Department of Defense (DOD) is "using a secondary Department of War designation," under Executive Order 14347 dated September 5, 2025. DOD, "Department of Defense & Department of Commerce Joint Statement: Announcement in Support of the Manufacture of Microelectronics and Advanced Semiconductors for National Security," press release, September 16, 2024, https://www.war.gov/News/Releases/Release/Article/3906926/department-of-defense-department-of-commerce-joint-statement-announcement-in-su/.

[34] Intel, "Intel and Trump Administration Reach Historic Agreement to Accelerate American Technology and Manufacturing Leadership," press release, August 22, 2025, https://www.intc.com/news-events/press-releases/detail/1748/intel-and-trump-administration-reach-historic-agreement-to.

[35] Intel Corporation, *Form 8-K, Current Report*, filed with the U.S. Securities and Exchange Commission, August 22, 2025, https://www.sec.gov/Archives/edgar/data/50863/000005086325000129/intc-20250822.htm.

[36] Intel, "Intel and Trump Administration Reach Historic Agreement to Accelerate American Technology and Manufacturing Leadership." See also Intel Corporation, *Form 8-K, Current Report*.

[37] Michael Acton and Joe Miller, "Trump Intel deal designed to block sale of chipmaking unit, CFO says," *Financial Times*, August 28, 2025, https://www.ft.com/content/29fb5020-2b25-429a-b63f-18356b467e7a.

"national champion" in advanced chipmaking.[38] Others raised concerns that government intervention could lead to "inefficiency, politicization, and favoritism, which could stifle innovation."[39]

Some actions of the U.S. government suggest that the Administration may acquire equity in return for federal funding on a case-by-case basis. For example, another CHIPS Act funding awardee, GlobalFoundries, clarified in August 2025 that the federal government has not taken an equity stake in the company.[40] By contrast, in January 2026, USA Rare Earth received a nonbinding letter of intent from the Department of Commerce that proposed to extend funds from the CHIPS Act ($277 million in direct funding and up to $1.3 billion in collateral-backed loan) in return for equity.[41]

Selected Factors Shaping Project Schedules

Some companies revised the timelines for starting construction or chip production at their fab projects that they had publicized before accepting a PMT or final award contract from DOC. The next sections discuss selected factors that more than one company gave as reasons for revising their timelines, with some companies citing multiple of these causes for the change. These factors may offer Congress areas for consideration in oversight of CHIPS Act implementation and potential future laws to accelerate the expansion of chipmaking capacity.

Federal Funding Availability

Some awardees of the CHIPS Act incentives program may have anticipated government funding to help build their fabs before DOC published the NOFO for commercial fabs in February 2023.[42] When these companies did not receive the incentive awards to support these projects within their expected timeline, they amended the schedule for starting production at planned fabs. DOC announced the first PMT in December 2023 and the first final award in September 2024 (see **Table A-1**).[43]

For example, Samsung announced it would build a fab in Taylor, TX, in November 2021 with plans to start production in 2024.[44] Samsung announced in December 2023—after the NOFO and before receiving its PMT—that full-scale chip production at its new fab in Taylor, TX, would be

[38] Sujai Shivakumar et al., "Securing the U.S. Industrial Base in Semiconductors: Investing in a National Champion," Center for Strategic and International Studies, August 25, 2025, https://www.csis.org/analysis/securing-us-industrial-base-semiconductors-investing-national-champion.

[39] John Ruwitch, "The U.S. government is taking a stake in Intel. It's rare—and it has some risks," *NPR*, September 6, 2025, https://www.npr.org/2025/09/06/nx-s1-5530190/government-stake-intel-ai-competition-china.

[40] "GlobalFoundries Reportedly Cuts U.S. Jobs, Says CHIPS Act Funding Involves No Equity," *TrendForce News*, August 29, 2025, https://www.trendforce.com/news/2025/08/29/news-globalfoundries-reportedly-cuts-u-s-jobs-says-chips-act-funding-involves-no-equity/.

[41] Note that USA Rare Earth did not receive the award under the incentives program for commercial fabs. See DOC, NIST, "The Department of Commerce's CHIPS Program Announces a Letter of Intent with USA Rare Earth to Accelerate Its Domestic and Vertically Integrated 'Mine-to-Magnet' Strategy," January 26, 2026, https://www.nist.gov/news-events/news/2026/01/department-commerces-chips-program-announces-letter-intent-usa-rare-earth.

[42] NIST Commercial Fabs NOFO.

[43] DOC, NIST, "Biden-Harris Administration Announces First CHIPS Commercial Fabrication Facilities Award with Polar Semiconductor, Establishing Independent American Foundry," September 24, 2024, https://www.nist.gov/news-events/news/2024/09/biden-harris-administration-announces-first-chips-commercial-fabrication.

[44] Samsung, "Samsung Electronics Announces New Advanced Semiconductor Fab Site in Taylor, Texas," November 22, 2021, https://semiconductor.samsung.com/sas/local-news/samsung-electronics-announces-new-advanced-semiconductor-fab-site-in-taylor-texas/.

delayed from 2024 to 2025.[45] Some industry media reported that Samsung urged the U.S. government to expedite the disbursement of CHIPS Act funds and suggested that delays in receiving the final award may have contributed to the schedule change.[46]

Similarly, TSMC announced it would build a second fab in Phoenix, AZ, in December 2022 with plans to start production in 2026.[47] TSMC announced in January 2024—after the NOFO and before receiving its PMT—that the start of production at its second planned fab in Arizona would be delayed by at least a year and cited uncertainties with the CHIPS Act funding award as one of the reasons.[48]

In another case, GlobalFoundries committed to building a second fab in Malta, NY, in July 2021 without disclosing its project timeline.[49] Local media reported in January 2022 that GlobalFoundries was waiting for the CHIPS Act to pass before submitting construction plans.[50]

A working paper from the National Bureau of Economic Research (NBER) in 2026 concluded that some chipmakers may have factored in government subsidies in their plans for building new fabs before the CHIPS Act passed in 2022.[51] NBER looked into hiring patterns in the U.S. semiconductor industry and found that companies had begun hiring in anticipation of government funding as early as June 2021, when the Senate passed the United States Innovation and Competition Act (S. 1260). In 2024, a funding applicant commented that receiving the awards has "taken much longer and been more complicated than expected."[52]

Labor Availability

Some fab projects reportedly experienced shortages of workers who can build and install a fully operational facility. For example, TSMC announced in July 2023 that the timeline for starting mass production at its first fab in Phoenix, AZ, was delayed from 2024 to 2025.[53] The company cited an "insufficient amount of skilled workers with those specialized expertise required for

[45] Jasmine Choi, "Samsung Delays Mass Production at New Texas Fab to 2025," *Business Korea*, December 26, 2023, https://www.businesskorea.co.kr/news/articleView.html?idxno=208498.

[46] Matthew Connatser, "US Govt's sluggish Chips Act payouts slam the brakes on Samsung's fab—company delays mass production at Texas fab to await further CHIPS funding," Tom's Hardware, December 26, 2023, https://www.tomshardware.com/tech-industry/semiconductors/us-govts-sluggish-chips-act-payouts-slam-the-breaks-on-samsungs-fab-company-delays-mass-production-at-texas-fab-to-await-further-chips-funding-report.

[47] TSMC, "TSMC Announces Updates for TSMC Arizona," December 6, 2022, https://pr.tsmc.com/english/news/2977.

[48] Anton Shilov, "TSMC delays 3nm Arizona fab by a year, cites lack of U.S. subsidies and waning demand," Tom's Hardware, January 18, 2024, https://www.tomshardware.com/tech-industry/tsmc-delays-3nm-arizona-fab-by-a-year-cites-lack-of-us-subsidies-and-waning-demand.

[49] Jackson Wang, "GlobalFoundries commits to building second fab in Malta," *Spectrum News*, July 19, 2021, https://spectrumlocalnews.com/nys/capital-region/news/2021/07/19/globalfoundries-commits-to-building-second-fab-in-malta.

[50] Larry Rulison, "GlobalFoundries delays submitting construction plans for Fab 8.2," *Times Union*, January 11, 2022, https://www.timesunion.com/business/article/GlobalFoundries-delays-submitting-construction-16764636.php.

[51] Bilge Erten et al., "Employment Impacts of the CHIPS Act," National Bureau of Economic Research, Working Paper 34625, February 2026, https://www.nber.org/papers/w34625.

[52] Christine Mui and Brendan Bordelon, "Biden's high-tech legacy fraying even before Election Day," *Politico*, November 2, 2024, https://www.politico.com/news/2024/11/02/biden-tech-chips-achievement-losing-support-00186851. As of July 2026, all successful awardees had received the final award from DOC in less than a year since receiving a preliminary memorandum of terms (PMT). Simultaneously, all 12 PMT recipients without a final award received their PMTs more than a year ago (see **Table A-2**).

[53] Abachy, "TSMC US Delays Production of N4 Chips By 2025," July 21, 2023, https://abachy.com/news/tsmc-us-delays-production-n4-chips-2025.

equipment installation in a semiconductor-grade facility."[54] TSMC's plan to bring workers from Taiwan in response to this shortage faced pushback from the Arizona Building and Construction Trades Council (AZBTC), which represented many on-site construction workers and their unions.[55] TSMC resolved the friction with AZBTC through an agreement reached in December 2023 that reportedly included the company's support for a training program and AZBTC's understanding that some specialized workers may be brought to the site from abroad.[56]

In another case, Micron announced in November 2025 that it would delay the anticipated opening of its first planned fab in Clay, NY, from 2028 to the third quarter of 2030.[57] The company shared with local media that the updated timeline was based on schedules of fab construction elsewhere, such as TSMC's project in Arizona.[58] The Onondaga County government, which oversaw permitting and supported infrastructure improvement for Micron's New York project, attributed the company's delay to "labor and supply chain shortages."[59]

Customer Demand

The ability of some companies to secure prospective customers may have affected the pace of some CHIPS Act-funded fab projects. For example, Intel announced in February 2025 that it would delay the opening of its planned fab in New Albany, OH, from 2026 to 2030.[60] In a press release, the company highlighted that the revised timeline reflected "needs of our business and broader market demand."[61] In July 2025, Intel reiterated to local media that it might cancel the project if it cannot find additional customers.[62] In September 2025, Intel agreed to collaborate with technology company Nvidia Corporation to manufacture products that can integrate into Nvdia's artificial intelligence (AI) infrastructure and products.[63] As of June 2026, Intel is

[54] Sebastian Obando, "Labor shortages delay Arizona chip plant opening until 2025," *Construction Dive*, July 21, 2023, https://www.constructiondive.com/news/labor-shortages-delay-arizona-chip-tsmc-plant-2025/688661/.

[55] Jacob Zinkula, "TSMC is stalling an agreement that would make its Phoenix plant safer and more efficient, an Arizona union says," *Business Insider*, October 6, 2023, https://www.businessinsider.com/tsmc-phoenix-plant-safety-training-concerns-arizona-unions-2023-10; and Lee Harris, "TSMC to Bring 500+ More Migrant Workers to Arizona," *The American Prospect*, June 30, 2023, https://prospect.org/2023/06/30/2023-06-30-tsmc-migrant-workers-arizona/.

[56] Sebastian Obando, "TSMC reaches deal with Arizona union on $40B chip factory project," *Manufacturing Dive*, January 18, 2024, https://www.manufacturingdive.com/news/tsmc-deal-arizona-labor-union-chip-factory/704890/.

[57] Sebastian Obando, "Micron delays construction at $100B New York megafab," *Construction Dive*, November 14, 2025, https://www.constructiondive.com/news/micron-delay-construction-new-york-megafab/805622/.

[58] Andrew Donovan, "Micron issues statement of 'confidence' about Town of Clay megafab project despite expected construction delays," *WYSR Syracuse*, November 8, 2025, https://www.localsyr.com/news/local-news/micron-issues-statement-of-confidence-about-town-of-clay-megafab-project-despite-expected-construction-delays/.

[59] Donovan, "Micron issues statement of 'confidence' about Town of Clay megafab project."

[60] Samantha Subin, "Intel delays Ohio chip plant opening to next decade, was supposed to start production by 2026," *CNBC*, February 28, 2025, https://www.cnbc.com/2025/02/28/intel-delays-ohio-plant-opening-to-2030-production-was-to-start-2026.html?msockid=0dea284205526eca330b3e9d042e6f48.

[61] Intel, "Ohio One Construction Timeline Update," February 28, 2025, https://newsroom.intel.com/corporate/ohio-one-construction-timeline-update.

[62] Katie Millard, "Inside Intel's announcement to further slow construction in New Albany," *NBC4*, July 26, 2025, https://www.nbc4i.com/intel-in-ohio/inside-intels-announcement-to-further-slow-construction-in-new-albany/; and Millard, "Intel: Ohio plant 'likely' canceled if company can't get new manufacturing customers," *NBC4*, July 30, 2025, https://www.nbc4i.com/intel-in-ohio/intel-ohio-plant-likely-canceled-if-company-cant-get-new-manufacturing-customers/.

[63] NVDIA, "NVIDIA and Intel to Develop AI Infrastructure and Personal Computing Products," press release, September 18, 2025, https://nvidianews.nvidia.com/news/nvidia-and-intel-to-develop-ai-infrastructure-and-personal-computing-products; and Katie Millard and Isabel Cleary, "What does Nvidia's investment in Intel mean for the Ohio

(continued...)

continuing to build the fab in New Albany.[64] TSMC executives noted that customer demand would shape the construction schedule for the company's fabs in Arizona.[65] Media sources reported in December 2025 that TSMC was moving up the schedule for starting mass production at its second fab in Phoenix, AZ, from 2028 to 2027.[66] A company executive attributed the accelerated schedule to "AI-related demand from our customers."[67]

Environmental Review

Many CHIPS Act-funded projects have received scrutiny from environmental regulators and local residents due to the scale of construction required to establish a fab, the intensity of resource consumption in chip production, and other concerns. In some cases, the scrutiny may have contributed to changes in the construction schedule. For example, Micron reportedly pushed back the timeline for its first planned fab in Clay, NY, after receiving federal feedback on its plans to mitigate the project's environmental impacts.[68] Although the Building Chips in America Act (P.L. 118-105) exempted certain types of chip manufacturing activities funded by the CHIPS Act from environmental review required under NEPA, Micron's project proposal to fill in more than 200 acres of wetlands required a review.[69] After the start of the project in January 2026, Micron faced both legal challenges and requests from the local community for more legally binding commitments to limit the project's environmental impact.[70] One community organization called

One plant?," *NBC4*, September 19, 2025, https://www.nbc4i.com/intel-in-ohio/what-does-nvidias-investment-in-intel-mean-for-the-ohio-one-plant/.

[64] Alan Miller, "Intel neighbors pull up stakes after 4 years of change, heartbreak," *Columbus Dispatch*, January 21, 2026, https://www.dispatch.com/story/news/local/2026/01/21/four-years-after-intel-announcement-the-site-dramatically-changed/88233932007/; and Andrew Cunningham, "Demand for Intel's processors is apparently there, but the supply is not," *ArsTechnica*, January 23, 2026, https://arstechnica.com/gadgets/2026/01/core-ultra-series-3-launch-may-be-hampered-by-chip-shortages-says-intel/.

[65] Amy Edelen, "TSMC finishes construction of second chip factory ahead of schedule," *Phoenix Business Journal*, April 17, 2025, https://www.bizjournals.com/phoenix/news/2025/04/17/tsmc-completes-construction-second-factory.html.

[66] Jean Leon, "TSMC Accelerates U.S. 3nm Chip Production to 2027, One Year Ahead of Schedule," *Android Headlines*, December 30, 2025, https://www.androidheadlines.com/2025/12/tsmc-arizona-3nm-chip-production-acceleration-2027.html.

[67] Skye Jacobs, "TSMC pushes 2 nm manufacturing ahead of schedule, fast-tracks Arizona buildout," *TechSpot*, October 17, 2025, https://www.techspot.com/news/109900-tsmc-pushes-2-nanometer-manufacturing-ahead-schedule-while.html; and Kathrin Hille, "TSMC boosts Joe Biden's AI chip ambitions with $11.6bn US production deal," *Financial Times*, April 8, 2024, https://www.ft.com/content/4798ab77-e063-4784-bdf3-19852b41fd1f.

[68] Kate Jackson, "Micron delays semiconductor plant construction amid environmental concerns," *The Daily Orange*, September 18, 2024, https://dailyorange.com/2024/09/micron-delays-plant-construction/.

[69] Glenn Coin, "New law that exempts chip plants from U.S. environmental review won't affect Micron in Clay," *Syracuse.com*, January 6, 2025, https://www.syracuse.com/business/2024/10/new-law-that-exempts-chip-plants-from-us-environmental-review-wont-affect-micron-in-clay.html. P.L. 118-105 exempts the provision of federal financial assistance by the Secretary of Commerce from the environmental review requirements under NEPA. P.L. 118-105 does not exempt the actions of other federal agencies concerning federal decisionmaking (e.g., the U.S. Army Corps of Engineers decision to issue a permit for the discharge of dredged or fill material into waters of the United States under §404 of the Clean Water Act, 33 U.S.C. §1344).

[70] Tim Knauss, "Last-minute lawsuit aims to block Micron chip fabs on environmental grounds," *Syracuse.com*, January 17, 2026, https://www.syracuse.com/micron/2026/01/last-minute-lawsuit-aims-to-block-micron-chip-fabs-on-environmental-grounds.html; and Paresh Dave, "Micron Megafab Project Faces a New Hurdle as Activists Seek a Benefits Deal," *Wired*, January 21, 2026, https://www.wired.com/story/micron-chip-fab-community-benefits-agreement/.

for the replacement of wetlands that would be cleared by the fab construction and the safety of workers and community members from "the effects of toxic chemicals."[71]

Another award recipient, Amkor Technologies, moved the site for its planned facility from one location to another in Peoria, AZ. According to one media source, the decision was partly motivated by pushback from local residents over concerns that the sewage water reclamation system would be unable to remove industrial chemicals released from the fab, which would introduce pollution to local agriculture and the municipal water table.[72] The Peoria municipal government stated that "market demands ... and increased project scope" motivated the change in location.[73] This site change coincided with the company's moving of the anticipated start of production from 2027 to 2028.[74]

The exemptions from environmental review for certain types of CHIPS Act-funded projects established by the Building Chips in America Act may accelerate fab construction. Some observers characterized the time consumed by the government's review of environmental impact statements—a step in the permitting process required by NEPA—as a "bottleneck" in the development of critical manufacturing projects.[75] To the extent that such review delays construction, reduction or elimination of the time required for this step may expedite project construction.

Considerations for Congress

Congress may look to evaluate implementation progress to date and weigh policy options regarding existing or potential future incentives programs and policies. FY2026 is the last year for which the CHIPS Act of 2022 provides future year appropriations to DOC for incentivizing the domestic production of semiconductors as authorized in Section 9902 of the FY2021 NDAA. Further, the 35% investment tax credit for capital expenses relating to the production of semiconductors and equipment for manufacturing semiconductors is eligible only for fabs that begin construction before December 31, 2026.

If policymakers choose to review existing policies to identify potential gaps and assess efficacy, they may consider whether to extend financial support for the domestic semiconductor industry and potential changes to the program that might address policy issues that have emerged in the implementation of the CHIPS Act. Selected issues include award requirements, workforce development, and the production of mature-node chips. Congress may assess the effects of the existing incentives and choose to provide no additional resources or adopt measures that affect the disbursement of existing incentives.

[71] CNY United for Community Benefits, https://centralnyunited.org/.

[72] Nathan Owens, "Amkor relocates $2B semiconductor facility to larger Arizona site," *Construction Dive*, September 5, 2025, https://www.constructiondive.com/news/amkor-semiconductor-arizona-moved/759362/; and Steve Riggins, "Stop Amkor Semiconductor Packaging Plant in Vistancia," petition, Change.org, https://www.change.org/p/stop-amkor-semiconductor-packaging-plant-in-vistancia.

[73] City of Peoria, "City Council approves smart growth agreements - Amkor moving to the PIC," August 28, 2025, https://www.peoriaaz.gov/Home/Components/News/News/6822/439.

[74] Shefali Kapadia, "Amkor expands Arizona semiconductor campus investment to $7B," *Manufacturing Dive*, October 8, 2025, https://www.manufacturingdive.com/news/amkor-arizona-7-billion-semiconductor-tsmc-apple-nvidia/802297/.

[75] John Jacobs, "Permitting Speeds Up, but 61% of Reviews Are Still Late," Bipartisan Policy Center, January 28, 2025, https://bipartisanpolicy.org/article/permitting-speeds-up-but-61-of-reviews-are-still-late/.

Award Requirements

Congress may consider whether to amend requirements for both award applicants and program administrators to increase program transparency and facilitate forward planning for chipmakers. Awardees such as Samsung, TSMC, and GlobalFoundries pushed back the production timeline for planned projects while they waited for federal funding awards.[76] With 12 PMT recipients awaiting a final award, there may be changes to project timelines that affect the delivery of high-demand chip products important to economic competitiveness and national security. Other uncertainties reportedly stemmed from DOC's due diligence review of factors important to the sustainable expansion of the domestic semiconductor industry.

Congress may shape private sector expectations around any future award funding by requiring more frequent updates on the status and timelines of negotiations with applicants. The House Committee on Appropriations, Subcommittee on Commerce, Justice, Science, and Related Agencies, has highlighted NIST's statutory requirement to provide updates to Congress on the status of funds for semiconductor incentives program, particularly as it relates to upside sharing agreements with awardees and project milestones.[77] Congress may consider using these requirements to require future updates from DOC on the status of its due diligence reviews and negotiations with applicants awaiting award funding.

Congress may request updates on the status of award negotiations with applicants to the incentives program for the manufacture of semiconductor materials and equipment, which is expected to receive concept plans until November 1, 2026.[78] In addition, Congress may seek clarity from NIST on the status of negotiations with commercial fab applicants that have received a PMT. Additional reporting requirements may impose a burden on NIST that could affect the implementation of the incentives program depending on the availability of staff time.[79]

Congress may further shape private sector expectations around award funding by reducing the number of criteria that DOC employs to judge funding applicants, such as the criteria established under E.O. 14080.[80] On the one hand, this may reduce the due diligence requirements of NIST and accelerate the assessment of funding applicants. On the other hand, the reduction of criteria for applicants may increase risk and come at the expense of accountability and the pursuit of complementary congressional policy objectives, such as the creation of opportunities for certain types of businesses.[81]

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[76] Choi, "Samsung Delays Mass Production at New Texas Fab to 2025"; and Shilov, "TSMC delays 3nm Arizona fab by a year."

[77] Upside sharing refers to an arrangement where award recipients that received more than $150 million share profits with the U.S. government when cash flows or returns exceed the applicant's projections above an established threshold. See NIST Commercial Fabs NOFO, p. 23. U.S. Congress, House Committee on Appropriations, *Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2026*, report to accompany H.R. 5342, 119th Cong., 1st sess., H.Rept. 119-272, September 12, 2025, p. 20, https://www.congress.gov/119/crpt/hrpt272/CRPT-119hrpt272.pdf.

[78] DOC, NIST, "Notice of Funding Opportunity: Facilities for Semiconductor Materials and Manufacturing Equipment," updated October 17, 2025, https://www.nist.gov/chips/incentives-funding-opportunities/notice-funding-opportunity-semiconductor-materials-equipment.

[79] The number of employees at NIST decreased from 3,894 in 2024 to 3,203 in 2026. U.S. Office of Personnel Management, Federal Workforce Data, "Workforce Size & Composition," updated April 2026, https://data.opm.gov/explore-data/analytics/workforce-size-and-composition.

[80] E.O. 14080.

[81] For instance, the NOFO for commercial semiconductor fabs called on applicants to provide an overview of the broader impacts of the project, such as the creation of inclusive opportunities for small, minority-owned, veteran-owned, and women-owned businesses. See NIST Commercial Fabs NOFO.

Workforce Development

Congress may consider whether to take action to ensure that the semiconductor industry is developing a workforce that can staff and build fabs.

The Semiconductor Industry Association (SIA) projected that 67,000 positions, or 58% of new jobs created across manufacturing and design in the semiconductor industry between 2023 and 2030, would go unfilled.[82] Analysis by SIA indicated that this gap is part of a broader shortage of 1.4 million positions for computer scientists, engineers, and technicians projected to go unfilled across the U.S. economy in the same period. This labor shortage may challenge the industry's ability to maintain manufacturing capacity and innovate.

Construction is another area where labor constraints may challenge the U.S. semiconductor industry. Industry experts observed a shortage of workers with knowledge of and experience in constructing advanced facilities.[83] Some analysts suggested that this shortage partly explained the longer construction time for fabs in the United States compared with Taiwan.[84]

According to GAO, 13 of the 19 recipients of incentive awards for commercial fabs received a total of $293 million in dedicated funding for workforce development.[85] For example, Intel received approximately $50 million to develop a semiconductor and construction workforce in partnership with local educational institutions and programs.[86]

Congress could exercise its oversight powers to inquire how award recipients are implementing their workforce development commitments and to assess the efficacy of those plans. The FY2021 NDAA required GAO to review the semiconductor incentives program, including the outcomes of the workforce training programs.[87] Congress may assess, or direct GAO to assess, the effectiveness of government support for expanding a semiconductor workforce in order to determine whether to continue, expand, or contract government-directed efforts in this space.

Congress may consider appropriating funding to state-initiated programs to develop the local workforce for the semiconductor industry.[88] For example, the State of New York—which hosts six commercial fab projects that received a total of up to $4.9 billion from the incentives

[82] SIA and Oxford Economics, *Chipping Away: Assessing and Addressing the Labor Market Gap Facing the U.S. Semiconductor Industry*, July 2023, https://www.semiconductors.org/wp-content/uploads/2023/07/SIA_July2023_ChippingAway_website.pdf.

[83] Sebastian Obando, "Manufacturing megaprojects gobble up workers," *Manufacturing Dive*, August 16, 2023, https://www.manufacturingdive.com/news/manufacturing-megaprojects-workers-magnify-labor-woes/690783/.

[84] Jon VerWey, "No Permits, No Fabs: The Importance of Regulatory Reform for Semiconductor Manufacturing," Center for Security and Emerging Technology, October 2021, https://cset.georgetown.edu/publication/no-permits-no-fabs/; and Pete Singer, "Building Fabs in the U.S. vs Taiwan: Twice as Long, Twice as Much," *Semiconductor Digest*, February 18, 2025, https://www.semiconductor-digest.com/building-fabs-in-the-u-s-vs-taiwan-twice-as-long-twice-as-much/.

[85] GAO, *Semiconductors: Information on Projects Funded to Strengthen U.S. Supply Chain*, GAO-26-107882.

[86] DOC, "Biden-Harris Administration Announces Preliminary Terms with Intel to Support Investment in U.S. Semiconductor Technology Leadership and Create Tens of Thousands of Jobs," press release, March 20, 2024, https://www.commerce.gov/news/press-releases/2024/03/biden-harris-administration-announces-preliminary-terms-intel-support; and Intel, "Intel Addresses Semiconductor Workforce Shortage," September 24, 2023, https://newsroom.intel.com/corporate/intel-addresses-semiconductor-workforce-shortage#gs.aidv9h.

[87] P.L. 116-283, §9902(c)(1)(C)(iii).

[88] CRS Report R40638, *Federal Grants to State and Local Governments: Trends and Issues*, by Adam G. Levin.

program—invested $200 million in a network of workforce development centers to train workers in advanced manufacturing, including of semiconductors.[89]

Congress may allocate additional funding to create programs for workforce development in advanced facility construction. In 2023, the Employment Training Administration awarded $16 million to organizations through Critical Sectors Job Quality Grants to support training in the care, climate resiliency, and hospitality sectors.[90] A similar program focused on skills relating to the construction of high-tech facilities and semiconductor production may narrow anticipated gaps in the workforce. Funding for such a grant program would carry costs to the federal budget proportional to the program's geographic reach and scale if developed in addition to, rather than in place of, existing efforts.

Mature-Node Chip Production

Some observers recently pointed to ongoing tensions in East Asia as a potential risk to the supply of mature-node and leading-edge chips.[91] In addition, chipmaker TSMC reportedly planned to reduce its production of mature-node chips in response to growing demand for leading-edge chips.[92] Other major chipmakers have signaled their intention to reduce mature-node chip production.[93]

Given supply chain vulnerabilities and the emphasis placed on leading-edge chips in the funding awards from the CHIPS Act, Congress may consider whether to extend additional financial support for mature-node chip production. This could be achieved by directing additional appropriations to DOC to finance the expansion of domestic mature-node chip production capacity or via extending the 35% investment tax credit for capital expenses relating to the production of semiconductors beyond December 31, 2026. Such efforts would carry budgetary implications.

In addition to meeting immediate market demand, the construction of mature-node chip fabs may prepare the grounds for future establishment of leading-edge chip fabs. For instance, TSMC is building a new leading-edge chip fab adjacent to its mature-node chip fab in Kumamoto, Japan.[94]

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[89] Governor Kathy Hochul, "Governor Hochul Announces Plan to Transform New York's Economy and Workforce as Part of FY 2025 Budget," April 22, 2024, https://www.governor.ny.gov/news/governor-hochul-announces-plan-transform-new-yorks-economy-and-workforce-part-fy-2025-budget.

[90] U.S. Department of Labor (DOL), "Critical Sectors Job Quality Grants," 2023, https://www.dol.gov/sites/dolgov/files/general/grants/FY2023CriticalSectorsJobQuality.pdf; and DOL, "Biden-Harris Administration Awards $16M to Improve Job Quality, Expand Access to Good Jobs in Critical Sectors, Including Care, Climate Resilience, Hospitality," press release, September 28, 2023, https://www.dol.gov/newsroom/releases/eta/eta20230928-1.

[91] Tripp Mickle, "The looming Taiwan chip disaster that silicon valley has long ignored," *New York Times*, February 24, 2026, https://www.nytimes.com/2026/02/24/technology/taiwan-china-chips-silicon-valley-tsmc.html; and Luke James, "China warns of fresh chip shortage as Nexperia dispute escalates again - Dutch headquarters allegedly locked Chinese staff out of IT systems," Tom's Hardware, March 9, 2026, https://www.tomshardware.com/tech-industry/china-warns-of-fresh-chip-shortages-as-nexperia-dispute-escalates-again.

[92] Jake Lai and Zoey Hsu, "TSMC to Cut Fab14 Mature-Node Capacity by 15%-20% to Reflect Changing Demand Mix," Counterpoint, January 22, 2026, https://counterpointresearch.com/en/insights/TSMC-to-Cut-Fab14-Mature-Node-Capacity-to-Reflect-Changing-Demand-Mix; and John Markman, "Three Companies Set To Dominate 2026 Profits In AI Chips," *Forbes*, February 4, 2026, https://www.forbes.com/sites/jonmarkman/2026/02/04/three-companies-set-to-dominate-2026-profits-in-ai-chips/.

[93] "Samsung, SK hynix and Micron Reportedly Cut NAND Production amid Slowing Demand," *Trendforce News*, January 6, 2025, https://www.trendforce.com/news/2025/01/06/news-samsung-sk-hynix-and-micron-reportedly-cut-nand-production-amid-oversupply-and-slow-essd-demand/.

[94] "TSMC's Bold Pivot: Kumamoto Fab 2 Reportedly Leaps from 6nm to 2nm amid JASM Losses," *Trendforce News*, (continued...)

The plan to expand this campus may have taken into account project readiness and positive working relationships with Japanese stakeholders (joint venture partners and suppliers) demonstrated by the successful completion of the mature-node fab in 2024.[95] Further, local authorities and educational institutions developed programs to meet the workforce needs of the new fabs.[96] Additional investments in mature-node chip fabs in the United States may help create the business environment and a workforce for potential leading-edge chip fabs. Alternatively, Congress may determine that the production of leading-edge chips remains a more immediate policy priority or that it is not in the national interest to extend additional public resources to the semiconductor industry at this time.

Conclusion

As of June 2026, implementation of the incentives program for building commercial semiconductor fabs with funds provided by the CHIPS Act is ongoing. The last project milestone negotiated between a recipient of a commercial fab award and DOC is expected to be completed in 2033.[97] DOC is to accept concept plans for the incentives award focused on the manufacture of semiconductor materials and chipmaking equipment until November 1, 2026.

As global sales of semiconductors in March 2026 grew 79.2% in value compared with sales in March 2025,[98] risks relating to the global trade of chips and chip components persisted. Further, the adoption of advanced technologies—such as AI—that are anticipated to be critical for fostering a competitive economy may be contingent on the availability of chips to domestic technology developers. With funding appropriated in the CHIPS Act to DOC set to sunset in FY2026, Congress may determine whether additional support for the semiconductor industry is appropriate. Alternatively, Congress may decide to discontinue additional public resources to the industry at this time. Either in conjunction with or as an alternative to providing additional appropriations, Congress might consider whether and, if so, how it might address challenges that have emerged during the implementation of the CHIPS Act incentives program.

December 22, 2025, https://www.trendforce.com/news/2025/12/22/news-tsmcs-bold-pivot-kumamoto-fab-2-reportedly-leaps-from-6nm-to-2nm-amid-jasm-losses/.

[95] "Japan fab to cement TSMC lead: analysts," *Taiwan Times*, February 25, 2024, https://www.taipeitimes.com/News/taiwan/archives/2024/02/25/2003814057.

[96] Bryan Chuang, "Kyushu to train 1.4 million semiconductor workers amid US$156 billion boom," *DigiTimesAsia*, September 12, 2025, https://www.digitimes.com/news/a20250910PD208/talent-kumamoto-moea-government-2025.html; and Chuang, "Kumamoto University revises education strategy as result of TSMC's Japan fab," *DigiTimesAsia*, September 16, 2025, https://www.digitimes.com/news/a20250915PD236/tsmc-kumamoto-fab-talent-education.html.

[97] GAO, *Semiconductors: Information on Projects Funded to Strengthen U.S. Supply Chain*, GAO-26-107882.

[98] SIA, "Global Semiconductor Sales Increase 25% from Q4 2025 to Q1 2026," May 4, 2025, https://www.semiconductors.org/global-semiconductor-sales-increase-25-from-q4-2025-to-q1-2026/.

Appendix. Companies Awarded or Considered Under the CHIPS Incentives Program for Commercial Fabrication Facilities

Table A-1. Companies with Final Awards from the Semiconductor Incentives Program for Commercial Fabs

Companies	Announcement Date of Preliminary Memorandum of Terms from DOC	Date of Final Award Announcement from DOC	Total Incentives (up to, millions of U.S. dollars)
Absolics	May 23, 2024	December 5, 2024	75
Amkor Technology	July 26, 2024	December 20, 2024	407
BAE Systems, Inc.	December 11, 2023	November 25, 2024	36
Corning	November 8, 2024	January 17, 2025	32
Edwards Vacuum	October 10, 2024	January 17, 2025	18
Entegris	June 26, 2024	December 5, 2024	77
GlobalFoundries	February 19, 2024	November 20, 2024	1,587
GlobalWafers	July 17, 2024	December 17, 2024	406
Hemlock Semiconductor	October 21, 2024	January 7, 2025	325
HP Inc.	August 27, 2024	January 13, 2025	53
Infinera	October 17, 2024	January 17, 2025	93
Intel Corporation	March 20, 2024	November 26, 2024	7,865
Micron	April 25, 2024	December 10, 2024	6,165[a]
Polar Semiconductor	May 13, 2024	September 24, 2024	123
Rocket Lab	June 11, 2024	November 25, 2024	24
Samsung	April 15, 2024	December 20, 2024	4,745
SK hynix	August 6, 2024	December 19, 2024	958
Texas Instruments	August 16, 2024	December 20, 2024	1,610
TSMC Arizona	April 8, 2024	November 15, 2024	11,565

Source: U.S. Department of Commerce (DOC), National Institute for Standards and Technology, "CHIPS for America Awards," accessed July 7, 2026, https://www.nist.gov/chips/chips-america-awards.

Notes: DOC negotiated and agreed to a preliminary memorandum of terms (PMT) with applicants of incentive awards for commercial fabs after reviewing project proposals and identifying applications that were "reasonably likely to receive an award" under the terms set out in the notice of funding opportunity. DOC undertook due diligence on the proposals for applicants that received a PMT.

The total incentives in this table reflect the sum of both direct funding and loans offered by DOC.

a. Award for Micron was increased by $275 million to $6.44 billion on June 12, 2025.

Table A-2. Companies with Preliminary Memorandum of Terms (PMT) from the Semiconductor Incentives Program for Commercial Fabs without a Final Award

as of June 10, 2026

Company	Announcement Date of PMT from DOC	Total Incentives in the PMT (up to, millions of U.S. dollars)
Analog Devices Inc.	January 16, 2025	105
Bosch	December 13, 2024	225
Coherent (Pennsylvania)[a]	January 16, 2025	79
Coherent (Texas)[a]	December 6, 2024	33
IntelliEPI	January 16, 2025	10.3
MACOM	January 14, 2025	70
Microchip Technology, Inc.	January 4, 2024	162
Powerex	November 8, 2024	3
Rogue Valley Microdevices	July 1, 2024	6.7
SkyWater Technology	December 6, 2024	16
Sumika	January 16, 2025	52.1
Wolfspeed	October 15, 2024	750
X-Fab	December 6, 2024	50

Source: U.S. Department of Commerce (DOC), National Institute for Standards and Technology, "CHIPS for America Proposed Funding Sites," accessed July 7, 2026, https://www.nist.gov/chips/proposed-funding-sites.

Notes: DOC negotiated and agreed to a preliminary memorandum of terms (PMT) with applicants of incentive awards for commercial fabs after reviewing project proposals and identifying applications that were "reasonably likely to receive an award" under the terms set out in the notice of funding opportunity. DOC undertook due diligence on the proposals for applicants that received a PMT.

The total incentives in this table reflect the sum of both direct funding and loans offered by DOC.

a. Many recipients of a PMT—such as Analog Devices Inc. and MACOM—proposed to invest in multiple locations using the incentive awards. In most of these cases, DOC announced the PMT for each company's multiple investment locations on the same day. Coherent's PMT for the sites in Easton, PA, and Sherman, TX, were announced separately by DOC.

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