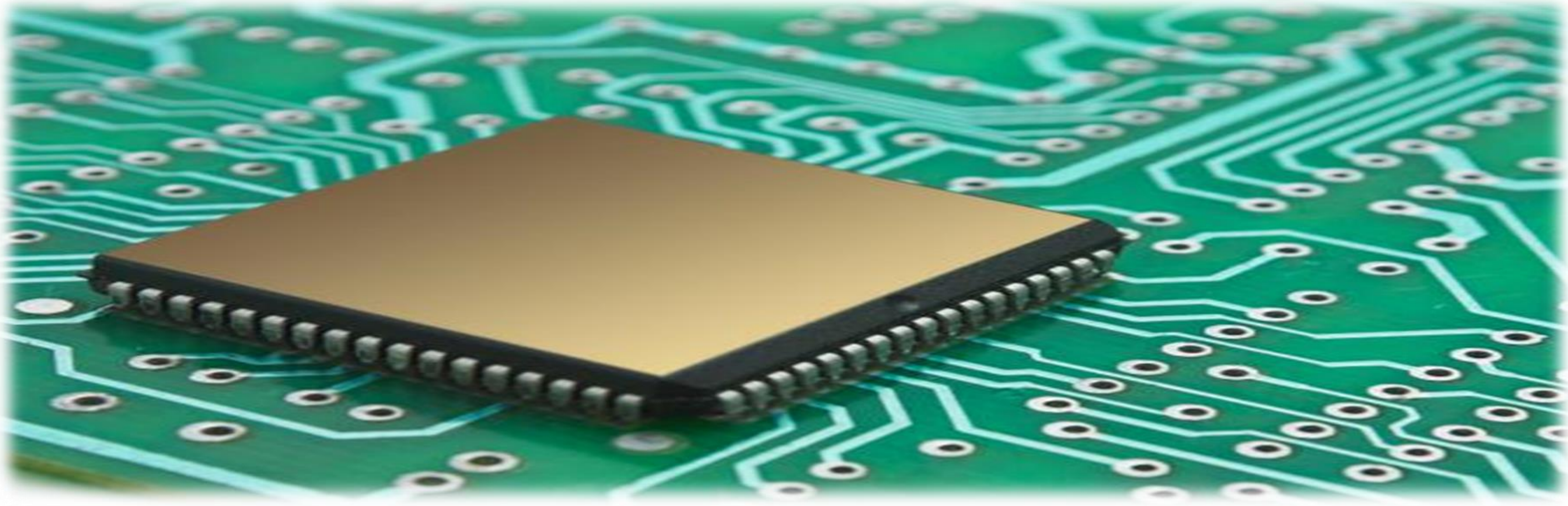

美國晶片計劃 第一個投資框架

CHIPS for America First Funding Opportunity

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An Introduction to the CHIPS Act

- While the United States remains a global leader in semiconductor research and development, it only accounts for about 10% of global chip capacity and 3% of global packaging capacity, nor does it manufacture any of the most advanced semiconductors (75% of which are made in Taiwan).
- The absence of chip manufacturing in the U.S. and its geographic concentration in Taiwan and other East Asian countries has created supply chain vulnerabilities which the ***Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 (the "CHIPS Act")*** was intended to address by boosting domestic semiconductor research and manufacturing while strengthening U.S. supply chains.
- Specifically, the CHIPS Act provides $52.7 billion in federal funding to revitalize the U.S. semiconductor industry, including $39 billion to facilitate investment in semiconductor facilities and equipment, $13.2 billion in R&D and workforce development, and $500 million to strengthen global supply chains. It is one of the largest federal investments in a single industry in decades.

Timeline of CHIPS for America Funding

- On January 1, 2021, the ***William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 ("the 2021 NDAA")*** authorized semiconductor manufacturing and R&D activities under the so-called "CHIPS program".
- On February 24, 2021, the Biden Administration issued ***Executive Order 14017*** announcing its policy "to strengthen the resilience of America's supply chains" and requiring that the relevant agencies issue a report identifying risks in the semiconductor manufacturing and advanced packaging supply chains within 100 days. This 100-day review report was issued in June 2021.
- In January 2022, the Department of Commerce published the responses of 250 companies and other stakeholders from the semiconductor industry to its ***Request for Information (RFI)*** concerning "risks in the semiconductor manufacturing and advanced packaging supply chains."
- On August 9, 2022, the ***CHIPS Act*** was signed into law, enhancing the CHIPS program with new authorities and appropriating $52.7 billion to the Department of Commerce for its implementation. The CHIPS Act grants the Department of Commerce and the Department of the Treasury broad authority to interpret the statute and prescribe regulations for its implementation.

Timeline of CHIPS for America Funding

- On August 25, 2022, the Biden Administration issued ***Executive Order 14080*** identifying six implementation priorities and establishing the CHIPS Implementation Steering Council to ensure the effective implementation of the Act within the executive branch. On the same day, the Department of Commerce also launched ***Chips.gov*** to serve as a resource for parties interested in learning more about CHIPS funding.
- On February 28, 2023, the Department of Commerce's CHIPS Program Office (CPO) launched the ***first CHIPS for America funding opportunity*** seeking applications for projects involving the construction, expansion or modernization of commercial facilities for the fabrication of leading-edge, current-generation, and mature-node semiconductors (including front-end wafer fabrication and back-end assembly, testing, and packaging).
- Two ***additional funding opportunities***, one for semiconductor materials and manufacturing equipment facilities and another for R&D facilities, will be launched in the spring and fall of 2023. Although suppliers and R&D facilities are not yet eligible for funding, encouraging the development of supply chain and R&D ecosystems is nonetheless an important focus of the first funding opportunity.

Statutory Background & Organizational Structure

- Funding to incentivize investment
  - ***Section 9902 of the 2021 NDAA*** authorizes funding to incentivize investment in facilities and equipment for the fabrication, assembly, testing, packaging, production and R&D of semiconductors, materials used to manufacture semiconductors, and semiconductor manufacturing equipment.
  - The ***CHIPS Act*** appropriates $39 billion to support the expansion of manufacturing capacity for these semiconductors and related materials and equipment.
  - This funding will be administered by the ***CHIPS Program Office (CPO)*** under the auspices of the National Institute of Standards and Technology (NIST) at the Department of Commerce, which will also provide policy and stakeholder engagement support.

- Funding to incentivize R&D
  - ***Section 9906 of the 2021 NDAA*** authorizes the establishment of a National Semiconductor Technology Center (NSTC) to conduct research and prototyping of advanced semiconductor technology under the NIST.
  - It also authorizes the establishment of a National Advanced Packaging Manufacturing Program (NAPMP) to expand U.S. capabilities in the advanced packaging of semiconductors and Manufacturing USA institutes to advance research and commercialization of semiconductor manufacturing technologies.
  - The ***CHIPS Act*** appropriates $11 billion for these purposes.
  - This funding will be administered by the ***CHIPS R&D Office***, which will also collaborate with other NIST laboratories, the NIST Office of Advanced Manufacturing, other agencies within the Department of Commerce, as well as entities in other countries to advance shared goals on supply chain resiliency.

- Investment tax credits
  - ***Section 107 of the CHIPS Act*** creates a new advanced manufacturing investment tax credit (ITC) under 26 USC 48D which is equal to 25% of the value of qualified capital investments in a facility for the manufacturing of semiconductors or semiconductor manufacturing equipment.
  - The Congressional Budget Office estimates that the ITC will amount to $24 billion.
  - The ITC will be available to "eligible taxpayers" other than "foreign entities of concern" for projects that begin construction between January 1, 2023 and December 31, 2026 and will be jointly administered by the Department of the Treasury and the IRS.
  - Additional guidance regarding the ITC will be published by the Department of the Treasury later this month.

Strategic Objectives and the 10-year Plan

- The Department of Commerce has identified ***four strategic objectives*** for the CHIPS for America funding program which go beyond supporting the construction of semiconductor manufacturing facilities (or "fabs") in the United States. These objectives include:
  - Investing in U.S. production of strategically important semiconductor chips, particularly those using leading-edge technologies;
  - Assuring a sufficient, sustainable, and secure supply of older and current generation chips for national security purposes and for critical manufacturing industries;
  - Strengthening U.S. semiconductor R&D; and
  - Growing a diverse semiconductor workforce and ensuring that a broad range of stakeholders and communities share in the prosperity of the semiconductor industry.
- More specifically, in order to advance U.S. economic and national security, the Department of Commerce aims to reach ***the following goals*** by 2030:
  - Make the U.S. home to at least two new large-scale clusters of leading-edge logic chip fabs supported by reliable US-based suppliers;
  - Make the U.S. home to multiple, high-volume advanced assembly, test and packaging (ATP) facilities for logic and memory chips;
  - Produce high-volume leading-edge dynamic random-access memory (DRAM) chips; and
  - Increase production capacity for current-generation and mature-node chips most vital to U.S. economic and national security.

Types of Awards & Incentives

- Awards available under the CHIPS for America funding program include both ***direct funding*** (including grants, cooperative agreements or other transactions) and ***debt financing*** (including federal loans and federal guarantees of third-party loans).
- The amount of direct funding is based on a rigorous evaluation of expected returns and is expected range between ***5-15% of project capital expenditures***.
- Applicants are also encouraged to apply for the $6 billion of CHIPS ***loans and/or loan guarantees*** as a complement to direct funding, with a term of up to 25 years and the amount to be based on a project's financing requirements and risk profile.
- Although a single application may be eligible for both types of funding, the program is not intended to fund entire projects and the ***total award may not exceed 35% of project capital expenditures or $3 billion***, unless authorized by the President
- Applicants are also encouraged to claim the ***advanced manufacturing ITC*** under Section 107 of the CHIPS Act.

The Application Process

- Applicants interested in securing CHIPS funding must complete a five-part application process requiring the submission of information on national security, finances, environmental impact and other issues.
  - ***Statement of Interest***: All potential applicants must provide a brief description of the proposed project so that the CPO can gauge interest in the program and plan for further review.
  - ***Pre-application (optional)***: If the applicant chooses to submit a pre-application with a more detailed description of the project plan, the CPO will provide feedback, including whether it should be revised.
  - ***Full Application***: Full applications must contain detailed information on the project, including its technical and financial feasibility and its alignment with economic and national security objectives. For eligible projects, the CPO will issue a non-binding Preliminary Memorandum of Terms setting forth the amount and form of the award.
  - ***Due Diligence***: As part of the due diligence phase, the applicant must provide additional information on national security, financial, environmental, and other issues, which will require that it retain outside advisors, consultants, and/or attorneys at its own expense.
  - ***Award***: Finally, the Department of Commerce will issue an award with disbursement tied to project milestones.
- Pre and full applications for leading-edge facilities will be accepted on a rolling basis starting March 31, 2023. Pre and full applications for current-generation, mature-node, and back-end production facilities will be accepted on a rolling basis starting May 1, 2023 and June 26, 2023, respectively.

Statement of Interest

Pre-Application

Full Application

Due Diligence

Award

Key Priorities

- The initial industry reaction in Taiwan to the first CHIPS for America funding opportunity has been decidedly negative. Companies are going to have to work harder than they thought in order to receive funding.
- But it is important to keep in mind that federal grants and subsidies in the United States always come with strings attached. In America, we have a saying: "***there's no such thing as a free lunch" (天下沒有免費的午餐)*** to communicate the idea that it is impossible to get something for nothing, and the Chips for America program is no exception.
- To some extent, the onerous accountability requirements of the program are also a reflection of the Biden Administration's priority to protect taxpayer dollars.

Key Priorities

- **Catalyzing private investment**
  - Because CHIPS funding is only intended to represent a small fraction of the investment necessary to realize the objectives of the CHIPS Act, awards are meant to ***catalyze rather than replace private investment*** in the semiconductor industry. As such, the government's investment strategy is governed by the following principles:
    - Preference will be given to projects based on the ***degree to which they encourage private capital investment***, whether from third parties or the applicants themselves.
    - Due diligence will be conducted to ensure that CHIPS funding provides the ***minimum amount necessary to incentivize private investment***, thereby allowing the program to support as broad a range of projects as possible.
    - A successful CHIPS program will ***respond to market signals, fill market gaps, and reduce investment risk*** to attract private capital.

Key Priorities

- **Protecting taxpayer dollars**
  - The CPO will strictly monitor the use of funds to safeguard taxpayer investments and ensure that taxpayer dollars are being used wisely by adopting the following measures:
    - The application stage will require a ***rigorous review*** of proposals to ensure projects are economically viable and compatible with the overall CHIPS strategy.
    - Funding will be ***disbursed in tranches*** tied to meeting agreed-upon construction and/or operational milestones regarding capital expenditures, workforce development, and operational costs. ***Project delays*** may also be grounds for the CPO to recover the full amount of the award.
    - In order to ensure that CHIPS funding is allocated to future investments that grow the domestic semiconductor industry rather than the enrichment of shareholders and executives, applicants are prohibited from using CHIPS funds for ***dividends, stock buybacks or other capital distributions***. They must also detail their intentions to refrain from or limit stock buybacks over the next five years, with the extent of such restrictions as well as a company's stock repurchases in the past to be taken into account in the application review process.
    - It remains unclear whether the restrictions on buybacks would extend to a recipient's parent company as well, though the definition of "affiliated group" under 26 USC 1504(a) may be relevant (see discussion of national security guardrails below).

Key Priorities

- **Protecting taxpayer dollars (cont'd)**
  - Recipients will also be subject to a broad range of ***reporting requirements*** in order to evaluate the extent to which their commitments, as set forth in the terms of their award, are being upheld. At the very least, this will require the submission of financial and/or programmatic reports on a semi-annual basis.
  - Recipients who receive more than US$150 million in direct funding will also be required to ***share with the U.S. government a portion of any cash flows or returns*** that exceed its projected earnings by an agreed-upon threshold, though this would only apply to projects which significantly exceed their projected cash flows.
  - Finally, ***failure to adhere to the terms of the award or comply with reporting requirements*** may result in the withholding or suspension of payments, the suspension or termination of the award, the clawing back of funds, or other remedies; while providing false or inaccurate information could subject the applicant to enforcement actions under the False Claims Act and other criminal statutes.

Key Priorities

NATIONAL SECURITY AGENCY
UNITED STATES OF AMERICA

- **Establishing national security guardrails**
  - The CPO will implement ***congressionally-mandated "guardrails"*** to ensure that recipients of CHIPS funding do not compromise national security by sending the latest technology abroad or otherwise engaging in actions that would benefit foreign adversaries.
  - Recipients of both direct funding and the advanced manufacturing ITC will be prohibited from engaging in ***"significant transactions" involving the material expansion of "semiconductor manufacturing" capacity in China and other countries of concern*** for 10 years beginning on the date of the award, with the definitions of "significant transactions" and "semiconductor manufacturing" open to interpretation. This prohibition also applies to a recipient's "affiliated group", as defined in 26 USC 1504(a), though the expansion of manufacturing capacity for "legacy semiconductors" (i.e. chips that are of the 28nm generation or older for logic) are exempt.
  - Recipients will also be required to return the full amount of an award if they ***"knowingly" engage in any joint research or technology licensing effort with a "foreign entity of concern" that raises national security concerns***. As defined under 15 U.S.C. 4657 and 15 U.S.C. 4651(8), "foreign entities of concern" include sanctioned entities as well as entities owned by, controlled by, or subject to the jurisdiction of the governments of China, North Korea, Russia or Iran.
  - ***Additional guidance*** concerning these national security guardrails will be published by the Department of Commerce later this month.

Key Priorities

- **Engaging with U.S. partners and allies**
  - Although the CPO aims to build domestic manufacturing capacity to advance U.S. economic and national security, the ***U.S. does not seek to become self-sufficient in semiconductor manufacturing***. The Department of Commerce will therefore engage with U.S. allies and partners on a variety of initiatives, including the following:
    - With semiconductor demand projected to grow from roughly $600 billion to more than $1 trillion in 2030, governments around the world are deploying incentives to facilitate needed investment, and the CPO is engaging with them to ***coordinate incentive programs*** by sharing projected supply and demand forecasts and increasing transparency.
    - In order to ***build resilient cross-border semiconductor supply chains***, the Department of Commerce is working with other countries to identify bottlenecks in existing supply chains and build out capacity in regions with an eye toward diversifying risk.
    - International companies and research organizations will also be encouraged to collaborate with the NSTC on ***promoting R&D exchange and developing the next generation of semiconductor technologies***.

Eligibility & Evaluation Criteria

- Funding under the CHIPS for America program will only be provided after a rigorous review based on several considerations. Generally speaking, applicants must explain why they need CHIPS funding rather than just why they want it.
  - Applicants for funding must be ***"covered entities"*** consisting of domestic or foreign companies (including non-profits) with a demonstrated ability to finance, construct, expand or modernize a facility related to the fabrication, assembly, testing, packaging, production or R&D of semiconductors, materials used to manufacture semiconductors, or semiconductor manufacturing equipment. ***"Foreign entities of concern"*** will not be eligible to participate.
  - Funding must be used in connection with ***facilities built in the United States***.
  - Applicants must show that the requested funding will ***incentivize investments that would not occur in the absence of the incentives***.
  - Applicants must have been offered an ***incentive from a state or local government*** in order to be eligible for funding, with preference given to projects that receive state and local incentives capable of supporting a robust semiconductor ecosystem beyond assisting a single company.
  - Finally, as discussed in more detail below, applications must address ***six program priorities***, including economic and national security, commercial viability, financial strength, technical feasibility, workforce development, and efforts to spur inclusive economic growth.

Eligibility & Evaluation Criteria

- **Economic and national security**
  - Based on the idea that the United States' economic and national security depends on its ability to design and produce cutting-edge chips, priority will be given to projects that ***meaningfully increase U.S. semiconductor production***.
  - The Department of Commerce may also consider whether the applicant is able to provide ***stable onshore access to semiconductors*** in accordance with the national security needs of the intelligence community, the National Nuclear Security Administration, or the Department of Defense.
  - The extent to which the application addresses economic and national security objectives is a top priority which will be afforded the greatest weight.

- **Commercial viability**
  - Applicants must have a plan for ***ensuring reliable cash flows and continued investment***, including a commitment to making upgrades necessary to ensure that the facility remains commercially viable over the long term.
  - Applicants are also encouraged to secure ***purchase commitments*** across the supply chain to clarify future demand and mitigate the risk of future chip shortages while establishing ***ecosystems of suppliers, customers, and workforce training organizations*** that will make investments self-sustaining and ensure that projects remain competitive over time.

Eligibility & Evaluation Criteria

- **Financial strength**
  - Applications must include a ***detailed financial model*** for the proposed project, including projected cash flows, internal rates of return and profitability metrics, which will be analyzed against market data, conditions and benchmarks, the historical performance and returns of comparable projects, relevant expert analysis, and other information.
  - Since CHIPS funding is intended only to complement private investment, applications will also be evaluated based on ***the extent to which private-sector contributions have been maximized***.

- **Technical feasibility & readiness**
  - Applications must include a ***clear project execution plan***, including major construction and operational milestones, construction rights and permits, and key contractual arrangements.
  - Priority will be given to applicants who explain how they plan to meet ***environmental and permitting requirements*** in a timely fashion, such as by securing agreements from state and local permitting authorities to ensure projects stay on schedule while remaining safe, environmentally friendly, and otherwise compliant with applicable laws.
  - Because large-scale semiconductor fabs are more competitive and likely to attract investment, applicants will also be evaluated based on their ***relevant experience to support successful execution at the scale envisioned***.

Eligibility & Evaluation Criteria

- **Workplace development**
  - Under the Biden Administration's "worker-centered" approach to economic policy, recruiting and training a skilled and diverse workforce is viewed as critical to strengthening the U.S. semiconductor industry, and proposals that include significant worker and community investments will be prioritized.
  - In order to achieve this, applicants will be required to submit a ***workforce development plan*** that is developed in conjunction with educational institutions, labor unions, and other industry associations to ensure that the workers who operate the facilities are provided with high-quality jobs. This plan must include the following five elements:
    - a ***workforce needs assessment***, including an assessment of job types, skills and workers required over time;
    - ***recruitment and retention strategies***, including plans to maintain a diverse workforce, hire women and economically disadvantaged individuals, and address workplace barriers;
    - the applicant's approach to meeting the ***Good Jobs Principles*** published by the Department of Commerce and the Department of Labor, which require, *inter alia*, that workers be able to form and join unions, enjoy a safe, healthy and accessible workplace, and have job security without arbitrary or discriminatory discipline or dismissal;
    - commitments to provide ***workforce training and wraparound services***, including on-the-job training, apprenticeship and job placement programs as well as transportation and housing assistance; and
    - the ***core milestones*** the project aspires to achieve, as well as metrics to measure, track and report on these goals.

Eligibility & Evaluation Criteria

- **Workplace development (cont'd)**
  - Applicants will also be required to submit a ***construction workforce plan*** for the workers who build the facilities which will include the same five elements discussed above as well as information regarding:
    - ***prevailing wages:*** the CHIPS Act requires that laborers and mechanics on CHIPS-funded projects receive wages at rates not less than those prevailing on similar projects in the locality; and
    - ***project labor agreements (PLAs)***: applicants are encouraged to use PLAs in their construction projects to secure the skilled workforce required to complete a high-quality project on schedule, and those who do not will be required to submit workforce continuity plans and other measures to reduce the risk of delays.
  - In order to make it easier for women to join the workforce, any applicant requesting more than $150 million in direct funding must also submit a plan to provide access to ***affordable, accessible and high-quality childcare***.
  - Applicants must also ***comply with all federal labor and employment laws***, including but not limited to Title VII of the Civil Rights Act of 1964, the Fair Labor Standards Act, the Occupational Safety and Health Act, and the National Labor Relations Act; be subject to workforce commitment reporting requirements; and will be held accountable for non-compliance.
  - For further reference, the Department of Commerce has published ***best practices for effective workforce investments,*** which recommends that investments be employer-led, guided by the involvement of labor unions and other community partners, and geared toward increasing diversity and inclusion.

Eligibility & Evaluation Criteria

- **Promotion of inclusive long-term growth**
  - In order to build strong communities that share in the prosperity of the semiconductor industry, project proposals will also be evaluated based on their ***potential to benefit a broad range of stakeholders and communities***, including economically disadvantaged individuals and others who have been underrepresented in the semiconductor industry.
  - Specific considerations which will be taken into account include whether the proposed project:
    - commits to ***future investments*** in the U.S. semiconductor industry;
    - supports ***R&D programs***, including by participating in the NSTC research and innovation initiatives;
    - creates ***opportunities for minority-owned, veteran-owned, women-owned, and small businesses*** to participate in the construction and production supply chain;
    - demonstrates ***climate and environmental responsibility,*** i.e. by using 100% renewable energy to operate fabs;
    - ***invests in the community*** by addressing barriers to economic inclusion; and
    - commits to using iron, steel, and ***construction materials produced in the U.S.***

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