

### Eligible entities to receive CHIPS Incentives may include:

- A nonprofit entity
- A private entity
- A consortium of public and private entities
- A consortium of nonprofit, public, and private entities

These applicants must have a **demonstrated ability to substantially finance, construct, expand, or modernize eligible facilities.**

These facilities must be related to fabrication, assembly, testing, advanced packaging, production, or research and development of semiconductors, materials used to manufacture semiconductors, or semiconductor manufacturing equipment.

### About HDR's Advisory Services

We have more than 250 management consultants with premium, strategic advice. We are rooted in the practical, solid-state service that our infrastructure clients around the world have come to expect. We have expertise in funding and finance, economics and decision analysis, strategic planning and policy, sustainability and resiliency, strategic communications, and business improvement.

Advisory Services professionals review infrastructure policy developments and prepare summaries of key provisions to help keep our clients informed of the changing landscape in Washington, D.C.

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# HDR Advisory Services Policy Brief

## CHIPS Incentive Program Policy Brief

In August of 2022, President Biden signed into law the CHIPS Act of 2022, which established a fund known as the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Fund, with \$38.22 billion in direct funding and up to \$75 billion in direct loan or guaranteed principal.<sup>1</sup> These funds are available as incentives to support investments in facilities and equipment for semiconductor fabrication, assembly, testing, advanced packaging, or research and development.

This HDR Advisory Services policy brief introduces the CHIPS Incentive program and details the Commercial Fabrication funding opportunity, including eligibility, available funding, application requirements, and environmental clearance considerations. This document will be updated or supplemented as additional information on future NOFOs under the act becomes available.

According to the National Institute of Standards and Technology (NIST), semiconductors “are the base for most electronics, enabling construction of complex integrated circuits, or chips, that power advanced technologies for healthcare, communications, computing, and transportation.”<sup>2</sup>

The CHIPS Program aims to strengthen U.S. economic and national security, including economic resilience and competitiveness, through:

- Strengthening the security and resilience of the semiconductor supply chain, including mitigating gaps and vulnerabilities
- Providing a supply of secure semiconductors relevant for national security
- Strengthening the leadership of the US in semiconductor technology
- Growing the economy of the United States and supporting job creation
- Bolstering the semiconductor and skilled technical workforces in the United States
- Promoting the inclusion of economically-disadvantaged individuals and small businesses
- Improving the resilience of the semiconductor supply chains for critical manufacturing industries<sup>3</sup>

<sup>1</sup> The CHIPS Act of 2022 amended and appropriated funding for semiconductor incentives authorized by Sections 9902 and 9906 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283). For the purposes of this policy brief, we use CHIPS Incentives to address the discretionary funds available through the various pieces of legislation that support domestic semiconductor manufacturing and are administered through the Department of Commerce CHIPS for America Office.

<sup>2</sup> See <https://www.nist.gov/semiconductors>

<sup>3</sup> See [https://www.nist.gov/system/files/documents/2023/02/28/CHIPS-Commercial\\_Fabrication\\_Facilities\\_NOFO\\_0.pdf](https://www.nist.gov/system/files/documents/2023/02/28/CHIPS-Commercial_Fabrication_Facilities_NOFO_0.pdf)

## Eligible Facilities

Only facilities listed below are eligible for funding under the Fabrication NOFO.

**Leading Edge Facilities** using the most advanced front-end fabrication processes which achieve the highest transistor and power performance.

**Current-generation Facilities** that produce semiconductors that are not leading edge, up to 28-nanometer process technologies, including logic, analog, radio frequency, and mixed-signal devices.

**Mature-node Facilities** that fabricate generations of: (a) certain logic and analog chips; (b) discrete semiconductor devices such as diodes and transistors; (c) optoelectronics and optical semiconductors; and (d) sensors.

**Back-end Production Facilities** for the assembly, testing, or packaging of semiconductors that have completed the front-end fabrication process.

The CHIPS Program Office within the Department of Commerce (the Department) is charged with administering the funding for the CHIPS Act and released its first [Notice of Funding Opportunity \(NOFO\)](#) that “seeks applications for projects for the construction, expansion, or modernization of commercial facilities for the front- and back-end fabrication of leading-edge, current-generation, and mature-node semiconductors.” **The CHIPS Program Office expects to issue additional NOFOs later in 2023.**

## Commercial Fabrication Funding Opportunity

### Project Eligibility

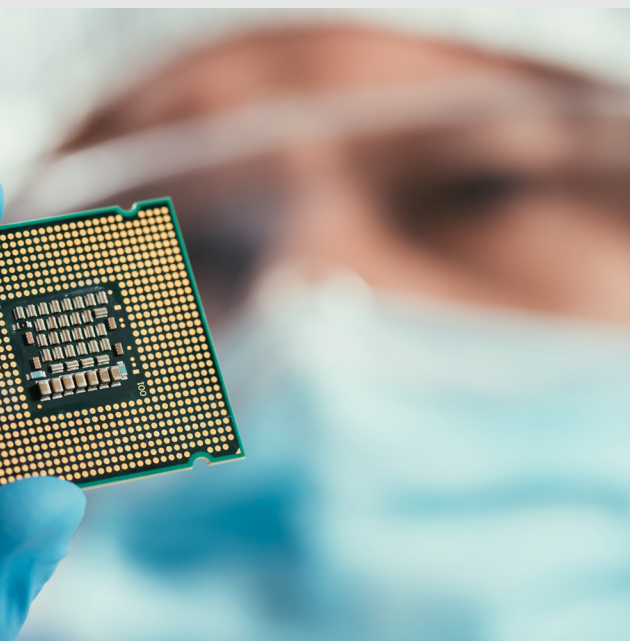
The first CHIPS NOFO incentivizes investment in domestic projects for the fabrication, assembly, testing, advanced packaging, or production of semiconductors. The funding must be used to construct, expand, or modernize facilities. For the purposes of the Fabrication NOFO:

- Construction = construction of a new facility
- Expansion or modernization = significantly enlarging an existing facility, increasing the capacity of an existing facility via material capital investment (e.g., adding a new production line), and upgrading an existing facility (e.g., to a new node or converting a facility from another use).

Further, to be eligible for funding, the applicant must have a documented interest in constructing, expanding, or modernizing the facility. The statute defines the “documented interest” as the applicant having:

- Been offered a qualifying covered incentive from a state or local jurisdiction where the project is located for the purposes of attracting the construction, expansion, or modernization of the facility; thus demonstrating local support
- Made commitments to worker and community investment, including through training and education benefits paid by the applicant, and programs to expand employment opportunities for economically disadvantaged individuals
- Secured commitments from regional educational and training entities and institutions of higher education to provide workforce training, including programming for training and job placement of economically disadvantaged individuals
- An executable plan reasonably capable of successful implementation to sustain the facility without additional funding from the CHIPS Program
- Documented its workforce needs and produced a strategy to meet such workforce needs
- Determined the types of semiconductor technology it will produce at the proposed facility and the customers, or categories of customers, to whom the items will be sold
- Developed an executable plan to identify and mitigate relevant semiconductor supply chain security risks
- Policies and procedures to combat cloning, counterfeiting, and relabeling of semiconductors<sup>4</sup>

<sup>4</sup> See 15 U.S.C. § 4652(a)(2)(B)(ii)-(iv).



The CHIPS Program Office may approve incentives of three types:

- Direct funding or grants that cover eligible costs
- Loans directly from the Federal government
- Loan guarantees of third-party loans to the applicant

## Available Funding

The Department expects that the level of project support from CHIPS Incentives will range between 5 to 15% of total project capital expenditures. Although there is no “cap” on federal support for eligible projects, any federal investment exceeding \$3 billion must seek prior approval from Congress.

Loans and loan guarantees similarly do not have established limits but are intended to provide debt financing that is not available on comparable terms in the private market. These loans and loan guarantees are intended to supplement and not substitute private funding of the eligible project costs.

CHIPS Incentives may be used to help cover the costs to:

- Finance the construction, expansion, or modernization of a facility or equipment for that facility
- Support site development and modernization at a facility
- Support workforce development for a facility
- Pay reasonable operating expenses for a facility, as determined by the Department of Commerce<sup>5</sup>

## Application Requirements

The application process will follow the basic steps illustrated below:

### 1) — ○ STATEMENT OF INTEREST

Potential applicants must submit a statement of interest with a brief description of the planned application.

- Accepted on a rolling basis starting **2/28/23** and must be submitted 21 days prior to Pre-Application or full Application

### 2) — ○ PRE-APPLICATION (RECOMMENDED)

The Department encourages applicants to submit a pre-application which includes a more detailed description of the proposed project than provided in the statement of interest, including a summary of financial information and an environmental questionnaire (see next section for a detailed discussion of environmental considerations). Submitting a pre-application allows for the start of a dialogue between the applicant and the Department to help shape the application for consistency with program requirements and Departmental priorities.

- Optional for leading-edge facilities, accepted on a rolling basis starting **3/31/23**
- Recommended for current-generation, mature-node, and back end production, accepted starting **5/1/23**

### 3) — ○ FULL APPLICATION

This contains extensive detailed information on the proposed project(s) to enable the Department to evaluate the project on its merits. Before moving to due diligence, the Department will prepare and offer the applicant a non-binding Preliminary Memorandum of Terms.

- Accepted on a rolling basis starting **6/26/23**

### 4) — ○ DUE DILIGENCE

Once the Department determines that an application is reasonably likely to receive an award and the Department and the applicant have agreed (or likely will agree) on the non-binding Preliminary Memorandum of Terms, the applicant will enter the comprehensive due diligence phase. During this phase, the applicant must provide additional information on national security, financial, environmental, and other issues. The Department will formally initiate its environmental review at this time and will request that the applicant, under the supervision of the Department, prepare required environmental documentation. During this phase, the Department will engage outside advisors, consultants, and/or attorneys; the costs incurred by those outside entities will be borne by the applicant.

- After Preliminary Memorandum of Terms is offered

### 5) — ○ AWARD PREPARATION AND ISSUANCE

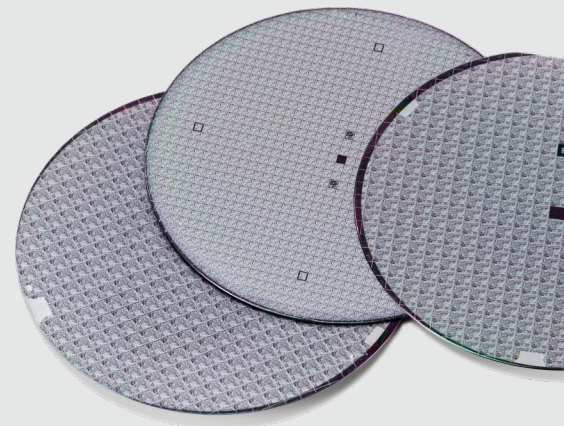
The Department will determine whether to issue one or more CHIPS Incentives Awards after the applicant successfully completes the due diligence phase.

<sup>5</sup> See 15 U.S.C. § 4652(a)(4)

# Application Content Requirements & Evaluation Criteria

Conveniently, the current CHIPS Program NOFO details these 12 required elements of a complete Full Application that provide the framework to respond to **six merit criteria** denoted with this symbol . All 12 elements are listed below. Reviewers will evaluate applications against the merit criteria which are further described on the following pages.

1. **Cover Page** (see [CHIPS Incentive Program application portal](#))
2. **Covered Incentive**  
Include a letter from a state or local government that demonstrates the project has been offered a qualifying covered incentive, including the estimated size and nature of the incentive.
3. **Description of Project(s)**  
Each application must include a detailed project description with an overarching vision of the projects. It must describe the construction, expansion, or modernization activities proposed and the products the facilities will produce. The description must include a project timeline, a narrative addressing the evaluation criteria, and a justification for the CHIPS Incentives.
4. **Applicant Profile**  
Detailed information about the applicant, including company financials, equity capital structure, and outstanding debt.
5. **Alignment with Economic and National Security Objectives**   
See below.
6. **Commercial Strategy**   
See page 5.
7. **Financial Information**   
See page 5.
8. **Project Technical Feasibility**   
See page 5.
9. **Organization Information**  
Include information regarding the legal entity seeking funding, including any project partners, past project history, intellectual property security, litigation, etc.
10. **Workforce Development Plan**   
See page 7.
11. **Broader Impacts**   
See page 8.
12. **Standard Forms**  
Standard forms required of applicants for government funding, available through the application portal.



## Merit Criterion in Full Detail

### Alignment with Economic and National Security Objectives

The applicant must provide a narrative description of how the project meets economic and national security objectives including how the project(s) will:

- Enhance U.S. economic competitiveness through ongoing private investment in the U.S. and creating a long-term, sustainable ecosystem
- Increase global supply chain resilience by mitigating the risk of potential shocks, reducing the impact of potential disruptions, serving a variety of customers, and moving production outside of countries of concern
- Address the U.S. government's need for access to safe, secure, and domestically-produced chips

The application should also address cybersecurity as well as domestic supply chain resilience and risk management, including how the proposed facility will maintain access to critical inputs, and its ability to operate domestically without access to non-U.S. facilities and personnel.

## Commercial Strategy (Commercial Viability) ✓

Under this criterion, the applicant must demonstrate the project's long-term commercial viability by addressing:

- Robust demand for the proposed project output
- Size and diversity of the customer base
- Projected existing and planned future supply
- Expected volume and pricing dynamics for the output
- Technology obsolescence risk
- Stability and predictability in sourcing key supplies

## Financial Information (Financial Strength) ✓

Market factors can affect an applicant's ability to achieve stated output goals and targets. Addressing the project's resilience to withstand stress during market downturn conditions is a factor in the application evaluation. Applicants must describe and substantiate:

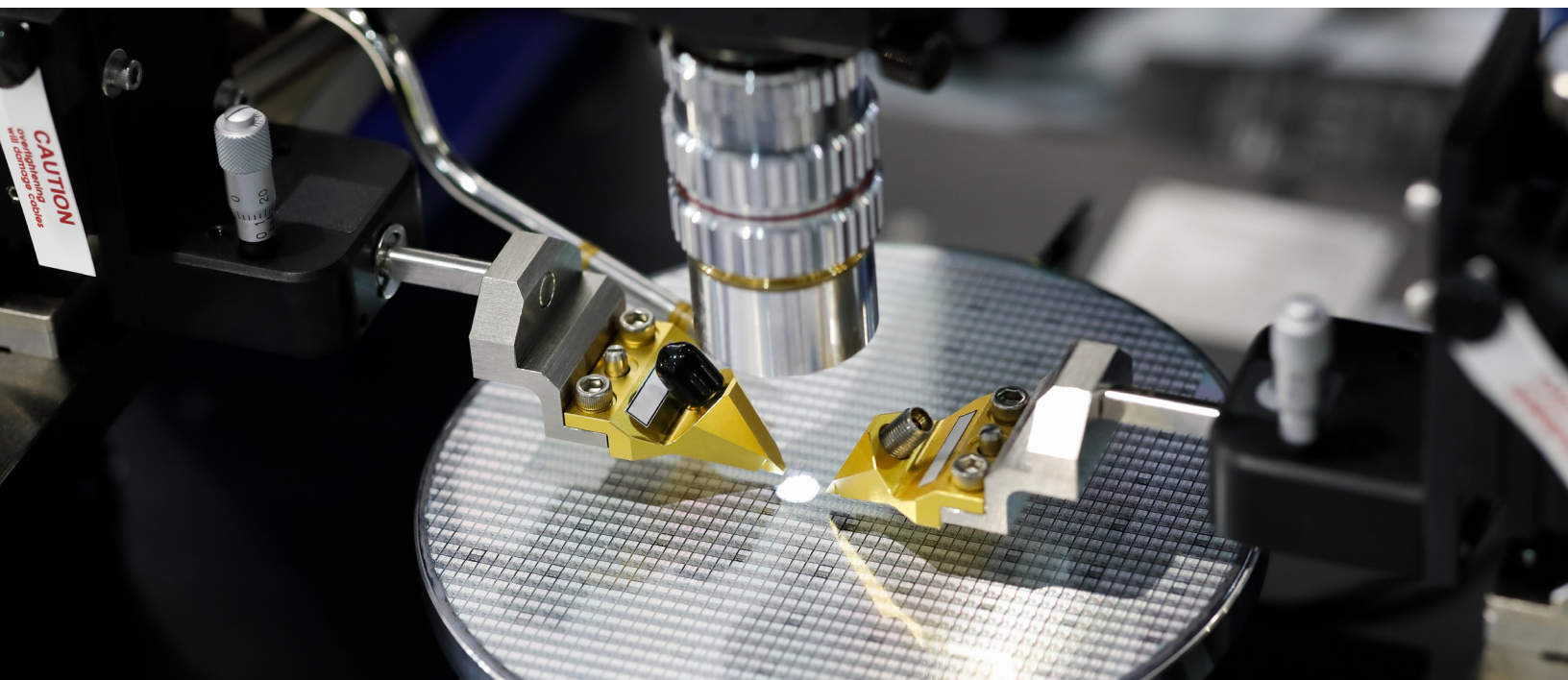
- Financial strength relative to the proposed project, considering current financial position, historical performance, and other factors as appropriate
- Reasonableness of the total project cost and budget breakdown
- Likelihood that the project will generate sustainable earnings and operating cash flows
- Amount of private investment and/or attracted third-party private investment to increase the scale and reduce the need for CHIPS Incentives
- Degree to which CHIPS Incentives are necessary to make the project viable

## Project Technical Feasibility ✓

The application must demonstrate each proposed project's technical feasibility, including the viability and security of the underlying technology and manufacturing processes, the ability to execute the required construction, and effective management of the environmental review process. The application must address the organizational readiness of the applicant, including: past experience executing similar projects with demonstrated success; the technical experience necessary to execute the technology and manufacturing processes proposed in the project, and; the reasonableness and viability of the construction plan and schedule, including the ability to secure necessary environmental approvals.

## NEPA AND READINESS CONSIDERATIONS

The National Environmental Policy Act (NEPA) requires that federal agencies consider and disclose the potential environmental effects of their actions. For the purposes of the CHIPS Program, a funding decision by the Department triggers NEPA. It requires that applicants and the Department work collaboratively to define the scope of the analysis, understand and evaluate possible alternatives, and document the environmental effects likely to occur due to the CHIPS Incentives investment.



As mentioned previously, the first step in understanding the scope and level of NEPA analysis is completing the CHIPS environmental questionnaire. The questionnaire is intended to help screen projects for the types of resources affected and the severity or magnitude of those impacts. Specifically, the [environmental questionnaire](#) seeks information regarding the following:

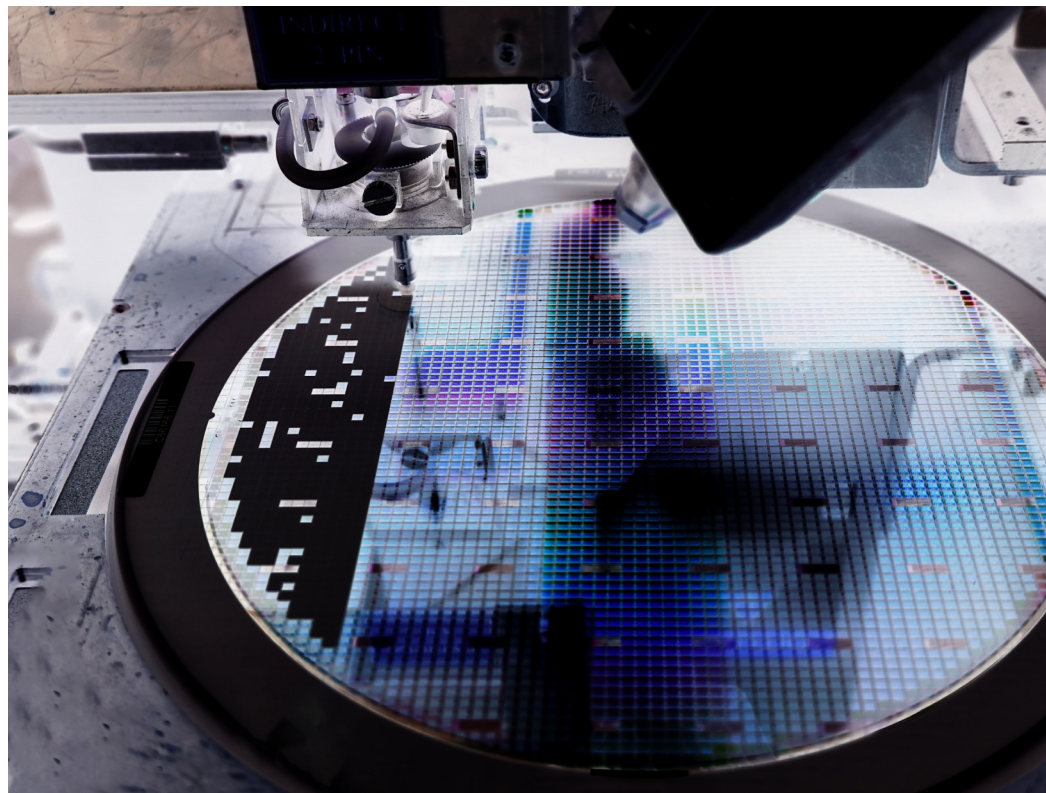
- Project description
- Project site/affected environment
- Resource consumption rates and effluent emissions
- Tribal, historic, and cultural resources
- Project setting
- Vegetation and wildlife resources
- Conservation areas
- Coastal zones and navigable waterways
- Wetlands
- Floodplains
- Endangered species
- Land use and zoning
- Solid waste management
- Hazardous or toxic substances
- Impacts to water quality/water resources
- Water supply and distribution system
- Wastewater collection and treatment facilities
- Environmental justice and socioeconomics
- Transportation
- Air quality
- Greenhouse gases and their environmental effects
- Noise
- Health and safety
- Permits and other government agency involvement
- Public notification or controversy
- Environmental experience and approach

The questionnaire covers a wide range of issues and helps the Department understand the potential risk involved with projects. Because applicants may not have anticipated federal funding, certain federal requirements such as Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and NEPA may not have been factored into the site planning. Should the construction, modification or expansion of facilities result in significant environmental impacts, the Department would need to prepare an environmental impact statement – likely adding on 2-3 years onto the project timeline.

Where the project is in the development phase will help to inform the scope of the NEPA analysis. It's also important to understand how the federal funds will be used at the site (i.e., will they support greenfield expansion or purchase equipment to install in already developed locations). The CHIPS Program Office is

developing guidance for implementing NEPA on CHIPS Program-funded projects, so this is an evolving topic. As a result, it's important to understand how best to define the action in the application to appropriately focus the environmental analysis, accounting for all direct and indirect effects resulting from the federal investment. Engaging local resource specialists to quickly evaluate project sites in cooperation with NEPA experts and Project Advisors who understand the levels of the required document at each stage of the CHIPS Incentives Program application review will be important to allow a team to develop the required content and quickly respond to agency review comments.

Beyond NEPA, and independent of federal funding, many of these sites will likely trigger federal permitting approvals such as those under the Clean Water Act by the US Army Corps of Engineers or Clean Air Act permits by the Environmental



Protection Agency. Typically, those approvals focus on the limited federal scope of their authority (e.g., water quality impacts and air quality impacts) and do not look beyond that narrow focus. When triggering NEPA, as an umbrella statute, it brings in all those environmental considerations. Because of this, effective site planning and anticipating environmental effects and likely mitigation is critical to successfully navigating the CHIPS process.

**Generally, expansions of existing facilities or work on previously developed property will help expedite the NEPA evaluation, while development of greenfield sites will require more extensive analysis.**

As stated in the NOFO, timely construction and effective operation of facilities is crucial to the overall success of the CHIPS Incentive Program and applicants should have a clear path to environmental approvals.

“ Applicants are expected to design their projects to minimize the potential for adverse impacts on the environment and the local community, including communities with environmental justice concerns. Specifically, each applicant must submit a climate and environmental responsibility plan. ”<sup>6</sup>

## Workforce Development Plan

Applications must include a complete and cohesive discussion of the expected workforce needs for each facility and describe the applicant’s strategy to meet those needs in a workforce development plan. The plan must account for the facility’s continued operation and the construction workers needed to construct/expand/improve the facility.

### FACILITY WORKFORCE PLAN

Applicants must consult, engage, and coordinate with workforce partners (e.g., educational institutions, training providers, community-based organizations, labor unions, career, and technical organizations, etc.) to develop a plan that will create good jobs, and recruit, train, screen, hire, retain, and up-skill a diverse workforce sufficient to meet the needs of the entire facility. The Department strongly encourages applicants to work with local communities to create a conduit for local workers to operate facilities.

The Facility Workforce Plan will include a workforce needs assessment describing the job types, skills, and workers needed over time for each job type for facility operations, on-site supplier operations, engineering, administration,

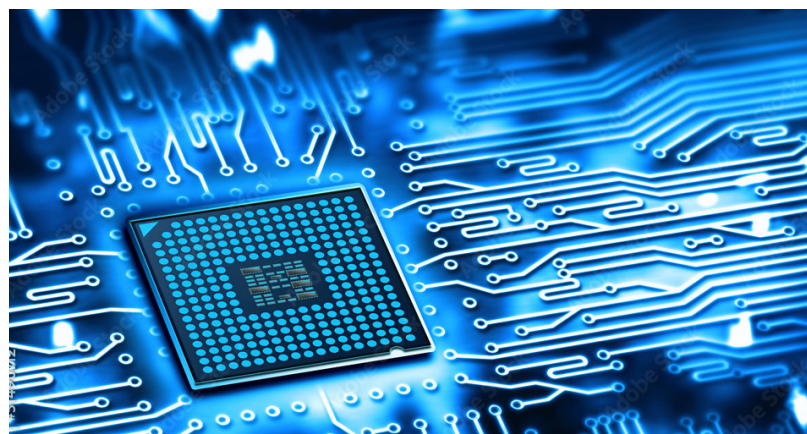
etc. Once the needs are identified, the applicant must describe the workforce development approach, including the applicant’s commitments to worker and community investments through training and education benefits and identifying programs to expand employment opportunities for economically disadvantaged individuals.<sup>7</sup> The plan should be consistent with the [Good Jobs Principles](#) established by the Departments of Labor and Commerce. The plan must describe how the applicant will ensure that the workforce is appropriately trained and include metrics that measure the plan’s successful implementation.

### CONSTRUCTION WORKFORCE PLAN

In addition to describing the workforce needs and strategies for the facility, applicants must also account for the labor needs of the project’s construction phase. The application should describe how the applicant will coordinate with construction partners to recruit, hire, train, and retain a diverse and skilled construction workforce. The plan should include the elements of the facility workforce plan (i.e., workforce needs assessment, worker recruitment and retention, Good Jobs Principles approach, training, and metrics). Additional elements of the construction workforce plan include ensuring that all contractors and subcontractors have a strong track record of compliance with all federal labor laws, rules, and regulations and specifying whether the applicant commits to having a project labor agreement.

### CHILD CARE

For applicants seeking more than \$150 million in CHIPS Incentives, the Department requires a plan for access to child care for facility and construction workers. This includes providing on- or near-site facilities, pre-arranged agreements with existing providers, subsidies, or other measures. Further, the child care must be affordable, accessible, reliable and high-quality, as defined in the NOFO.



<sup>6</sup> See Climate and Environmental Responsibility on page 24 of the Fabrication NOFO. The Climate and Environmental Responsibility Plan is discussed in greater detail under

<sup>7</sup> See 15 U.S.C. § 4652(a)(2)(B)(ii)(II).

## Broader Impacts

The Department will evaluate applications on the completeness of their approach to addressing broader public impacts, including the applicant's commitments to:

- Investing in ongoing capital programs (e.g., limiting stock buybacks),
- Building domestic research and development facilities in the United States,
- Engaging with small, minority-owned, veteran-owned, and women-owned businesses as strategic partners
- Developing local community investments that drive regional equity and inclusion and broad-based growth
- Addressing the project's effects on climate and other environmental considerations through a Climate and Environmental Responsibility Plan

## CLIMATE AND ENVIRONMENTAL RESPONSIBILITY PLAN

Each applicant for CHIPS Incentives must submit with their application a climate and environmental responsibility plan that describes how the proposed project will meet climate and environmental goals and include a discussion of the company's climate and environmental policies. The plan should address how the applicant will:

- Maximize use of renewable energy
- Incorporate resilient design features, construction methods, and operation strategies to mitigate against the threat of weather and climate-related risks
- Conserve water use, including any plans to fund water restoration projects, increase water reuse and recycling, or other strategies to achieve ambitious water conservation goals over time
- Measure, track, and report publicly on its climate and environmental responsibilities goals and commitments
- Incorporate strategies for minimizing the potential adverse impacts to the local community, including communities with environmental justice concerns

## How HDR Can Help

We provide comprehensive design capabilities in various cleanroom facility types for an extensive client base — from private to government, as well as academic. We have designed various production, research, and support facilities for the top semiconductor manufacturers in the country, and bring breadth and depth of capabilities in facility design engineering and architecture, master planning, energy efficiency and commissioning.

Through our design team's understanding of technology-based facilities, including process-specific utilities, we help each of our clients realize their vision by creating dynamic facilities that respond to any needs, whether it's production capability or capacity, or the precise environments that satisfy the critical requirements of a specific process.





## HDR Can Help Clients Satisfy NOFO Requirements:

NOFO REQUIREMENT FOR FUNDING	DETAILS AND REFERENCES	HDR'S EXPERIENCE AND BENEFITS TO YOU
Multi-phase Grant Application(s)	<p><b>Grant Strategy &amp; Application Support:</b> Analysis of discretionary grant funding opportunities and grant application development.</p> <p><b>Grant Administration Support:</b> Evaluating, developing, and managing grant programs.</p>	We've helped clients manage and prepare more than 130 grant applications awarded funding since 2009, securing more than \$3.2 billion in funding.
<b>ENVIRONMENTAL SERVICES</b>		
Environmental Questionnaire	Review of anticipated environmental effects to allow NIST to initiate NEPA scoping as described above.	HDR has more than 500 environmental professionals throughout the country with extensive NEPA documentation, resource investigations, and federal/state/local permitting.
Community Impact Assessments	Evaluate potential benefits and risks of project to have disproportionate and adverse human health or environmental impacts to overburdened and underserved communities, including minority, Tribal, or low-income populations.	Our experts are experienced with the most recent Council on Environmental Quality and EPA guidelines for community and environmental justice evaluations.
Sustainability Planning	Developing metrics and processes to measure, track, and report on climate and environmental responsibility goals and commitments.	We leverage data through shared solutions that drastically reduce carbon emissions while promoting economic and social prosperity. This optimizes connections with community infrastructure. Impacts of a project on clean air and water, human health, wellbeing, and job creation are comprised in its total value and important considerations in decision-making.
Resiliency Planning	Designing features, construction methods, and operation strategies that increase resilience from weather- and climate-related risks.	Our mission-critical facility designs consider environmental impacts such as temperature extremes, storms, flooding, and other climate-related risks for the largest global leaders in technology. We are No. 1 in Mission-Critical design according to the Building Design + Construction (BD+C) 2022 Giants 400 List.
<b>FINANCIAL</b>		
Financial Analysis	<p><b>Financial Feasibility Assessment:</b> Analysis of financial feasibility to deliver a project or capital program.</p> <p><b>Cash Flow Analysis:</b> Financial modeling of costs, revenues and financing approaches to deliver projects and programs.</p>	Our experts offer comprehensive consulting services to evaluate, identify, secure, and administer funding essential to deliver projects and programs.
Funding Evaluation	<b>Funding Source Evaluation:</b> Analysis of revenue options for projects and programs.	Our approach is centered on understanding your program's unique needs and developing a customized funding strategy to support your organization's goals.
<b>WORKFORCE DEVELOPMENT</b>		
Labor Market Analysis	<b>Workforce Development Plan:</b> assessment of occupations and skills needed to support facility operations and administration.	HDR has a deep bench of economists with experience tying infrastructure investments to the regional economy.
Economic Competitiveness	<b>Economic Impact Analysis:</b> identification of facilities short-term and long-term contribution to the regional and national economy.	Our economists can identify the contributions of construction/facility operations and help clients discuss contributions to global supply chain resilience.
Stakeholder and Public Meeting Support	<b>Strategic Communications:</b> Identifying and engaging with key stakeholders to inform project elements, build consensus and support, and identify opportunities for partnership.	Our Strategic Communications program specializes in stakeholder and public meeting support with professional event planning, facilitation, and material production.

*If you need assistance or have questions, please contact:*



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