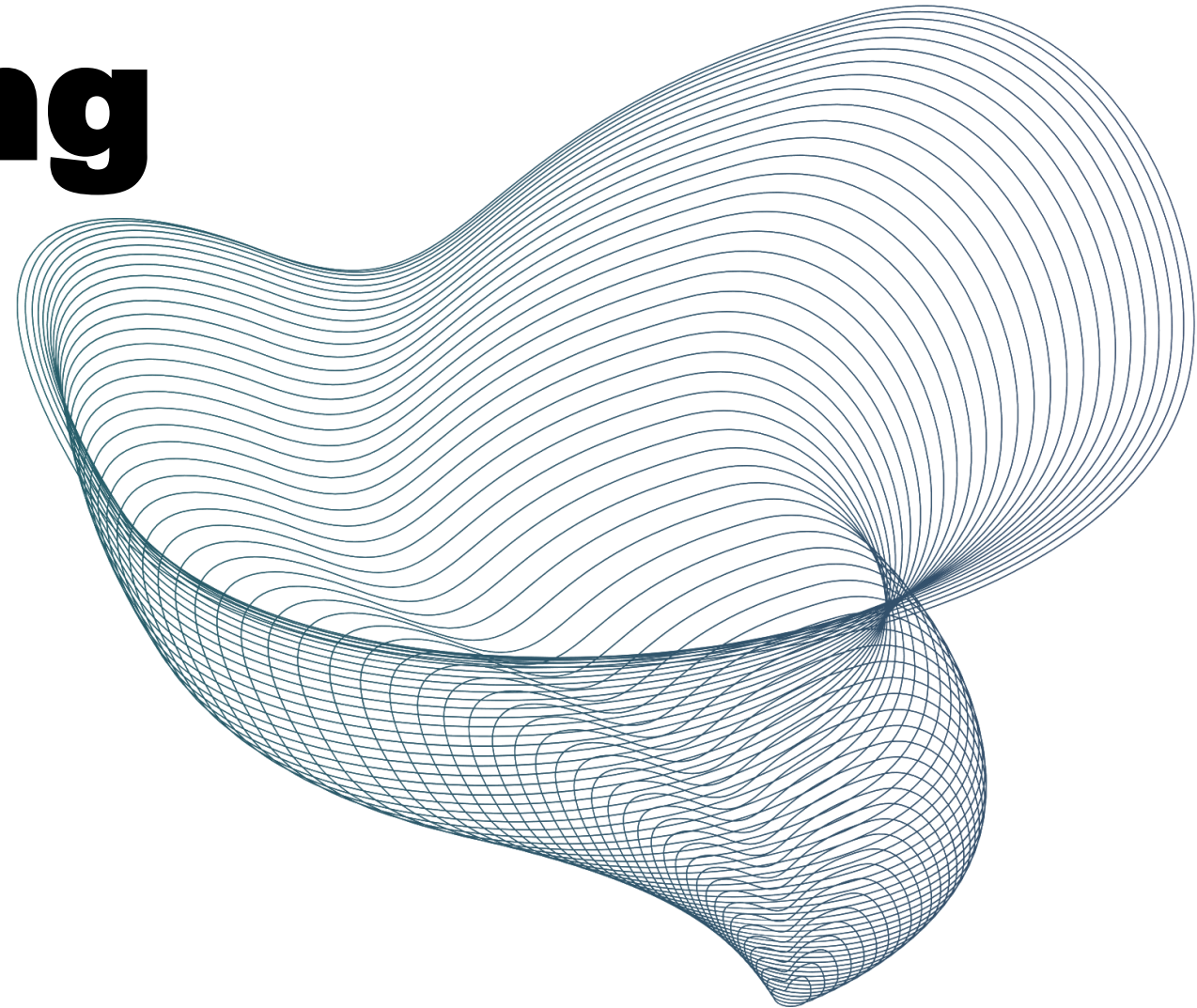


Climate & Sustainability Policy Briefing

orrick



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NVCA POLICY BRIEFING

NVCA

Agenda

- **Level-Set: Legislative Overview**
- **IRA Tax Credits**
 - **Direct Pay + Transferability Guidance**
 - **48C Advanced Manufacturing Credit**
- **IRA Spending Programs**
 - **Greenhouse Gas Reduction Fund**
- **NSF: TIP Directorate**
- **SBIC Critical Technology License**
- **CHIPS 2.0**
- **General Discussion + Q&A**

Top-Level Questions

What issues are most interesting to you and your companies?

What is most concerning?

Given the sheer amount of information, how can we best communicate?

What are priorities for implementation?

Legislative Overview



Bipartisan Infrastructure Law

Authorizes \$1 trillion for several dozen programs that seek to incorporate technology into a range of infrastructure-related systems, processes, and facilities, as well as programs to encourage reshoring of manufacturing.

Includes:

- **\$21.3B** for delivering clean energy
- **\$21.5B** for clean energy demonstrations
- **\$8.6B** for clean energy manufacturing and workforce development



CHIPS and Science Act

Authorizes \$250 billion over 5 years for investments in early research, education/workforce development, training, facilities, climate change, and entrepreneurship to support the U.S. leadership position in key emerging technologies.

Includes:

- **\$52B** for semiconductor research and manufacturing
- **\$61B** for NSF research
- **\$20B** for tech commercialization office
- **\$10B** for regional innovation hubs








Inflation Reduction Act

Raises \$738 billion and authorizes \$369 billion for climate programs and health care. Creates and revitalizes a range of climate tax credits and spending programs across several federal agencies to spur R&D, manufacturing, and deployment of clean technologies domestically.

Includes:

- **\$27B** for the Greenhouse Gas Reduction Fund
- **\$40B** for guaranteed loans for innovative clean energy projects
- **Revitalize** of the 48C Adv. Energy Project Credit
- **Expansion** of the 45Q Tax Credit

IRA Tax Credits

	Credit Type	Base Credit Rate	Prevailing Wage/ Apprenticeship Bonus	Energy Communities Bonus	Domestic Content Bonus	Total Potential Value	Direct Pay/ Transferable?	Effective Dates
	Tech-Specific ITC	6% of project cost	30% of project cost	2% for base credit, 10% for labor bonus credit	2% for base credit, 10% for labor bonus credit	50% of project cost	Transferable	2022-2024
	Tech-Neutral ITC	6% for solar, fuel cells, waste energy recovery, combined heat and power, small wind property, geothermal heat pumps, energy storage technology, qualified biogas, electrochromic glass, and microgrid controllers; 2% for microturbine property.	30% of project cost; 10% for microturbine property	2% for base credit, 10% for labor bonus credit	2% for base credit, 10% for labor bonus credit	50% of project cost; 30% for microturbine property*	Transferable	2025-2032
	Direct Air Capture & Utilization	\$26 per metric ton	\$130 per metric ton	N/A	N/A	\$130 per metric ton	5-year direct pay/ transferable	2022-2032
	Advanced Energy Property	6% of project cost	30% of project cost	N/A	N/A	30% of project cost	Transferable	Until \$10 billion in allocations have been used
	Clean Fuel Production	Up to 20 cents per gallon of nonaviation transportation fuel/ up to 35 cents per gallon of aviation fuel	Up to \$1 per gallon of nonaviation transportation fuel/ up to \$1.75 per gallon of aviation fuel	N/A	N/A	\$1 per gallon of non-aviation transportation fuel/ \$1.75 per gallon of aviation fuel	Transferable	2025-2027

IRA Spending Programs



DOE Loan Programs Office

Existing loan authority increased by \$100B



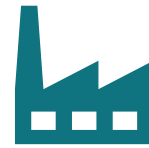
Agriculture Programs

\$20B+ for climate-smart ag practices



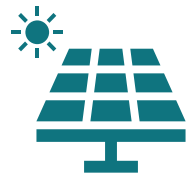
Clean Vehicle Production Programs

\$20B in loans to build new facilities



Advanced Industrial Facilities Deployment Program

\$5.8B in grants, rebates, loans, and cooperative agreements



Federal Procurement of Clean Technologies

\$9B+ to stimulate markets for clean technologies



Greenhouse Gas Reduction Fund

\$27B for competitive grants to nat'l and local "green banks"



Environmental Justice Programs

\$60B for various EJ initiatives

IRA Implementation: Greenhouse Gas Reduction Fund

EPA intends to create three competitions that target the GGRF investment strategically—scaling deployment of clean technologies nationally, building community clean financing capacity locally, and spurring adoption of clean distributed solar energy.

- 1) **\$14 billion National Clean Investment Fund** competition will fund 2–3 national nonprofits that will partner with private capital providers.
 - Application packages must be submitted on or before October 12, 2023 at 11:59 PM through Grants.gov.
- 2) **\$6 billion Clean Communities Investment Accelerator** competition will fund 2–7 hub nonprofits with the plans and capabilities to rapidly build the clean financing capacity of specific networks of public, quasi-public and non-profit community lenders.
 - Application packages must be submitted on or before October 12, 2023 at 11:59 PM through Grants.gov.
- 3) **\$7 billion Solar for All** competition will provide up to 60 grants to expand the number of low-income and disadvantaged communities that are primed for investment in residential and community solar.
 - Application currently open through 9/26.

IRA Implementation: Direct Pay + Transferability



Direct Pay: Allows tax-exempt and other organizations to directly receive cash payments for clean hydrogen, carbon sequestration, and advanced manufacturing production credits.

- Direct payments won't be paid out until after the year's taxes are filed and processed, meaning a project that kicks off in early 2023 may not receive money for the incentives until mid-2024.



Transferability: Allows taxpayers who are not eligible to make a direct pay election to transfer a tax credit to another taxpayer for cash.

- Tax credits must be transferred by the time the company files its tax return for that tax year (including any extensions).
- Guidance clarifies that the sale of tax credits can take place at any point throughout the year before taxes are filed, which should help avoid timing delays on deals themselves.
- Project developers looking to transfer their tax credits are able to divide them up in order to sell them to multiple buyers. The guidance clarifies that the bonus credits (or “adders”) can't be split off and sold separately. Tax credits can only be divided into proportional amounts of the full credit.

IRA Implementation: 48C Credit

Program Overview:

- Grant-like transferable tax credit worth up to 30% of the cost of building or upgrading industrial facilities producing advanced energy and decarbonization technologies.
- The \$10B program allocates the credits through a competitive application process administered by Treasury and the Department of Energy.
- \$4 billion is reserved for investments in energy communities.
- The reinstated 48C program is four times the size original Obama-era iteration, which allocated \$2.3B in credits.

Next steps:

- Treasury is planning for two rounds of allocations under the 48C program:
 - The first round will allocate \$4 billion, with \$1.6 billion specifically for projects located in an energy community.
 - Application closed July 31, 2023.
 - Winning applications will have two years to put the facility in service and provide certifications, at which point they receive their tax credit allocation.

BIL: Implementation



Direct Air Capture Hubs: \$3.5B

- The Four Regional Direct Air Capture Hubs is designed to establish a program under which the Secretary shall provide funding for eligible projects that contribute to the development of four regional direct air capture hubs.
- Letters of Intent were due by February 17, 2023. Full applications were due on March 13, 2023.



Hydrogen Hubs: \$8B

- To support the development of at least 4 regional clean hydrogen hubs to improve clean hydrogen production, processing, delivery, storage, and end use.
- Regional Clean Hydrogen Hubs Demand-side Support Notice of Intent responses were due on July 24, 2023
- Regional Clean Hydrogen Hubs Funding Opportunity Announcement. Concept papers were due on November 7, 2022. Full applications were due on April 7, 2023.



Carbon Capture Large-Scale Pilot Programs: \$937M

- To establish a carbon capture technology program for the development of transformational technologies that will significantly improve the efficiency, effectiveness, costs, emissions reductions, and environmental performance of coal and natural gas use, including in manufacturing and industrial facilities.
- Carbon Capture Large-Scale Pilot Projects Funding Opportunity Announcement. Concept papers were due by April 5, 2023. Full applications are due July 7, 2023.

CHIPS and Science: Key Tech Areas and Challenges

Initial List of Societal, National, and Geostrategic challenges:

- US national security
- US manufacturing and industrial productivity
- US workforce development and skills gaps
- Climate change and environmental sustainability
- Inequitable access to education, opportunity, or other services

Initial List of Key Technology Areas:

- Artificial intelligence, machine learning, autonomy, and related advances.
- High performance computing, semiconductors, and advanced computer hardware and software.
- Quantum information science and technology.
- Robotics, automation, and advanced manufacturing.
- Natural and anthropogenic disaster prevention or mitigation.
- Advanced communications technology and immersive technology.
- Biotechnology, medical technology, genomics, and synthetic biology.
- Data storage, data management, distributed ledger technologies, and cybersecurity, including biometrics.
- Advanced energy and industrial efficiency technologies, such as batteries and advanced nuclear technologies, including but not limited to for the purposes of electric generation
- Advanced materials science, including composites 2D materials, other next-generation materials, and related manufacturing technologies.

Science Implementation

TIP Directorate, National Science Foundation:

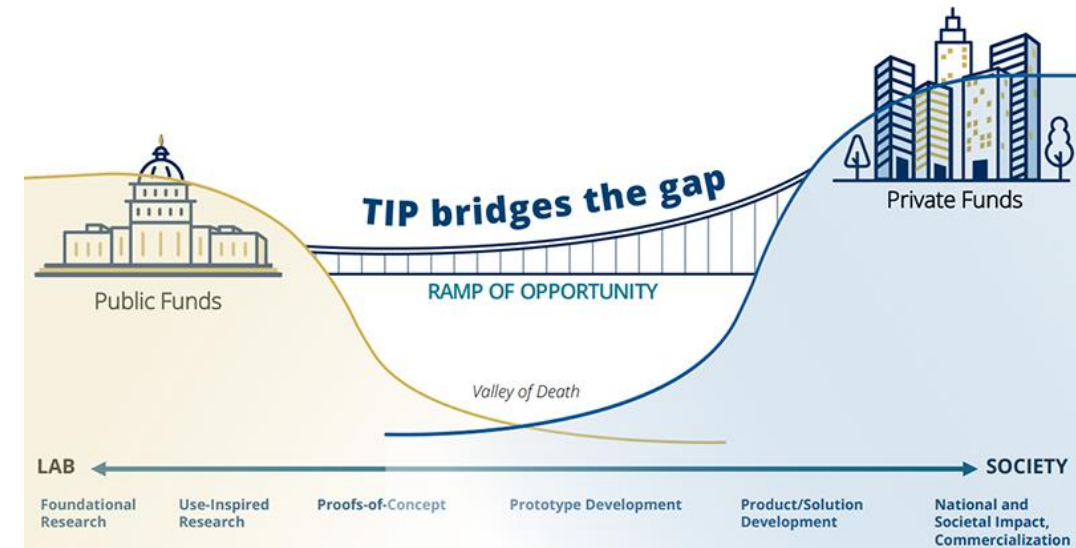
- New NSF directorate focused on tech commercialization
- Comment period open for development of investment roadmap; looking to highlight portfolio of emerging technologies; Open Knowledge Networks program applications open

Regional Innovation Engines, National Science Foundation:

- First funded program out of TIP, focuses on creating regional innovation capacity around key technologies
- Concept applications submitted; Builder platform creation; Type I awards announced soon, Type II likely Fall

Regional Technology Hubs, Department of Commerce:

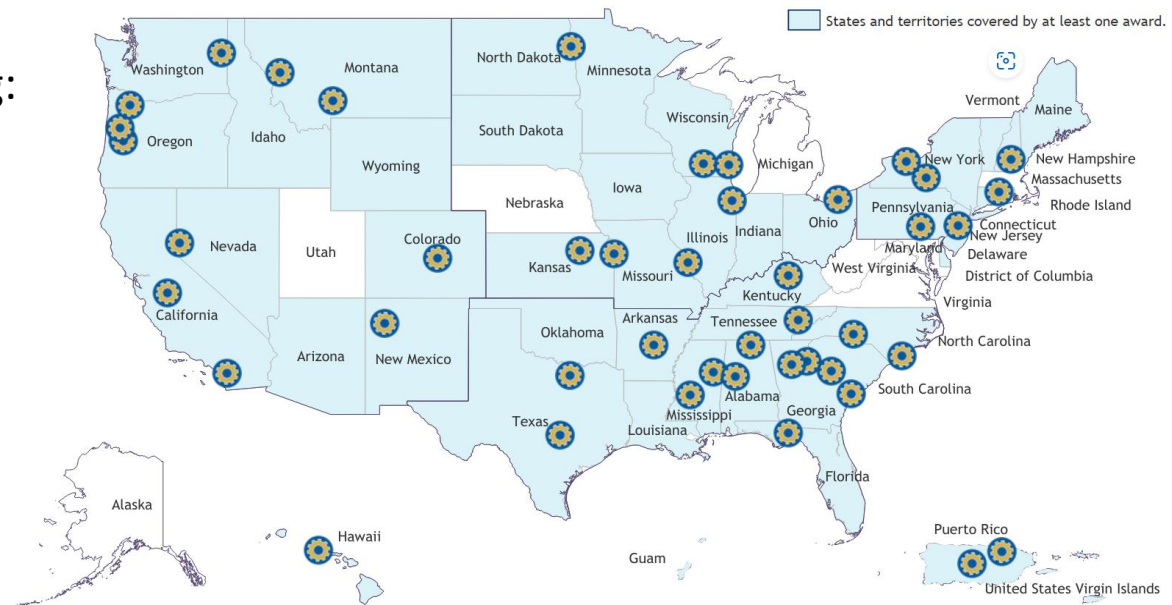
- Technology-focused econ development program
- Applications for Phase I to open soon. Phase II planning for end of summer



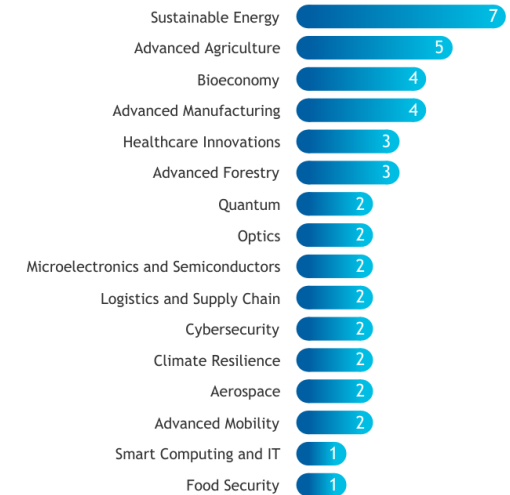
Regional Innovation Engines

Results:

- Among the 16 finalists, several of which were climate focused, including:
 - **Advanced agriculture**
 - North Dakota State University
 - **Climate and Resilience**
 - Rocky Mountain Innovation Initiative
 - **Sustainable Energy**
 - Binghamton University
 - Louisiana State University
 - **Blue Economy/Circular Economy**
 - Current Innovation
 - The Industrial Commons
 - University of Minnesota
 - **Water Sustainability**
 - Arizona State University



Each Award is aligned with one of the following topics [i](#)
 Click on a topic of interest to see the details.



Small Business Administration Rulemakings

Affiliation Rules Modernization

- Brought PPP affiliation rules into 7(a) government guaranteed loan program
- Advocating for SBA to modernize affiliation rules in:
 - Definition of small business for government procurement
 - SBIR program

SBIC Critical Technologies License

- Debt instrument that will defer service until end of ten-year period
- Exempt from affiliation rules
- Trusted partner with DOD's Office of Strategic Capital (OSC)



CHIPS 2.0

Background:

- Senate Majority Leader Chuck Schumer (D-NY) announced a new initiative to create a bipartisan China Competition bill that builds off the CHIPS and Science Act and other efforts from last Congress.

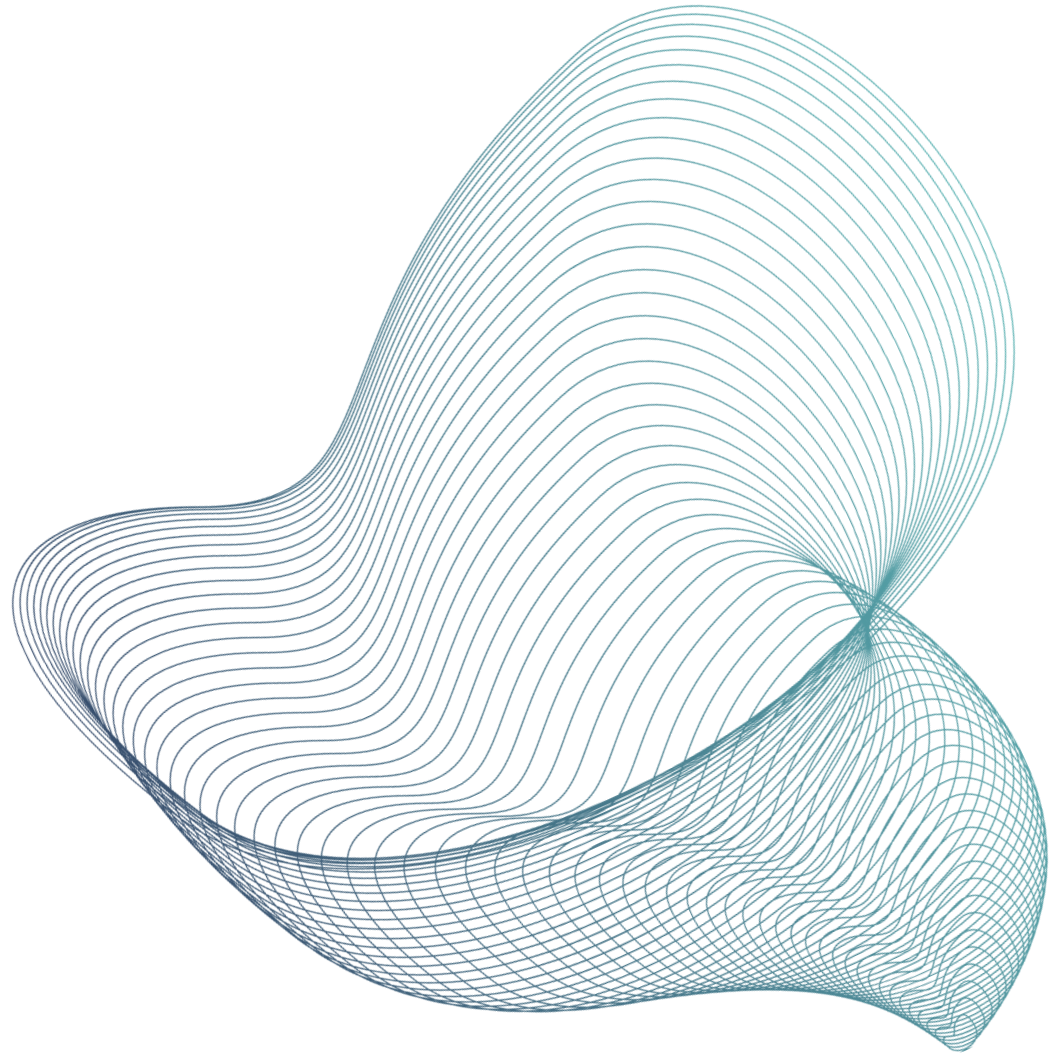
Areas of focus:

- Limit the flow of capital and advanced technology to Chinese technology companies and the Chinese Government;
- Increase domestic economic investment through additional government support of critical technologies, including sourcing of critical materials and domestic manufacturing;
- Safeguard our allies' and partners' security and maintain our strategic alliances.



Sen. Chuck Schumer (D-NY)

“There is broad bipartisan support for this initiative, and we have the opportunity to work this Congress on safeguarding our future. President Xi has made clear he will not stop his campaign to rival America on the world stage. We cannot stop either.”



DISCUSSION

