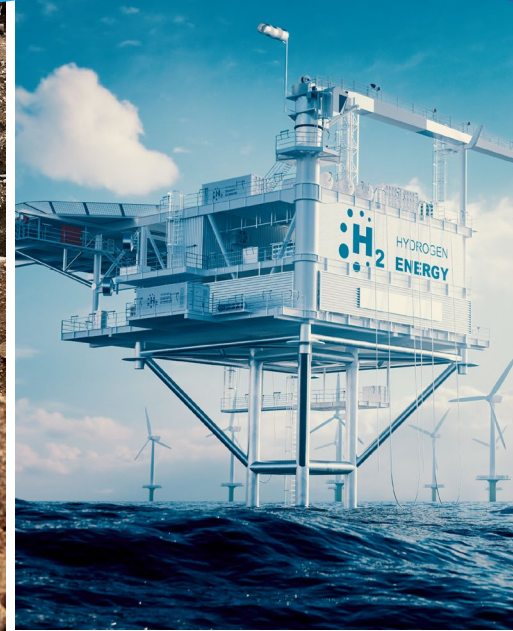




OCED

Office of Clean Energy Demonstrations



U.S. Department of Energy Intergovernmental Meeting

Todd Shrader
Director, Project Management
Office of Clean Energy Demonstrations
U.S. Department of Energy

Disclaimer

As DOE is actively engaged in financial assistance planning, we are subject to constraints during this period to ensure fairness of the process:

- DOE can only communicate public and non-privileged information during this meeting or event.*
- DOE cannot discuss the details of active or planned financial assistance matters [e.g., Requests for Information (RFI), Notices of Intent (NOI), Funding Opportunity Announcements (FOA)] or entertain requests for a specific outcome or benefit related to a financial assistance activity.*



Background

- The International Energy Agency says we need global public investments of at least **\$90 billion** this decade for large-scale clean energy demonstration projects **to achieve net zero emissions by 2050**
- Two recent historical climate laws enacted—the **Bipartisan Infrastructure Law and Inflation Reduction Act**—appropriated \$25+ billion to the Office of Clean Energy Demonstrations (OCED) **to deliver large-scale clean energy demonstration projects**
- OCED will **accelerate clean energy technologies** from the lab to market and **fill a critical innovation gap** on the path to achieving our nation’s climate goals while **mitigating risks that allow private sector investors and developers to act**
- **Communities like yours** – with strong backgrounds in energy technologies – have an opportunity to play a role and benefit from the clean energy transition



OCED Mission & Scope

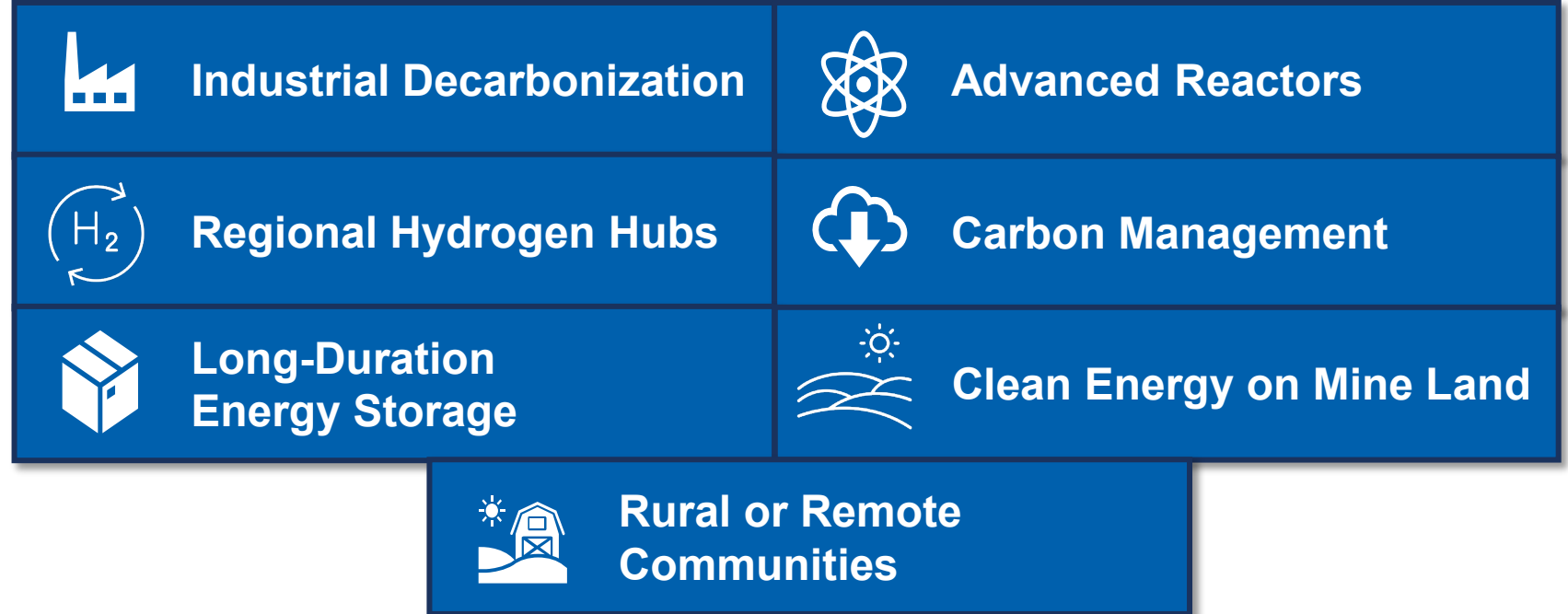
Mission

Deliver clean energy technology demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system

OCED has been tapped by the Bipartisan Infrastructure Law and the Inflation Reduction Act for

\$25+ billion*

across multiple technology areas, and is collaborating closely with experts across the Department



*\$21.6B from Bipartisan Infrastructure Law and \$5.8B from the Inflation Reduction Act



OCED Mandate



CENTER OF EXCELLENCE

Serve as primary DOE office to deliver full scale clean energy demonstration projects and project management oversight excellence



CLEAN ENERGY + EQUITABLE

Help enable 100% clean electricity by 2035 and net zero emissions by 2050 through an equitable energy transition



FOLLOW ON INVESTMENT

Unlock trillion-dollar scale clean energy follow on investment from the private sector and other sources of capital



DE-RISK TECHNOLOGY

Maintain risk-based, balanced, and defensible portfolio of investments



ENGAGEMENT + OUTREACH

Leverage private sector and broader energy ecosystem to inform OCED and DOE technology commercialization efforts



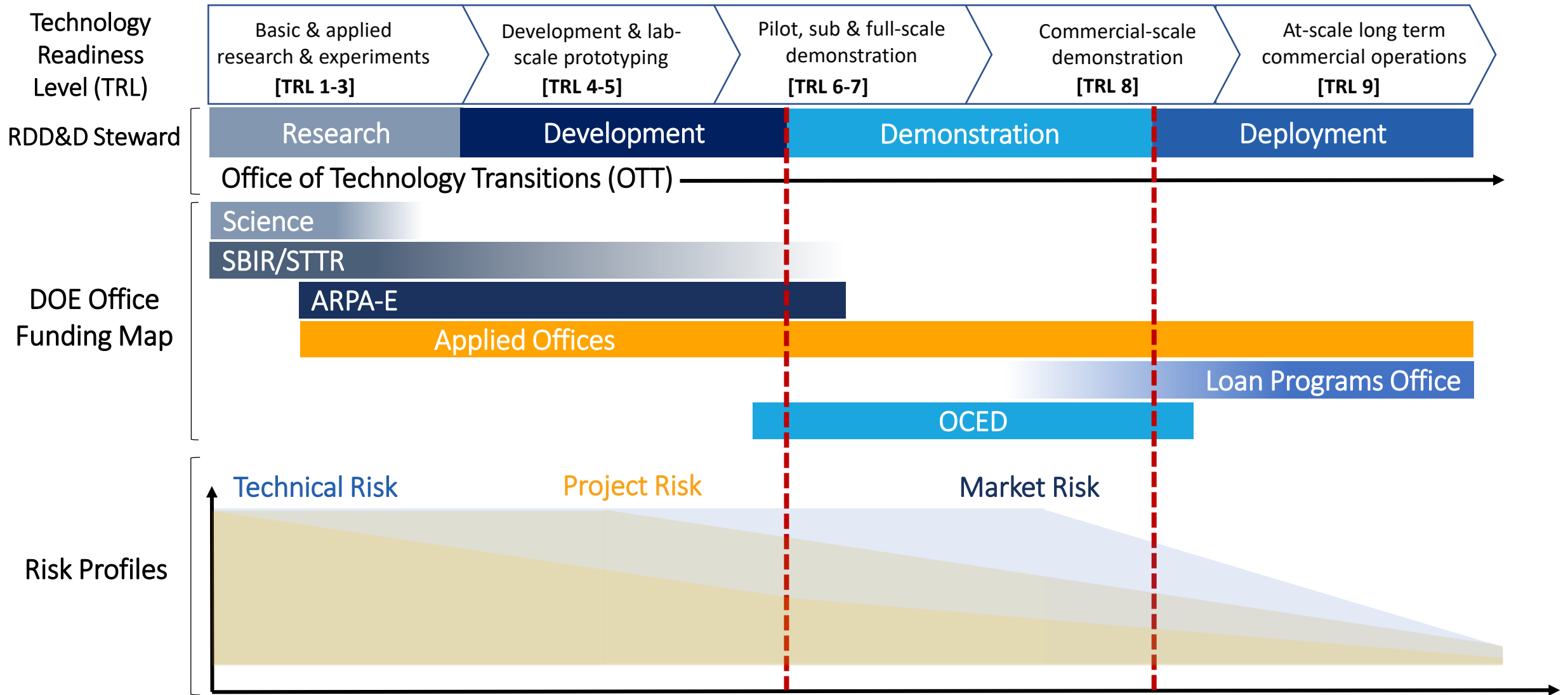
Energy and Environmental Justice

OCED seeks to be a leader within the federal government in advancing energy and environmental justice in large-scale demonstration projects to support an equitable energy transition

- All OCED-funded projects incorporate requirements from Energy and Environmental Justice and the [Justice40 Initiative](#); Diversity, Equity, Inclusion, and Accessibility; Community, Labor, and Tribal engagement; and Quality Jobs
- OCED collaborates with offices across DOE to support and implement Justice40 Initiative
- [View DOE's interactive map to identify disadvantaged communities](#)



Role Across Research, Development, Demonstration & Deployment (RDD&D) Continuum

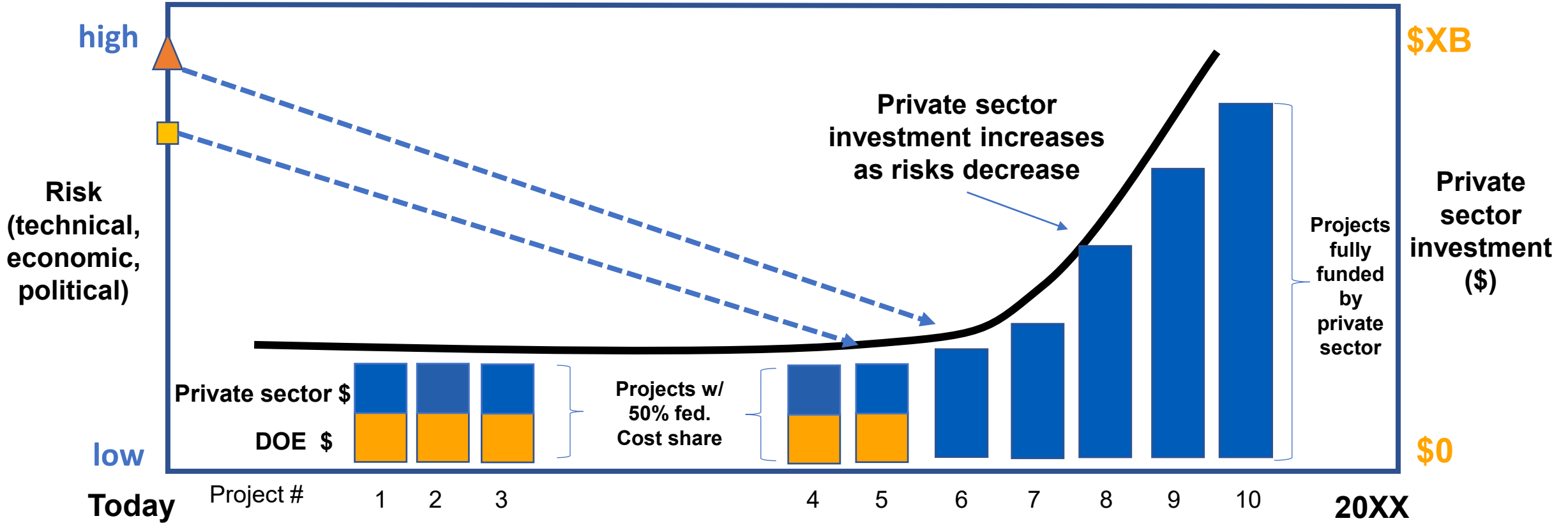


Defining Financial Assistance

- **Federal Grant and Cooperative Agreement Act: “...agency shall use cooperative agreements as the legal instrument...whenever”**
 - (1) “the principal purpose of the relationship is the transfer of money, property, services or anything of value to the State or local government or other recipient to accomplish a public purpose of support or stimulation authorized by Federal statute...rather than the direct benefit or use of the Federal Government; and
 - (2) substantial involvement is anticipated by the executive agency...and the recipient”
- **Grants vs. Cooperative Agreements**



Path to At-Scale Private Sector Investment

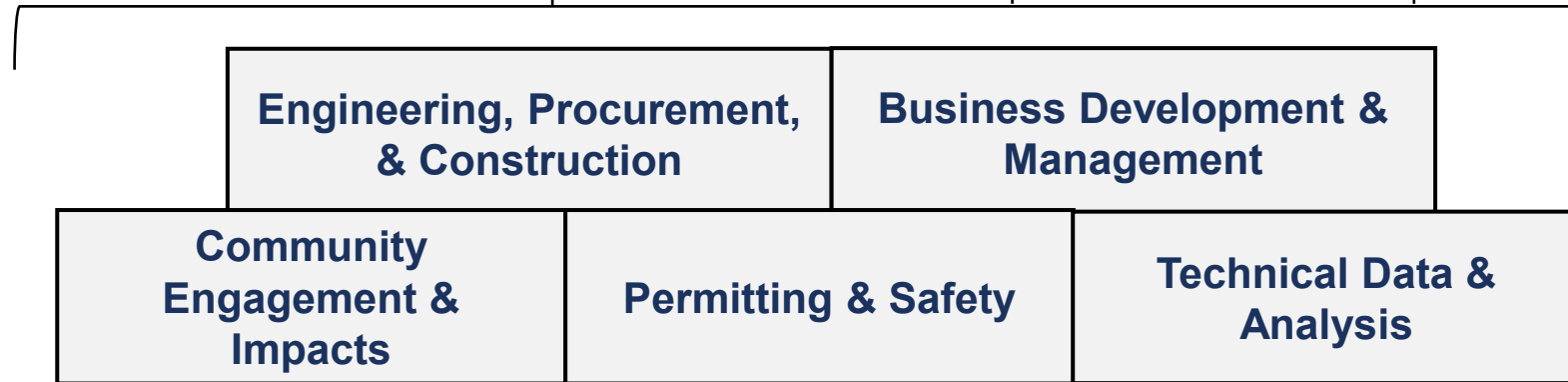


OCED Project Management Approach

- ☆ Initial Application
- ◇ Go/No-Go Decisions



OCED projects goals throughout the project lifecycle:



Independent project review teams will conduct regular project evaluations in accordance with the office's center of excellence for demonstration project management oversight



Advanced Reactor Demonstrations

Support domestic nuclear industry in design, licensing, construction, and operation of two advanced nuclear reactors to assure next generation American nuclear reactor designs can transition from concept to demonstration: TerraPower Sodium Reactor and X-energy Xe-100 (pictured below)

Current Status

- Awarded \$2.5 billion in funding through the BIL
- Both projects are achieving early milestones
- TerraPower selected Kemmerer, WY as preferred site for Sodium reactor demonstration project



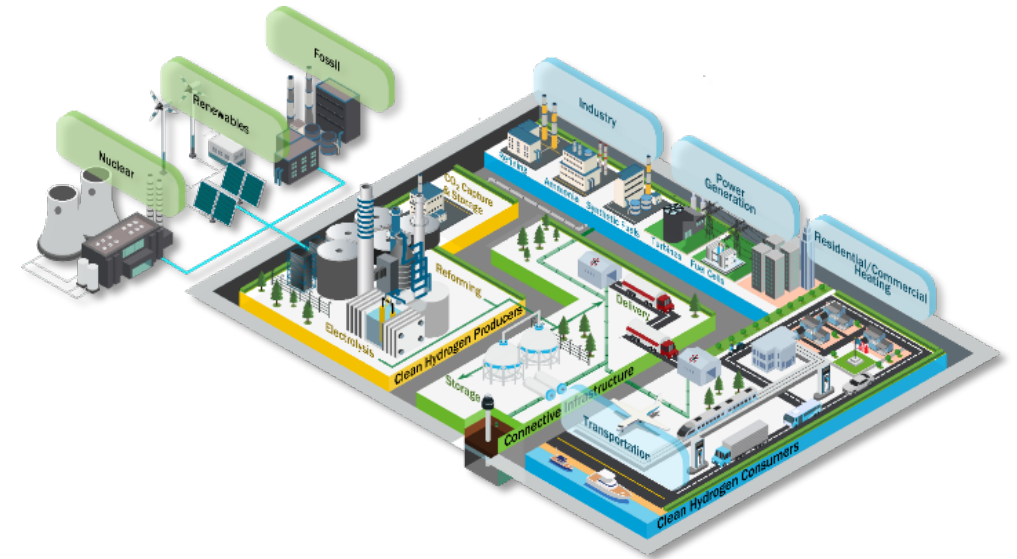
Regional Clean Hydrogen Hubs

Build 6-10 regional clean H2Hubs across the country to create networks of hydrogen producers, consumers, and local connective infrastructure to accelerate use of hydrogen

- Feedstock diversity
- End use diversity
- Geographic diversity
- Employment and training

Current Status

- Issued [funding announcement](#) in September 2022
 - Concept papers received on November 7, 2022
 - Full applications are due by April 7, 2023



Carbon Management

- 1) **Carbon Capture Demonstration Projects:** *Develop six carbon capture facilities to improve costs, emissions reductions, and environmental effects from coal and natural gas*
- 2) **Carbon Capture Large-Scale Pilot Projects:** *Establish and test innovative carbon capture pilot projects large enough to support new processes and technology improvements at scale*
- 3) **Regional Direct Air Capture Hubs:** *Develop four regional direct air capture hubs to capture and sequester, utilize, or sequester and utilize at least 1,000,000 metric tons of CO₂ annually from a single unit or multiple interconnected units*

Current Status

- Issued [funding announcement](#) in 20 front-end engineering design studies in September 2022
 - Full applications are due by December 5, 2022
 - Second funding announcement for detailed design construction, and operation of carbon capture projects and transport and storage of the captured CO₂ anticipated late 2022
- Issued [Notice of Intent](#) for Regional Direct Air Capture Hubs in May 2022
- Conducted stakeholder engagement and held four workshops in April 2022



Industrial Decarbonization

Establish demonstration projects that test and support technologies to reduce industrial emissions

- Reduce emissions in industrial and chemical production processes and heat generation
- Leverage smart, digital, sustainable manufacturing to develop new technologies and practices
- Increase energy efficiency of industrial processes

Current Status

- Conducting stakeholder engagement and outreach



Long-Duration Energy Storage Demonstrations

- 1) **Long-Duration Energy Storage Demonstrations:** Set of demonstration projects targeted towards a range of long-duration energy storage technology types
- 2) **DOE Department of Defense Long-Duration Energy Storage Joint Program:** Collaboration between Department of Energy and Department of Defense for long-duration demonstrations on government facilities
- 3) **Long-Duration Energy Storage Pilot Grant Program:** Program that aims to bring a range of benefits provided by storage to targeted recipients including states, Tribes, & utilities

Current Status

- Released \$349M [funding announcement](#) for Long-Duration Energy Storage Demonstrations on November 14, 2022
 - Letters of Intent are due by December 15, 2022
 - Full applications due by March 3, 2023
- Held public webinar and [listening sessions](#) in Summer 2022



Energy Improvements in Rural or Remote Areas (ERA)

Improve resilience, safety, reliability, and availability of energy in rural or remote areas and increase environmental protection from adverse impacts of energy use, in coordination with Department of Interior

- Rural or remote areas are defined as cities, towns, or unincorporated areas with fewer than 10,000 inhabitants

Current Status

- Conducting stakeholder outreach and held three public [workshops](#) in Fall 2022
- Announced [technical assistance opportunity](#) with EPA
- [Issued RFI](#) that closes on December 5, 2022



Clean Energy Demonstrations on Mine Land

Carry out up to 5 clean energy projects on current and former mine land to show technical and economic feasibility

- Eligible technologies: solar (at least two projects); micro-grids; geothermal; direct air capture; fossil generation with CCUS; energy storage; advanced nuclear
- Focus on economic development and environmental justice

Current Status

- Conducting stakeholder outreach; held three public [workshops](#) in Fall 2022
- Issued [RFI](#) that closed in August 2022
- Announced [technical assistance opportunity](#) with EPA



Opportunities Across Department of Energy

View other Bipartisan Infrastructure Law Programs and funding opportunities across the Department of Energy here:

[Bipartisan Infrastructure Law Programs | Department of Energy](#)

DOE Bipartisan Infrastructure Law Program & Funding Opportunity Announcements

BIL PROVISION NAME	TYPE OF ANNOUNCEMENT	STATUS	ANNOUNCEMENT DATE	RESPONSE DUE DATE
Energy Efficiency Conservation Block Grant Program	Notice of Intent	n/a	11/22/2022	n/a
Civil Nuclear Credit Program	Selections	n/a	11/21/2022	n/a
Transmission Facilitation Program	Request for Proposals	Open	11/18/2022	2/1/2023
Grid Resilience and Innovation Partnership Programs - Grid Innovation Program - 40103(b)	Funding Opportunity Announcement [†]	Open	11/18/2022	1/13/2023
Grid Resilience and Innovation Partnership Programs - Grid Resilience Utility and Industry Competitive Grants - 40101(c)	Funding Opportunity Announcement [†]	Open	11/18/2022	12/16/2022
Grid Resilience and Innovation Partnership Programs - Smart Grid Grants - 40107	Funding Opportunity Announcement [†]	Open	11/18/2022	12/16/2022
Electric Drive Vehicle Battery Recycling and Second-Life Applications Program	Selections	n/a	11/16/2022	n/a
Energy Efficiency Revolving Loan Fund Capitalization Grant Program	Funding Application	Open	11/15/2022	4/21/2023
Energy Storage Demonstration and Pilot Grants; and Long-Duration Energy Storage Demonstration Initiative and Joint Program	Funding Opportunity	Open	11/14/2022	Letter of Intent Deadline: 12/15/2022, Full Application Submission Deadline: 3/3/2023
Energy Efficiency Materials Pilot Program for Nonprofits	Request for Information	Open	11/10/2022	12/22/2022
Grants for Energy Improvements at Public School Facilities	Notice of Intent	N/A	10/26/2022	N/A
Rural And Municipal Utility Advances Cybersecurity Grant And Technical Assistance Program	Request for Information [†]	Open	10/20/2022	12/19/2022



...TO ENGAGE WITH OCED!



- OCED Website and Newsletter Sign-up
energy.gov/oced
- OCED Exchange (RFIs, NOIs, and FOAs)
oced-exchange.energy.gov
- Self-nominate to be a FOA reviewer
oced-exchange.energy.gov/Registration
- Apply to the Clean Energy Corps
energy.gov/CleanEnergyCorps
- Get in touch via email
DL-OCED-Engagement@hq.doe.gov



OCED

Office of Clean Energy Demonstrations