U.S. DEPARTMENT OF ENERGY

Office of Clean Energy Demonstrations

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Background

- The Biden Administration's bold climate goals include carbon-free electricity in the U.S. by 2035 and a net zero economy by 2050

- Achieving net zero emissions by 2050 in the U.S. will require trillions of dollars of investment in emerging clean energy and decarbonization technologies

- These technologies face significant barriers to scale, and the private sector is seeking financial support to reduce risk and deploy these technologies

- In December 2021, the U.S. Department of Energy announced the establishment of the Office of Clean Energy Demonstrations (OCED) to deliver $21.5 billion provided by the Infrastructure Law to support 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

OCED 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 Mandate

1. **Serve as primary office in DOE for delivering full scale clean energy demonstration projects** and for project management oversight excellence

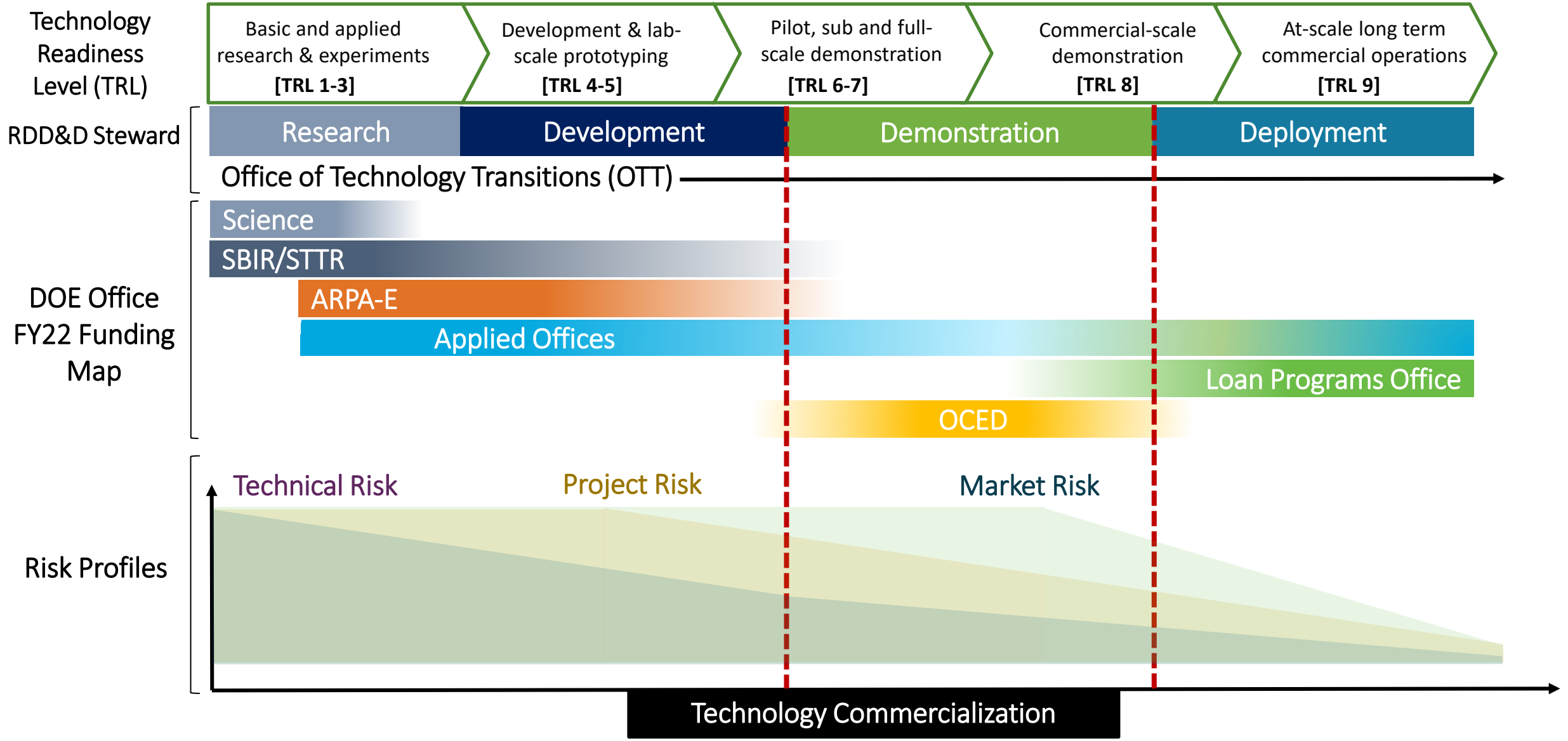
2. **Help enable 100% clean electricity by 2035 and net zero emissions by 2050** through an equitable energy transition

3. **Unlock trillion-dollar scale clean energy investment** from the private sector and other sources of capital

4. **Maintain risk-based, balanced, and defensible** portfolio of investments

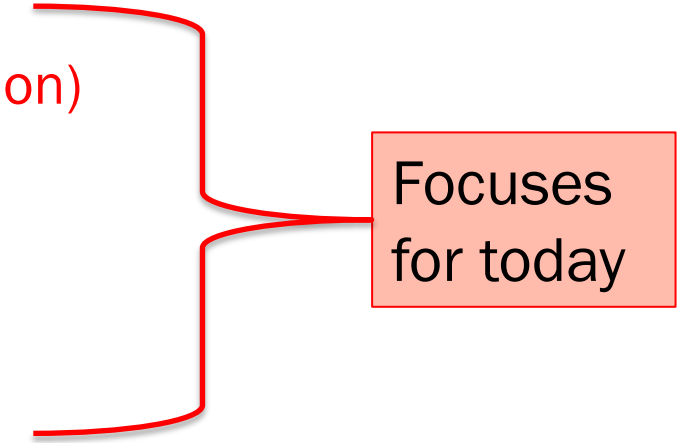
5. **Leverage private sector partnerships and broader ecosystem engagement** to inform OCED and DOE technology commercialization efforts

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



OCED Scope

- Regional Clean Hydrogen Hubs ($8 billion)
- Upgrading Grids Demonstrations ($5 billion)
- Advanced Reactor Demonstrations ($2.5 billion)
- Carbon Capture Demonstrations ($2.5 billion)
- Carbon Capture Large-Scale Pilot Projects ($937 million)
- Industrial Emissions Demonstrations ($500 million)
- Long Duration Demonstration Initiative and Joint Program ($150 million)
- Energy Storage Demonstration and Pilot Grants ($355 million)
- Energy Improvement in Rural and Remote Areas ($1 billion)
- Clean Energy Demonstrations on Mine Land ($500 million)



Long Duration Energy Storage Initiative ($505M)

1) Build energy storage projects to improve grid security, reliability and facilitate clean energy on the grid and 2) Construct long-duration energy storage technologies at different scales for commercial viability with a Joint Program with DOD for long-duration demos on government facilities

- Supply energy at peak periods of demand on the electric grid and improve energy efficiency
- Reduce peak loads of homes and businesses
- Provide ancillary services for grid stability
- Integrate renewable energy resources
- Increase the feasibility of microgrids
- Integrate fast charging of electric vehicles

Current Status

- Issued RFI that closed in June 2022
- Webinar held in June 2022; listening sessions held in July/August 2022

Energy Improvement in Rural and Remote Areas ($1B)

Improving the resilience, safety, reliability, and availability of energy in rural or remote areas and increasing environmental protection from the adverse impacts of energy use, in coordination with the Department of Interior. Program is known as ERA.

- Rural and remote is defined as cities, towns, or unincorporated areas with less than 10,000 inhabitants
- Projects for the purposes of:
  (A) overall cost-effectiveness of energy generation, transmission, or distribution systems;
  (B) siting or upgrading transmission and distribution lines;
  (C) reducing greenhouse gas emissions from energy generation by rural or remote areas;
  (D) providing or modernizing electric generation facilities;
  (E) developing microgrids; and
  (F) increasing energy efficiency.

Current Status

- Conducting stakeholder outreach
- Announced Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs) with EPA
- Planning a Request for Information and workshops in the Fall
- Planning a funding announcement in 2023

Clean Energy Demonstrations on Mine Land ($500M)

Carrying out up to five clean energy projects on current and former mine land to show their technical and economic feasibility

- Eligible technologies:
  - Solar (at least two projects must be solar)
  - Micro-grids
  - Geothermal
  - Direct air capture
  - Fossil generation with CCUS
  - Energy storage
  - Advanced nuclear
- Focus on economic development and environmental justice

Current Status

- Issued an RFI in June 2022 that closed on August 15, 2022
- Conducting outreach
- Announced Environmental Justice Thriving Communities Technical Assistance Centers with EPA
- Workshops: Eastern - Sept 20/21, Knoxville, TN; Western – Oct 11/12, Denver, CO; Virtual – Oct 25/26
  - https://www.energy.gov/oced/clean-energy-mine-land-workshops

Thank You!

For additional updates and information, visit:
www.energy.gov/office-clean-energy-demonstrations

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