

**NET
ZERO
WORLD
INITIATIVE**

Accelerating Global
Energy System
Decarbonization

The Net Zero World Initiative

JISEA Annual Meeting
April 14, 2022



USAID
FROM THE AMERICAN PEOPLE



U.S. DEPARTMENT OF
ENERGY

USTDA
U.S. TRADE AND DEVELOPMENT AGENCY



U.S. International
Development
Finance Corporation





“The U.S. is committed to working with countries all over the globe to accelerate clean climate goals from ambition to action, and the Net Zero World Initiative is the latest example of our dedication. **With Net Zero World, our partnering nations will harness the power and expertise of the National Laboratories, federal agencies, think tanks, businesses, and universities, to develop tangible clean energy projects that meet their energy needs.**”

— Secretary of the U.S. Department of Energy, Jennifer M. Granholm



Ministers from Argentina, Chile, Indonesia, Egypt, Nigeria, and Ukraine participated in the COP 26 launch event led by U.S. Sec. Granholm and Sec. Kerry

Mission

The Net Zero World Initiative will partner with countries to help them **implement climate ambition pledges** and accelerate global transitions to net zero, resilient, and inclusive energy systems.

The Net Zero World Initiative Offers Countries:

- **Immediate and sustained access to expert technical, deployment, and investment analysis and facilitation support** from the U.S. government, including from world-class U.S. Department of Energy national laboratories
- **Targeted financial support for in-country technical institutions** (for developing country partners)
- Deep **collaboration with development of technical and investment plans and support** for designing and implementing technology testing and system design, infrastructure modernization, investment partnerships, capacity building and workforce development, and other critical actions needed to achieve near- and long-term energy system decarbonization.

Timeline and Performance Metrics



The Net Zero World Initiative is Uniquely Positioned to Achieve Rapid Global Energy Decarbonization

Rigorous Country-Driven Net Zero Pathways and Technical and Investment Plans

- Energy-system wide, sector specific, and across all supply and demand options
- National and sub-national (for one priority region)
- Long-term plans inform and strengthen NDCs

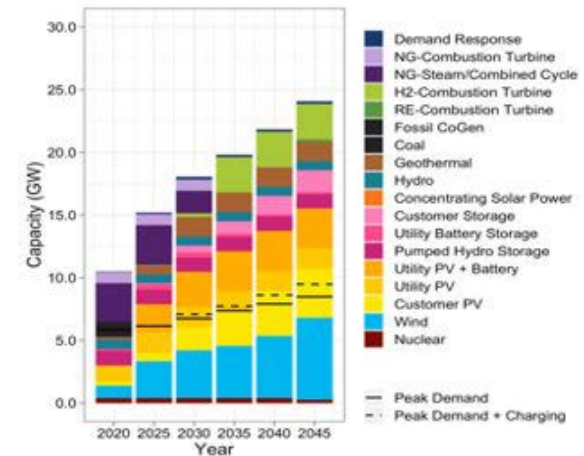
Holistic Lab and USG Support for Transformative Decarbonization Actions

- Deep technical and analytic support for key levers to accelerate priority energy transitions
- Couple technology cooperation, policy and regulatory solutions, procurements, investment mobilization, and workforce development

Focus on Investment Mobilization Throughout All Stages

- Pathways translated into detailed investment plans
- Engage USG investment agencies, IFIs, finance experts, and private sector on actions lead to robust investment pipelines

High Impact Partnerships with Other Major Donors and International Agencies





17 National Department of Energy Laboratories

- A **nationwide scientific enterprise and network** that solves the **world's greatest scientific and research challenges**, translating basic science to innovation
- **Unmatched energy and technology expertise** dedicated to research, development, demonstration, commercialization, and deployment of clean energy technologies
- **Unique instruments and facilities**; many of which are found nowhere else in the world

The Net Zero World Initiative Will Harness Unique USG and Lab Assets in Partnership with Philanthropies



DOE – Energy Technology and Deployment Expertise
State Department – Energy and Climate Diplomacy
USAID – Integration with Development Assistance
EXIM/MCC/DFC/TDA/Commerce/Treasury – Investment and Business Partnerships

KEY ENERGY SECTORS AND TOPICS AND INITIAL LAB TEAM

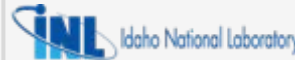
Initial Partner Governments

- Argentina
- Chile
- Egypt
- Indonesia
- Nigeria
- Ukraine

Philanthropies & Other Partners Support

- Breakthrough Energy
- Lynne and Marc Benioff
- Bloomberg Philanthropies
- EBRD, GIZ, others

-  **Buildings**
-  **Industry**
-  **Transport**
-  **Power & Energy Storage**
-  **Carbon Capture, Use, and Storage**
-  **Agriculture**
-  **Energy Systems**
-  **Nuclear**



Collaborative Action Areas

- Analysis and Technical and Investment Plans
- RD&D – piloting, testing, incubators
- Policies and Regulations
- Deployment and Investment Programs
- Workforce Development

Examples of Country - National Lab Cooperation Areas to Support Net Zero Transitions

Energy System Wide – Development of technical and investment plans for holistic energy transitions to net zero energy systems and support for design and implementation of integrated energy system measures



Transportation

Policies for public-fleet procurement; **low-carbon fuel standards** to drive deployment of zero-emissions vehicles; **joint RD&D** to lower costs of battery electric and hydrogen fuel cell vehicles; **modeling and analysis** to optimize grid integration of charging infrastructure



Industry

Policies and standards for material efficiency; **joint RD&D and testing** for H2 for heat and as feedstock production; **modeling and analysis** to determine electrification opportunities



Buildings

Policies for finance availability; **codes and standards** for appliances and buildings performance; **demonstration** of technologies at building/stock/community-level; **workforce development** for operators of net-zero buildings at scale



Carbon Capture and Geologic Storage

Integrated assessment modeling to identify economic pathways to emissions reductions; **implementation** of tools and practices for management, monitoring, validation, and accounting; **technical and market development** to create value from CO₂ waste streams



Storage

Analysis and road mapping to evaluate technologies for different power-sector applications; **policies and regulations** for business model and market development; **workforce development** to facilitate knowledge-sharing and best practices around emerging technologies



Power

Grid modernization infrastructure and operational tools, **Policies and best practices** for grid planning and system operation; **modeling and analysis** for grid integration and electricity market design; **deployment** of renewables and solutions for driving higher penetrations

Rapid Net Zero World Scale-Up and Ambitious Goals

Phase 1 (November 2021 to May 2022)

Implementation

- Design **country work programs** with up to 6 priority countries in close cooperation with in-country institutions, USG agencies, and partners
- USG and DOE Laboratory-wide scoping analysis completed for Argentina and Nigeria and underway for Indonesia, Chile, and Egypt
- **Country work program meetings started in March**

Structure & Operations

- Established **Net Zero World Action Center - completed** and **Governance** bodies
- **9 agencies actively participating** via USG management team, **10 DOE Laboratories**
- Adopt **Terms of Reference**—USG review

Funding and Partnerships

- **Mobilize funding** from U.S. agencies and philanthropies—**\$13.71M of funding in process and up to \$50M under consideration**
- Establish and implement **partnership plans** with others—**partnership commitments from UK, Germany, EBRD, IDB, WRI, ETP, GIZ, and others**

Phase 2 (May 2022 through March 2023)

- Draft **Technical and Investment Plans** for at least 6 countries
- Advance **2-4 transformative net zero actions** and at least 1 major **net zero investment project** for each country
- Conduct **peer learning and advisory support** to extend reach

- First meeting of the **Ministerial Board**
- Quarterly **Steering Committee meetings**
- Adopt **multi-year strategy** and **2023 work program**

Leadership Group

Advisory Council [Name TBC]

- Ministerial level
- Meets 1 time per year

Steering Committee (TBC)

- USG agency leadership, country partners, and lab directors
- Meets quarterly

USG Management Team

- Interagency team, NZWAC senior managers, and lab NZW leads
- Meets monthly

**International
Implementation
Partners,
Philanthropies,
MDBs, and
other Donors**

**Investment
Advisory
Service**

In-Country Implementing Partners

Missions and Posts
*(coordination and
program alignment)*

**Partner
governments,
private sector,
academia,
technical
institutes, and civil
society, including
underrepresented
communities**

Net Zero World Action Center

Lab, Federal Agency & Partner Implementation Team

Housed at NREL with personnel across DOE labs, federal agencies and partners working in collaboration



- Technical Programs
- Country Teams
- Investment Team
- Partnerships Team
- Operations

***Unprecedented
Level of Cross-Lab
Collaboration***

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Thank you

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<https://www.nrel.gov/netzeroworld>
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