

CLEAN ENERGY FINANCE

\$2.4 Billion

Finance mobilized for clean energy projects

RESEARCH

\$125 Million

Pledged public-private funding for cutting-edge research on solar, building efficiency, and biofuels

95

Government, private and university organizations that are part of three bi-national research consortia

100

Papers related to consortia research submitted to journals and proceedings

DEPLOYMENT

315 Megawatts

Renewable energy capacity created

08

Technologies supported for deployment

Net Zero Energy Buildings
HVAC
Smart Grids
Waste Heat Utilization
Solar
Wind
Off-grid Renewables
Energy Storage

04

Indian states (Haryana, Madhya Pradesh, Karnataka and Rajasthan) supported for enhancing institutional capacities at the sub-national level

11,000

Person-hours of training provided

10

Charter members in the Clean Energy Access Network

14

Smart grid pilots supported through the Indian Smart Grid Task Force



“The relationship between the world’s oldest and largest democracies should not only be for the benefit of the two countries, but should emerge as a powerful force of good for peace, stability and prosperity in the world.”

Narendra Modi
Honorable Prime Minister of India

“The relationship between the United States and India will be one of the defining partnerships of the 21st century.”

Barack Obama
President of the United States

U.S.-India Partnership to Advance Clean Energy (PACE)



The Power of Partnership



USAID
FROM THE AMERICAN PEOPLE



A publication by:
The Department of Commerce (USDOC), Department of Energy (USDOE), Department of State (USDOS), Export-Import Bank of the United States (Ex-Im), Overseas Private Investment Corporation (OPIC), U.S. Agency for International Development (USAID) and U.S. Trade and Development Agency (USTDA).

Partnership to Advance Clean Energy (PACE)

Launched in 2009, the U.S.-India Partnership to Advance Clean Energy (PACE) focuses on accelerating the transition to high-performing, low-emission and energy secure economies by supporting research and deployment of clean energy.

Components of PACE

Deployment (PACE-D)	Research (PACE-R)	Energy Access (PEACE)
<i>Accelerating the deployment of clean energy technologies and policies</i>	<i>Jointly developing the next generation of clean energy innovations</i>	<i>Promoting sustainable energy access</i>

- Renewable Energy
- Energy Efficiency
- Cleaner Fossil
- Clean Energy Finance
- Solar Energy
- Energy Efficiency in Buildings
- Second Generation Biofuels
- Off-grid Renewable Energy

Energy Security / Energy Access / Climate Change

Energy is a core element of the U.S.-India strategic partnership.

Deployment (PACE-D)

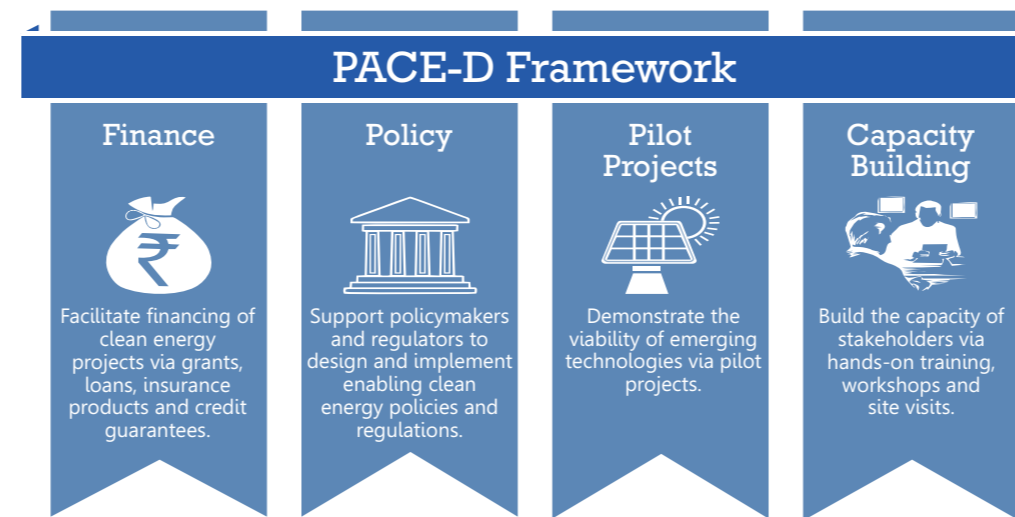
Partnership to Advance Clean Energy-Deployment

Technical Cooperation:

- USAID is carrying out a 5 year, \$20 million technical cooperation program in partnership with the Indian Ministry of Power and the Ministry of New and Renewable Energy. The program works with the leading national and state level agencies to strengthen institutional capacities; supports the design and implementation of new policies, programs, and innovative financial instruments; and builds human capital to enable faster and more cost effective acquisition of clean energy resources.
- The USDOE is working with the National Institute of Solar Energy (NISE) and the National Institute of Wind Energy to enhance quality and accuracy of solar and wind resource data and to improve product reliability. USDOE is working with NISE to develop solar resource data to accelerate deployment of clean energy. The bi-national collaboration also includes collaboration with the Bureau of Energy Efficiency on building codes, data centers energy efficiency, and demand side management solutions.

Clean Energy Financing: OPIC has committed \$500 million and mobilized \$450 million in additional private sector investment in India. U.S. EXIM was the first international financing institution to finance a solar power project under India's National Solar Mission (NSM) in 2011. It is today one of the largest financers of renewable energy projects in India and has financed 30% of the projects allocated under the NSM Phase 1.

Business Cooperation: The USTDA and the USDOC are supporting the deployment of clean energy infrastructure by building business-to-business linkages, including through reverse trade and trade missions. USTDA also assists public and private sector Indian entities in evaluating the clean energy technologies.



PACE-D and PACE-R support India's National Missions on Solar Energy, Enhanced Energy Efficiency and Sustainable Habitat.

Research (PACE-R)

Partnership to Advance Clean Energy-Research

U.S.-India Joint Clean Energy Research and Development Center: In the first two years of collaborative work and cross-country cooperation, researchers from national laboratories, universities and industry partners have delivered disruptive research in the key technological areas.

Solar Energy Research Institute for India and the U.S. (SERIUS): Co-led by the Indian Institute of Science in Bangalore (IISc) and the National Renewable Energy Laboratory (NREL), SERIUS focuses on accelerating the development of new solar electricity technologies and processes at lower cost through fundamental and applied research.

U.S.-India Consortium for Development of Sustainable Advanced Lignocellulosic Biofuel Systems: Co-led by the Indian Institute of Chemical Technology-Hyderabad and the University of Florida, the consortium is developing and optimizing crops of non-edible feedstocks and researching conversion technologies for the sustainable production of advanced biofuels.

U.S.-India Joint Center for Building Energy Efficiency Research and Development (CBERD): Co-led by Lawrence Berkeley National Laboratory in the U.S. and CEPT University in India, CBERD's research is focused on the integration of information technology to accelerate implementation of cost-effective efficiency technologies across buildings.

Energy Access (PEACE)

Promoting Energy Access through Clean Energy

Clean Energy Access Network (CLEAN): An alliance of businesses, not-for-profit organizations and government to strengthen India's off-grid ecosystem.

PACEsetter Fund: \$8 million fund for early stage innovative clean energy products, systems and business models.

Quality Assurance Framework: Enhance safety, reliability and performance of micro-grids.

PACE is a genuine "whole-of-government" initiative that engages a diverse array of governmental bodies from both countries.

PEACE aims to provide access to sustainable energy to the unserved and under-served population without access to electricity.