



U.S. - INDIA STRATEGIC CLEAN ENERGY PARTNERSHIP RESPONSIBLE OIL AND GAS PILLAR

October 2022



पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय
MINISTRY OF PETROLEUM AND NATURAL GAS
Government of India



USAID
FROM THE AMERICAN PEOPLE



U.S. DEPARTMENT OF
ENERGY

USTDA
U.S. TRADE AND DEVELOPMENT AGENCY



U.S. International
Development
Finance Corporation

EXIM
EXPORT-IMPORT BANK
OF THE UNITED STATES



PARTNERSHIP OVERVIEW

OUTLINE

During the April 2021 Leaders Climate Summit, President Biden and Prime Minister Modi announced a new high-level U.S.-India Climate and Clean Energy Agenda 2030 Partnership, to accelerate progress toward shared climate and clean energy goals. The Agenda 2030 Partnership includes two tracks of engagement: 1) the Strategic Clean Energy Partnership (SCEP), and 2) the Climate Action and Finance Mobilization Dialogue. The U.S.-India SCEP builds upon a longstanding bilateral energy dialogue focused on energy security and innovation. The revitalized SCEP will continue to advance energy security and innovation with greater emphasis on electrification and decarbonization of processes and end uses; scaling up emerging clean energy technologies; finding solutions for hard-to-decarbonize sectors; and deploying technical solutions. Engagement with the private sector and other stakeholders remains a priority to facilitate rapid technology deployment and create economic opportunities for both countries. The U.S. Department of Energy and India's Ministry of Petroleum and Natural Gas lead overall engagement under the SCEP with robust interagency engagement on both sides.

STRATEGIC CLEAN ENERGY PARTNERSHIP PILLARS



Renewable Energy Pillar




Sustainable Growth Pillar



Power and Energy Efficiency Pillar



Responsible Oil and Gas Pillar



Emerging Fuels Pillar

UN Climate Change Conference Glasgow 2021 (November 2021)



"We can create an environment that raises the standard of living around the world. And this is a moral imperative, but it's also an economic imperative – if we fuel greater growth, new jobs, and better opportunities for all our people"

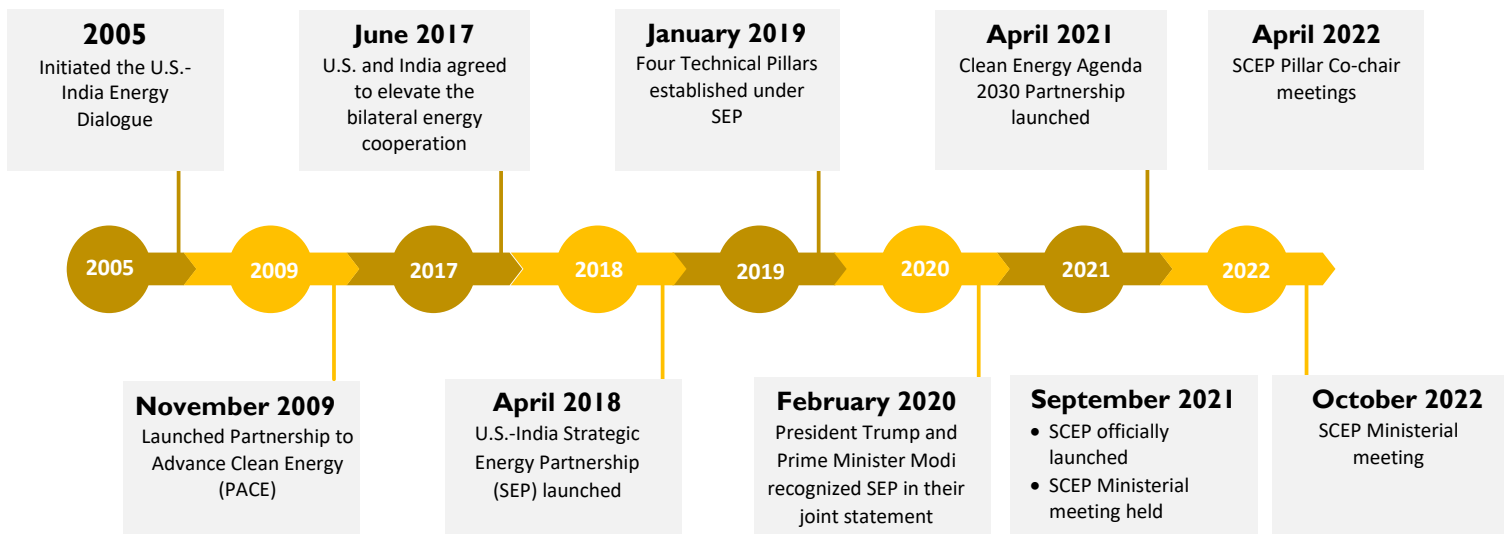
Joe Biden
President of the United States



"With the India-U.S. Climate and Clean Energy Agenda 2030 partnership, together we will help mobilize investments, demonstrate clean technology, and enable green collaborations."

Narendra Modi
Prime Minister of India

THE JOURNEY SO FAR



PILLAR OVERVIEW



Responsible Oil and Gas Pillar Priorities

The Responsible Oil and Gas Pillar is co-chaired by the U.S. Department of Energy’s Deputy Assistant Secretary for Resource Sustainability and India’s Ministry of Petroleum and Natural Gas Joint Secretary for International Cooperation.

Through consultations, the two sides have agreed on high-level priorities to guide the work of the pillar, noting that additional priorities can be added as needed. The priorities for the Responsible Oil and Gas Pillar are:

- Explore joint cooperation to facilitate reducing the consumption of high-polluting fuels, reducing greenhouse gas emissions, and minimizing impacts to the climate.
- Explore joint cooperation to move towards the goal of maximally abated natural gas as a cleaner alternative to coal and other fossil-based fuels for use in the industrial, transportation, and residential sectors.
- Encourage and promote investment, trade, and collaboration opportunities in the form of technology tie-ups, R&D, procurements, etc. between the companies and departments from both sides across the entire value chain.
- Explore cooperation to facilitate achieving climate goals by deploying in India carbon capture, utilization, and storage (CCUS) technology and advancing alternative fuels such as hydrogen and biofuels for transport and industry; and
- Exchange best practices for the development of India’s Strategic Petroleum Reserves.

U.S.-India SCEP Ministerial Chairs



Jennifer M. Granholm

Secretary
U.S. Department of Energy



Hardeep Singh Puri

Minister of Petroleum and Natural Gas & Minister of Housing and Urban Affairs
Government of India

Responsible Oil and Gas Pillar Co-Chairs



Esha Srivastava

Joint Secretary,
International Cooperation
Ministry of Petroleum and Natural Gas



Ryan Peay

Acting Deputy Assistant Secretary for Resource Sustainability
U.S. Department of Energy



CURRENT AND FUTURE ACTIVITIES IN SUPPORT OF PILLAR PRIORITIES



Source: 123rf.com

U.S.-India Low Emission Gas Task Force

The U.S.-India Low Emission Gas Task Force facilitates India's vision to reduce its consumption of high polluting fuels. It does this through increasing the use of natural gas for transportation, industrial, and residential purposes by supporting short-term and long-term clean energy transition and climate action goals. The Task Force focuses on addressing India's natural gas policy, technology, and regulatory barriers by promoting efficient and market-driven solutions to meet India's growing energy demand and greenhouse gas (GHG) emissions reduction targets through its subcommittees' targeted work on GHG Emissions Abatement Technologies, Carbon Capture and Storage (CCS), Markets and Regulation, Cleaner Fuels for Industry, Cleaner Fuels for Transport, and Bio-energy, Hydrogen, and Renewable Fuels as they intersect with India's natural gas sector.



Source: 123rf.com

DOE Safe and Resilient Clean Gas Infrastructure Technical Webinars

DOE's Safe and Resilient Clean Gas Infrastructure Technical Webinars for members of the Pillar's Low Emission Gas Task Force and Indian industry will focus on a balanced mix of laboratory and field-based research on methane emissions mitigation, methane emissions quantification, and modular natural gas conversion technologies.



Source: USAID

Strategic Petroleum Reserves

DOE's Office of Petroleum Reserves and India's Strategic Petroleum Reserves Limited (ISPRL) will continue exchanges on (1) supply release and the decision process in response to an emergency; (2) operational risks and on-site emergency response; (3) operation and maintenance best practices; (4) salt cavern construction; (5) and artificial intelligence and machine learning (AI&ML).



Source: 123rf.com

Methane Hydrates

DOE, its National Energy Technology Laboratory (NETL), other DOE National Labs, and the U.S. Geological Survey intend to continue providing technical support for the Natural Gas Hydrate Program of India's methane hydrate exploration drilling and field production testing in India's offshore. This includes potential cooperative efforts to conduct a Life Cycle Analysis (LCA) of the economic and environmental impact of methane production from hydrates in several of India's larger known methane hydrate accumulations.



Source: NETL, Methane Emissions Mitigation | netl.doe.gov



CURRENT AND FUTURE ACTIVITIES IN SUPPORT OF PILLAR PRIORITIES

USTDA Technical Assistance, Feasibility Studies, and Virtual Workshops

The U.S. Trade and Development Agency (USTDA) is providing technical assistance for India's Petroleum and Natural Gas Resources Board (PNGRB) to develop an economic basis for building India's National Natural Gas Grid. Since the Pillar's inception, USTDA has completed virtual workshops on energy resiliency in India with a focus on decarbonization through incorporating technologies such as carbon capture and hydrogen and renewables integration. USTDA supported feasibility studies to evaluate and develop an implementation plan for carbon capture utilization and storage (CCUS) at an Indian Oil Corporation refinery; assess the conversion of refinery gas byproducts to ethanol for transportation fuel blending; and develop a coal mine methane recovery facility in the Jharia coalfield in eastern India.

USAID Gas Modeling Study

The U.S. Agency for International Development (USAID) launched the report "Assessment of the Cross Border Natural Gas Trading (CBNGT) Potential in South Asian Countries" in the presence of stakeholders from the Ministry of Petroleum and Natural Gas, Indian Oil Corporation, and the Petroleum and Natural Gas Regulatory Board on September 26, 2022. The report builds upon an earlier study that analyzed the Demand and Supply of Natural Gas in the BBINS (Bangladesh, Bhutan, India, Nepal, and Sri Lanka) region. The report takes the earlier study a step further by modelling the projections of gas demand and supply in different sectors and reviewing the potential opportunities of developing natural gas exchanges in South Asia. The study indicated that gas demand is expected to increase at a CAGR of ~4.4 percent from FY 2022 to FY 2040 and net supply is expected to increase at a CAGR of ~3 percent in this period, with imported gas constituting ~81 percent of supply by FY 2040. The study findings were also shared with Tarun Kapoor, Adviser to the Prime Minister's Office (PMO), India.

Department of Commerce Hydrogen Webinar

The Department of Commerce's International Trade Administration (ITA) hosted a U.S.-India Hydrogen Webinar to promote engagement between Indian stakeholders interested in forging partnerships with leading international companies in the use of green hydrogen for the transportation, storage, and hard-to-abate industrial sectors.

Hydrogen and Biofuels

Hydrogen and biofuels activities are addressed where they intersect with the Pillar's natural gas activities.



Source: 123rf.com



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