

# Oil and Gas Pillar

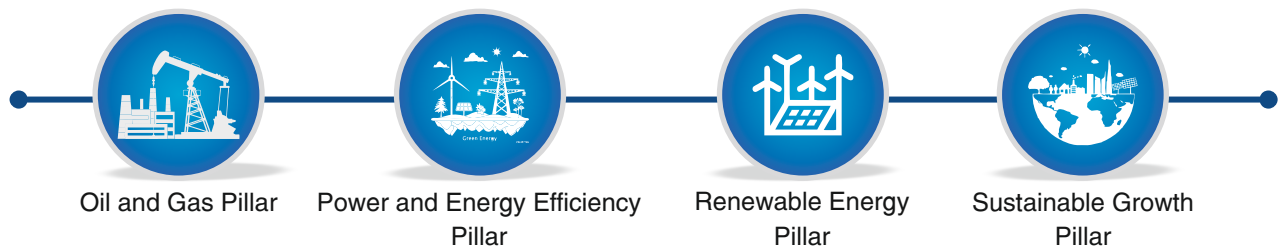
## U.S.-India Strategic Energy Partnership



### Highlights 2019-2020

The U.S.-India Strategic Energy Partnership (SEP), launched in April 2018, sets the stage for deeper and more meaningful engagement through both government and industry channels. It aims to elevate cooperation to enhance energy security, expand energy and innovation linkages across respective energy sectors, bolster bilateral strategic alignment, and to facilitate increased industry and stakeholder engagement. The U.S. Department of Energy (DOE) and India's Ministry of Petroleum and Natural Gas (MoPNG) lead overall interagency engagement under the SEP, which is organized along four pillars of cooperation. Coordination across multiple agencies and other stakeholders on both sides is key for successful implementation. Collaborations also include private sector partners to provide critical insights and to facilitate rapid deployment of solutions, creating economic opportunities for both countries.

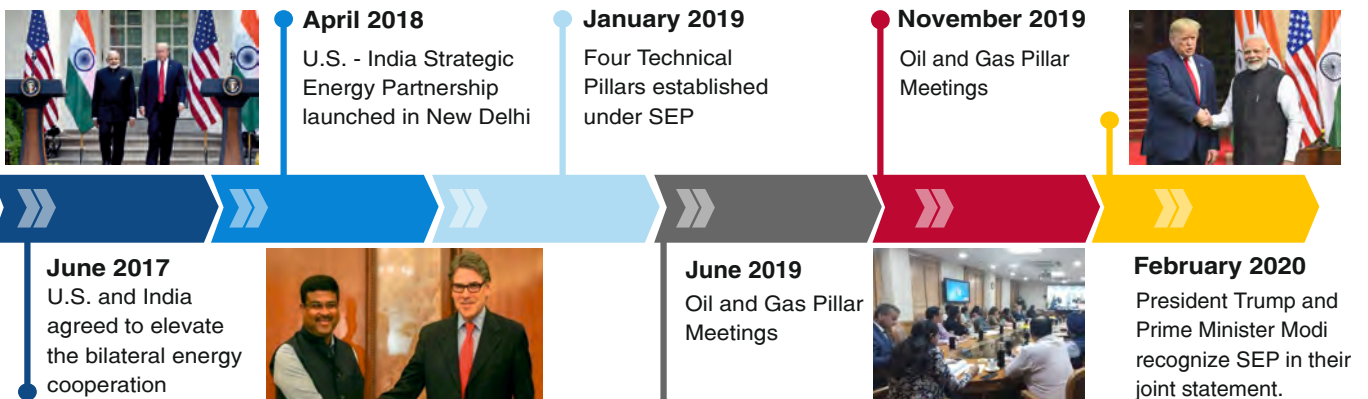
### Strategic Energy Partnership



### Oil and Gas Pillar - Priority Areas

To guide the work of the Pillar, the sides agreed to five high-level priorities: 1) Promote natural gas as an available, on-demand natural resource to meet India's growing societal demands for greater energy security and clean energy. 2) Promote economically-viable development of India's national gas grid and related liquefied natural gas import infrastructure. 3) Promote natural gas regulation and policy capacity building. 4) Promote upstream collaboration, including methane hydrates cooperative research and potential development of shale oil & gas resources, to help secure a potential major future domestic energy resource for India. 5) Promote downstream collaboration, including development of India's strategic petroleum reserve.

### Oil and Gas Pillar-Timelines





## KEY ACCOMPLISHMENTS

Through a productive exchange, the sides have made a number of advances in strengthening the oil and gas sector, including but not limited to, the following:

- Signed an MoU between DOE and MoPNG to collaborate on strategic petroleum reserves.
- Advanced engagement under the U.S.-India Gas Task Force (GTF), which has facilitated new partnerships, including the following:
  - MoU between Federal Energy and Regulatory Commission (FERC) & Petroleum and Natural Gas Regulatory Board (PNGRB) to exchange information and share experiences in oil & gas regulatory framework.
  - MoU between Bloom Energy & Indian Oil in the area of Fuel Cell technology.
  - Letter of Cooperation among ExxonMobil, Chart Industries and IOCL toward stimulating new LNG demand in India by developing a virtual pipeline network via potential manufacturing of ISO containers in India, as well as working towards the introduction of an enabling regulatory framework for the use of LNG ISO containers as a storage, transportation, and virtual pipeline application.
  - MoU between Agility Fuel Solutions LLC & Indrapastha Gas Limited (IGL) to explore the viability, usefulness, and feasibility of advanced clean fuel systems including Type IV Cylinders in India.
  - MoU between Gasway USA, Inc. & IGL to explore the feasibility of a pilot virtual gas pipeline project.
  - MoU between ExxonMobil & GAIL to mutually explore technical, operational, commercial and/or investment opportunities to promote potential increases in the demand for and use of LNG in India.
- Advanced U.S.-India hydrocarbon trade, making the United States as a leading crude oil and natural gas source for India. The bilateral hydrocarbon trade witnessed a rapid increase since the launch of the SEP in 2017.
- Advanced methane hydrate research collaboration between India's Directorate General of Hydrocarbons with DOE and U.S. Geological Survey

### Oil and Gas Pillar - Co-Chairs



#### Shawn Bennett

Deputy Assistant Secretary  
for Oil and Natural Gas -  
U.S. Department of Energy



#### B.N. Reddy

Joint Secretary for International  
Cooperation - Ministry of  
Petroleum and Natural Gas





**FERC and PNGRB Sign an Memorandum of Understanding under the U.S.-India Strategic Energy Partnership**

- Completed a feasibility study for Indian company Prabha Energy Private Limited to develop coalbed methane (CBM) resources in the North Karanpura coalfield in the state of Jharkhand, India. (USTDA)
- Provided LNG market development, city gas distribution training, and U.S. business-to-Indian business facilitation or Indian public and private sector representatives. (Commerce)
- Launched the U.S.-India Energy Industry Working Group to provide U.S. companies an opportunity to offer input on market opportunities and challenges in India's energy sector and an Asia EDGE Virtual Workshop Series to help U.S. companies learn more about energy-related commercial opportunities in the Indo-Pacific. (Commerce)
- Launched Asia Gas Program webinar series. (USAID)
- Initiated a technical study for India's PNGRB to develop an economic basis for building out India's national Natural Gas Grid. (USTDA)
- Initiated a feasibility study for Indian company Arush Gas Technology Services (AGTS) to evaluate the development of a virtual pipeline that will distribute natural gas via truck, rail, or ship to areas unserved by traditional gas pipeline infrastructure. (USTDA)



# PRIORITIES GOING FORWARD

To build upon the progress to date and address continuing challenges in the sector, the sides have agreed to focus on the following priorities going forward:

- Cooperation on Strategic Petroleum Reserves operation and maintenance through exchanges of information and best practices, and joint emergency exercises.
- Continue fruitful collaboration under the U.S.-India GTF, including facilitating engagement for the following:
  - Signing an agreement between the American Society of Mechanical Engineers (ASME) and PNGRB to share standards and conformity assessment expertise in health, safety, and environment (HSE) for oil & gas installations/pipelines.
  - Initiating a gas grid technologies knowledge exchange program between IGL and Emerson.
  - Signing of an MoU between ExxonMobil and GAIL to initiate a program on LNG use for heavy duty vehicles transport.
  - Launching a pilot project on natural gas via pipeline for cold storage.
  - Completing a white paper on the comparative history of gas pipeline development in India and the United States.
- Cooperation in LNG promotion and procurement between two countries.
- Collaboration between Petroleum Planning & Analysis Cell (PPAC) and Energy Information Administration (EIA) on exchange of information.
- Renewal of MoU between MoPNG and DOE for the exchange of information relating to the hydrocarbon sector.
- Continue to encourage U.S. investments in, and knowledge sharing, for India's oil and gas sector.
- Encourage U.S. investments in India's oil and gas sector and support knowledge sharing to align with both governments' goals.
- Explore possible joint activities and share information and best practices related to sustainable biofuel production and use; investment promotion in biofuel, bioelectricity and biogas supply-chains; reducing greenhouse gas emissions; blending mandate laws and regulation; efficient use of biofuels; market access; and other areas agreed upon.
- Expand efforts to promote women's participation, leadership, and entrepreneurship in the oil and gas sector, including through exchange of information and best practices for women's participation in energy governance structures and as end users.
- Explore the possibility of India storing crude oil at the U.S. Strategic Petroleum Reserve to increase India's strategic oil stockpile.



Photo Credit - DOE

Minister Pradhan Welcomes Secretary Brouillette in India, February 2020

