

**GOVERNMENT OF INDIA  
PETROLEUM AND NATURAL GAS  
LOK SABHA**

UNSTARRED QUESTION NO:4673  
ANSWERED ON:21.02.2014  
EXPLORATION OF SHALE GAS AND OIL  
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**Will the Minister of PETROLEUM AND NATURAL GAS be pleased to state:**

- (a) the potential of shale gas and oil in country, State/UT-wise;
- (b) the details of the companies engaged in exploration and exploitation of shale gas and oil in the country, company-wise;
- (c) whether any study has been conducted to ascertain the impact of shale gas and oil exploration on the environment; and
- (d) if so, the details thereof and if not, the reasons therefor?

**Answer**

THE MINISTER OF STATE IN THE MINISTRY OF PETROLEUM AND NATURAL GAS (SMT. PANABAAKA LAKSHMI)

(a). Various agencies have estimated the Shale Gas and Oil resource potential in selected sedimentary basins/ sub-basins in India. The details are as under:

- i. M/s Schlumberger : 300 to 2100 Trillion Cubic feet (TCF) of Shale Gas in the Country (as available in public domain)
- ii. Energy Information Administration (EIA), USA in 2011: 290 TCF of Shale Gas in 4 basins( Cambay Onland, Krishna-Godavari Onland, Cauvery Onland and Damodar) located in Gujarat, Andhra Pradesh, Tamil Nadu, West Bengal and Jharkhand.
- iii. Energy Information Administration (EIA), USA in 2013: 584 TCF of Shale Gas and 87 billion Barrels of Shale Oil in 4 basins( Cambay Onland, Krishna- Godavari Onland, Cauvery Onland and Damodar) located in Gujarat, Andhra Pradesh, Tamil Nadu, West Bengal and Jharkhand .
- iv. ONGC: 187.5 TCF of Shale Gas in 5 basins ( Cambay Onland, Ganga Valley, Assam & Assam Arakan , Krishna-Godavari Onland & Cauvery Onland) located in Gujarat, UP , Andhra Pradesh, Tamil Nadu and Assam –Arunachal Pradesh .
- v. Central Mine Planning and Design Institute (CMPDI): 45 TCF of Shale Gas in 6 sub basins ( Jharia, Bokaro, North Karanpura, South Karanpura, Raniganj and Sohagpur) located in West Bengal, Jharkhand and Madhya Pradesh.
- vi. United States Geological Survey (USGS) has also estimated technically recoverable Shale Gas resources of 6.1 TCF in 3 basins (Cambay Onland, Krishna Godavari Onland & Cauvery Onland) located in Gujarat, Andhra Pradesh, and Tamil Nadu. Further, USGS has indicated that these basins have also potential for shale oil.

(b). In order to facilitate exploration and exploitation of Shale Gas and Oil in the country, Government has issued "Policy Guidelines for Exploration and Exploitation of Shale Gas and Oil by National Oil Companies (NOC) under Nomination regime" on 14th October, 2013.

Under this Policy, NOCs (ONGC and OIL) are permitted to carry out exploration and exploitation of Shale Gas and Oil in their Petroleum Exploration License (PEL)/Petroleum Mining Lease (PML) areas granted to them under the nomination regime.

ONGC has recently completed drilling of its first assessment well in Cambay Basin, Gujarat. Earlier in 2006, ONGC carried out an R&D Pilot Project in Damodar valley. Four wells viz. RNSG#1,2 NKSG#1 &2 were drilled. Water and gas in surges were recorded in one well RNSG#1.

(c) & (d). The Shale Gas and Oil exploration is at nascent stage. Shale Gas/Oil reserves are yet to be established.

As far as Shale Gas exploration is concerned, drilling and other operations are basically same as for any other conventional oil & gas reservoirs. Environment Impact Assessment studies are carried out during exploitation stage of Shale Gas /Oil discoveries.