When petroleum minister Dharmendra Pradhan recently said India might well have hydrocarbon reserves to serve the country for 300 years, it raised many eyebrows.

However, according to the latest estimates of the US Geological Survey, we have the second largest gas hydrate reserves after America. The Krishna-Godavari (KG), Cauvery and Kerala basins alone contributing 100-130 trillion cubic feet of estimated reserves.

In a meeting on the National Gas Hydrate Programme (NGHP) last month, the recent estimates were discussed. The government has given a nod to the third stage of the ambitious programme. “We have firmed up plans for NGHP-3. The pilot testing is planned in the KG Deepwater. We have also set up a dedicated gas hydrate research centre at Panvel (Navi Mumbai),” Oil and Natural Gas Corporation (ONGC) chairman Shashi Shankar told the media last week.

Natural gas hydrates are a mixture of ice-like forms of water and gas in molecular cavities. However, no country in the world has so far developed the technology to produce gas hydrates commercially and economically.

A study is being conducted by a team of officials led by ONGC, along with the US Geological Survey and the Japanese Drilling Company. So far, the Oil Industry Development Board (OIDB) has sanctioned grants to the tune of around Rs 200 crore for the programme. Based on the arrangement, costs for these R&D activities are shared between OIDB, ONGC, GAIL India, Oil India and Indian Oil Corporation.

“At present, there are technologies like depressurising, heating method and injection of carbon dioxide to replace the extracted gas that we are working on. However, technology needs to evolve on making it economically viable. We bet big on the K-G basin as the reserves in the region are easily extractable and found in sand reservoir type of occurrence,” the official added.

Apart from the US and Japan, India has entered into an agreement with Canada to develop technology in this regard.

“Though gas is found in plenty, not too much research is happening on this. It is commercially still not feasible to exploit,” said Debasish Mishra, partner at Deloitte Touche Tohmatsu India. This was after an estimate by Schlumberger in 2015 stated that India had between 300 and 2,100 tcf of shale gas and oil resources. These are trapped within shale sedimentary formations. According to the Energy Information Administration of the US, Cambay, KG, Cauvery and Damodar together have reserves of 290 tcf.

The gas hydrate programme by India began in 1997 and with the help of a consortium (including Overseas Drilling, Fugro, McClelland Marine Geosciences, Geo-TeK, Lamont, Doherthy and Earth Observatory), it first conducted studies in 2006.

ON FIRE

1997: India initiates National Gas Hydrate Programme (NGHP)

APR TO AUG 2006: Initial studies were conducted in the east coast

OCT 2013: NGHP Expedition-02 gets clearance from steering committee

2018: Govt firms up plan for NGHP-3. Plans pilot testing in KG Deep water