

Open acreage license policy is the need of the hour but without a national data repository, India can do nothing or very little about their E&P.

Introduction¹

As measured by GDP at a factor cost, the oil and gas sector in India contributes to 2.44% to the total output generated in the country. The sector gives employment to 1360000 people in the nation across the value chain². Further the sector plays an important role in the international market as it contributes 33% and 20% of the country's total imports and exports, respectively. Oil and Gas account for 39% and 9% of the primary commercial energy supply in the nation, coal taking the lead. The sector is divided into three major segments which are

- *Upstream which essentially covers exploration, development and production of crude oil and natural gas (Shale Gas prospects in the near future)³*
- *Mid stream essentially covering the refining of Oil and gas and transport thereafter i.e. refineries and pipelines*
- *Downstream and this encompasses marketing of oil and gas products and its supply to the end consumer to meet the demands.⁴[4]*

In the paper I shall be focusing on the upstream sector and the rising demand and the reasons why policy initiatives are failing to achieve the vision of becoming an Energy Sufficient Nation and attaining Energy Security and suggestions for improvement. The constant or declining share of

1 *I, Divya Sood, a professional in Power Sector have selected "Open Acreage License Policy is the need of the hour but without a national data repository, India can do nothing or very little about their E&P" as a topic for my write up in the capacity of an energy professional.

2 Teri(2013), TERI Energy Data Directory and Yearbook(TEDDY),New Delhi: the energy and Resources Institute.

3 Reference here is given to Shale Gas Policy where policymakers consider exploring shale gas to meet energy security goals of the nation.

4 It is pertinent to mention here that the supplies are majorly met by imported fuel and the high costs and burden on the exchequer are creating a demand supply gap and needs to be taken seriously

production of oil from the major National Oil Companies i.e. ONGC and OIL is critical for the growth of the sector. However the production by private companies like Cairn India and Reliance Industries Limited has significantly contributed to meet the energy demand of the nation. On seeing the above mentioned trend, it is clear that for meeting the demands either the NOCs need to explore to increase the production or private investors need to be encouraged to invest in the upstream activities in the nation because as of now the demand exceeds the availability significantly.

Upstream activities in India were done under the New Exploration and Licensing Policy (NELP) which was launched by the Government for accelerating the pace of hydrocarbon exploration in the country. The policy was conceptualized by the Government of India, during 1997-98 to provide an equal platform to both Public and Private sector companies in exploration and production of hydrocarbons with Directorate General of Hydrocarbons (DGH) as a nodal agency for its implementation. However NELP failed as investors had to wait for the next round of exploration to participate. Investors could not choose the oil field as they liked. Only government had the power to offer the field leaving no choice with the investors. Collecting accurate data over capacity of oil fields was a challenging task as accurate data about oil fields was not available to investors from the DGH. Upstream being a high risk investment, the policy discouraged the investors to invest in India. Seeing the lack of interest of investors to invest in India the Government came out with the Open Acreage Licensing Policy. The major changes for generating investors' interest it is formulated providing great flexibility to operators. A prerequisite for the transition from NELP to OALP is a national data repository. This will act as a public pool of crucial raw information on geological and geochemical characteristics, a key information input for those looking for potential hydrocarbon reservoirs for huge investments. The new regime means "any explorer can bid for any unallocated area at any time", with the blocks not being predefined." The regulator will assess the bid made by this operator, call in any competing bids and, finally, decide whether to grant it or not. The policy is a good step taken but it is ineffective as to make an efficient data repository is now a major challenge which the Directorate General of Hydrocarbons who serves as a nodal agency for it has to overcome, as it is widely accepted that Exploration and Production data set is essentially a national asset and the base of exploration activities.

India : Energy Need

India is the fifth largest consumer of primary energy and the third largest consumer of oil in the Asia-Pacific region after China and Japan. Due to high economic growth, and an increasing gap in

the demand and supply, there is a huge need for enhancing supply of energy resources mainly Petroleum and Gas. This ever increasing demand of energy has forced the Indian Government to increase its imports from other nations to fulfill the needs of its people. Also, dependence on imported petroleum continues to grow having a direct impact on the nation's economy as the liquidity flows from the exchequer and is ultimately impacting the country's long term growth.

The wide gap between domestic production and the rising demand is increasing the nation's economic dependence on imports which has a negative impact on the economic growth and over all development of the nation. With the burgeoning domestic demand for energy, and resulting increase in household energy consumption, demand for automobiles and industrial usage of petroleum fuels, the demand for refined petroleum products has increased steadily at 4-5% annually over the past few years and the present situation shows a picture that the trend is likely to continue.

Of the 26 sedimentary basins identified in India, so far, only 20% of the total area has been well explored. The remaining areas need to be extensively explored with the best of technologies, with special emphasis on the frontier basins. With the introduction of the New Exploration Licensing Policy (NELP), the introduction of much-needed capital and state-of-the-art technology to explore the sector could be made possible.

Open Acreage Licensing Policy compared to New Exploration Licensing Policy

Open Acreage Licensing Policy (OALP) was pitched in by the Chawla committee for allocation of oil and gas blocks in a move that could bring the exploration and production business environment at par with global standards. Under the open acreage policy, an exploration company can express its interest in a block any time as opposed to the current system of periodic auction of blocks by the government. The OALP will enable bidders to bid for blocks on offer at any time of the year, and data for these blocks would be made available to the bidders through National Data Repository. While in NELP the Government selects the blocks to be offered to investors, OALP ensures that the choice of blocks will be with the investor. This is in sharp contrast to the current NELP system in which the regulator draws up a list of certain number of blocks at certain intervals, provides geological information and goes around pitching these to global E&P operators. OALP permits every company to study and specialize in certain geographies if they so wish, making the entire country open for E&P with ready data. This regime gives operators "flexibility in block location, size and project financing" by creating multiple opportunities that "can be staggered over time instead of making over-aggressive bids in NELP rounds. Also, companies can

extend their block boundaries if they find that the hydrocarbon channels in their designated blocks are extending to nearby underground rock layers and the adjoining areas are open. Due to the need of high economic growth, there is a huge need for enhancing supply of energy resources. Also, dependence on imported petroleum continues to grow and is ultimately impacting the country's long term growth. Of the 26 sedimentary basins identified in India, so far, only 20% of the total area has been well explored. The remaining areas need to be extensively explored with the best of technologies, with special emphasis on the frontier basins. With the introduction of the Open Acreage Licensing Policy (OALP), the introduction of much-needed capital and state-of-the-art technology to explore the sector could be made possible.

National Data Repository

It need not be mentioned that days of easy oil and gas are over and exploration and production business is a highly technologically driven one and needs huge investment and continuous knowledge up gradation. In order to exploit these resources believed to be located in the frontier, logistically difficult and geologically complex areas and deep & ultra deep waters, the exploitation technologies need to be innovative. There are various organizations in India that acquire geo-scientific data which is relevant and necessary for their activities, Directorate General of Hydrocarbons being the government body. This includes data not only for petroleum exploration and development but for other minerals also. It is very important that this data should provide its methodology for computation to make it authentic and reliable giving confidence to the investors, which is acquired through great effort and at huge expenditure and is properly preserved, easily accessible and gainfully shared for nation's growth and development hand in hand. It is here that the concept of National Data Repository (NDR) acquires significance.

The Government of India however needs to recognize the need and importance of gathering all the available geo-scientific data available in India under one roof so that it is easily available to all the agencies that require it.

India is one of the very few countries where exploration for oil began more than a century ago. For almost seven to eight decades, the efforts are still limited to two National Oil Companies (NOCs), namely ONGC and OIL. This kind of situation obviously needs better use and application of new technology as well as the existing knowledge already available with us through decades of efforts which was accessible in areas of easy oil and gas. At the moment, there have only been nine rounds of bidding in India after the

introduction of the New Exploration Licensing Policy (NELP) about 10 years ago. Thus the investors had a very limited scope and the OALP with the NDR challenges to change the present situation.

However as discussed, OALP is again facing a problem and not achieving its goal because of the inefficient and unsatisfactory data provided to the investors. Though, DGH's annual activity report in its Annual Statistical Publication provides the data on oil and gas reserves and the field wise reserve levels but the data is not trusted by the investors because they do not provide any indication of the methodology used for computing the reserves and the reasons for any changes in the reserve levels that become apparent over time.

Another issue faced in data sharing is that while the private companies already share their data with the government wherein the government expects private data to be shared free of cost, the government data is not provided free to them. The private companies herein expect revenue herein and the only reasons private companies are discouraged in investing in surveying is that government uses the results of the survey trying to provide a single platform for oil and gas reserves under the open government data mandate, but the government lacks clarity on the mandate itself. Most reactive or proactive data provision initiatives in India have implied an increase in effort from the data suppliers increasing their mandates without provision of appropriate resources, funds and rewards. This leads to reluctance in maintaining databases with the aim of making it open to public.

Another issue that needs to be addressed is that there are multiple agencies collecting the same data and quite often the same data set has been provided by the government agency to several different government agencies. There exists a confusion and non reliability when the data from two sources does not match due to different definitions and assumptions adopted by different agencies. Thus it is recommended that definitions accepted in the international arena and practices adopted at an international platform should be adopted for recording accurate data and to generate investor's interest to invest in India. Also the data suppliers face a problem as there is a lack of information infrastructure and e-governance to provide machine readable, reusable and easily interpretable data to the public and investors.

Thus, there is an urgent need of technology and infrastructure up gradation and experienced professionals and experts for direction is important for making the Open Acreage Licensing Policy a success. The DGH in its NDR has to work on removing opacity of data, shift from erroneous data to accurate data with methodology of retrieving data, data unreliability due to different reports on the same

area, unusable formats for sharing data to internationally accepted formats, multiple checks and verification of data submitted without causing any undue delays, organization of data and timelines for meeting data requirements and responses sought by the stakeholders for making the Policy successful.

Data Repository: Around The Globe

The data repository is taken as a serious practice around the globe as the investor's would invest in countries with efficient and reliable data, exploration and production being highly capital intensive sector. Practices in Canada, UK, USA and Australia have been studied and through international experience the lessons for India to give an insight for scope of improvement are as

- The issue is single source of information for all energy/ extractive resources related to information like the USA Energy Information Administration and the Queensland Government's Department of natural Resources and Mines provides examples of web sources that provide all energy information at one source. India should adopt a similar practice to minimize unreliability and confusion and promote efficiency of database under Open Government Data for OALP.*
- Another issue faced is of formats for providing data which is not developed in India due to technological infrastructure not updated. However in the international scenario interactive maps, data tables, downloadable worksheets and charts are increasingly being adopted by government agencies for providing the data and information in the open format. Australia Government's Geosciences Australia provides detailed interactive maps for all mineral resources with location of mines, resources etc.. Such practices needs to be adopted while collection and presentation of data in internationally accepted formats and practices for success of OALP in India as data repository is the backbone of the policy.*
- The next issue India needs to address is of maintaining historical time series and making them easily accessible. The USA Energy Information Administration website has updated data series for some variable starting from the 1970s. Such long term data is very useful in determining the long term trends of energy resources. India yet has to develop Historical time series for observing the long term trends of energy resources in India.*
- Last but not the least the issue of frequency of updating data is a major problem because of which investors do not show interest or lack interest in investing in India. Throughout the globe data is updated at varying frequencies depending on the nature of the data itself. USA Energy Information Administration provides data series with varying frequencies ranging from daily*

updates to weekly, monthly and annual updates. But almost all data is revised annually across all major information agencies. India needs to be swift and accurate in data collection as well as in updating the data more often to promote investors interest and participation and encouraging Economic growth and development of the sector.

In the oil and gas sector, with increasing investment needs being a capital extensive investment sector and decreasing private and foreign participation, with increasing pressure on the exchequer to meet the demand-supply gap of the citizens by importing oil and gas, the need for data and information on process and terms of contract both in case of reserves/ fields and in case of resource utilization by different sectors is the need of the hour. In India, there is still a significant gap in the open availability of government information. Though there has been a conscious drive to improve the availability of policies, regulations on individual government department websites, there is still a lot of information not publicly available on implementation of these policies. Also there are several Laws and corresponding Rules and Regulations dealing with data on oil and gas but the issue that comes in here is that these laws, rules and regulations focus on data collection and not on dissemination. Also unlike USA, Canada, UK and Australia there is no clear mandate for government agencies to verify data received from the industry. While some private companies have a system of cross checking data within departments, others state that they collate data as is provided by the industry. Thus, it is clear that the Indian Government has to come at par with the other countries in collection and dissemination of data for making the Open Acreage Licensing Policy a success.

Conclusion

After studying the scope of exploration and production and the need of development in the upstream sector in India, the most important instrument is collection, presentation and opening up of the government data and facilitating access to this data in human readable and machine readable forms. The Open Acreage Licensing Policy is at a nascent stage and can become a success provided the need for data by investors is fulfilled. Effective natural resource governance also becomes crucial as the country looks towards more private sector and foreign investments. Dealing with the major issue faced in India by investors regarding insufficient information, irregularities and conflicting databases on the same sites needs to be taken care of by the National Data Repository with Open Government Data for investors. Unless steps are taken for providing an efficient, data compiled in internationally accepted formats,

investors will keep investing in countries with more secure and reliable data and the public exchequer will suffer the burden while meeting the demand and supply gap.

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