



**EXPRESSION OF INTEREST (EOI) NO. OIL/RF/IND/EOI/010/2021 FROM INTERESTED ENTITIES FOR UTILISATION OF CARBON DIOXIDE (CO<sub>2</sub>), AVAILABLE IN THE JAISALMER FIELD OF OIL INDIA LIMITED, RAJASTHAN THROUGH VALUE ADDED PRODUCTS/PROJECTS.**

## 1.0 INTRODUCTION

OIL INDIA LIMITED (OIL) a premier National Oil Company having “Navratna” status under Ministry of Petroleum and Natural Gas, Govt. of India is operating in Rajasthan and having an established sizeable reservoir of natural gas from its Petroleum Mining Lease (PML) areas in Dandewala, Tanot & Bagitibba gas fields, situated in Jaisalmer District in Western Rajasthan. The fields are located approximately at a distance of 150 kms. from Jaisalmer.

## 2.0 CARBON DIOXIDE AND ITS INDUSTRIAL USAGE:

Carbon dioxide, (CO<sub>2</sub>), a colourless gas having a faint sharp odour and a sour taste. It is one of the most important greenhouse gases linked to global warming, but it is a minor component of Earth’s atmosphere.

There are many industrial uses of Carbon dioxide. Globally the largest consumer is the fertiliser industry, followed by oil and gas for enhanced oil recovery. Other commercial applications include refrigeration / storage, in fire extinguishers, for inflating life rafts and life jackets, blasting coal, foaming rubber and plastics, carbon curing of concrete in cement plants, promoting the growth of plants in greenhouses, production of alternate fuels, plastic and polymers as a substitution of hydrocarbon and in carbonated beverages. Globally, some 230 million tonnes (MT) of carbon dioxide (CO<sub>2</sub>) is used every year.

Industrially, it is recovered for numerous diverse applications from flue gases, as a by-product of the preparation of hydrogen for synthesis of ammonia, from limekilns, and from other sources. However, these methods are expensive and technology intensive for the amount of carbon dioxide actually recovered through these methods. Alternatively, OIL’s reservoir offers naturally occurring carbon dioxide in abundant quantity which shall be made available to the interested entities by OIL by producing the CO<sub>2</sub> in line with the natural gas production carried out by OIL and based on the applicable statutory policies.

## 3.0 THE SALIENT POINTS WITH RESPECT TO AVAILABILITY OF CO<sub>2</sub> ARE AS UNDER :

- i) OIL has two sources of carbon dioxide available for supply to the interested entities.
- ii) Firstly, OIL produces Natural gas from its Jaisalmer Block which contains around 23% of carbon dioxide as shown in the below table:

<b>Composition</b>	<b>OIL Gas (Mol %)</b>
NITROGEN	31.09
METHANE	43.89

CARBON DIOXIDE	23.61
ETHANE	0.90
PROPANE	0.20
ISO-BUTANE	0.03
N-BUTANE	0.05
ISO-PENTANE	0.02
N-PENTANE	0.19
HEXANE	0.19
<b>TOTAL</b>	<b>100.00</b>
<b>CALORIFIC VALUE (Kcal/SCM)</b>	
Gross	4265
Net	3846
Specific Gravity	0.9247

This carbon dioxide can be separated from the natural gas and supplied to the interested entity for their utilization at the Gas Processing Centre of OIL located at Dandewala.

- iii) Secondly, there is a reservoir with OIL which contains approximately 75% of CO<sub>2</sub> along with other gases, the gas composition of which is as under:

<b>Composition</b>	<b>OIL Gas (Mol %)</b>
NITROGEN	24.1394
METHANE	2.2974
CARBON DIOXIDE	73.3955
ETHANE	0.0954
PROPANE	0.0000
ISO-BUTANE	0.0013
N-BUTANE	0.0136
ISO-PENTANE	0.0049
N-PENTANE	0.0000
HEXANE	0.0524
<b>TOTAL</b>	<b>100.00</b>
<b>CALORIFIC VALUE (Kcal/SCM)</b>	
Gross	251
Net	227
Specific Gravity	1.3695

The above CO<sub>2</sub> can be made available on “as-is-where-is” basis to the interested party at the wellhead.

- iv) The party has to purchase the carbon dioxide from OIL and can use it as a raw material for any industrial purpose of its choice. OIL shall charge the party for the carbon dioxide supplied.
- v) The interested entity shall make required arrangement including pipeline, compression etc. to evacuate CO<sub>2</sub> from custody transfer point to their respective plant/unit at their own cost and risk.

#### **4.0 METHODOLOGY OF SELECTION OF A SUITABLE PROJECT FOR UTILISATION OF CARBON DIOXIDE :**

Interested entities may submit their interest against this EOI, indicating the Industrial Sectors they belong to, while submitting the EOI.

- a) It is worth mentioning here that OIL has potential to maintain the availability of carbon dioxide at the initial rate of 1 Lakh Cubic Mtr./Day and gradually increase the capacity depending on the demand from the customer. However, for the same OIL will have to make investment for carbon dioxide production and processing infrastructure. Therefore, any new project proposal submitted to OIL should keep in mind the supply commitments for next 10-15 years and accordingly design business proposal.
- b) It may be mentioned here that the parties offering better economics to OIL will be selected for their offered project.
- c) Interested entities may plan for establishing their proposed project near OIL's wellhead or Gas Processing Centre at Dandewala and evacuate carbon dioxide directly from OIL's processing plant.

## **5.0 INFORMATION TO BE FURNISHED BY ENTITIES**

- i) Interested entities should submit their complete project plan indicating the following:
  - a) Quantity of carbon dioxide required per day.
  - b) Project Timeline.
  - c) Project details including the details of setup to be installed by the entity for uplifting, transportation and utilization of carbon dioxide.
  - d) Quantity of carbon dioxide to be uplifted during the project duration/contract period.
  - e) Sector / Industry in which the uplifted carbon dioxide shall be utilized.
  - f) Remuneration to OIL against the carbon dioxide supplied.
- ii) If a new project is conceptualised, the complete project report indicating the financials shall be submitted showing the fiscal benefits being offered to OIL for recovery of the cost incurred for maintaining the availability of carbon dioxide.

## **6.0 Besides above the interested entities should also provide following details while submitting their Letter of Interests against this EOI :**

- i) Documents for consideration – Details information of the party/company with their organisation structure, ownership details etc.
- ii) Documents establishing that the entity has executed project/projects before in the natural gas industry. Such projects executed by the entity should be in operation.
- iii) Company's financial performance documents i.e. (A) Audited balance sheets for the last three financial years and (B) Net worth for preceding financial/accounting year.
- iv) Preparedness in respect of land availability, water allocation, power, sale and execution arrangement, if any. Also the status of the various kinds of approvals required from Government authorities to execute such project(s) for which carbon dioxide gas is required.
- v) Expected date of commencement of carbon dioxide gas withdrawal.
- vi) Any other relevant details.

- 7.0 Interested entities are requested to submit their intent on or before 31.03.2021 at 15:00 Hrs. in a sealed envelope titled "Project Proposal for Utilization of CO<sub>2</sub>" to the following address:

ASSET MANAGER – RAJASTHAN ASSET  
OIL House, Oil India Limited,  
2A District Shopping Centre  
Saraswati Nagar, Basni, Jodhpur  
Rajasthan-342005.  
e-mail: [cmpakhale@oilindia.in](mailto:cmpakhale@oilindia.in) , [diganta\\_pathak@oilindia.in](mailto:diganta_pathak@oilindia.in)

**8.0 This EOI is not an invitation for bids for allocation or use of carbon dioxide.**

- 9.0 OIL reserves the right to:
- i) Accept or reject any/all EOIs submitted by parties.
  - ii) Cancel the process at any time without any liability and assigning any reason thereof.
- 10.0 OIL may invite acceptable intents for a meeting to discuss further modalities and issues related to the project.
- 11.0 All Corrigenda, addenda, amendments, time extensions to the EOI will be hosted on the website and no separate notification shall be issued in the press. Prospective participants against the EOIs are requested to visit the website regularly to keep themselves updated.

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