<u>Reply to Parliament Question No 2757 for 10.03.2025 for Rajya Sabha regarding "Steps to reduce import dependence on crude oil" in respect of Numaligarh Refinery Limited (NRL):</u>

Q no. (a): **the steps taken to ensure expansion of pipeline infrastructure in remote and economically weaker areas to ensure equitable access in view of the move towards a gas-based economy;**

Reply: Ministry to reply.

[NRL is also promoter with 20% equity share in the JV company Indradhanush Gas Grid Limited (IGGL) which is implementing the North East Gas Grid project. The project will connect all North East State capitals to the National Gas Grid.

Details of the project is as follows:

a. Project Cost - Rs. 9,265 Cr
b. Viability Gap Funding – Rs. 5,559 crores
c. Length of pipeline network – 1,656 km
d. Pipeline throughput – 4.75 mmscmd
e. Anticipated completion – March, 2025

Once implemented the project will ensure smooth supply of NG to all the NE states and help in ushering the states into Gas based economy and will help in rapid industrial development of the states.]

Q no. (b): **the manner in which the small entrepreneurs are being encouraged to set up compressed biogas plants under Sustainable Alternative Towards Affordable Transportation (SATAT);**

Reply: Ministry to reply.

[NRL in collaboration with OIL India planning to set up 25 CBG (Compressed Biogas) plants across the various districts of Assam and Northeast each at minimum 2TPD capacity supporting the govt's scheme SATAT and Gobardhan for alternate energy growth.

The product Compressed Biogas would be injected into the Natural Gas pipeline circuit. This NG would cater to meet city gas through the CGD network. And this will create additional LPG pool to divert to underserved rural areas. With this initiative, the distribution would extend clean fuel to meet this section of the community.]

Q no. (c): **the incentives available to consumers and businesses to adopt renewable fuels such as biodiesel and ethanol blended petrol;**

Reply: Ministry to reply.

[NRL's joint venture company Assam Bio Ethanol Pvt Ltd (ABEPL), which is setting up a 2G ethanol production plant at Numaligarh, has secured a

Viability Gap Funding of Rs. 150 crores under the Pradhan Mantri JI-VAN Yojana as capital subsidy for execution of the project.

Some of the other incentives available to eligible businesses in production and marketing of ethanol and Ethanol Blended Motor Spirit (EBMS) are

1. Interest subvention of 6% per annum or 50% of the bank interest rate, whichever is lower, on loans for ethanol plants.
2. Accelerated depreciation for ethanol plants who has not opted for lower tax regime
3. Reduction of GST on ethanol to 5% from 18% for the purpose of blending with MS]

Q no. (d): **the special measures being taken to target high energy consuming industries to reduce their carbon footprint; and**

Reply: Ministry to reply.

[In line with all oil and gas industries, NRL developed a Net Zero roadmap during 2022 with project plan, timeline and project costs as a guiding document to achieve net zero carbon emissions by the year 2038 with regards to scope 1 & scope 2.

Accordingly, company is gauging the carbon emissions YoY and has braced up with multiple projects involving low carbon, green, alternative and renewable energy technologies namely CO to acetic acid; green Hydrogen; SAF; waste ammonia recovery; Solar PV rooftops; RERTC (Renewable energy Round the clock) by integrating renewable energy into the refinery's power mix, alongside massive plantation drive.]

Q no. (e): **if so, the details thereof?**

Reply: Ministry to reply.

[The following initiatives are taken by NRL to reduce GHG emission and achieve net zero:

i. **Afforestation**: NRL has taken-up following flagship initiatives of tree plantation in Assam and other state:

a. 1,00,000 saplings in 40 ha. land at Nakkati Chapori, Golaghat District, Assam.

b. 68000 saplings in 35 ha. land at Kandoli PRF, Nagaon District. Assam.

c. 3,50,000 saplings in 28 Ha. land in Abhoypur Village, Dibrugarh District Assam.

d. Development and construction of 3 nos. Bamboo Nurseries in Assam to generate 60 lakh bamboo saplings to be planted in in three yrs.

e. NRL has participated in the Green Credit Programme (GCP) notified on 13th October,2023 by MoEF&CC. A 55 ha of land parcel has been registered in Nawada, Bihar under the GCP, for planting 60,500 no. of trees in the degraded land. Plantation will start in next 1-2 month.

The tree plantation in above mentioned plots already been completed. NRL would take maintenance of the forest for a period spanning 5 years. The afforestation as mentioned above will generate a carbon sink of about 0.26 million ton of CO2 equivalent per year.

ii. **Green H2 Projects:**

a. NRL is setting up a 2.4 KTPA green hydrogen plant on EPC basis, which is targeted to be commissioned by June 2025. WO awarded to Greenko ZeroC and job is under progress.

b. NRL has floated a tender to set up a 10 KTPA Green hydrogen on BOO (Build, Own and Operate) basis and to supply Green Hydrogen for use in refinery, under SIGHT 2B scheme of MNRE.

Total CO2 emission reduction from above two green hydrogen project shall be about 0.124 MMTPA.

c. Green H2 generation capacity shall be increased in future, by setting – up more unit s of green H2, to replace the grey H2.

iii. **CCUS projects:**

a. It is planned to set -up a CO plant of capacity 400 MT/day using SMR gas from existing HGU. DFR for the same is under preparation. The CO2 present in the SMR gas shall be captured from the SMR gas as part of the new CO plant. Approximately 260 TPD CO2 shall be captured. The CO2 captured will be utilized by Oil India Limited for EOR activity in their crude oil exploration site.

b. More projects based on suitable technology /process of CCUS, shall be selected after the study, for capturing CO2 from flues gases/process gases and implemented.

iv. **Use of RE Power:** RE power shall be purchased through PPA and received through Grid in refinery power mix in the upcoming NREP (target to be commissioned by Dec.2025). It is targeted to use about 60 MW of RE power by 2030 which will reduce about 0.34 MMTPA of equivalent CO2. The consumption of RE power in the refinery power mix shall be further increased in future.

v. **Replacement of FO to FG in existing refinery:** FO consumed in furnaces of existing unit shall be replaced by NG by modification of burners.

vi. **Energy Efficiency Improvement:** Energy efficiency study is being carried out to identify new projects to improve efficiency and reduce emission.

NRL has set targets to achieve Net Zero by year 2038.]

<u>Note for Supplementary:</u>

Numaligarh Refinery Limited (NRL) is a Public Sector Enterprise with a 3.0 MMTPA petroleum refinery at Numaligarh in Golaghat district of Assam. Present shareholding pattern of NRL is Oil India Limited (OIL) – 69.63%, Govt. of Assam (GoA) – 26% and Engineers India Ltd (EIL) – 4.37%.

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