

Reply to Parliament Question No 10995 for 19.12.2024 for Lok Sabha regarding “Status of Startups and Small Enterprises in Production of Biofuel” in respect of Numaligarh Refinery Limited (NRL):

Q no. (a): the mechanism adopted by the Government to work with Startups and small enterprises to drive innovation in biofuel production and to support India’s energy; and

Reply: Ministry to reply.

[As per directive of MoPNG, NRL operates a startup support program named NRL IDEATION, through which startups are supported through a mix of grant and equity funding. While the startup program is sector agnostic, so far 2 startups in biofuel production has been supported.

1. Chroma Biotech LLP: Chroma Biotech aims to revolutionize the agricultural sector by using advanced technology to rapidly mass produce superior quality genetically uniform planting material and also by offering a platform connecting the supply of such planting material to growers-supplemented with Realtime mentoring solutions which would boost agricultural productivity manifold. The startup employs an all-female workforce for laboratory operations to empower women from lower socio-economic groups in science and technology. Chroma Biotech has started supplying tissue cultured bamboo saplings to Assam Bio-Refinery Private Limited (ABRPL)- a 2G Bioethanol Refinery which aims to produce about six crore liters of bioethanol from cellulosic feedstock of around 5,00,000 metric tonnes of green bamboo per annum and hence need massive bamboo plantation for sustaining their operations.
2. Zymolent Biosciences Pvt Ltd: Cellulosic Ethanol (2G Ethanol) production has emerged as an important component of India's biofuel landscape. Various government policies, including the Pradhan Mantri JIVAN Yojana under National Biofuel Policy 2018 are actively encouraging development of numerous 2G ethanol industries in India. Furthermore, Northeast India has become a prominent region in this sector with surplus availability of cellulosic raw materials such as bamboo and rice straw. In the production of 2G ethanol, enzymatic saccharification of cellulosic pulps is a critical phase and requires huge quantities of an enzyme named cellulase. In order to yield 1000 L of ethanol a single biorefinery needs about 300 kg of cellulase, this is creating a huge demand of cellulase enzymes in Indian market. Therefore, availability of a customized and stable cellulase enzyme has become a major bottleneck in the process. Furthermore, the cellulases required especially for 2G ethanol production is majorly imported to India from countries like China, Denmark and USA. The startup is working to produce customized enzymes for 2G Ethanol

production by utilizing agricultural waste and deliver higher yields of fermentable sugars for 2G ethanol production from bamboo pulp.]

Q no. (b): the current status of the country's renewable energy projects, State/UT-wise and the percentage of national power is currently sourced from renewables?

Reply: Ministry to reply.

[NRL have a current capacity of Solar PV rooftop panels at 1.035MW within the refinery premise. And planning to add another 1.2 MW. Also under renewable energy -R&D project, company is carrying out assessment of Wind energy potential in the region in collaboration with state run institution.]

Note for Supplementary:

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%.
