

Scheme for promotion of LNG based mobility

Introduction:

Throughout the world, several countries are taking positive steps to reduce emission and achieve net zero. These emissions, as we all understand, play a huge role in exacerbating atmospheric pollution and global warming. India is front runner in combating pollution and has taken and intends to take several steps to achieve net zero by 2070. One of the significant steps taken in this direction is to enhance the share of natural gas in the energy mix. For this various steps have been taken, for instance – creation of national gas grid, expansion of CGD network, allocation of domestic gas to priority sectors, expansion of regasification facility, promoting CBG ecosystem, etc.

2. The introduction of CNG in transport (especially in cars, buses and auto rickshaws) has gone a long way in combating pollution. However, the conversion of Heavy Duty Vehicles (HDVs) to CNG seems challenging due to involvement of heavy payloads and chances of frequent refueling. In such a scenario, LNG, touted as a cleaner fuel having better range, can work as an alternative fuel for HDVs in India. The proposed scheme, therefore, intends to lay down a pathway for introduction and promotion of LNG in HDVs.

3. Objectives of the scheme:

3.1 India has set a target of becoming net zero by 2070. This in turn requires a coordinated approach in various sectors.

The Indian transport sector accounts for nearly 13.5% of India's energy related carbon dioxide emission with the HDV sector accounting for a major chunk of these emissions. Thus, a targeted approach towards emission reduction in this sector (i.e. HDV), will certainly help in reducing the overall emissions.

As per Road Transport Year Book 2019-20, every year, about 3.5 lakh medium and heavy commercial vehicles are sold in the country. As on 31st March, 2020, there were about 58 lakh trucks and lorries and 16 lakh multi axle articulated vehicles registered in India.

In order to reduce vehicular pollution in the transport sector, there is a need to promote LNG in heavy duty vehicles. LNG has 24 per cent lower Emission Factor (gCO₂/kg-fuel) than diesel. Also emissions with regards to other harmful gases like NO_x/SO_x is low. While the total cost of ownership for diesel and LNG vehicle are similar over a 10 year period (NITI Aayog Report),

the economic, environmental and health dividends rise from increasing consumption of LNG in the transport sector.

3.2 This scheme is aimed at converting about one-third of the existing long haul heavy duty trucks as well as getting about one-third of the upcoming HDV truck to use LNG as fuel so that the vehicular pollution reduces by one-third from the present. This aim could be achieved over a period of 5-7 years.

3.3 In order to achieve this, the proposal also intends to formulate a plan for making LNG available at stable prices across the country.

3.4 Further, availability of LNG dispensing station at regular distance and in closed loop systems (e.g. mines) will be necessary for the development of LNG based mobility.

3.5 To sustain the system, there would also be a need to encourage OEMs to produce/manufacture substantial quantum of LNG based HDVs.

3.6 MoPNG can play a vital and leading role in provisioning for availability of LNG at stable / predictable prices; availability of sufficient HDVs/ trucks; and availability of sufficient LNG dispensing stations. Once the initial ecosystem is established, the same can sustain itself and expand without government intervention.

4. Scheme framework:

(a) **Commissioning of LNG dispensing stations:** Oil and gas marketing companies have been mandated to establish 49 LNG stations throughout the country in the first phase. This would be further extended/expanded depending on availability, usage and deepening of LNG market in India. The OGMs may also contemplate establishing infrastructure including LNG stations or Mobile refueling facility in close loop markets such as mining / cement industries, etc.

(b) **Ensure predictability of LNG prices over the next three years:** This can be achieved by allocating 0.5 MMSCMD of domestic natural gas produced from new well or well intervention for an initial period of three years from the date of notification of this scheme (the terms new well or well intervention will have the same connotation as implied in the guideline dated 07.04.2023). An initial allocation of 0.5 MMSCMD shall help in fulfilling the needs of about 50,000 trucks over the next 2-3 years.

(c) **Allowing boil off gas to the authorized City Gas Distribution entity** as part of domestic gas allocation: In case the LNG

dispenser is being established by an entity other than the authorized CGD entity, the quantum of boil off from the LNG dispensing station can be allowed to be supplied to the authorized entity as part of domestic gas allocation at APM price of nomination fields.

(d) **Small scale LNG/Bio-LNG** – To enhance the offtake of CBG from areas which cannot be served well through pipelines as well as located at a substantial distance from the grid, based on techno-economic feasibility, ss-LNG/Bio-LNG (from CBG) facility may be established to feed the transport sector. The capex in establishing the ss-LNG system/facility can be made a part of the Uniform Base Price (UBP) mechanism of CNG(T)/PNG(D) segment of CGD sector. This provision may be preferably applicable to those plants producing more than 15 TPD of CBG and located at distance of more than 75 kms from the grid. However, the impact on Uniform base Price for CNG(T)/PNG(D) segment of CGD sector should not be more than 1.5 paisa.

5. Other than the above we may advise:

(a) OMCs to incentivize (i) fleet owners for conversion of diesel trucks to LNG fuel trucks; and (ii) preferential order in transport contract for LNG fueled vehicles.

(b) Developing Delhi Mumbai expressway as a pilot LNG Highway – As a pilot, MoRTH may be requested for toll-tax exemption on the Delhi-Mumbai expressway for LNG HDVs. This in turn, shall reduce the operating cost of LNG HDVs and propel faster adoption.

6. The scheme will lay the foundation for an enhanced consumption of LNG in the country and thereby buttress the establishment of gas based economy.
