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The present CNG crisis and its remedy **IMTIAZ RASTGAR**

Pakistan has emerged as global leader in the use of CNG, a fuel for cars, rickshaws and urban transport. Owing to the economics of CNG as an alternative to petrol and encouraged by government policies, there was a mass scale shift to the use of CNG.

The demand for CNG kits, together with encouraging tariffs, led almost all OEMs in Pakistan to offer factory fitted CNG vehicles. Simultaneously, there was a huge investment by the private sector into gas filling stations. Thousands of SME enterprises were spawned in the gas dispensing and gas products manufacturing sector.

The present crisis brought forth by the extremely bitter cold season has shown the several weaknesses of this sector, which need timely redressal by the government and the gas dispensing sector.

In Pakistan the demand of natural gas continued to grow steadily as the country was blessed with abundant resources of natural gas. This was supposed to be the cheapest source of energy since its exploration in 60's. During 1999-2000 the gas sector was 40.80% which grew to 50.40% during 2005-06. The tendency of using alternate energy sources like LPG and CNG also became common.

During the early 70's use of LPG became popular as an alternate fuel while the story of CNG sector began to arouse with imported used CNG compressors from the New Zealand and other parts of the world with safety standards poorly known by the people investing in this business.

With very little technical knowledge and understanding of the subject, the measuring equipment was calibrated on the basis of pressure instead of mass, resulting in short measurement of gas - but for the customer, not for the seller who made money for selling hot CNG.

The preceding decade had been the high growth years for the gas sector indicative of the fact that Pakistan has doubled or quadrupled the volume of its previous reserves during this period and discoveries of more gas reserves had favoured the expansion and growth of this sector. Among other consumers of the natural gas, growth rate of the CNG sector during 2005-06 alone was 59% and its gas consumption increased from 67 to 107 MMCFD.

Tremendous growth rate was backed by GOP's policies to encourage the use of vehicles powered by less polluting CNG on one hand and on the other providing a conducive tariff regime for promoting CNG vehicles (CKD - 0% , CBU - 15%)along with giving exemption of import duty and sales tax on the import of machinery and equipment, CNG kits and cylinders. These measures gave a lot of encouragement to the local vehicle manufacturers to invest heavily for converting their facilities for manufacturing of CNG dedicated vehicles ie cars/LCV's and buses.

STRUCTURE OF THE CNG SECTOR:

There are primarily two types of operators in this sector (i) Corporate or Institutional Operators (ii) Private, Independent Operators. The corporate sector comprises players like Shell, PSO, APL, Total, Caltex and Admore who altogether constitute almost 38% of the total CNG stations ownership. These being a more responsible sector are with responsible behaviors, with state of the art equipment, having high priority for safety and quick delivery/dispensing system and long term market sustainability approaches.

In comparison to this, the independent operators who constitute almost 62% of the total CNG operations have short-term profit making approach with little concern for equipment selection and safety issues. No training or re-training of the filling operators and no culture preventive maintenance.

WHAT WENT WRONG?

In spite of positive attitudes from the relevant quarter, handsome amount of investment pouring in, both the infrastructure (gas stations) and local vehicle manufacturing of CNG vehicle along with supportive GoP policies, what went wrong in this sector which ended up with a crisis that the nation is today facing? The present natural gas crisis has worst hit this sector and the ongoing gas shortage in the country had disrupted the CNG operations in a country where almost 4000 factory fitted CNG cars and approximately 12,000 conversion vehicles are finding their way on the roads every year along with CNG dedicated rickshaws funded by the Punjab Government. What is the fate of this sector? Nobody knows.

Although the government has been promoting CNG vehicles to mitigate both the objectives ie for supporting it as pollution free and as a cost effective fuel, yet some hard realities have to be taken into account which led to the present circumstances:

-- Licenses for CNG filling stations were issued without considering the available infrastructure, especially the distribution pipelines. During the seventies the pipeline network was laid down for supply of natural gas to the domestic users only. Today, the same pipelines are being used to cater to the CNG stations whose number is on an ever increase. During 1999-2000 percentage share of CNG in total gas consumption was 0.36% which grew to 4.18% during 2005-06, being fed from the same pipelines which were actually not laid down for the filling stations.

-- Majority of CNG stations in the private sector are being managed with very short term, profit oriented approach. Thus the plant and machinery is old and poorly maintained with no preventive maintenance.

-- The above leads to low efficiency of the compressors taking longer running times and to reach the desired pressure resulting in queuing problems at the filling stations.

-- Since private owners are operating in a non-corporate culture, awareness of safety issues pertinent to this sector is missing. The operators are not trained to overcome safety hazards. No culture of safety audit of filling stations exists thus non conformance to international safety standards is a common phenomenon in this sector.

-- As the private sector is mostly relying on used plant and equipment, there are very few stations equipped with state of the art CNG technologies except for the corporate sector. The filling stations do not use coalescing separators and condensate filters. Resultantly, the condensate from gas fills the customers' gas tank, thus reducing the volume of the tank on the one hand and life of the tank on the other. This in return affects the efficiency of CNG conversion kit, increasing the gas consumption and maintenance cost of the vehicle.

CONCLUSION:

Due to lapses in planning, and timely redressal, the CNG sector today is on the verge of collapse, and if the ongoing gas shortage in the country is not overcome then the import bill of oil will increase as CNG is presently reported to replace a least 2.7 billion liters of petrol/per annum. Also the OEMs manufacturing cars and rickshaws with CNG equipment may pull out of this sector, while the billions of rupees invested in the gas filling station sector may face stagnation or decline.

The Government of Pakistan needs to come up with clear, long-term solutions and firm commitments for the stakeholders in this sector. CNG is undoubtedly a sector which has gained its growth momentum due to support by the GoP to be used as an alternate, cheaper fuel with a priority for cleaner environment as well as for reducing the import bill. In return the consumer gets the benefit in terms of cost efficiencies, while several other business sectors are stimulated.

What can be discerned on a more distant horizon for the future of CNG in Pakistan is that unless there is proper infrastructure management with better wider pipelines and arteries for CNG filling stations along with firm commitment from GoP, the future of this sector would be in doldrums.

On the investors side, the amateur periods should be over and investment in state of art technologies is the solution from where high efficiency could be derived.

The filling station owners who started with used, low capacity compressors must now graduate to new, high capacity compressors which would eliminate the queues lined up outside every CNG station.

The domestic sector consumes 21% gas during summer which increases to 65% during winters as the use of gas geysers and heaters becomes common. The need of the hour is to conserve energy in such home appliances by incentivizing technology advances by the manufacturers as well introduction of regulatory measures by urban planning authorities like CDA, LDA, KDA etc to make the use of solar water-heaters mandatory. (The writer is ex CEO of the Engineering Development Board, Ministry of Industries and Chairman of the Rastgar Group. imtiazh@rastgar.com)

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