

CHAPTER 7

CONCLUSION

The successful development of natural gas resources in Peninsular Malaysia is due to four main factors. Firstly, the four-fuel diversification policy adopted by the government, which emphasizes the use of natural gas as an alternative fuel to oil, and to avoid total dependence on oil, in the long run. Secondly, is the availability of massive gas reserves in Malaysia. The current gas reserve can last up to 100 years, excluding the potential of locating new gas fields. Thirdly, is the growing demand for energy caused by the rapid growth in economy, whereby the development of natural gas can fulfill demand in the power, petrochemical, industrial, commercial, residential and transport sectors. Finally, the positive effect of natural gas consumption on the environment due to its low level of pollutants when used in the transport and

industrial sector. Therefore, natural gas helps to improve air quality, particularly, in urban area.

In Peninsular Malaysia, the gas industry is considered a new industry market and the structure of the gas industry was set up by the government to promote initial development of the gas industry. This is evident, due to the high degree of vertical integration where PETRONAS has equity ownership in the production, transmission and distribution sectors.

Generally, transmission and distribution infrastructure services are referred to as natural monopolies because of its large investments and also its economic characteristics. Therefore, the supply of gas by a single pipeline company is inherently more efficient than a large number of competitive firms, each with its own set of pipelines. In accordance to that, in the distribution sector, the government has given the license to a private company, i.e. Gas Malaysia Sdn Bhd (GMSB), the only

firm operating the Natural Gas Distribution System (NGDS), giving it a statutory monopoly status.

The GMSB privatization was based on Build Own and Operate scheme. The reason for privatization is to help reduce the financial burden of the government (caused by the oil crisis) and to encourage private sector involvement as its services are better than public enterprises. However, to prevent the abuse of the monopoly power of GMSB, and to control the distribution network, as it is of prime importance to the energy market, the government regulates GMSB through the Jabatan Bekalan Elektrik & Gas.

However, the existing regulatory framework emphasizes on safety standards, construction quality and security of supply. There isn't any instrument on price regulation to prevent the abuse of monopoly power by the GMSB or to encourage competition to create efficient market. Nevertheless, there is substantial capacity for the development of appropriate regulatory framework as current regulation is still in the developing stage.

Among GMSB three supply sectors through the NGDS i.e. industrial, residential and commercial, it has been substantiated that the industrial sector is the most profitable because of its huge demand compared to the other sectors. Accordingly, the pipeline route of the gas distribution network is influenced by the industrial sector development. The target areas are Shah Alam, Klang, Klang Valley, Seremban, Pasir Gudang, Kluang and Gebeng. This is because these areas have high load demand due to the industrial estates located in the respective areas. Consequently, the residential and commercial customers located in these areas will be developed parallel to the industrial development.

However, the effort to supply gas to in the residential sector is minimal due to the low demand, in comparison to the commercial and industrial sectors. However, due to social obligation to supply gas to the residential sector, GMSB has taken measures to venture into this sector by targeting new residential areas located near the distribution

pipelines. Also, GMSB plans to cross subsidize this sector from the profit earned through the industrial sector.

Therefore, gas price in the industrial sector is not competitively priced against other competitive fuels especially fuel oil which has low energy price in the market. As a result, GMSB is unable to capture more industrial customers in order to acquire higher sales volume so that economies of scale is attain. If gas is priced competitively, that is close to its value in a particular market sector, it can maximize volumes, bring down unit costs and thus survive even in the lower-priced market.

Nevertheless, natural gas has a competitive edge over LPG and Diesel as the price of natural gas is lower, making it easier to penetrate the market. GMSB, in the last four years, has been able to capture about 52 per cent of the industrial LPG market (this percentage is based on GMSB database). The biggest challenge lies in penetrating the fuel oil market, the largest single fuel source which

contributes to more than 50 percent of fuel consumed by the industrial market.

The success of natural gas in capturing the domestic energy market, is shown through GMSB's growth rate. In terms of percentage of volume captured in the industrial sector, the consumption has increased by 470 per cent between 1993 and 1994. The reason for such tremendous increase is due to the initial gas distribution network which was completed as scheduled in the selected industrial areas of Shah Alam, Klang and Pasir Gudang. In 1995, the volume grew by 100 per cent and in 1996 it grew by 65 per cent. The reason for the comparative drop in the growth rate over the three years is mainly because, GMSB had already tapped the large high premium fuel (LPG, Diesel) consumers in the selected areas, during the initial years. Therefore, GMSB is now left with the small and medium consumers in the LPG and Diesel market.

GMSB has forecast a growth of 37 per cent in volume for the year 1997, i.e. a total of about 22 million

mmBtu in consumption. It's next development plan is to supply natural gas to potential consumers along the distribution pipeline and also extend the pipeline to supply natural gas to commercial and residential customers in the city. A 34km pipeline from Shah Alam to Kuala Lumpur is currently, under construction to supply gas to the new PETRONAS Twin Tower. Once it is fully occupied, the tower which will consume about 2 mmscfd per annum. This distribution line will be the starting point for gas distribution to the commercial and residential customers in the Klang Valley.

Outlook

In conclusion, the overall success of the natural gas distribution in Peninsular Malaysia is attributed to the government emphasis on energy diversification i.e. the four fuel policy. But the future success of the natural gas will depend on its competitive gas pricing policy especially in the industrial sector which has the biggest demand to

generate the revenue required to cross subsidise the residential sector.

The possibility of introducing competition is unlikely because the gas industry is a new market and cannot withstand competition to recover its huge investments especially in the near future. Moreover, PETRONAS which wholly owns all the natural gas resources, doesn't enable new competition in the market. Therefore, the only alternative to create a competitive environment would be through an appropriate and effective regulatory framework, that not only protect the consumer interest but would also provide better services and improved safety standards.