

ABSTRACT

Use of compressed natural gas (CNG) in vehicles can help reduce the dependence on imported liquid fuel with significant environmental benefits compared to conventional fuels. Natural gas resource in the country can help satisfy the growing energy demand of the road transport sector. The most important aspects of vehicular applications of CNG are presented in this study. Criteria considered include: gas quality, safety, technology, environment, economics and marketing issues.

The octane rating, heating value, Wobbe index, and other properties of natural gas make it suitable for use in vehicle applications in place of the conventional fuel. Natural gas is also a very safe fuel in terms of its properties and containment safety. Environmental benefits provide an important argument for using natural gas in vehicle applications. Natural gas produces significantly less amount of harmful emissions compared to the conventional liquid fuels.

Different types of refueling systems, conversion of the existing petrol and diesel engines to natural gas systems and also the storage of natural gas have been discussed. The economic analysis shows an excellent return on the investment for conversion of passenger car and city transit buses. Finally, various marketing issues relating to the use of natural gas in vehicles have been discussed.