# Technology Fact Sheet
# **Compressed Natural Gas (CNG)**[i]

## 1) Technology status

Cars run by CNG can function as well as petrol cars as they all use spark-ignited engines. Natural gas is compressed in high pressure fuel tanks on the car platform.

The use of CNG in transportation is highly widespread in the world today. At the moment, there are about 10 million cars fueled by CNG and more than 15 thousand CNG supply stations in 75 countries. The four leading countries in CNG use are Pakistan (2.4 million cars), Argentina (1.8 million cars), Iran (1.7 million cars) and Brazil (1.6 million cars).

## 2) Social, economic and environmental benefits

Vietnam has a medium potential for natural gas, therefore using CNG in transportation can contribute to maintaining energy security, reducing dependency on oil imports.

In terms of environment, this technology can bring about several benefits; for example, CNG is a clean, low in $NO_x$ and dust emission fuel, so it can enhance urban air quality.

Natural gas emits less $CO_2$ than other oil-based fuels.

## 3) Application potential

Having large natural gas reserves, Vietnam has great advantages in developing CNG technology for transportation. Over the last few years, Vietnam has made some efforts in promoting CNG-run vehicles in industry and public transportation. The first CNG manufacturing factory was founded in Phu My Industrial Compact I (Ba Ria – Vung Tau) in 2008.

CNG use in transportation is being promoted, from two CNG buses in Ho Chi Minh City in 2010 to 28 buses in 2011. In the near future, CNG will be in wider use in industries and public transportation when CNG Nhon Trach factory comes into operation in 2012. According to plan, Hanoi will be the next city to use CNG in transportation.

## 4) Application potential

Potential to use CNG in urban transportation is high. Vietnam is expected to have 193,000 buses by 2025, up from 79,000 buses in 2005. If one third, or 60,000, of the buses use CNG, it is estimated to reduce 4 million tonnes of $CO_2$.

## 5) Barriers

- Lack of CNG manufacturing infrastructure on a national scale. CNG stations require much higher capital costs than oil and petrol stations. Furthermore, users only accept to use CNG cars if there are enough CNG stations. In turn, investors insists on waiting for at least sufficient demand or increase in sales of CNG cars before agreeing to invest on the station.

- Costs to change into using CNG are high (about US$ 3,000 -4,000 for petrol cars and US$ 20,000 for oil-fueled car).

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[i] **This fact sheet has been extracted from TNA Report - Mitigation for Vietnam. You can access the complete report from the TNA project website http://tech-action.org/**