8 CO2 emission of Real Time Monitoring in China

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Abstract

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Abstract

Real Time Monitoring (RTM) is a new way to monitor the movements and activities of a vehicle. RTM is when data is being transmitted in real time from a car to a central database. In the Peoples Republic of China, New Energy Vehicles (NEVs) must be equipped with technology that supports RTM in order to receive the right to be manufactured. This amount of data traffic at the currently planned NEVs (5 Million Units) in 2020 will result in 850,000 GBs a year. Based on the estimations, within four years 4.552.51 Tons of CO2 will be generated annually through the real time monitoring of NEVs. As long as most of China’s energy supply is generated through coal factories, the expected benefits of NEVs cannot be realised. The CO2 emission problem will not be solved but only relocated from cities to suburban areas (location of coal factories).

8.1 Introduction

Due to the well-known environmental issues in larger cities in China, the local government is considering some options to reverse the alarmingly decreasing air quality. While the industry and manufacturing is responsible for the most CO2 emission in the country, the high concentration of passenger cars in larger cities do have a significant impact on air quality. As the electro and plug-in hybrid car market is growing globally, so does the interest of the Chinese government in this new area. China introduced a five year plan that forecasts five million New Energy Vehicles (NEVs) on the streets of China until 2020. The government initiated this plan in order to decrease air pollution in mega cities (Tier 4 Cities). By banning conventional petrol cars in city centres, CO2 emission from cars could be dramatically reduced.

The government also introduced Real Time Monitoring (RTM) along with their plan to boost the NEV sales. RTM is unlike incentives; it does not promote electric cars but create additional requirement for Original Equipment Manufacturer (OEM) to fulfil, before gaining the right to locally manufacture hybrid and electric vehicles. The exact reason behind this new regulation is unclear, however the concept of RTM is not new. Similar systems are already being used in some other countries like Norway and Germany. In Germany for example it is not mandatory, but optional for customers to use it for insurance purposes. A small box from an insurance company is installed in the car and sends regularly data to their server, so the company can analyse the driving behaviours of the driver. Based on the gathered information, the company can adjust the premium of the policyholder. According to the currently published mandatory data set from the Chinese government, over