GFEI
GLOBAL FUEL ECONOMY INITIATIVE

Fuel Economy State of the World 2016

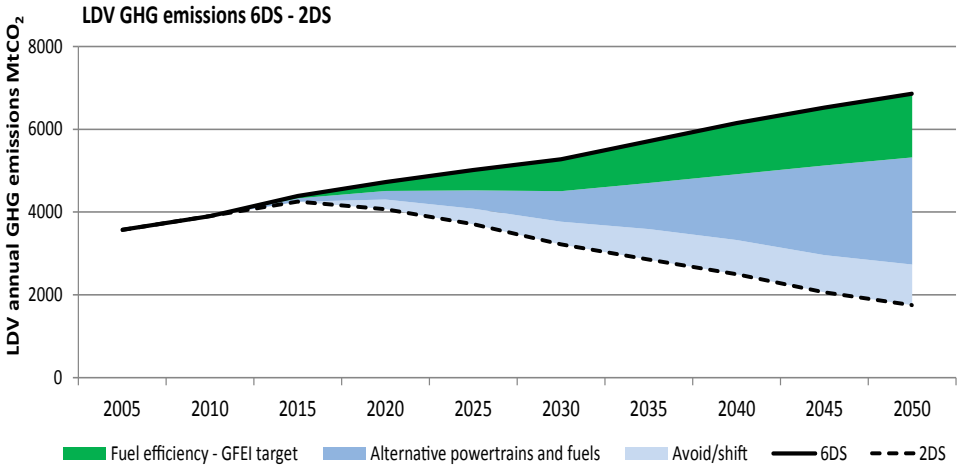
Time for global action | EXECUTIVE SUMMARY

Executive Summary: Fuel Economy State of the World 2016 – Time for Global Action

The Global Fuel Economy Initiative (GFEI) has achieved global recognition for the work which it has done in promoting fuel economy policies. This reflects the significance of transport emissions and its potential reductions due to improved fuel economy. It is also a reflection on the very real commitment of the six GFEI partner organisations (the FIA Foundation, UNEP, ICCT, IEA, UC Davis and ITF), towards this work, and the many different contributions they are making to reducing the fuel consumption (Lge/100km) of light duty vehicles by 50% by 2050.

2015 has been a key year for action on fuel economy. World leaders have committed to new Global Goals for Sustainable Development (SDGs), to improved fuel efficiency through the G20, and to energy efficiency as a key means of tackling climate change through COP21.

FIGURE 1 LDV emission reductions due to fuel economy policies



This analysis includes a 20% reduction in new car fuel consumption (Lge/100km) in the 6DS; an additional 30% reduction is reflected in the 2DS scenario, reaching the GFEI target.

Source: Analysis for GFEI based on IEA ETP 2014 (IEA 2014)

KEY MESSAGE • ACHIEVING THE GFEI TARGET OF REDUCING FUEL CONSUMPTION (LGE/100KM) OF THE ENTIRE LDV STOCK BY 50% BY 2050 CAN CONTRIBUTE TO ABOUT A THIRD OF THE EMISSION REDUCTIONS NECESSARY TO SWITCH INDIVIDUAL MOTORISED TRANSPORT FROM A 6 DEGREE (6DS) TO 2 DEGREE (2DS) EMISSION TRAJECTORY.

1. GFEI's goals

GFEI's work is focused around a series of targets to significantly improve vehicle fuel economy globally. These include a 50% reduction in the average fuel consumption (Lge/100km) of all light duty vehicles in use in 2050, compared to a 2005 baseline. To achieve this, all new sold cars and vans must reach a similar target by 2030.

GFEI's new '100 for 50by50' campaign aims to rapidly expand the number of countries committing to improve fuel economy to one hundred. With the support of GFEI, 27 developing countries are now at various stages of developing fuel economy policies and more will be joining in the future.

100
FOR 50BY50
SAFE CLIMATE AND CLEAN AIR AT COP21

2. Fuel economy and CO_2 emission reductions

Light duty vehicle fuel economy improvement has progressed in some parts of the world. With policies already adopted, the world is about half the way to the 2030 GFEI target. However, the next five years will be critical to realise it.

Achieving the GFEI targets would result in annual emission reductions of around 0.5 Gt CO_2 per year by 2025 and 1.5 Gt CO_2 per year by 2050 (Figure 1). Between now and 2050 the total emission of almost 33 Gt of CO_2 could be saved. It would secure almost one third of the CO_2 reductions necessary to switch individual motorised passenger transport from a 6 degree (6DS) to a 2 degree (2DS) emission trajectory.

Country partners at the GFEI's Global Training event, Paris June 2015

3. Country activities

In the past year many countries have adopted new fuel economy initiatives with assistance from GFEI partners. These include:

- **Chile** introduced a carbon tax in January 2015 to promote vehicle fuel economy. The tax is applied to new car purchases based on both CO_2 and NOx emissions and builds on the fuel economy labelling scheme introduced in Chile in 2013.

- In **Thailand**, all manufacturers and importers of light-duty vehicles are mandated to display the Eco-Sticker on windshields to inform consumers about the emissions, safety, and fuel economy rating of new cars from October 2015, which will be the basis of revised excise tax rates from January 2016.

- The **Kingdom of Saudi Arabia (KSA)** announced new light-duty vehicle (LDV) fuel economy standards for all new and used passenger vehicles and light trucks, whether imported from outside or manufactured in Saudi Arabia, which will be effective from January 2016.

- **Kenya** has adopted an age-based taxation scheme for imported second-hand vehicles that will raise the tax for imported second-hand vehicles older than 3 years by 150% and reduce tax to 30% for vehicles younger than 3 years.

GFEI has been supporting many other countries to begin on a path towards fuel economy policies by developing fuel economy baseline assessments of their vehicle fleet, preparingpolicy proposals, and engaging with key stakeholders.

4. Global progress

Tracking country progress in fuel economy improvement is one of GFEI's key contributions to the global evidence base. Since 2011, GFEI has produced biannual reports of progress towards the GFEI target of doubling the fuel economy of new light duty vehicles by 2030. The latest report, published in January 2015 (GFEI Working Paper 11) shows:

- **While the global average fuel economy is improving, more needs to be done to meet the GFEI target.** The global average annual improvement rate of fuel economy has remained close to 2.0% per year since 2005. This represents about two thirds of the 3.1% per year improvement required to reach the GFEI target.

- **Fuel economy in OECD countries is improving at a much higher rate than in non-OECD countries.** OECD countries are improving at a rate of 2.6% on average per year, with more than half of the OECD countries included in the analysis showing improvement rates well above 3.0%. Fuel economy improvement rates in non-OECD countries remain low, with an average improvement of -0.2% annually between 2005 and 2013.

- **The relative changes in the size of different markets have a significant impact on the evolution of the global average fuel economy.** The non-OECD passenger car market is now bigger than the OECD market, and has been since 2011.

Vehicle size is a key factor which affects average fuel economy. Bigger cars tend to be heavier, with a larger frontal area and higher performance, leading to an increased specific fuel consumption. In non-OECD countries, rising incomes seems to be leading to sales of larger vehicles.

5. Fuel economy insights

The report also reviews studies which give important insights into vehicle technologies and trends which affect fuel economy. This includes:

- **Vehicle technology and fuel efficiency across countries.** This explores how the different characteristics of vehicle fleets affect fuel economy levels.
- **Low carbon alternatives: Electric vehicles, hybrids & sustainable biofuels, hydrogen & fuel cell electric vehicles.** This explores some of the challenges and opportunities from these different technologies.
- **Real world fuel consumption.** This explores the evidence of a gap between tested and real-world fuel consumption.
- **Improving understanding of technology and costs for CO_2 reductions from cars and LCVs in the period to 2030 and development of cost curves.** This assesses the likely costs of introducing new technologies in the EU.

6. Next steps

Helping countries with the development of LDV fuel economy policies remains the main focus of GFEI. Nonetheless, GFEI intends to broaden its scope beyond LDV fuel economy towards a stronger involvement in heavy duty vehicle fuel economy policy making, electric vehicle target-setting and developing a new more informative vehicle label – the "Green NCAP".

GFEI and heavy duty vehicles

Fuel economy regulations for heavy duty vehicles have been adopted for less than 50% of the market. GFEI partner organizations such as ICCT and IEA are already actively contributing to heavy duty fuel economy policy development, GFEI as a whole will now work towards setting up fuel economy targets for heavy duty vehicles. A GFEI target would help guide the substantial number of nations that are developing the next set of heavy-duty vehicle fuel economy standards, notably China, the United States, Canada, Europe, Japan, India, Mexico, and South Korea.

GFEI and electric vehicles

EVs will need to play a major role in a sustainable transport system, especially post 2030, when efficient conventional cars alone will not be sufficient to reach a 2 degree emission trajectory GFEI will become increasingly involved in supporting development of EV related policy, alongside the core fuel economy work in our partner countries.

"Green NCAP"

GFEI has been developing plans for a new and voluntary vehicle testing program, aiming at providing transparent and real-word driving results to compare the environmental impact of new cars. In 2015, and given recent scandals around VW, thistopic is more relevant than ever, and we hope that governments and manufacturers will join us in this work.The "Green NCAP", aims to provide a definition of a clean car, taking into account parameters like fuel efficiency, greenhouse gas and pollutant emissions as well as noise. The introduction of such a labelwould help close the gap between tested and on-road fuel economy, and ensure better consumer information.

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