The Global Fuel Economy Initiative (GFEI) a case study from Mauritius

Sheila Watson, Deputy Director, FIA Foundation Exec. Sec. GFEI
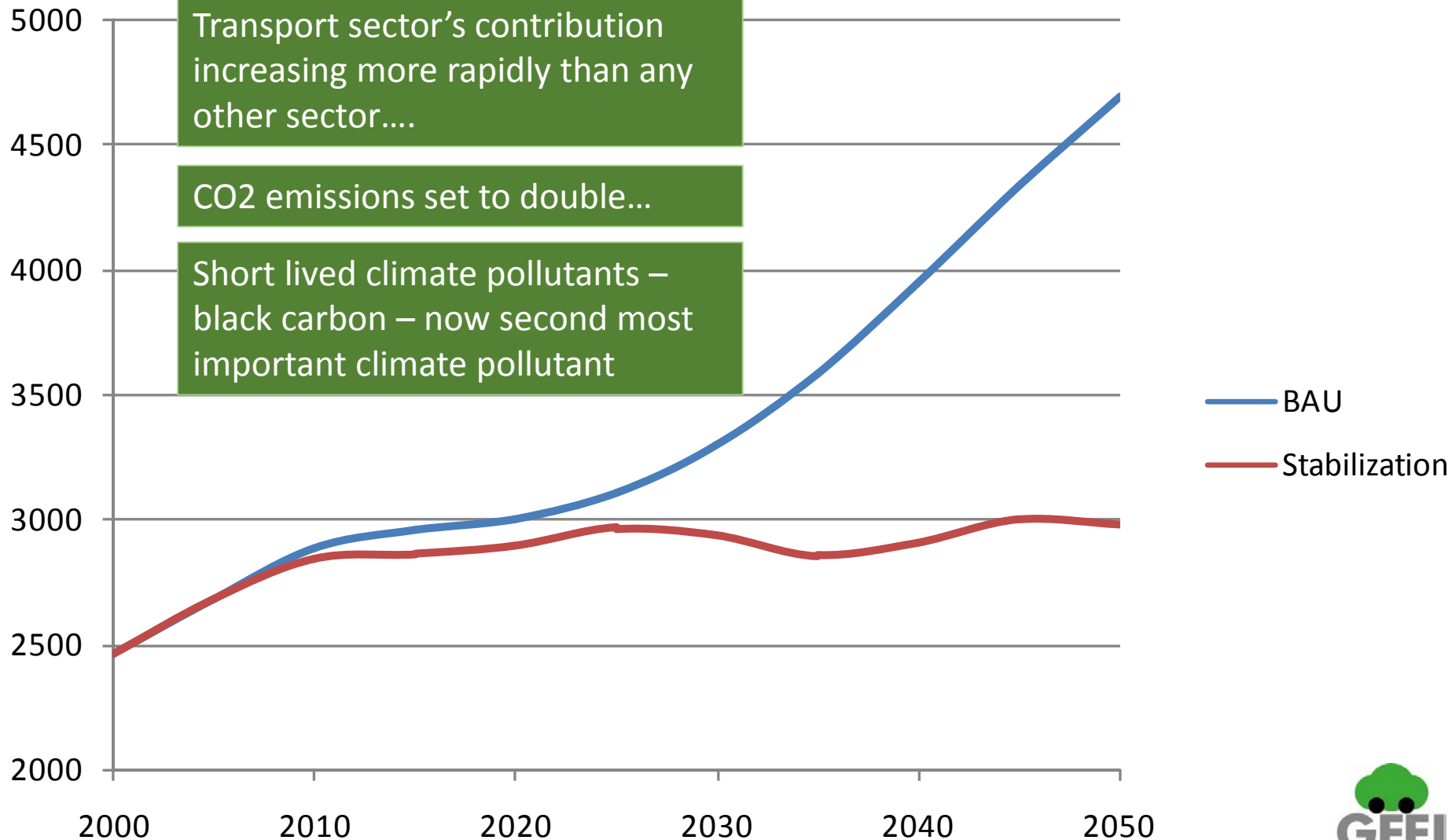
Climate Change

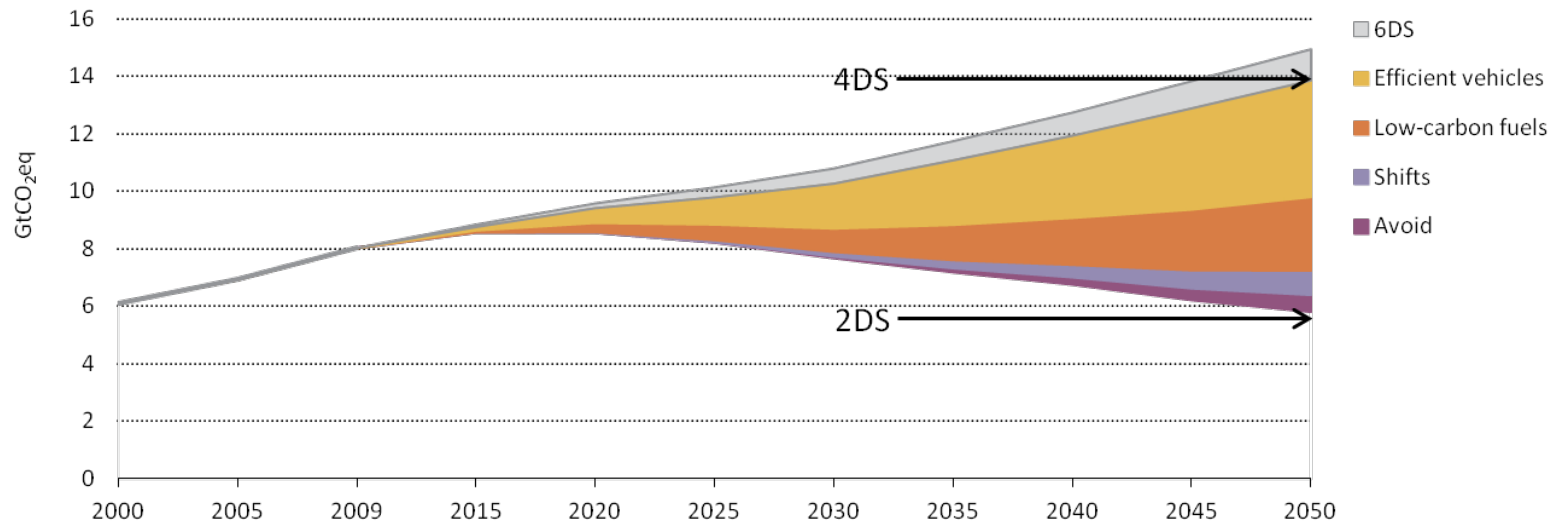Transport sector's contribution increasing more rapidly than any other sector….

CO2 emissions set to double…

Short lived climate pollutants – black carbon – now second most important climate pollutant

BAU

Stabilization

CO2 emissions from the global light duty vehicle fleet – GFEI 2009

Carbon Reduction Potential Transport

- Potential for transport to reduce 4 GT/yr in 2030 and 8 GT/yr in 2050 (IEA MOMO model 2015)
- Comprehensive approach needed:
  - **Avoid** transport, for example through better city planning
  - **Shift** to efficient transport modes, like public transport
  - **Improve** through cleaner vehicles
- Biggest potential with improving vehicle efficiency – the yellow wedge

GFEI GLOBAL FUEL ECONOMY INITIATIVE

Launched in 2009, with target of doubling fuel economy ('50by50')

Six core partners: FIA Foundation, UNEP, IEA, ITF, ICCT and UC Davis. Financial support from FIA Foundation, GEF and European Commission
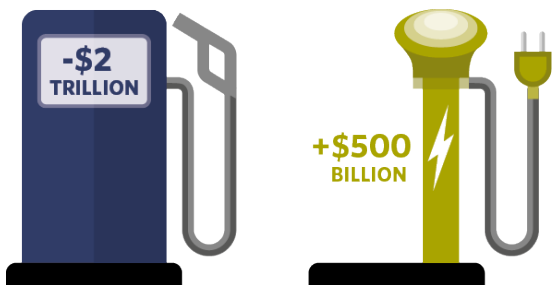
THE GFEI FUEL ECONOMY TARGETS
From 2005 baseline:

30% reduction in L/100km by 2020 in all new cars in OECD countries

50% by 2030 in all new cars globally

50% by 2050 in all cars globally

GFEI recognized as leading vehicle efficiency initiative

Achim Steiner '**a model alliance that should inspire other sectors**'

FiA FOUNDATION | UNEP | **UCDAVIS** INSTITUTE OF TRANSPORTATION STUDIES | iea International Energy Agency | **icct** THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION | **International Transport Forum**

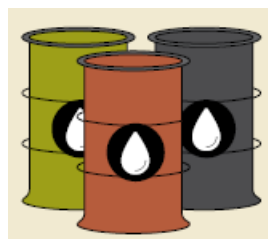# WHAT CAN FUEL EFFICIENCY DELIVER?

Financial Savings

-$2 TRILLION

+$500 BILLION

$2 trillion savings

A total of **$2 trillion** could be made in fuel savings by 2025, **$500 billion** of which would fund the costs of initiating a transition to electric vehicles.

Reduced dependence on oil

Lower carbon emissions

300 fewer power stations

The **33Gt** of CO_2 that could be saved between 2015 and 2050 is roughly the equivalent of closing **300** coal power stations over the same time period.
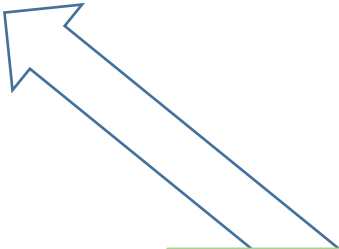
Air quality benefits

From associated improved vehicle emissions standards

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WHAT DOES GFEI DO?

RAISING GLOBAL AWARENESS

IN-COUNTRY POLICY SUPPORT

RESEARCH AND EVIDENCE

7 AFFORDABLE AND CLEAN ENERGY

SUSTAINABLE DEVELOPMENT GOALS

G20

G20 2016 CHINA

13 CLIMATE ACTION

LDV FUEL ECONOMY AND THE G20

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FUEL ECONOMY STATE OF THE WORLD 2016

Global Progress

2005 — GLOBAL AVG **8.3** LGE/100KM

2013 — GLOBAL AVG **7.1** LGE/100KM

2030 — GLOBAL AVG **4.2** LGE/100KM
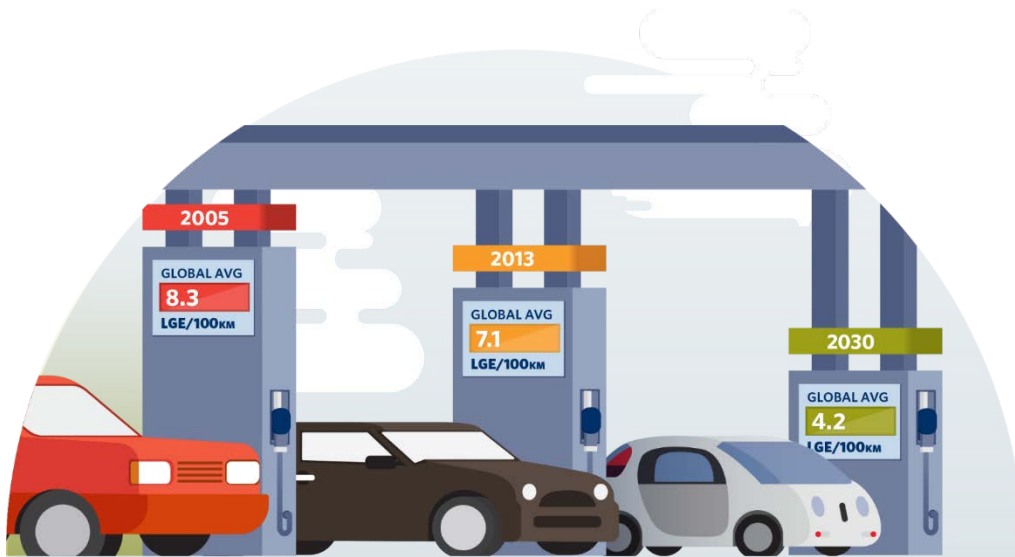
FUEL ECONOMY
Average LGE/100km

2005 — 2013

OECD COUNTRIES

LGE/100km

2005 **8.6**   **-1.7**   2013 **6.9**

NON-OECD COUNTRIES

LGE/100km

2005 **7.3**   **-0.1**   2013 **7.2**

FUTURE VEHICLE GROWTH TRENDS

Number of vehicles (m)

2500

1500

500

2010   2020   2030   2040   2050

OECD PASSENGER VEHICLES   NON-OECD PASSENGER VEHICLES
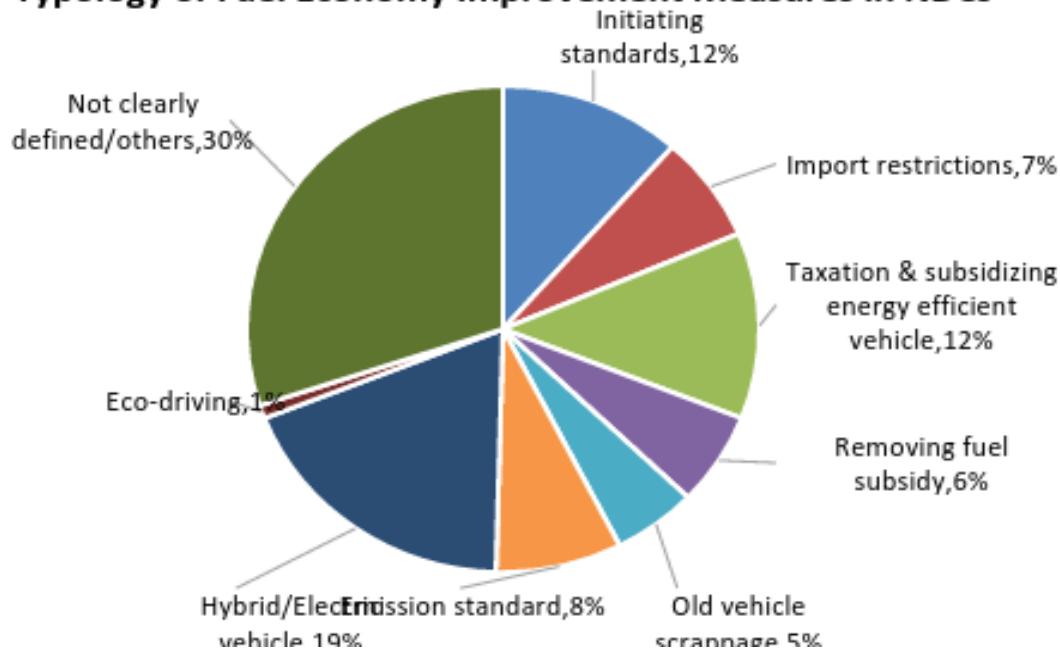
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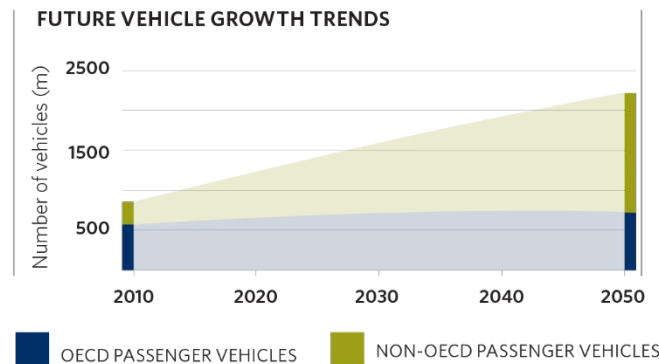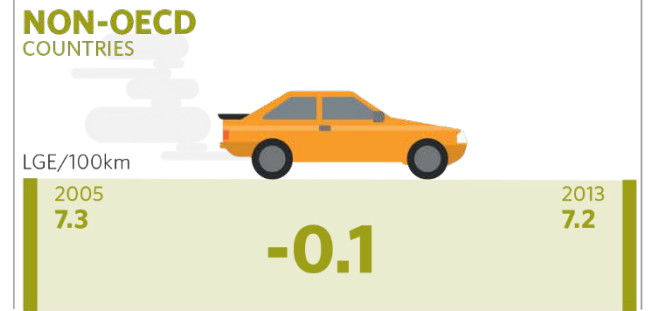
Out of 159 NDCs:
67% of NDCs (112 NDCs) have highlighted specific transport mitigation measure and 45% of NDCs (71 NDCs) have proposed measures to improve fuel economy of vehicles

Typology of Fuel Economy Improvement Measures in NDCs

- Initiating standards, 12%
- Import restrictions, 7%
- Taxation & subsidizing energy efficient vehicle, 12%
- Removing fuel subsidy, 6%
- Old vehicle scrappage 5%
- Emission standard, 8%
- Hybrid/Electric vehicle 19%
- Eco-driving, 1%
- Not clearly defined/others, 30%

GLOBAL FUEL ECONOMY
FOCUS ON AFRICA

Global Fuel Economy
An update for COP22

Mauritius

2010 – Initial engagement with GFEI

2011 - adopted a fee-bate scheme that puts a fee for cars emitting above 158 CO2 g/km and give buyers a rebate if the car they are buying emits less than 158 gr/km.

- immediate shift to cleaner and more efficient cars.
- Fuel economy improved from an average of 7 L/100km in 2005 to 6.6 L/100km in 2013 and 5.8 L/100km in 2014.
- rapid increase of new hybrid vehicle sales registrations from 337 in 2011 to 1418 in 2013.

2013 - national workshop to launch further Work with 3 output reports on Vehicle Inventory, Fuel and Vehicle Legislation, and Cost-Benefit Analysis of Policy Options.

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Mauritius

2013 - Feebate adjusted - CO2 threshold reduced from 158 CO2g/km to 150 CO2g/km.

2014 - A national workshop to present the findings to stakeholders. Short, medium and longer term measures to encourage import of more efficient vehicles such as vehicle labelling, a review of the fee-bate CO2 threshold, eco-driving and public sensitisation campaigns were recommended.

2015 – further work eg updates to light and heavy duty vehicle fuel economy & implementation roadmap for the policies

2016 – new policy - clean and efficient vehicles pay less tax, but without a rebate. – benefits new technologies like hybrid and electric vehicles.

Lessons learned from Mauritius are used in almost all other GFEI Country projects.

2017 – A focus on Africa

1 KENYA

As a result of GFEI's support, Kenya is now adapting its vehicle tax policies to incentivise imports of newer, more efficient, vehicles.

GFEI hosted a stakeholder workshop in Nairobi on the 12th May 2016 to discuss new proposals for a vehicle taxation scheme to promote the importation of cleaner, more fuel efficient vehicles in Kenya. The event shared the findings of a report developed by the Kenyan Energy Regulatory Commission in collaboration with the University of Nairobi, and supported by GFEI through UNEP with DFID funding.

The report reviewed vehicle fuel economy trends and identified policy proposals to improve vehicle fuel economy in Kenya. The report proposed two policy instruments: a 'feebate' tax system and a vehicle labelling scheme. A feebate tax structure proposes a fee or levy on inefficient vehicles and a rebate or refund on efficient vehicles while a vehicle labelling scheme provides information on vehicle fuel efficiency to consumers. The report also illustrates what a Kenyan vehicle label could look like.

2 SOUTH AFRICA

Fuel economy baseline and policy development

GFEI has been supporting South Africa to develop a fuel economy baseline, including data analysis and stakeholder workshops. The baseline analysis is the first step towards new vehicle FE/CO$_2$ emissions standards development as it sets the initial input to model the potential benefits of adopting new vehicle FE /CO$_2$ standards.

As part of the baseline analysis project a workshop was held in Pretoria (Aug 25th) on fuel economy standards. The workshop was attended by a local and state government officials from the departments of Transport, Energy, and Environmental Affairs, City of Tshwane, Johannesburg Metrobus, as well as technical experts from the South African National Energy Development Institute, and NGOs, all involved in transport and climate issues.

The purpose of the workshop was to present preliminary results of the baseline study, to have a chance to describe how FE and CO$_2$ standards work, and to listen to stakeholders' questions and comments on the idea of potentially adopting standards. The baseline analysis report will be finalized by the end of November 2016.

3 BOTSWANA

Botswana is developing a new fuel economy baseline to inform policy

On 22-23rd March 2016, the Department of Energy hosted a national workshop to discuss opportunities for improving fuel economy. Around 35 participants attended the workshop, including a range of stakeholders from the energy, environment and transport sectors. Both the Botswanan Deputy Permanent Secretaries for Energy and Environment participated in the workshop. It was proposed that a Botswanan vehicle inventory be undertaken and Botswana has subsequently signed an agreement with GFEI to work on fuel economy baseline analysis and policy development.

4 COTE D'IVOIRE

Focus on improving fuel efficiency of vehicle imports

GFEI has been working with Cote D'Ivoire since 2012. In 2015, ICCT supported the development of a vehicle fleet baseline and analysis. This showed a relatively high average fuel economy. As a result, Ivory Coast allocated GEF STAR funds to support work, including vehicle import analysis to calculate the average fuel economy for subsequent years, 2013- 2015 is currently ongoing, and a data entry tool that will help capture fuel economy data at the point of vehicle import registration is being developed. The next steps will be to develop fuel economy policies that will support imports of cleaner, more efficient vehicles.

5 BENIN

Finalising vehicle baseline

GFEI has been supporting work in Benin since 2013, and an inter-agency task force was established to coordinate the project and review vehicle importation in Benin with the objective of promoting cleaner, more fuel efficient vehicles. The government is looking at collaborating with various partners and regional players to support finalisation of the fuel economy inventory.

6 UGANDA

Developing new policies as part of Nationally Determined Contribution (NDC)

GFEI has been working with Uganda since 2013, and finalised a baseline analysis of the vehicle fleet in 2015 which shows that the average age of vehicles is very high and they are not very efficient. GFEI is supporting the government to take forward a range of improvements, which are included in the INDC. These include a fuel economy policy and new vehicle standards, age limits, inspection and maintenance systems and a vehicle labelling scheme.

7 ALGERIA

GFEI has been working with the Algerian government since 2014, and held a workshop in June 2015, which proposed introducing vehicle labelling and a review of vehicle taxation system.

NEW COUNTRIES

As part of GFEI's '100 for 50 by 50' campaign, GFEI is finalising agreements to work with the following:

- A Botswana
- B Burundi
- C Djibouti
- D Ghana
- E Liberia
- F Malawi
- G Mali
- H Mozambique
- I Nigeria
- J Rwanda
- K Tanzania
- L Togo
- M Zambia
- N Zimbabwe

NORTH AFRICA
8 MOROCCO 9 TUNISIA 10 EGYPT

GFEI has supported the development of fuel economy baselines in Morocco, Tunisia and Egypt, which were published in 2015, alongside proposals for fuel economy improvements.

11 MAURITIUS

Successful feebate scheme

GFEI has been working with Mauritius since 2010. Since then, Mauritius have introduced a series of measures to improve fuel economy, including a feebate scheme which incentivised vehicles with lower emissions. These incentives resulted in an immediate shift to cleaner and more efficient cars. Fuel economy improved from an average of 7 L/100km in 2005 to 6.6 L/100km in 2013 and 5.8 L/100km in 2014. GFEI is currently working with Mauritius to monitor the ongoing impact, propose additional policy measures for light and heavy duty vehicles and replicate the scheme in the region. This year the government replaced the feebate tax system with a new tax structure to further encourage importation of electric and more efficient vehicles. Lessons learned from Mauritius are used in almost all other GFEI country projects.

12 ETHIOPIA

GFEI developed fuel economy policy proposals with the Ethiopian Transport Authority and the Addis Ababa Institute of Technology in 2010. The vehicle fleet has doubled since then, and the country is considering policy options.

ECOWAS

GFEI, through UNEP, is working with the Economic Community of West African States (ECOWAS) to support the development of a West African regional clean and efficient vehicles roadmap that will contribute to reduced vehicle CO$_2$ emissions worldwide in line with the GFEI target of doubling vehicle fuel efficiency by 2050. The ECOWAS Commission brings together 15 West African countries - Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo. Already several West African countries are developing GFEI baseline data, and policy proposals.The

ECOWAS Commission has been active in promoting cleaner, lower sulphur fuels in the region, as well as promoting a regional outlook to vehicle importation. The ECOWAS Commission recommended implementation of vehicle fuel economy work as the next step for the sub-region at regional workshops held in May 2015 in Abidjan and in June 2016 in Abuja.The support to the ECOWAS to develop a regional fuel economy roadmap will build on past and on-going support to some of the ECOWAS countries on the GFEI. Some of the countries that the GFEI has been initiated or is planned are Cote d'Ivoire, Benin, Liberia, Togo, Mali, Ghana and Nigeria.

THANK-YOU

info@globalfueleconomy.org