# Energy for safe, affordable, accessible and sustainable transport systems for all

Sheila Watson
Executive Secretary, Global Fuel Economy Initiative (GFEI)

Trondheim, Oct 16th 2017

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# CATALYTIC PARTNERSHIPS:

- Evidence
- Capacity-building
- Advocacy

SAFE CLEAN
FAIR & GREEN
Mobility for All

# The Global Fuel Economy Initiative (GFEI)

**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

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

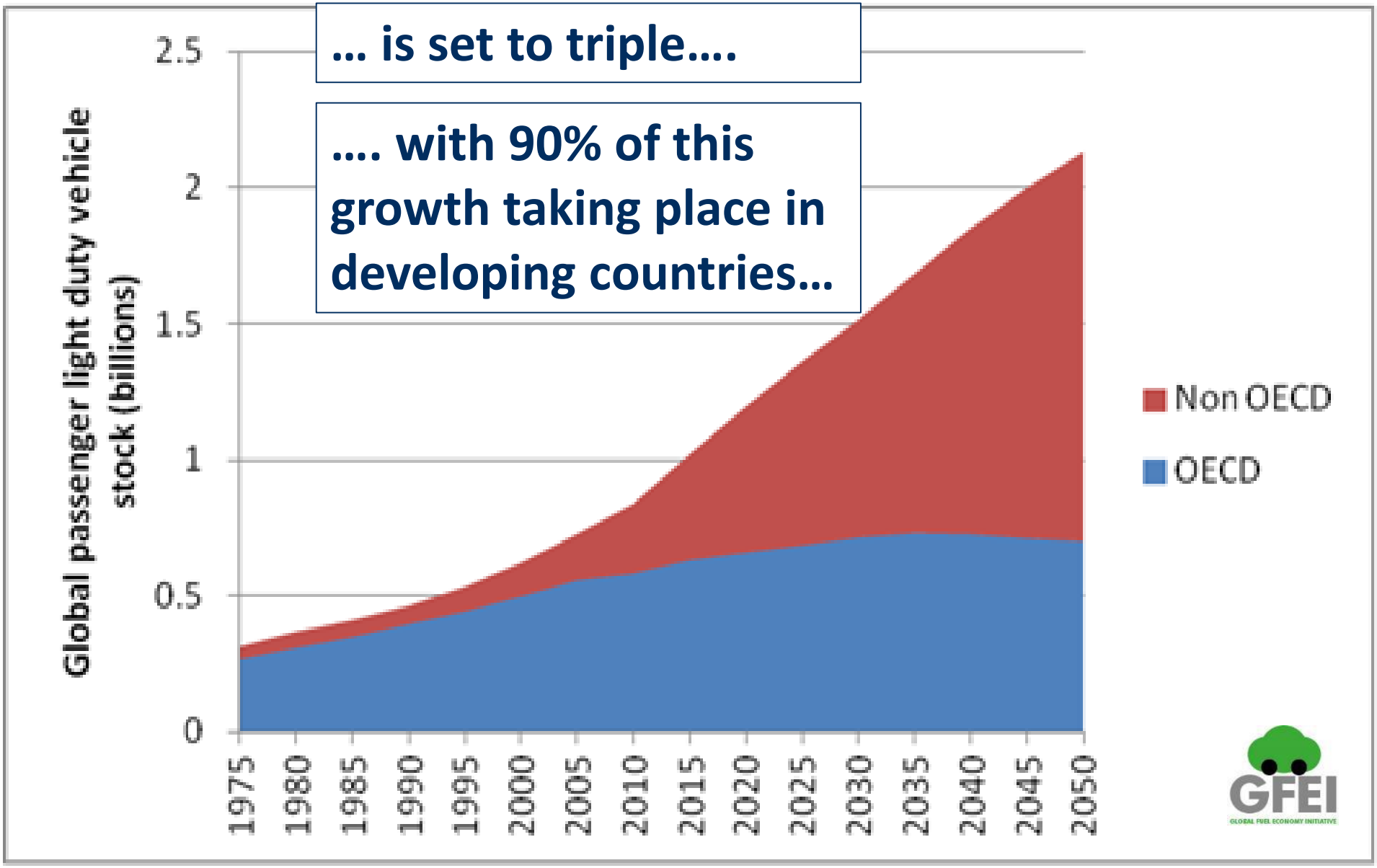
Six core partners: FIA Foundation, UNEP, IEA, IkTF, ICCT and UC Davis. Financial support from FIA Foundation, GEF and European Commission

GFEI recognized as leading vehicle efficiency initiative

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

UNEP · UC DAVIS INSTITUTE OF TRANSPORTATION STUDIES · iea International Energy Agency · icct THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION · International Transport Forum · FIA FOUNDATION

# The Global Fleet…

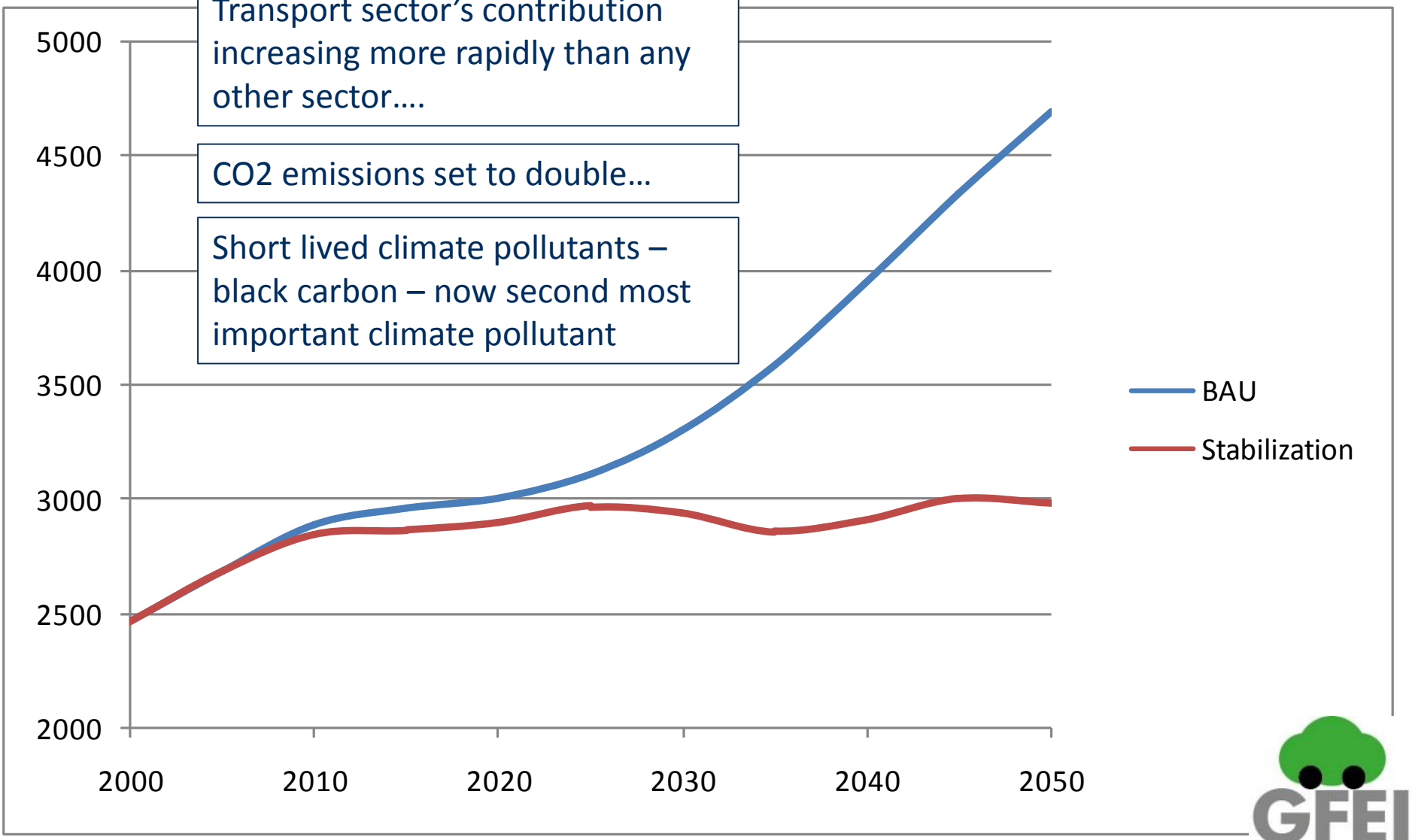


# Climate Change

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

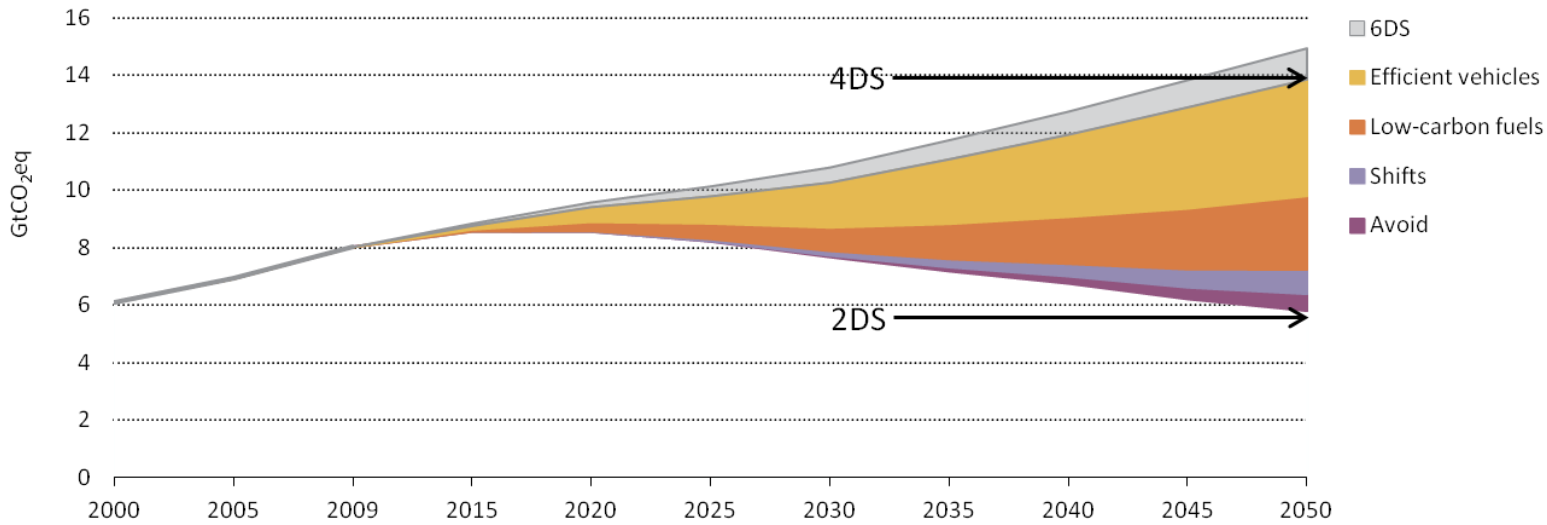
CO2 emissions set to double…

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




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

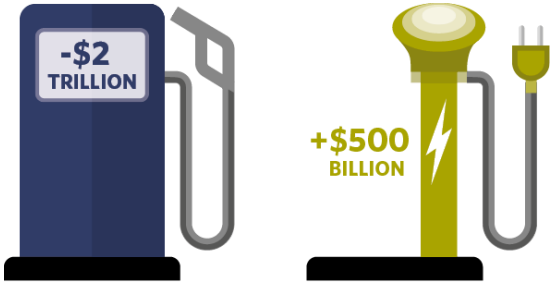
# Carbon Reduction Potential Transport




- 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

# What can improved fuel economy deliver?

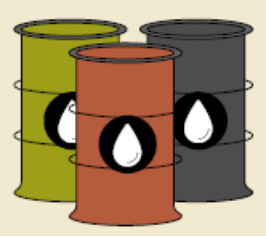
## Financial Savings




**$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

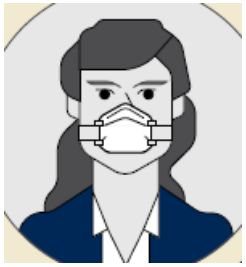


## Lower carbon emissions

**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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# Fuel Economy Policy Options

| | |
|---|---|
| **VEHICLE FUEL EFFICIENCY STANDARDS** | • Introduce and regularly strengthen mandatory standards<br>• Establish and harmonize testing procedures for fuel efficiency measurement. |
| **FISCAL MEASURES** | • Fuel taxes and vehicle taxes to encourage the purchase of more fuel-efficient vehicles.<br>• Infrastructure support and incentive schemes for very fuel-efficient vehicles. |
| **MARKET-BASED APPROACHES** | • Voluntary programs such as U.S. SmartWay and other green freight programs |
| **INFORMATION MEASURES** | • Vehicle fuel economy labels<br>• Improving vehicle operational efficiency through eco-driving and other measures. |

Source: ICCT

# What does GFEI do?

RAISING GLOBAL AWARENESS

IN-COUNTRY POLICY SUPPORT


RESEARCH AND EVIDENCE


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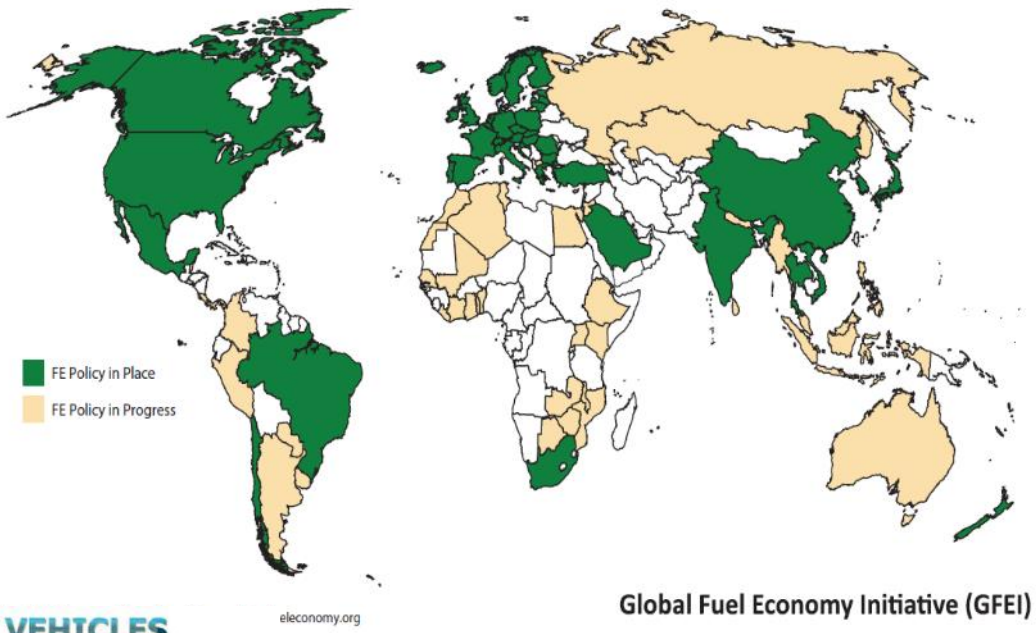
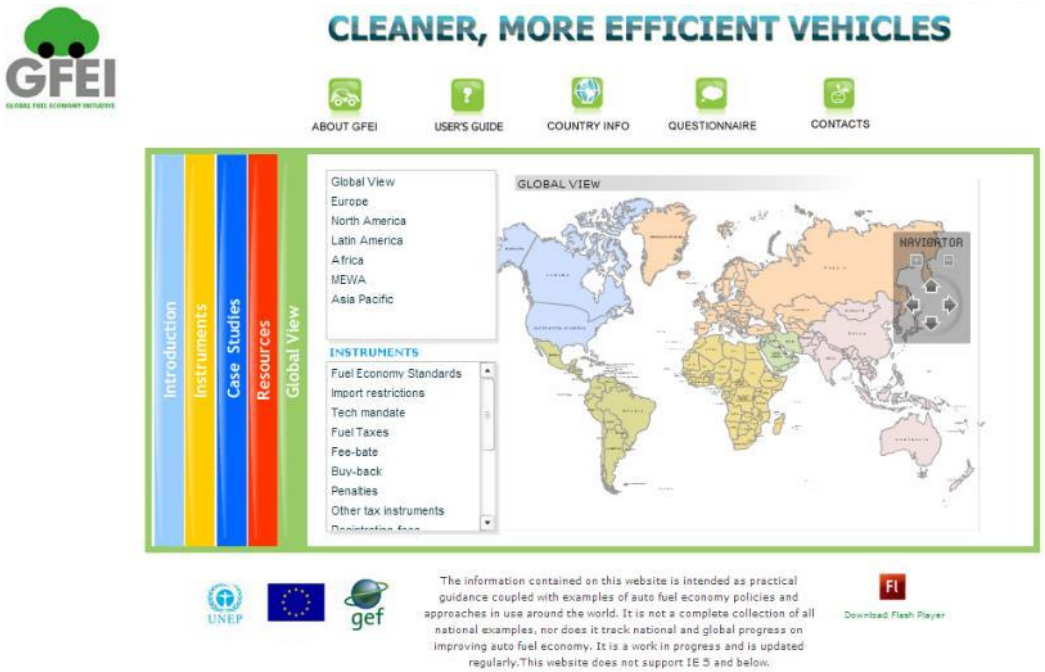
# Country activity

**GFEI supporting work in over 65 countries, including 40 new countries using best practice toolkit eg EU, US reign, fiscal etc**





We're committed to 50by50
Kazakhstan
100 FOR 50BY50
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# Supporting low-middle income and transitional countries

| Phase 1 – Pilot countries and tool development | Phase 2 – Regional Rollout | | Phase 3 – Global Rollout | | Pending Resources | |
|---|---|---|---|---|---|---|
| Chile | Mauritius | Uganda | Nigeria | Honduras | Angola | Serbia |
| Ethiopia | Vietnam | Ukraine | Tanzania | Namibia | Bhutan | Solomon Islands |
| Indonesia | Thailand | Malaysia | Rwanda | El Salvador | Burkina Faso | Sierra Leone |
| Kenya | Georgia | Egypt | Argentina | Botswana | Cambodia | Albania |
| | Ivory Coast | Kazakhstan | Jordan | Mozambique | Cameroon | Brunei |
| | Costa Rica | Mali | Brazil | Liberia | Cape Verde | Afghanistan |
| | Peru | Togo | Colombia | Myanmar | D.R. Congo | Yemen |
| | Algeria | | Panama | Bangladesh | Eritrea | Turkmenistan |
| | Montenegro | | Belize | Burundi | Guinea | Samoa |
| | Russia | | Dominican Republic | South Africa | Pakistan | Gambia |
| | Jamaica | | Djibouti | Mongolia | Kyrgyzstan | Uzbekistan |
| | Macedonia | | Guatemala | Fiji | Laos | Nicaragua |
| | Morocco | | Moldova | Bolivia | Lesotho | |
| | Bahrain | | Iran | Ecuador | Marshall Islands | |
| | Tunisia | | Barbados | Senegal | Oman | |
| | Benin | | St. Lucia | Lebanon | Kuwait | |
| | Uruguay | | Zambia | | Niger | |
| | Nepal | | Ghana | | Tajikistan | |
| | Philippines | | Malawi | | Armenia | |
| | Sri Lanka | | Zimbabwe | | Azerbaijan | |

# GFEI country workshops


Jamaica

Panama


Ukraine


ASEAN

South Africa

# Latest progress


Myanmar – GFEI workshop September


Zambia – GFEI workshop August

Uganda – GFEI workshop August


Nepal - Sustainable Urban Mobility Forum

# Latest progress (cont.)

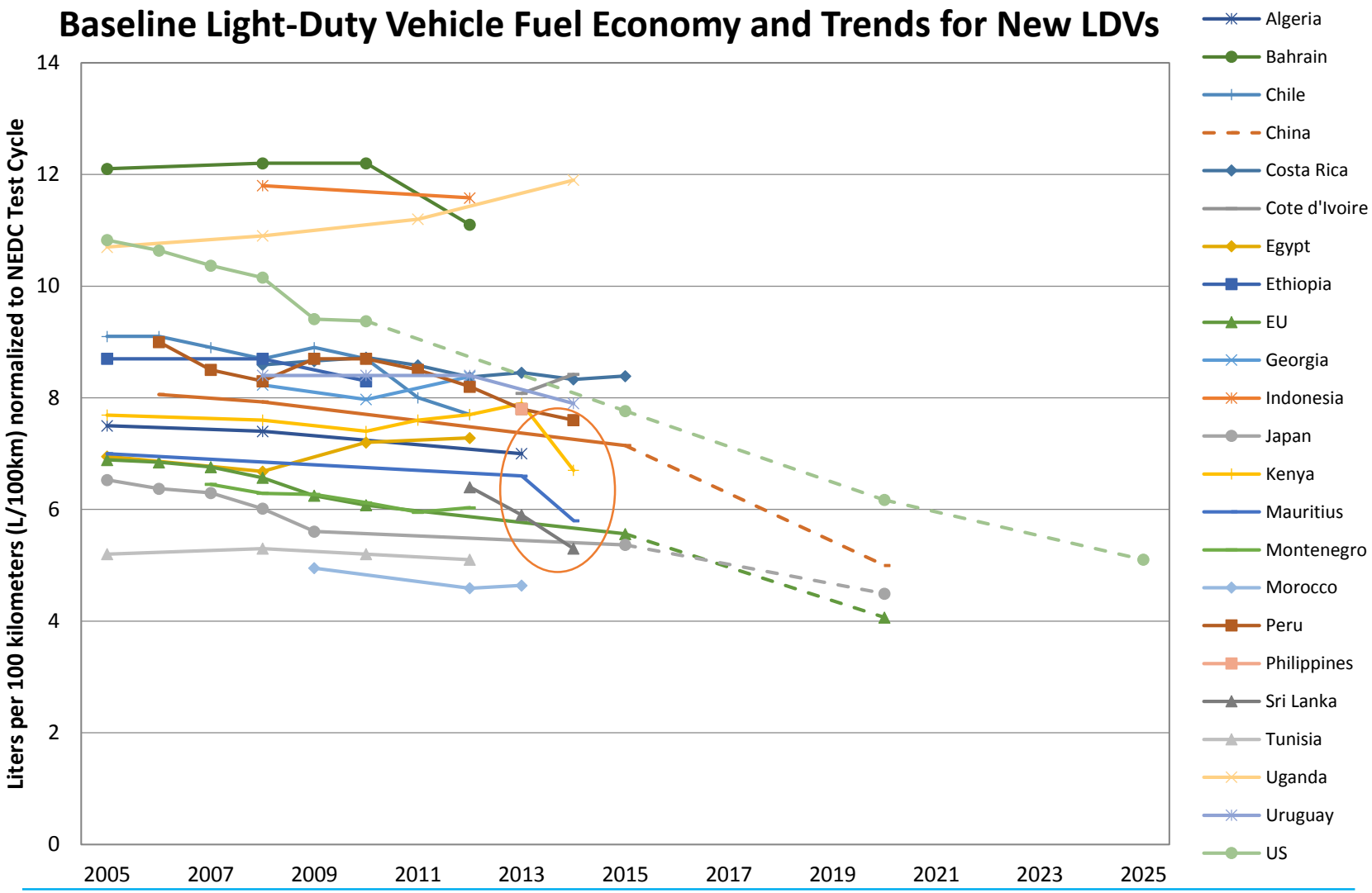

Colombia – GFEI workshop January


Togo – GFEI workshop March

Malawi – GFEI workshop May

ASEAN Fuel Economy Platform - March

# Fuel economy policies can work substantially




Source: UNEP, 2017 (unpublished).

# Making an impact

## Kenya

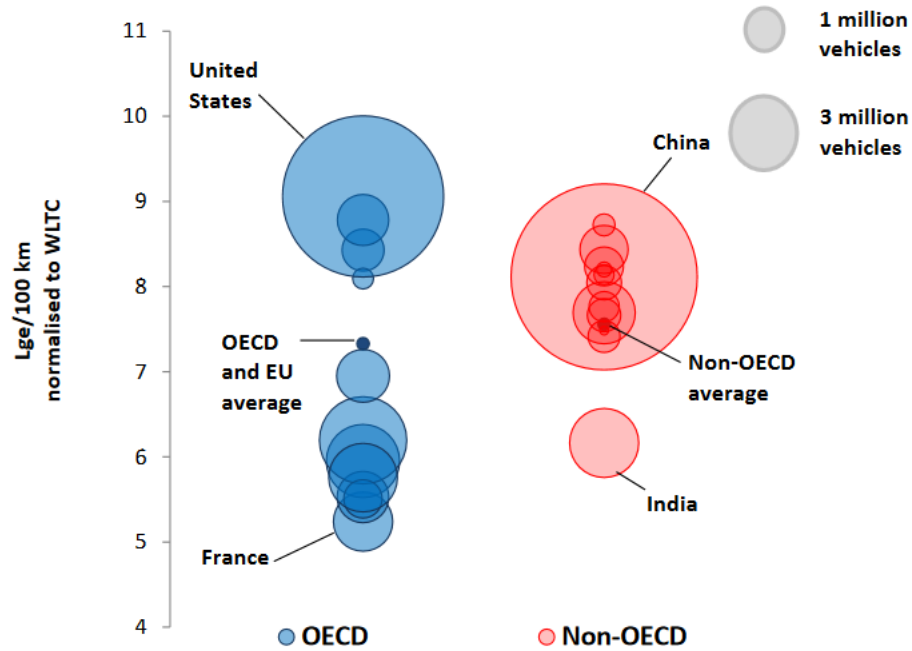
**Kenya**: New policy proposals announced for fuel economy based labelling and taxes


## Sri Lanka

Fuel Economy included in Sri Lanka's Clean Air 2025 plan in May

# ‘In the absence of fuel economy policies there is a tendency for fuel efficiency to stagnate’


**Figure 4 • Fuel economy distribution across new LDV sales in selected OECD and non-OECD countries, 2015**




Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

**Key point • Fuel consumption in OECD countries ranges between 5.2 Lge/100 km and 9.2 Lge/100 km. OECD countries include the highest and lowest national average, while average fuel economy in non-OECD countries (except for India) tends to be clustered close to 8.0 Lge/100 km.**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# Progress?

| | | | 2005 | 2008 | 2010 | 2012 | 2014 | 2015 | 2030 |
|---|---|---|---|---|---|---|---|---|---|
| OECD & EU average | average fuel economy (Lge/100km) | | 8.8 | 8.2 | 7.8 | 7.6 | 7.4 | 7.3 | |
| | annual improvement rate (% per year) | | -2.3% | -2.8% | -1.6% | -1.3% | -0.5% | | |
| | | | **-1.8%** | | | | | | |
| Non-OECD average | average fuel economy (Lge/100km) | | 8.5 | 8.5 | 8.4 | 8.2 | 8.0 | 7.9 | |
| | annual improvement rate (% per year) | | -0.1% | -0.3% | -1.4% | -1.2% | -1.6% | | |
| | | | **-0.8%** | | | | | | |
| Global average | average fuel economy (Lge/100km) | | 8.8 | 8.3 | 8.1 | 7.8 | 7.6 | 7.6 | 4.4 |
| | annual improvement rate (% per year) | | -1.8% | -1.6% | -1.3% | -1.3% | -1.1% | | |
| | | | **-1.5%** | | | | | | |
| **GFEI target** | required annual improvement rate (% per year) | 2005 base year | **-2.8%** | | | | | | |
| | | 2015 base year | | | | | | **-3.7%** | |

- **Slow down in OECD in recent years.**
- **Acceleration in non-OECD.**
- **Still far from meeting GFEI improvement targets – just 1.5% average.**

# Momentum for change

SUSTAINABLE DEVELOPMENT GOALS

7 AFFORDABLE AND CLEAN ENERGY

13 CLIMATE ACTION

G20 2016 CHINA


HIII

HABITAT III

QUITO - OCTOBER 2016

LABELED PROJECT

MARRAKECH 2016

COP22 | CMP12 | CMA1

UN CLIMATE CHANGE CONFERENCE

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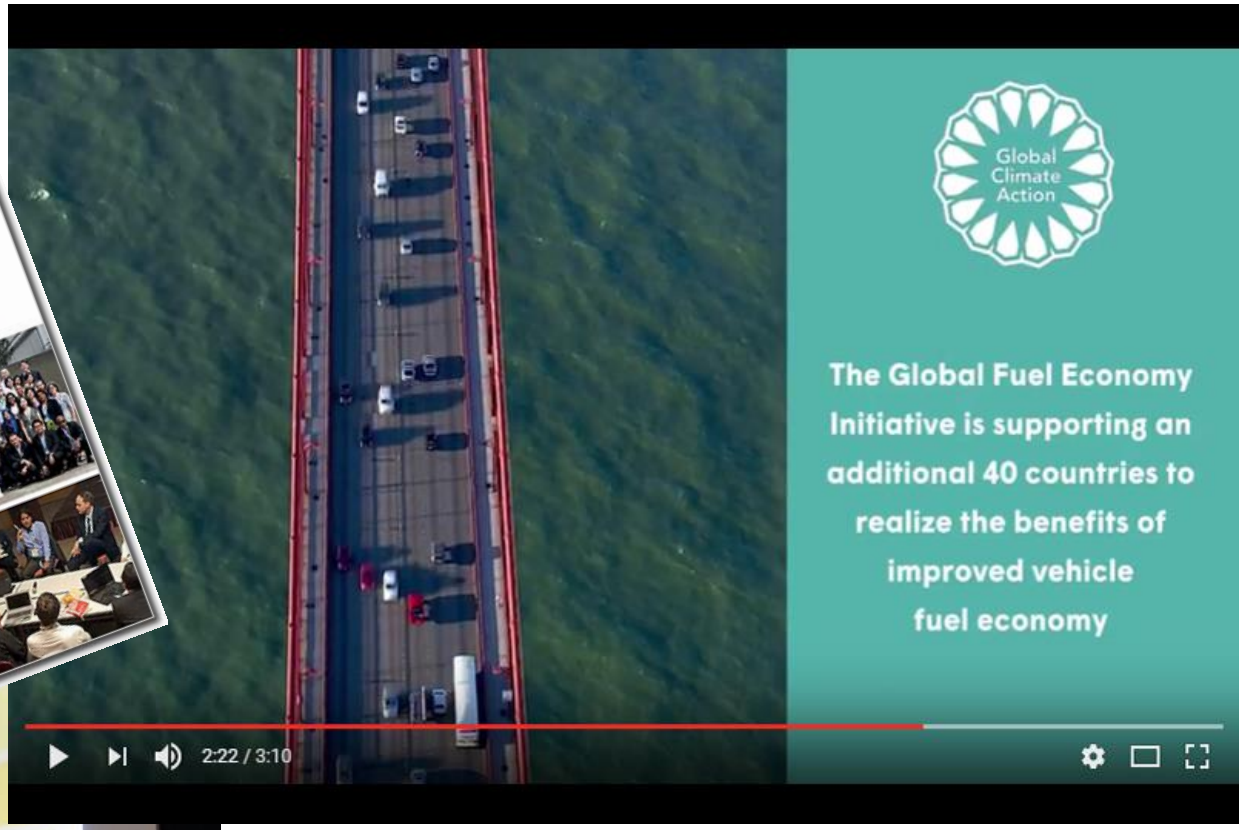
# COP22 Marrakech



LABELED PROJECT
MARRAKECH 2016
COP22 | CMP12 | CMA1

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EVERY JOURNEY.
EVERY CHILD.

**"The cars of the future will have to be more efficient. It is vital to have policy approaches that communicate to industry that governments are serious about fuel economy."**

Cornie Huizenga-Secretary General,
SLoCat Partnership on Sustainable Low Carbon Transport

**GFEI is one of SLOCAT's 'quick-win' initiatives to address the climate impact of vehicles**

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# Challenges and next steps for GFEI - Relevance, Reality, Resources

- In-country work needs to embrace a full sweep of vehicle and fleet issues – more efficient approach & needs resourcing
- Policy is needed to address fuel efficiency in **Heavy Duty Vehicles** whose contribution to energy use is growing
- It is important to show that **Electric Vehicles** are not a simple alternative, but part of a continuum of vehicle efficiency measures
- **Vehicle Emissions** matter too – particularly to cities

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# Next steps: Heavy Duty Vehicles

HDV sector is behind LDV sector in implementation efficiency standards

Japan, US, China and Canada currently have programs while India, Mexico, Korea and Europe are actively developing programs.

There are significant differences in vehicle characteristics between markets

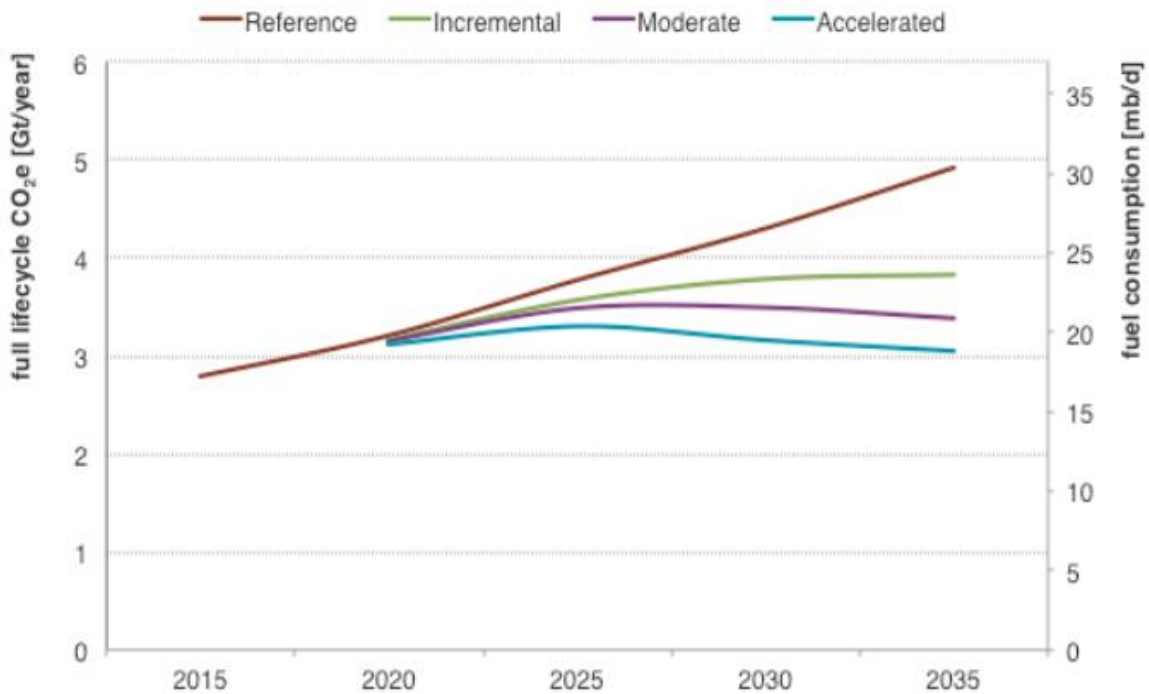
Comparison of HDVs in different markets (tractor trailers)

| | Brazil | China | EU | India | US |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| Axel config. | 6x2 | 6x4 | 4x2 | 4x2 | 6x4 |
| Curb weight (tractor) | 9.7t | 10t | 7.4t | 6t | 8.5t |
| GVW | 35t | 40t | 40t | 40t | 36t |
| Trans-mission | AMT, 12 spd. | MT, 10 spd | AMT, 12 spd. | MT, 6 spd. | MT, 10 spd. |
| Engine Displ. | 13L | 11L | 13L | 6L | 15L |
| Engine Power | ~325kW | ~250kW | ~350kW | ~135kW | ~340kW |
| Emissions std. | Proconve 7 | China IV | Euro VI | Bharat III | US EPA 2010 |


Source: ICCT

# WP14 report: HDVs and Fuel Economy

Models future growth based on representative characteristics of 2015 EU, US, Brazil, India, and China fleets.


"Compared to current policies, the incremental efficiency scenario could save around 5 million barrels of oil per day in 2035 and the accelerated scenario could save an additional 4 million barrels of oil per day in that year."

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# HDV target: '35 by 35'

35% improvement in average fuel economy of HDVs globally by 2035. Saves:

- 9m barrels of oil per day by 2035
- 2 billion tonnes CO2 per year  by 2035
- 25% each India and China

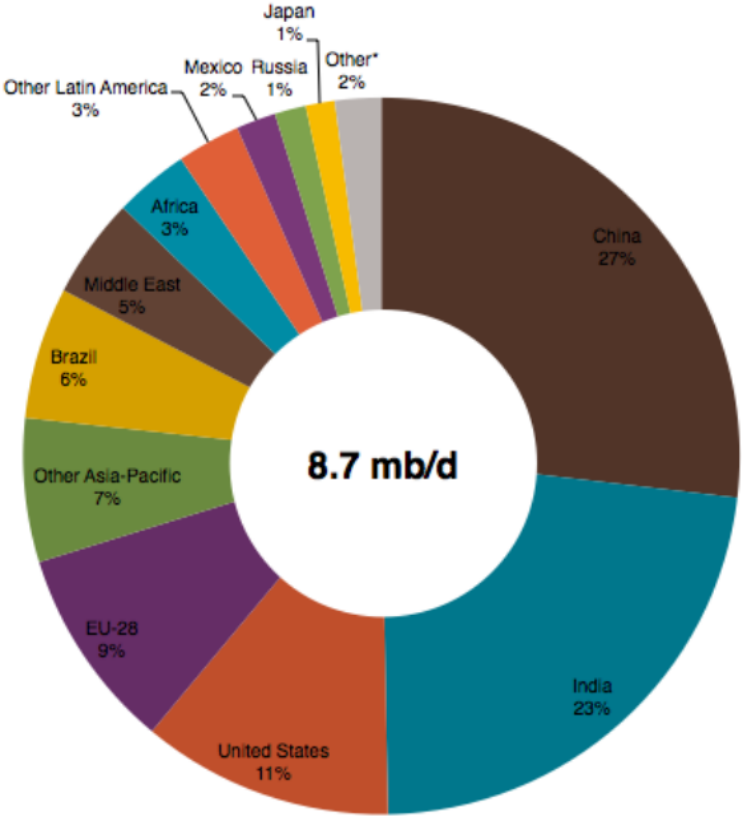


**Figure 10**: Share of worldwide potential fuel savings from accelerated tractor-trailer and rigid truck efficiency, 2035.[5]

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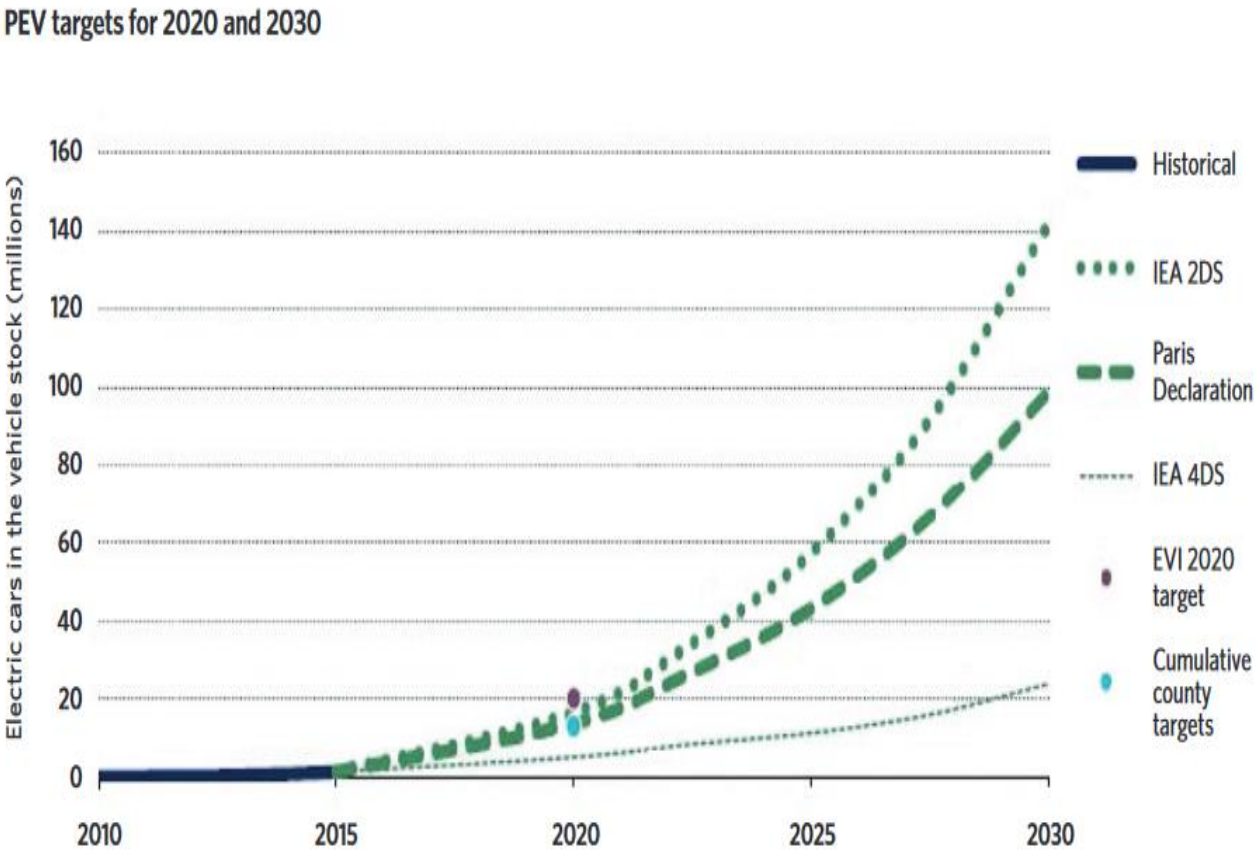
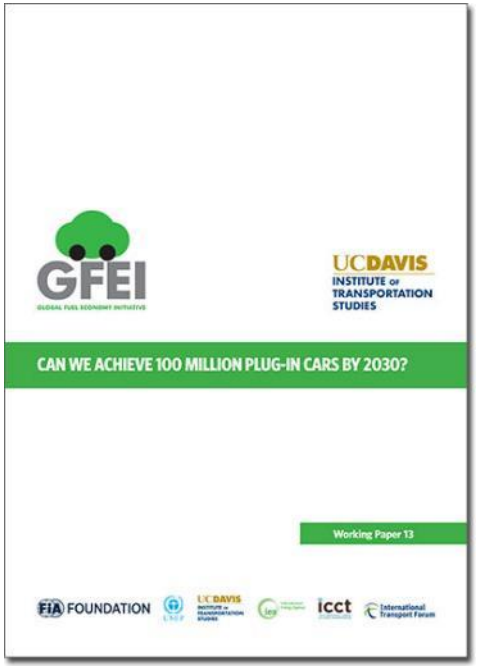
# Electric Vehicles




- Top 8 markets have seen an increase in EV sales. 50%+ in recent years
- COP21 Target – 100m by 2030
- 35% average growth in numbers needed each year until then.

# The Real Urban Emissions Initiative - TRUE


true
THE REAL URBAN EMISSIONS INITIATIVE

Conclusion: “an independent, global, real-world testing initiative is a necessary, important step towards providing improved consumer information regarding emissions” – pilots in 2017 in **London** & **Paris**

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C40 CITIES

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