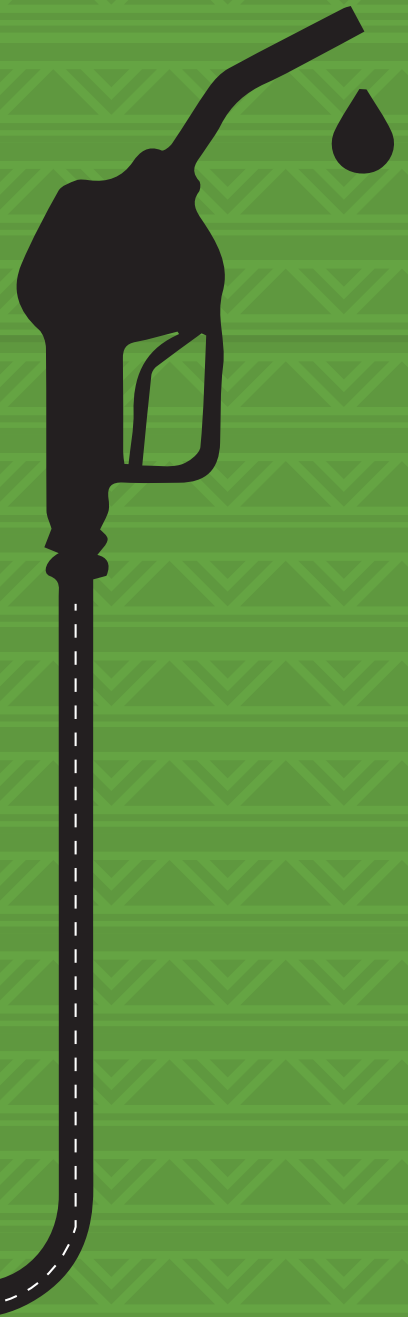




# WEST AFRICA FUEL ECONOMY ROADMAP

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Factsheet



## ABOUT THE ECOWAS REGION



The Economic Community of West African States (ECOWAS) is a 15-member regional group with a mandate of promoting economic integration across its member States in all fields of activity including industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial issues, social as well as cultural matters. Member States making up ECOWAS are Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, and Togo. To achieve its objectives, the organization has introduced the transformational ECOWAS Vision 2020 seeking to transform ECOWAS from a body of states to a community of people.

## ABOUT THE GLOBAL FUEL ECONOMY INITIATIVE (GFEI)

The Global Fuel Economy Initiative (GFEI) is a partnership of six organizations – The FIA Foundation, The United Nations Environment Programme (UNEP), The Institute of Transportation Studies of the University of California Davis (ITS UC Davis), the International Energy Agency (IEA), The International Council on Clean Transportation (ICCT), and the International Transport Forum (ITF) – which seeks to improve vehicle fuel efficiency including electrification through effective and targeted fuel economy policies to make for a more sustainable, cleaner world.

# GFEI TARGETS

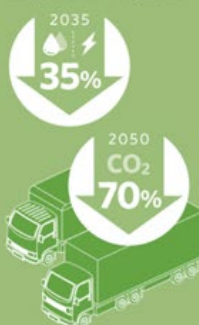
## Passenger light-duty vehicle targets

Double global fuel economy of new vehicles by 2030, reduce CO<sub>2</sub> emissions 90% by 2050



## Heavy-duty vehicle targets

Improve new vehicle fuel consumption 35% by 2035 - CO<sub>2</sub> reduction target of 70% by 2050



## Transit bus targets

Improve fuel economy to reduce CO<sub>2</sub> emissions by 65% by 2035 and 95% by 2050



## Two & three wheel vehicle targets

Improve fuel economy to reduce CO<sub>2</sub> emissions by 80% by 2035 and 95% by 2050



## Decarbonising road transport to tackle climate change

A new fleetwide CO<sub>2</sub> reduction target of 65% by 2050 compared with 2005. To comply with the Paris Agreement's less than 2 degree scenario, better fuel efficiency of conventional vehicle technologies; a faster transition to electric vehicles; a faster decarbonisation of the electricity grid; and additional 'avoid' and 'shift' measures eg more non-motorised mobility, are all needed



Source: GFEI Working Paper 20 - Data based upon 2005 baseline

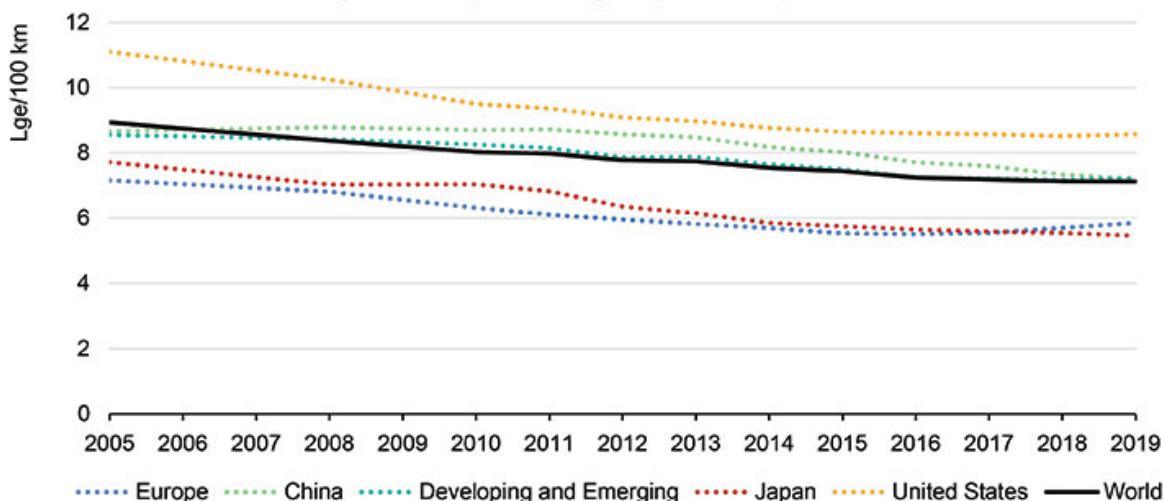
## KEY FUEL ECONOMY FINDINGS ON THE ECOWAS

The sales-weighted average fuel economy across ECOWAS Member States for which data was available<sup>1</sup> is as follows:

Year	2005	2008	2011	2013	2014	2015	2016	2017
<b>Weighted average</b>	7.46	7.74	8.10	7.69	8.16	7.63	8.00	7.47

### Improvements in average new fuel consumption and tailpipe CO<sub>2</sub> emissions are stalling

Average fuel consumption of new light-duty vehicle sales, 2005-2019



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Notes: Rated fuel consumption was converted from national test cycles to estimated performance on the [Worldwide Harmonized Light-Duty Test Cycle](#) using the zero-intercept conversion equations developed by the [International Council on Clean Transportation \(2014\)](#). The GFEI dataset covers 85-90% of the light-duty vehicle market. EU27 refers to the current 27 member countries of the European Union. Developing and Emerging refers to emerging markets and developing economies (Argentina, Brazil, Chile, Egypt, Malaysia, Mexico, Peru, the Philippines, the Russian Federation and Ukraine).

Source: IEA analysis based on IHS Markit database.

<sup>1</sup> Includes fuel economy calculations for Burkina Faso, Cote d'Ivoire, Ghana, Liberia, Niger, and Togo

## COUNTRY PROFILES

### i. BENIN



LDV Fuel economy values (Lge/100 km NEDC)	2005	2010	2013	2015
	9.69	10.67	10.48	9.92

**Imports:** on average 22,000 LDVs, 3,500 HDVs and 21,000 motorcycles (MCs) have been registered annually. In 2015, imports of LDVs exceeded 30,000 vehicles. Gasoline is the most dominant fuel in the import of LDVs, with diesel LDVs accounting for only 8% of total registrations. Average age of imported passenger cars is over 10 years, with an average of 14 years in 2013 and 11 years in 2015. Imported LCVs were about 12 years. In 2015, 94% of imported passenger cars, and 81% of LCVs were used vehicles.

**Incentives and measures:** Annual ecotaxes are levied based on vehicle categories (LDVs, HDVs or MCs). These taxes are not based on vehicle environmental performances (CO<sub>2</sub> or pollutants, fuel consumption) and are not sufficient to promote the purchase of cleaner vehicles. The GFEI study was essential to further update the State's NDC.

### ii. BURKINA FASO



LDV Fuel economy values (Lge/100 km NEDC)	2005	2008	2011	2013	2015	2017
	8,2	8,26	7,4	7,89	8,05	7,48

**Imports:** The annual import of LDVs is growing fast, increasing from 5,000 in 2005 to 23,000 in 2017. LDV import age was approximately 12 years in 2017. Gasoline is the most dominant fuel, with diesel vehicles accounting for 23% of imported LDVs in 2017. Used vehicles dominate imports, accounting for 91% of imported LDVs in 2017. A significant number of motorcycles with more than 150,000 motorcycles registered annually on average and a stock exceeding 1 million MCs.

### iii. COTE D'IVOIRE



	2013	2014	2015
LDV Fuel economy values (Lge/100 km NEDC)	8.47	8.46	7.98

**Imports:** Annual LDV import growth rate was about 11% in 2013-2014, 17% in 2014-2015 and 12% in 2015-2016. Used vehicles account for approximately 80% of annual registrations. Average import age was about 11 years in 2016. A large share of SUVs makes up the top 10 of imported new vehicles in 2015. Average annual import of motorcycles is relatively low, with less than 10,000 annual registrations on average.

**Incentives and measures:** The State has introduced the strongest import restriction in the region with age-based import limits of 5 years for LDVs and 10 years for HDVs.

### iv. The GAMBIA



	2005	2010	2013	2015	2017
LDV Fuel economy values (Lge/100 km NEDC)	7.73	7.89	7.95	8.39	7.84

**Imports:** Annual imports grew from 7,000 in 2005 (LDVs and HDVs) to 23,000 in 2020. Used vehicles account for more 95% of the fleet. Data collection has been very limited, making it crucial to significantly improve the collection and capture of vehicle data under the GFEI format.

## v. GHANA



	2005	2008	2011	2013	2015
LDV Fuel economy values (Lge/100 km NEDC)	7.38	7.41	7.26	7.05	6.99

**Imports:** Average age of imported LDVs was approximately 5 years in 2016. Used vehicles account for approximately 80% of the fleet. Gasoline vehicles dominate the annual imported fleet, with diesel accounting for 30% of the LDV fleet. Annual imported LDVs grew from 20,000 in 2005 to 63,000 in 2016.

**Incentives and measures:** No import restrictions, but the State has additional penalties on imported vehicles older than 10 years.

## vi. GUINEA BISSAU



	2015	2016	2017	2018	2019	2020
LDV Fuel economy values (Lge/100 km NEDC)	8.1	8.2	8.3	9.0	8.6	9.0

**Imports:** Approximately 2,000 LDVs were imported annually between 2015 and 2020. Contrary to most States in the region, diesel dominates the imports of LDVs in the country, accounting for approximately 70% of annual imports. The imported vehicles are on average 18 years old, with used vehicles making up 95% of all imports. Approximately 500 HDVs are imported annually, with imported HDV on average approximately 23 years old. 97% of HDVs are imported as used vehicles. There is also a very limited number of hybrid vehicles.

## vii. LIBERIA



	2005	2008	2011	2013	2015
LDV Fuel economy values (Lge/100 km NEDC)	7.89	8.12	7.96	7.93	7.79

**Imports:** 90% of imported vehicles are used. The average age of used vehicles is 10 years. LDV registrations grew from 7,000 in 2005 to 33,000 in 2015. Gasoline dominates the fleet, with diesel vehicles accounting for only 30% of the imported fleet on average.

## viii. MALI



Fuel economy values (Lge/100 km NEDC)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	7.9	7.9	7.9	8.1	8.4	8.4	8.4	8.4	8.4	8.5	8.5	8.5	8.5

**Imports:** Annual LDV imports grew from 7,000 in 2005 to more than 23,000 in 2015. Gasoline vehicles dominate the LDV imports with diesel accounting for 40% of imports in 2017. Average age of imported LDVs is 14 years, with on average 94% of vehicles imported as used annually. Imports of HDVs grew from 3,000 in 2005 to 6,000 in 2017. Import age for LDVs in 2017 was 18 years, with used imported LDVs accounting for 89% of the 2017 imports.

**Incentives and measures:** No import restrictions. No consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles. No fuel economy measures.

**Data collection:** Data on vehicle emission certification levels, fuel consumption and CO2 emissions are not tracked. No record of hybrid or electric vehicles.

## ix. NIGER



Fuel economy values (Lge/100 km NEDC)	2005	2008	2011	2013	2015	2017
	10.34	10.15	10.21	9.14	9.28	7.46

**Imports:** Annual LDV imports has been relatively stable from 2005 to 2017 with total LDV imports of 20,000 in 2005 and 15,000 in 2017. Gasoline vehicles dominate imports, with diesel imports accounting for 15% of the LDVs on average between 2005 and 2017. Average import age is very high, increasing from 16 years in 2005 to 17 years in 2017, with secondhand vehicles accounting for 97% of the imports. The MC fleet is also important, with a total fleet size of 240,000 MCs in 2017.

**Incentives and measures:** No import restrictions, no consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles. No fuel economy measures.

**Data collection:** Data on vehicle emission certification levels, fuel consumption and CO2 emissions are not tracked. No record of hybrid or electric vehicles.

## x. NIGERIA



	2013	2014	2015	2016	2017
Fuel economy values (Lge/100 km NEDC)	9.73	9.66	9.56	9.49	9.19

**Imports:** Annual LDV imports from 2013 to 2017 was on average 127,000. Annual registrations are projected to reach 400,000 by 2035. Used cars represent 94% of imports. Vehicle stock as of 2016 was 12 million cumulative registrations. Gasoline is the most dominant fuel, accounting for about 95% of imports. Gasoline-powered LDVs are predominantly in the range of 2001-2500 cc. A large number (16%) of registered LDVs are older than 15 years old. A few electric vehicles have been registered (a total of 42 between 2013 and 2017). Approximately 4,000 hybrid vehicles have been registered between 2013 and 2017, the equivalent of 800 hybrid vehicles registered per year, representing less than 1% of the annual registered fleet.

**Incentives and measures:** No import restrictions, no consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles. The Nigerian Senate rejected a bill for an Act to phase out gasoline vehicles by 2035 and introduce electric cars. No fuel economy measures.

**Data collection:** Data on vehicle emission certification levels, fuel consumption and CO2 emissions not tracked.

## xi. SENEGAL



	2016
Fuel economy values (Lge/100 km NEDC)	10.48

**Imports:** With 25% of the country's population, the Dakar region is a very dense urban area holding 70% of the country's vehicle fleet. Diesel is the primary fuel, making up 58% of the fleet whereas gasoline accounts for 33%. The share of gas and electric vehicles is less than 1%. On average, 20,000 LDVs were imported annually between 2000 and 2016, the majority of which are used vehicles, making up 63% of imports in 2000 and 72% in 2016. The fleet is old, with 45% of the LDVs above 20 years in 2016. In the same year, the average age was 19 years for LDVs and 24 for HDVs. 2016 total fleet size is estimate at 500,000 vehicles, including 34 electric vehicles.

**Incentives and measures:** In 2001, the age limit for imported LDVs was 5 years. This restriction was further revised in 2012 to 8 years. No consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles. No fuel economy measures.

**Data collection:** Data on vehicle emission certification levels, fuel consumption and CO2 emissions are not tracked.



## xii. SIERRA LEONE



Fuel economy values (Lge/100 km NEDC)	2010	2011	2012	2013	2014	2015
	11.8	11.8	11.2	10.8	10.1	9.4

**Imports:** Although the annual number of imported LDVs is low compared with the rest of the region, the country has experienced a significant growth in demand, increasing from 4,000 in 2010 to 6,000 in 2015. Vehicle data is sparse, and the data collection and capture could be further improved.

**Incentives and measures:** No import restrictions. No consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles. No fuel economy measures.

**Data collection:** Vehicle data collection was challenging, and recommendations were made through the GFEI analysis for improvements. Data on vehicle emission certification levels, fuel consumption and CO<sub>2</sub> emissions are not tracked. No record of hybrid or electric vehicles.

## xiii. TOGO



Fuel economy values (Lge/100 km NEDC)	2013	2014	2015	2016
	8.3	8.1	8.0	8.0

**Imports:** Road transport is the leading source of CO<sub>2</sub> emissions in the country, making up 55% of total CO<sub>2</sub> emissions. On average 12,000 LDVs, 1,500 HDVs and 45,000 2- and 3- wheelers were registered each year between 2005 and 2016. There is a growing number of 2- and 3- wheelers, with a total fleet of approximately 500,000 as of 2016, most of which are imported brand new. On the contrary, the vehicle fleet is aging, with 97% of vehicles registered as secondhand, and more 40% of the vehicle stock aged between 16- 20 years. Average annual growth rate for passenger cars between 2008 and 2016 was 13%. Gasoline is the most dominant fuel making up 90% of imports in 2016. 10 electric vehicles and 2 hybrid-electric vehicles were registered between 2005 and 2016. Togo is an important entry point for vehicles in the region with on average 30,000 LDVs, 10,000 HDVs and 800,000 motorcycles in transit annually for the inland market between 2008 and 2016.

**Incentives and measures:** In 2018, a decree was under development to regulate the import of secondhand vehicles by limiting the import age to 5 years to promote sustainable and non- motorized transport, and to achieve a reduction in fuel consumption from vehicles by 20% by 2030. To date, there are no import restrictions. No consumer awareness programs or labeling schemes are in place to encourage the import of clean vehicles.

**Data collection:** Data on vehicle emission certification levels, fuel consumption and CO<sub>2</sub> emissions are not tracked.

## WEST AFRICA FUEL ECONOMY ROADMAP ACTION TIMELINE

GOALS	2020-2025	2025-2030	2030 and Beyond
1. Fuel economy targets	Improve average fuel economy to meet 5 lge/ 100km on NEDC		
		Improve average fuel economy to meet 4.2 lge/ 100km on NEDC	
2. Electric mobility	Develop the regulatory framework		
	Build international partnerships		
	Governments to lead the transition to electric mobility		
	Leverage renewable energy		
3. Harmonized vehicle registration and reporting	Mandatory reporting of vehicle CO <sub>2</sub> emissions fuel consumption and proof of documentation by vehicle importers, dealers, or producers in the region.		
	Common set of vehicle registration documentation		
	Common vehicle classification and data collection procedures		
4. Secure national leadership and strengthen regional cooperation	Establish Lead Institution		
	Monitoring and Evaluation		
	Enhance stakeholders' engagement		
	Foster regional cooperation		



**5. Harmonized vehicle labeling**

Harmonize labeling regulatory framework and design

**6. Communication, awareness and information**

Develop a multi-media communication strategy

Promote research to inform policy

Budgetary provisions for fuel economy

**7. Harmonized CO<sub>2</sub> and fuel economy based fiscal policies**

Introduce CO<sub>2</sub> or fuel economy performance based fiscal policies.

Sharing of experiences.

**8. Harmonized in-use vehicle emissions programs**

Harmonized emissions limits.

Certified inspection and maintenance centers

**9. Regional CO<sub>2</sub> emissions or fuel economy standards**

Develop a regional LDV CO<sub>2</sub> emissions or fuel economy standards

**10. Public transport, non-motorized transport and alternative fuels**

Promote alternative fuels

Develop public transport

Promote non-motorized transport



**GLOBAL FUEL  
ECONOMY  
INITIATIVE**

FOR ZERO CARBON VEHICLES BY 2050