Used Vehicles and the Environment
Global Overview of Used Light Vehicles -
Flow, Scale and Regulation

UN environment programme

Key Findings

The report makes the following key findings:

The global fleet of light duty vehicles (LDVs) **is set to at least double by 2050.** Some 90 per cent of this growth will take place in non-OECD countries which import a large number of used vehicles.

Despite the critical role they play in road accidents, air pollution, and efforts to mitigate climate change there are currently no regional or global agreements on the trade and flow in used vehicles.

The **three largest exporters of used vehicles, the European Union (EU), Japan, and the United States of America (USA), exported 14 million used light duty vehicles (LDVs) worldwide between 2015 and 2018.** The EU was the largest exporter with 54 per cent of the total followed by Japan (27 per cent) and the USA (18 per cent).

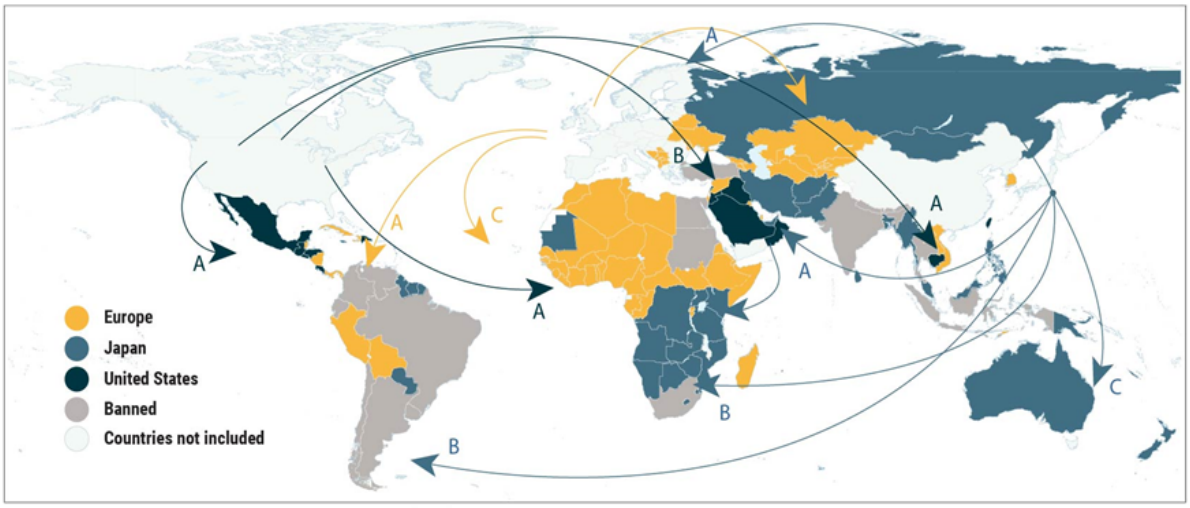
The major destinations for used vehicles from the EU are West and North Africa; Japan exports mainly to Asia and East and Southern Africa and the USA mainly to the Middle East and Central America.

Seventy per cent of exported LDVs head to developing countries. Africa imported the largest number (40 per cent) in the period studied followed by Eastern Europe (24 per cent), Asia-Pacific (15 per cent), the Middle East (12 per cent) and Latin America (nine per cent).

Key concerns are:

- **pollutant and climate emissions of used vehicles;**
- **the quality and safety of used vehicles;**
- **energy consumption;**
- **and the costs to operate used vehicles.**

This trade needs to be supervised. Regulation is essential to ensure the quality of the vehicles and reduce (urban) air pollution and global climate emissions.



A (20.000-145.000) B (145.000-270.000) C (Higher than 270.000)

Source: UNEP, based on data collected from major exporters, 2017

Most developing countries have limited or no regulations on governing the quality and safety of imported used vehicles and rules which do exist are often poorly enforced. **Equally, few developed countries have restrictions on the export of used vehicles.**

Regulations can take many forms from complete import bans to age restrictions, fiscal incentives, labelling and awareness requirements. Regulations reduce imports of old and polluting used vehicles, and encourage the imports of cleaner used vehicles, including very low and no emissions vehicles.

Out of the 146 countries surveyed in the report, 18 have **adopted a complete ban on the import of used vehicles**. While bans prevents old and polluting used vehicles from entering markets, they can also reduce the affordable access to advanced technology -- especially where new vehicles are imported or produced under weak vehicles standards and policy regimes. Many countries block the import of used vehicles not (only) for environment and safety reasons but also to protect their own manufacturing industry.

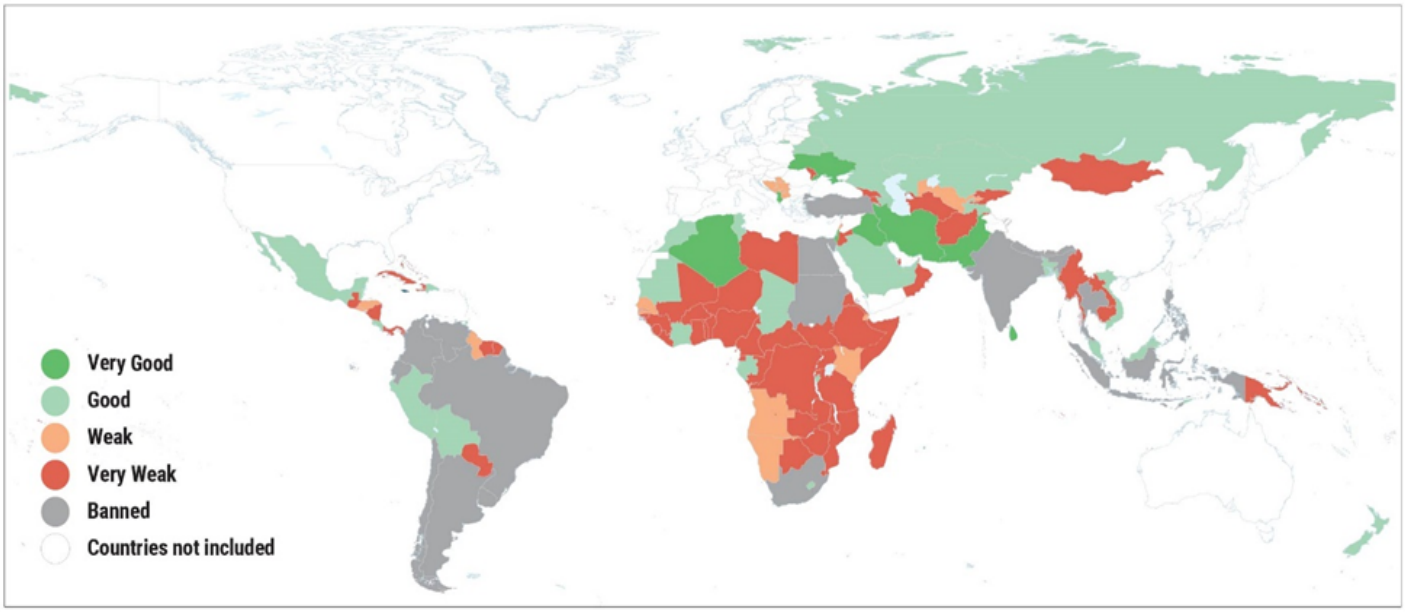
Of the 146 countries studied, 66 limit the age on imported vehicles. These age restrictions are popular partly because they can be easily enforced. They tend to vary from three to 15 years.

Few countries have adopted advanced **vehicle emissions standards for used vehicles.** From the 146 countries studied, 28 have adopted vehicles emissions standards and 100 countries have no vehicles emissions standards at all. The remainder have banned used vehicles imports.

Fiscal instruments can be an effective means to regulate the import of used vehicles. Examples are age-based taxation, progressive excise tax based on CO2 emissions or engine size, and exemptions for specific vehicles, such as hybrid electric and electric vehicles.

Some countries use **selective bans,** for example barring diesel vehicles above a certain age from city centers. Some countries have introduced **mandatory labelling of used vehicles,** to show consumers a vehicle's fuel consumption and emissions.

This report has compared and combined the different measures into one **overview that shows the current regulatory environment for used vehicles.**



Source: UNEP, based on data collected from the 146 countries analysed, July 2020

This analysis finds that about two-thirds of the countries surveyed (81 out of 146) have 'weak' or 'very weak' policies to regulate the import of used vehicles. About one-third (47 countries) have 'good' or 'very good' policies. While 60 per cent of annual registrations in Africa are of used vehicles - only nine out of 54 countries, around 17 per cent, have a 'good' or 'very good' regulatory framework on used vehicles imports. The analyses show there is little harmonization between countries.

The gap in policy measures between exporting and importing markets has led to a global trade in used vehicles which are obsolete, aging, unsafe and polluting. While a large share of the used vehicles traded do meet advanced standards and contribute to affordable access to vehicles with advanced environment features, an equally **large share lack basic environment requirements and are a major contributor to air pollution and climate emissions in recipient countries.** Most developing markets today import vehicles that would not be allowed to circulate on exporting country roads.

The stricter an importing country is on regulating the import of used vehicles and associated technology, the cleaner and more efficient the vehicle technology brought into a national market. When combined with appropriate fuel quality in the importing country, used vehicles which meet emission standards can lower the impact from both CO2 and non-CO2 emissions. **Road safety can also be improved.**

Some countries have been providing incentives for the **import of used hybrid electric (HEV) and electric (EV) vehicles** and this has assisted a switch to cleaner fleets. Some countries which had banned the import of all used vehicles are now permitting used hybrid electric vehicles or all-electric vehicles.

The report presents **three case studies** that give concrete data and challenges in the trade of used vehicles.

Kenya - more than 95 per cent of vehicles currently being added to Kenya's rapidly growing light duty vehicle fleet are imported used vehicles, mainly from Japan. Kenya has an age limit for used vehicle import of maximum 8 years. This results in the majority of the vehicles imported being around 7 years old.

The Kenyan fleet is relatively young and clean compared to other countries in the region, most notably Uganda and Rwanda which similarly import used vehicles from Japan. Uganda imposed an age limit of 15 as recently as 2019. Rwanda has no age limit for used vehicle imports. **As a result the fleets in Uganda and Rwanda are much older than the Kenyan fleet. Consequently, average fuel consumption and CO2 emissions are about one quarter higher than in Kenya.**

The Netherlands - is an important exporter of used vehicles through its Rotterdam and Amsterdam ports, exporting 35,000 vehicles to West Africa in 2017-2018. Most of those vehicles did not have a valid roadworthiness certificate at the time of export. Most of them were between 16 and 20 years old and fell below Euro4 vehicles emission standard. Morocco is exceptional in that it has set up Euro4 standards and Ghana has established age and fiscal policies which result in import of Euro4 standard used vehicles.

In December 2019, the Human Environment and Transport Inspectorate of the Dutch Ministry of Infrastructure and Water Management tested 160 vehicles in the port of Amsterdam set for export to Africa. **More than 80 per cent of the vehicles were below Euro 4 standard and most of the vehicles did not have valid roadworthy certificates.** A significant number had key emissions and safety equipment removed or not working.
In 2021 West African countries, coordinated by the regional cooperation body ECOWAS, will introduce minimum requirements for used vehicles. **Most vehicles currently exported from The Netherlands will not meet this requirement.**

Mauritius - is a small island developing state that has successfully introduced a set of policies to improve the quality of used vehicles. Mauritius only allows used vehicles which are not older

than three years. It also introduced a CO2 based vehicle taxation scheme and set up a verification and inspection scheme for used vehicles. Recently Mauritius introduced fiscal incentives for low and no emissions vehicles. As a result it has seen a major increase in the import of used (hybrid) electric vehicles.

Recommendations

More research is needed to detail further the impacts of the trade in used vehicles, including that of heavy duty used vehicles.

At global and /or regional level harmonized regulations should be developed that regulate the trade in used vehicles to put an end to the trade of obsolete, unsafe, dirty, and faulty used vehicles. The regulation should encompass measures to ensure used vehicles make meaningful contributions towards shifting to cleaner, safer, and affordable mobility.

Regulations should be gradually tightened in the coming decade. **Used low and no emissions vehicles should be promoted as an affordable way for middle- and low-income countries to access advanced technologies.**

Exporting and importing countries have a shared responsibility to improve and regulate used vehicles to minimize their negative impacts.

A strong **implementation and enforcement mechanism** should be introduced to check compliance and enforcement of the agreed regulations.