



EFFICIENCY IN TRANSPORT

TECHNOLOGY DESCRIPTION

TECHNICAL DESCRIPTION

The main emissions from motor vehicles are greenhouse gases, in particular carbon dioxide. However, they also emit other gases such as nitrous oxide, particulate matter, volatile organic compounds, and benzene. The emissions of these pollutants contribute to air quality problems which negatively affect human health and the environment. On average, a typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year¹. However, this number can vary based on the vehicle's fuel, fuel economy and the distance driven annually.

More efficient vehicles such as electric and hydrogen vehicles running on lower carbon-emitting fuels are critical to meeting energy security and climate protection goals. The increase in the proportion of low and zero-emission vehicles on the roadways would decrease greenhouse gases and other pollutants that are released into the atmosphere due to internal combustion in vehicles. It would also decrease the dependence on fossil fuels for transport.

CLIMATE RATIONALE OF THE TECHNOLOGY

The transportation sector accounts for approximately one-quarter of all energy-related carbon dioxide emissions, with this share anticipated to rise by 2050. Antigua and Barbuda's scenario exemplifies the worldwide issue. The transport sector is heavily dependent on fossil fuel imports. As much as 97.3% of the vehicle fleet is run on gasoline, and the rest is powered by diesel oil. There is a total of 54,891 recorded vehicles in operation in the country, according to the Ministry of Transport in 2020². Notably, cars and SUVs make up 90% (49,216) of the country's vehicle fleet, with most vehicles being manufactured between 1990 and 2010. The advent of electric vehicles offers a solution to significantly reduce annual emissions if older vehicles are replaced.

Efficiency standards for imported vehicles is a necessary tool for successfully reducing GHG emissions in Antigua and Barbuda. However, the affordability of used vehicles is a significant barrier to the implementation of this tool. The Government's fiscal incentives could be a solution to that barrier, as it would prompt consumers to invest in energy-efficient vehicles. Moreover, policies can be implemented to regulate the age of fossil fuel vehicles being imported.

AMBITION OF THE TECHNOLOGY

SCALE FOR IMPLEMENTATION AND TIME-LINE

The overall intention of the Government of Antigua and Barbuda (GOAB) is to revise the vehicular emission standards and import regulations for the new and used car market to reduce annual GHG emissions by 2030. Antigua and Barbuda is in the progress of reducing its GHG emissions having revised and submitted its NDC mitigation targets,

¹ <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>

² Data from the Antigua and Barbuda Transport Board



which include establishing efficiency standards for imported vehicles and a ban of internal combustion engine vehicles as the country transitions to electric vehicles.

EXPECTED IMPACTS OF THE TECHNOLOGY

Given that the transport sector is one of the highest emitters in Antigua and Barbuda, an adjustment to the efficiency of vehicles that are imported into the country would facilitate a decrease in emissions. Since there are no efficiency standards for vehicles that are imported to Antigua in addition to no age import restrictions of vehicles citizens are deterred from purchasing newer vehicles. Consequently, less expensive, older vehicles are in high demand.

With the revised regulations, citizens would be incentivized to consider their options for low or zero-emission vehicles. This in turn would assist in reducing the transport carbon footprint of the country. With vehicles that are less dependent on internal combustion, there would also be a reduction in the fossil fuels needed to be imported to supply the demand for these vehicles. The result of this would be economic savings for the country which can be redirected to the development of other sectors.

POLICY ACTIONS FOR TECHNOLOGY IMPLEMENTATION

EXISTING POLICIES IN RELATION TO THE TECHNOLOGY

NAME	YEAR ADOPTED	MAIN CONTENTS
Environmental Management and Protection Act	2019	Established the Environment Registry which will undertake to monitor pollutants and support GHG inventories through continued data collection
Sustainable Energy Action Plan	2013	Renewable energy developments to reduce fossil fuel dependence, high energy costs, and energy import bills
Environmental Levy Act 2002	2003	Outlines the tariffs for vehicles imported into the country

PROPOSED POLICIES TO ENHANCE TECHNOLOGY IMPLEMENTATION

Three policies need to be implemented for this technology to be successful. The first is to develop and enforce a policy articulating the emission standards required for imported vehicles. The second is to enforce an age restriction on older, high-level emission vehicles. Finally, with the development of electric and hydrogen-powered vehicles, which are zero-emissions vehicles, the Government could employ a policy that bans new internal combustion vehicles from being imported into the country starting from 2025.



COSTS RELATED TO THE IMPLEMENTATION OF POLICIES

Based on calculation from the Technology Action Plan for this technology, it will cost approximately USD 270,000 to draft legislation for the implementation of age restrictions on vehicles, enforce emission standards, and implement the ban on internal combustion vehicles.

USEFUL INFORMATION

CONTACT DETAILS

TNA Coordinator: Jamila Gregory | Department of Environment (“DOE”)
E: Jamila.Gregory@ab.gov.ag | T: +1 268 562.2568

Technology Champion: Renewable Energy Team – Department of Environment
E: doe@ab.gov.ag | T: +1 268 562 2568; +1 268 462 4625

LINKS TO TNA REPORTS

<https://tech-action.unepdtu.org/country/antigua-and-barbuda/>