## STUDIES AND PERSPECTIVES

ECLAC SUBREGIONAL HEADQUARTERS FOR THE CARIBBEAN

## Promoting energy efficiency in government transportation systems

A transition roadmap and criteria for a readiness analysis

Adrián Flores Aguilar Marcos Hidalgo Arellano Leda Peralta Quesada





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### **Glossary of acronyms and abbreviations**

AC	Alternating current
BEV	Battery Electric Vehicle
BNTF	Basic Needs Trust Fund
CARICOM	Caribbean Community
CDB	Caribbean Development Bank
CHAdeMO	Charge de Move
$CO_2$	Carbon Dioxide
CWR	Carbon War Room
DC	Direct current
EC	Energy Coalition
EE	Energy Efficiency
EPA	Environmental Protection Agency
E-REV	Extended-Range Electric Vehicles
EV	Electric vehicle
GCF	Green Climate Fund
GEF	Global Environmental Facility
GHG	Greenhouse gases
GIZ	German Development Cooperation
HEV	Hybrid vehicle
ICE	Internal Combustion Engine
IEA	International Energy Agency
kW	Kilowatt
kWh	Kilowatt-Hour
kWp	Kilowatt-peak
kW <sub>th</sub>	Kilowatt-thermal
Mi	Miles
MPY	Miles per year
MSRP	Manufacturer's Suggested Retail Price
MW	Megawatt

NiMH	Nickel-metal hydride battery
NREL	National Renewable Energy Laboratory
OFID	OPEC Fund for International Development
OPEC	Organization of the Petroleum Exporting Countries
PCF	Photovoltaic Charging Facilities
PHEV	Plug-In Hybrid Vehicle
PV	Photovoltaic
RE	Renewable Energies
SIDS	Small Island Developing States
SUV	Sport Utility Vehicle
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
WB	World Bank

### **Executive Summary**

Most small island developing States rely almost completely on imported fossil fuels to meet their energy needs. This dependency leaves the different sectors that rely on the energy system vulnerable to international market fluctuations. With a view towards achieving sustainable development and addressing the challenges posed by their dependency on fossil fuels, governments have developed a series of policies, regulations and strategies to diversify energy matrices, incorporate new practices that enhance local energy efficiency, and create enabling environments for sustainable energy projects and interventions. In this regard, transportation is a key sector, as its share of total energy consumption in the Caribbean significantly exceeds the global average. The IMF (2016) estimates that transportation accounts for 36 per cent of the total primary energy consumed in the region, highlighting the importance of increasing energy efficiency in the sector at the same time that other strategies are implemented to improve its performance and sustainability. In this regard, since 2003 governments of the subregion tasked CARICOM with the development of an energy policy that considered improvements in the energy sector as a whole, including transportation. The Energy Policy approved in 2013 established several direct measures to improve efficiency in the transportation sector, as well as indirect measures that also contribute to its modernization, such as diversification of the energy matrix and accelerated deployment of renewable energies. The main objective for the

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