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Adoption of Electric Vehicles to cut down greenhouse gas emissions into the atmosphere: Case of Kenya

Burning gasoline and diesel fuel create harmful byproducts like nitrogen dioxide and carbon dioxide. In 2020, the worldwide transportation sector generated over 7.3 billion metric tons of carbon dioxide emissions, making it one of the worst polluters. As a response to this, electric vehicles (EVs) are fast being adopted since they are emissions-free. According to research, the transportation sector needs to undergo a complete revolution brought on by EVs powered by no carbon emissions sources to achieve the 2050 global warming pollution target of an 80% reduction from the 1990 level (22.4 billion metric tons of carbon dioxide). Looking at Kenya, the country had a domestic transport emission of 12.343 MtCO2e in 2019 (excluding emissions from waterborne navigations), of which the roads accounted for 12.09 MtCO2e. By 2025, the government wants to see a 5% increase in EVs in the country. As strategies are being unfolded to foster EV adoption, there is a need to analyze their impact and implications. This research aims to show that, the increasing adoption of EVs in the country will result in more pressure on the electrical distribution network, and issues of increased power losses, degraded voltages, and failure of protective equipment resulting in power outages could be observed. On the other hand, the increasing adoption of EVs will reduce greenhouse gas emissions when compared to burning fossil fuels and reduce the footprint of carbon dioxide and other pollutants associated with the transport sector.

Author: Dr TOUNSI, Willy (British Higher Institute of Sciences and Technolgy)

Co-author: Mr WANDJI, Danube (United Nations Environment Programme, Nairobi, Kenya)

Presenters: Mr WANDJI, Danube (United Nations Environment Programme, Nairobi, Kenya); Dr TOUNSI, Willy (British Higher Institute of Sciences and Technolgy)

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