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OP-ED II: Rwanda to phase out polluting vehicles by 2040, an efficient strategy to mitigate global warming effects?

Passenger vehicles are major pollutants because on average a typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year. I highly support the idea that Rwanda joined on November 11, 2021, a group of countries at the COP26 UN climate talks that have made an agreement to end polluting vehicles by 2040. Rwanda is a landlocked country with a 12.95 million population as of 2020(world bank). Rwanda currently has over 221,000 registered vehicles; 83980 are passenger vehicles, 114,900 vehicles (52 percent of those vehicles) are motorcycles and the rest include public transports (buses and minibuses) and trucks for transportation of goods. Because of the high population density and the size of Rwanda, many people use motorcycles and public buses as a mode of transportation to move from place to place.

The idea of shifting to electric cars will reduce carbon emissions in Rwanda. On average 38% of passenger vehicles in Rwanda contribute the amount of 386,308 tons of carbon dioxide annually excluding the percentage of motorcycles and 10 % of the rest of vehicles. According to Africa Used Vehicle report of March 13, 2018, Rwanda is among 24 countries in Africa that ban used vehicles or impose a graduated penalty on cars aged over 10 years. Four countries in Africa, Egypt, South Africa, Sudan, and Morocco imposed a total ban on imports of used cars. The government of Rwanda plans to convert 30% of motorcycles, 8 percent of passenger vehicles, 20% of buses, and 25% of minibuses to electric vehicles by the year 2030.

Is this the right decision for Rwandans now or we can wait?

The answer is yes. According to Rwanda Energy Group, the major source of electric energy is hydropower which accounts for 50.6%, thermal sources (43.4%), and solar sources with 5%. Since the major source of electric energy is clean, the transition from gasoline to electric cars will not harm the environment. The government has now provided the opening plan to help reduce the cost of the owners of electric vehicles. For example, there is an exemption of the withholding tax of 5% of spare parts, batteries, and other equipment of the vehicle. Zero-rated Value Added Tax on electric vehicles. Normally passenger vehicles pay 25% of the import duty, 18% VAT, 5-15% excise duty depending on the size of the engine. Moreover, the government is attracting electric vehicle and spare parts manufacturers by reducing the corporate income tax from 30% to 15%.

What is the challenge?

According to Kelley Blue Book, an average electric car price is around \$50,000. The average salary of Rwandan is between \$150-3000 a month. If we compare the price of the car with the salaries, Rwandans won't be able to afford new electric cars. But there are ways that the government can facilitate people to get those cars by discussing with financial institutions about introducing credit cards or loans to buy those cars and people without high-interest rates.

There is an issue with the market for existing gasoline cars. Most gasoline cars in Rwanda have more than 100,000 mileage and even more. Do we have a market for these cars? Is the government ready to help the owners of those cars get the market or replacement of those cars? Hydroelectric energy contribution. The government should increase funds and investments to produce more hydroelectric energy and reduce thermal energy sources.

Eventually, I will conclude by saying that this is the right decision to make. Rwanda is not rushing to transition completely to electric cars but rather change slow the system because only 30% of motorcycles, 8 percent of passenger vehicles, 20% of buses, and 25% of minibuses to electric vehicles by the year 2030. According to the New Times, the transition from gas vehicles to electric motor vehicles will save approximately \$23 million in fuel imports every year. (Excluding the savings from passenger vehicles and buses). Only \$1 billion is needed to convert 20% of motor vehicles to electric motor vehicles by 2020. \$150 million are needed to convert 20% of buses and minibuses to electric vehicles by 2030.

References:

<https://www.reg.rw/what-we-do/generation/>
<https://www.newtimes.co.rw/news/rwanda-joins-global-pledge-end-sale-polluting-vehicles-2040>
<https://www.newtimes.co.rw/business/electric-motorbikes-could-save-rwf9-billion-annually>
<https://www.controlrisks.com/our-thinking/insights/automotive-made-in-rwanda>
<https://wedocs.unep.org/bitstream/handle/20.500.11822/25233/AfricaUsedVehicleReport.pdf> <https://allafrica.com/stories/202111110479.html>