Facilitating, Enabling, and Triggering Sectoral Transitions: Egypt

Case Study 12. Motorization Management: Fleet Renewal and Recycling Program in Egypt

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Context

Motorization management is a menu of measures to manage motor vehicle flows and stocks at all phases of their life cycle to support access and economic growth while reducing GHG emissions, improving air quality, and enhancing traffic safety (World Bank 2021h). Measures include fleet renewal mechanisms with replacement, recycling, and certification systems; and policies and financial incentives to modernize the most polluting, unsafe, and intensively used vehicles. In Egypt around 2010, the average age of the motor vehicle fleet was high, and many intensively used vehicles were poorly maintained, contributing to excessive emissions, breakdowns, and road traffic accidents. The bustling capital, Cairo, produces 40 percent of the country's transport-related GHG emissions, exposing residents to as much as 20 times the acceptable air pollution levels every day (Carbon Partnership Facility 2023; see also UNFCCC 2020). A significant share of these emissions come from older or poorly maintained vehicles, including up to 40-year-old taxis (Hereher et al. 2021).

Policy

In 2008, the government of Egypt adopted a new law mandating that fee-based transport vehicles (taxis, buses, trucks, and so on) over 20 years old would no longer be eligible for new operating licenses or license renewals. Because the law did not specify how eligible vehicles should be disposed of, owners could sell these vehicles, convert them for private use, or dismantle them and sell the engines for use in other vehicles. Without a national scrapping and recycling program, the law was not having its intended effect. In 2010, the World Bank, as trustee of the Danish and Spanish Carbon Funds, entered into an agreement with the Danish Carbon Fund of Egypt to purchase from the CDM certified emissions reductions (CERs) generated by vehicles participating in the scrapping and recycling program. This carbon finance transaction facilitated the sale and transfer of CERs from the Ministry of Finance's (MoF) program to Danish and Spanish Carbon Funds participants through a commercial contract referred to as an emissions reduction purchase agreement. The sale of these CERs

would offset the costs incurred by MoF to set up a one-stop shop for scrapping and replacing taxis.

The Egypt Vehicle Scrapping and Recycling Program supported a fleet renewal mechanism through which taxi, microbus, trailer truck, and bus owners voluntarily surrendered their vehicles for managed scrapping and recycling, in exchange for financial incentives to purchase new vehicles from participating pre-registered vehicle dealers at a discounted price and with financing facilities (World Bank 2021c). Certified recycling and scrapping ensured that old vehicles were permanently taken off the roads and components such as tires, oils, and batteries disposed of and recycled in an environmentally safe manner. The program objective was to reduce emissions associated with the country's aging fleet of taxis, microbuses, minibuses, and buses through the purchase of CERs and included third-party auditing.

Results and Impacts

Between 2013 and 2017, more than 40,000 vehicles were turned in, scrapped, and recycled through the program in Cairo. The new vehicles, which represented over 90 percent of the city's taxi fleet, have reduced GHG emissions by over 300 $ktCO_2e$ as of 2017 and counting. MoF's project implementation success was based on strong internal technical capacity and in-house program and administrative design, including a one-stop shop for owners of eligible taxis. The one-stop shop meant that taxi drivers did not lose their source of income while waiting for their new taxi to arrive, which would have discouraged them from joining the program. The entire process—from application to surrendering the old vehicle and receiving the new one—took, on average, five to seven working days. The efficiency of the one-stop shop and the MoF incentives were so successful that the scrapping site was overwhelmed. The government then had to create a reservation system for a maximum of 120 vehicles per day for timely processing at the scrapping facility. As part of the project design, MoF was authorized to disburse a subsidy of up to LE 5,000 (about $270) per eligible surrendered vehicle and covered the taxes due from the sale of the new taxis. It also waived customs fees for importing vehicles parts, and MoF negotiated lower-interest rates for car loans (Ali 2016).

The new replacement vehicles used up-to-date technology that reduces pollution through lower fuel consumption and cost less to run, improving drivers' livelihoods. More than half of the new vehicles run on compressed natural gas (CNG), a more environment-friendly fuel producing fewer GHG emissions than gasoline or diesel. The government outsourced a recycling facility to ensure that the old vehicles were taken off the road permanently and that scrapped vehicle components such as tires, oils, and batteries were disposed of and recycled in an environmentally safe manner. As well as decreasing pollution, the upgraded vehicles have improved working conditions for taxi drivers (World Bank 2018a).

Key Takeaways

The program had a significant positive environmental impact, providing new and more energy-efficient vehicles and reducing CO_2, methane, nitric oxide, and nitrogen dioxide emissions in greater Cairo. The program is an example of how the sale of CERs can help accelerate the success of government programs, successfully reducing GHG emissions from transport, improving air quality, and creating safer road conditions. As of December 2018, it was the only World Bank transport sector operation in the Middle East to issue CERs and had sold more than 340,000 CERs. After its success in Cairo, the government is considering replicating the model in other locations. Other African countries—such as Burkina Faso and Côte d'Ivoire—have been inspired to develop similar initiatives, which the World Bank is supporting. The model could also be used to accelerate the penetration of zero-emission vehicles, such as electric vehicles (EVs), which may have higher capital investment requirements in vehicle and charging infrastructure but lower operating costs and other benefits over the long term.