

## The Elimination of Fossil Fuel Subsidies from the Road Transportation Sector and the Promotion of Electro Mobility: The Ecuadorian Case

**Authors :** Henry Acurio, Alvaro Corral, Juan Fonseca

**Abstract :** In Ecuador, subventions on fossil fuels for the road transportation sector have always been part of its economy throughout time, mainly because of demagoguery and populism from political leaders. It is clearly seen that the government cannot maintain the subsidies anymore due to its commercial balance and its general state budget; subsidies are a key barrier to implementing the use of cleaner technologies. However, during the last few months, the elimination of subsidies has been done gradually with the purpose of reaching international prices. It is expected that with this measure, the population will opt for other means of transportation, and in a certain way, it will promote the use of private electric vehicles and public, e.g., taxis and buses (urban transport). Considering the three main elements of sustainable development, an analysis of the social, economic, and environmental impacts of eliminating subsidies will be generated at the country level. To achieve this, four scenarios will be developed in order to determine how the subsidies will contribute to the promotion of electro-mobility: 1) A Business as Usual (BAU) scenario; 2) the introduction of 10 000 electric vehicles by 2025; 3) the introduction of 100 000 electric vehicles by 2030; 4) the introduction of 750 000 electric vehicles by 2040 (for all the scenarios, buses, taxis, lightweight duty vehicles, and private vehicles will be introduced, as it is established in the National Electro Mobility Strategy for Ecuador). The Low Emissions Analysis Platform (LEAP) will be used, and it will be suitable to determine the cost for the government in terms of importing derivatives for fossil fuels and the cost of electricity to power the electric fleet that can be changed. The elimination of subventions generates fiscal resources for the state that can be used to develop other kinds of projects that will benefit Ecuadorian society. It will definitely change the energy matrix, and it will provide energy security for the country; it will be an opportunity for the government to incentivize a greater introduction of renewable energies, e.g., solar, wind, and geothermal. At the same time, it will also reduce greenhouse gas emissions (GHG) from the transportation sector, considering its mitigation potential, which as a result, will ameliorate the inhabitant quality of life by improving the quality of air, therefore reducing respiratory diseases associated with exhaust emissions, consequently, achieving sustainability, the Sustainable Development Goals (SDGs), and complying with the agreements established in the Paris Agreement COP 21 in 2015. Electro-mobility in Latin America and the Caribbean can only be achieved by the implementation of the right policies by the central government, which need to be accompanied by a National Urban Mobility Policy (NUMP), and can encompass a greater vision to develop holistic, sustainable transport systems at local governments.

**Keywords :** electro mobility, energy, policy, sustainable transportation

**Conference Title :** ICEVFD 2023 : International Conference on Electric Vehicles and Future Directions

**Conference Location :** Copenhagen, Denmark

**Conference Dates :** June 15-16, 2023