

Key Green Performance Indicators (KGPIs) for Vehicle

Cleanliness Evaluation

Despite many efforts on vehicle emission control in the past decade, air quality in cities still needs to be further improved. Air pollution is threatening public health, and governments need to do much more to replace old and dirty diesel vehicles. However, fleet renewal by real zero-emission technologies is facing economic challenges and technical difficulties. Waiting for all vehicles on the road to be replaced by electrified ones will take dozens of years at least. It is essential to develop practical and short-term solutions for reducing the impact of the existing internal combustion fleet. One realistic answer is to provide incentives and guidance to the potential buyers of green vehicles by clarifying their definition of cleanliness. This presentation aims to introduce a newly developed testing and scoring mechanism, to assess the buyers' behaviours on purchasing green vehicles. As there are various vehicle types with different emission properties presented in the current market, a Key Green Performance Indicator (KGPI) framework is designed to choose vehicles by comparing all the relevant factors affecting consumer choice on green vehicles, including different emission damages, buyer cost, car performance, and other incentives. The novelty is to combine all the factors to produce a unique single score to present vehicle cleanliness and guide buyer choices. The findings can help guide buyers towards the cleanest available vehicles and promote the manufacturing of new cleaner vehicles to the market.