

# KRIHS Policy Brief

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## Responding to Decreased Transportation Tax Revenues from Expansion of Eco-Friendly Vehicle Usage

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### Summary

1) Despite the attempt by the South Korean government to establish a new growth engine and respond to environmental issues with its “Policy Directions for Expanded Distribution of Electric/Hydrogen Vehicles” (2018), response measures to the resulting decrease in tax revenues have been inadequate.

2) Eco-friendly vehicle distribution in South Korea was estimated, and trends in declining revenues through 2050 were analyzed by stage and time period.

- (Estimating eco-friendly vehicle distribution) The rate of eco-friendly vehicle use was predicted to increase by an estimated 24.6-37.4% from current levels by 2050.

- (Trends in declining revenues) Based on double exponential smoothing method, tax revenues were predicted to decline ① by KRW 48.4 billion (KRW 22.5 trillion in national taxes, KRW 25.8 trillion in local taxes) at the stages of eco-friendly vehicle ownership (subject to automobile taxes and local education taxes) and operation (subject to transportation, education, and vehicle operation taxes) between 2020 and 2050, and ② by KRW 85.1 trillion (KRW 39.8 trillion in national taxes, KRW 45.3 trillion in local taxes) at ownership/operation stages upon implementation of government policies with the ARIMA model.

3) The decrease in tax revenues was estimated with application of a “vehicle miles traveled tax” on eco-friendly vehicles.

- (Operation stage) The shortfall in tax revenues was reduced by around 45% from the current decrease with the assessment of a KRW 10 per kilometer charge on electric and hydrogen vehicles, and by 65-70% in the case of a KRW 15 charge; tax revenues exceeded 2017 levels by around 10% with a KRW 25 charge.

- (Ownership/operation stage) The shortfall in tax revenues was by 75-80% range from the current decrease with the assessment of a KRW 30 per kilometer charge on electric and hydrogen vehicles, and by 90-95% in the case of KRW 35 charge; tax revenues exceeded 2017 levels by around 15% with a KRW 45 charge.

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## Policy implications

- ① (Institute vehicle miles traveled tax) Institute a “Vehicle Miles Traveled Tax Act” (provisional title) to regulate the taxation rate per kilometer traveled by electric and hydrogen vehicles, with a travel distance-based taxation system to be ultimately expanded to all fuel types.
- ② (Institute eco-friendly vehicle registration tax) Gradually normalize the low level of taxation on eco-friendly vehicles based on Article 127-3 of the Local Tax Act, while considering new systems such as an “eco-friendly vehicle registration tax” (provisional title) based on benchmarking of overseas cases.
- ③ (Implement pilot project) Establish a legal basis through the implementation of pilot projects and procurement of necessary funding, with the effects of new system implementation to be subsequently examined through a competitive pilot project model for basic and metropolitan local governments.
- ④ (Establish policies to protect internal combustion vehicle industry) Conduct an examination of the destructive effects on the internal combustion vehicle industry due to increased use of eco-friendly vehicles (including current gas stations, LPG filling stations, and automobile repair businesses) and devise alternative approaches including policy response measures.