

## Impacts of producing electrically driven vehicles on Japan industrial output

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Electrically driven vehicles could be adopted gradually to achieve an emission reduction target under the provisions of the agreement in the 21st session of the Conference of the Parties (COP21). Under such circumstances, the Japanese government advocates the long-term goal of producing all new vehicles to be electric in Japan by 2050. Because of the difference between body structures of internal combustion engine vehicles and electrically driven vehicles, producing electrically driven vehicles may create different impacts than internal combustion engine vehicles on industrial outputs that potentially rises a national concern considering that the automotive industry is a key industry in the Japanese economy.

To evaluate these impacts by employing the Leontief production model, we estimate sectoral classification of electrically driven vehicles, including "hybrid vehicles (HV)," "plug-in hybrid vehicles (PHV)," and "battery electric vehicles (BEV)," on the input-output table published by the corresponding cabinet office of Japan. In particular, these sectors reflect the intermediate demand of electric machine components, such as "motor," "rechargeable battery," and "power control unit" in each input structure. Under the BEV sector, we consider the change in input structure as internal combustion engine becomes irrelevant.

Moreover, this paper presents the results of the sensitivity analysis to evaluate the impacts of producing electrically driven vehicles instead of ICE on Japan industrial output.