

Ritsumeikan Center for Asia Pacific Studies



RCAPS Working Paper Series

RWP-24001

**Carbon Neutrality, Global e-Mobility, and Japanese Automotive Industry:
Multi-Pathway Strategy and Green Supply Chain Networks**

May 30, 2024

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Abstract

This study examines Japan's carbon-neutral policy in the automotive sector. In response to the rapid growth of global e-mobility, the Japanese government adopted a multi-pathway strategy to tackle carbon neutrality, which promotes not only battery electric vehicles, but also a variety of powertrain vehicles including hybrid electric vehicles, plug-in hybrid vehicles, fuel cell battery vehicles, and hydrogen internal-combustion-engine vehicles by employing a technological neutral approach. Simultaneously, the Japanese automotive industry has started to establish green supply chain networks through visualization of CO₂ emissions. These strategies are aligned with the concept of life-cycle assessment that calculates the total CO₂ emissions of a whole automotive supply chain network (from energy production, material production, parts production, vehicle assembly, and driving process to recycling), but not commonly used the Tank to Wheel method that calculates CO₂ emissions during the driving process only. Furthermore, this study reveals four key issues in sustainable automotive development globally.

Keywords:

Automotive industry, Japan, carbon neutrality, LCA, EV, multi-pathway, green supply chain networks

This working paper will be provided upon request.

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