

# Difference in Optimal Strategies between Transportation Modes under the CO<sub>2</sub> Stabilization Target of 550 ppm

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Using a bottom-up type global energy model that specifies the transportation sector and the full supply chain of transportation fuel in great detail, we examine how to drive the transportation sector into a sustainable path that could stabilize the global atmospheric CO<sub>2</sub> concentration at 550 ppmv in 2100. Six modes are distinguished for passenger transport and five for freight, and the model takes into consideration distinctive characteristics of these modes, e.g., in terms of cost, efficiency, lifetime, load factor, and available technological options. Our presentation will identify the differences in optimal strategies between modes, and niche markets for hydrogen introduction.

**Keywords:**

Transportation sector, Fuel cell vehicles, hydrogen, Global energy model analysis