May 27, 2021

Policy Proposals for Accelerated Adoption of ZEVs for Road Freight

- JCLP urges the Japanese government to set ambitious targets and introduce measures to create economies of scale and ensure ZEVs' practicality -

Following the 2050 carbon neutrality pledge in October last year, Prime Minister Yoshihide Suga announced in April that Japan will target a 46% cut in greenhouse gas (GHG) emissions by 2030 from 2013 levels and continue its efforts to meet the lofty goal of 50% reduction. In order to reach these critical milestones for averting a climate crisis, Japan needs to strengthen actions across all sectors.

Determined to do our utmost to contribute to the achievement of these targets, we, Japan Climate Leaders' Partnership (JCLP), have pledged to increase our efforts. We made clear our intention to play active roles in key action areas, such as EV transition and decarbonization of heat production, while continuing our ongoing work on renewable power expansion.[1]

With the renewed commitment, we began our work to adopt zero emissions vehicles (ZEVs) for in-house and outsourced road freights[2], with the conviction that demand-side companies like us have much to contribute in driving the transition of transport sector. We are facing multiple barriers, however, and believe that enabling policies are a critical component of the solution to them. We would thus like to take this opportunity to make the following policy proposals.

Background: Why Adoption of ZEVs for Road Freight is Essential

1. Road freight vehicles are responsible for as much CO_2 emissions as passenger cars.

CO_2 emissions from automobiles account for about 16% of Japan's total CO_2 emissions, making the sector the third most significant source of emissions after the ''industry'' sector (34.7%) and ''commercial and other'' sector (17.4%).[3] Although there are fewer road freight vehicles in use than passenger cars, they emit about the same amount of CO_2, since the utilization rate of road freight vehicles is higher than that of passenger cars.[4] This makes it crucial to decarbonize road freight vehicles. Given that the majority of them are for commercial use, businesses can make significant contributions to Japan's decarbonization efforts through the adoption of ZEVs.

2. The ZEV transition is gaining momentum globally, and there are concerns for impacts on the competitiveness of Japan's automotive industry as a result of lagging behind.

There are increasing signs that the shift to ZEVs is accelerating globally. More and more countries and regions are setting targets for stepwise expansion of ZEVs and planning to ban sales of gasoline and hybrid vehicles.[5] Some automakers have announced that they will end sales of trucks running on fossil fuels,[6] and accelerate the development of ZEVs.[7] As ZEVs will inevitably become mainstream globally, there are concerns that the competitiveness of Japan's automakers, a leading industry in the country, may slip if they fall behind their global competitors. This is a concern, particularly for some of the demand-side companies within JCLP that are willing to give preference to ZEVs made by domestic manufacturers.

Barriers and Policy Proposals for Accelerated Adoption of ZEVs for Road Freight

The ZEV transition must advance at speed for Japan's early achievement of carbon neutrality. In order to accelerate adoption of ZEVs by wide-ranging road freight vehicle operators, it will be key to improve cost-competitiveness through economies of scale in production. Ensuring practicality by building more charging and hydrogen fueling stations is also pivotal, and amendments of existing freight-related laws and regulations to accommodate ZEVs and ZEVs-related services will further enhance practical use of ZEVs.
With this understanding, we urge the government to take swift action on the following points:

1. Set a clear and world-leading numerical target for adoptions of ZEVs for road freight

In the Green Growth Strategy, the government has set the target of 100% EV/HV/PHV/FCV for new passenger car sales, to be achieved by the mid-2030's. However, there is no target for road freight vehicles as of yet.[8] As there is an ongoing review of the automobile and battery section of the Strategy, we propose that the revised strategy includes a clear and world-leading target for road freight vehicles. Such a target is necessary to prompt coherent policy implementations and send a strong market signal for the ZEV transition.

2. Take regulatory measures to scale up ZEV production

It is also important to consider measures to scale up the production of vehicles and create economies of scale. For example, light trucks[9] are unique to Japan and this type of vehicle may not necessarily benefit from the economies of scale achieved through the global expansion of ZEVs. The government should consider expanding the types of vehicles that light trucking companies[10] can use to mid-size vans and small-size trucks, in order to ease the barriers to their ZEVs adoption.

3. Amend existing regulations and systems with flexibility in order to promote new business models for ZEVs

New business models are emerging globally to make ZEVs a practical and economically viable choice, and they are innovating ways of vehicle purchase, maintenance, charging and refueling. We propose that the government amend existing regulations and systems with flexibility as more diversified business models for ZEVs emerge.

For example, the ''Battery as a Service (BaaS)"[11] business model can significantly reduce the upfront cost for users, by enabling them to buy an EV without a battery and leasing exchangeable batteries.[12] Introducing this service would require amending Japan's vehicle safety inspection system because third-party ownership of batteries is currently not permitted.

4. Set targets for installations of renewable energy-based charging and fueling infrastructure

It is essential to build more charging and fueling stations to ensure that ZEVs are a practical choice for users. Since a speedy increase of ZEV uptake cannot be expected without such infrastructure, the government should set targets for roll-out of charging and fueling stations. These targets should assume that stations will run on electricity or fuel derived from renewable sources, in order to achieve the ultimate objective of decarbonization.

(NOTE: "Road freight vehicles" in these policy proposals include last-mile delivery vans as well as trucks.)

END

JCLP

References

1 Japan Climate Leaders' Partnership ''Policy Proposals on Japan's mid-term greenhouse gas emissions reduction target'' (March, 2021)
https://japan-clp.jp/wp-content/uploads/2021/04/JCLP-Proposal_Japan-NDC_FINAL-1.pdf

2 "ZEVs for road freight vehicles" in this paper include last-mile delivery vans as well as trucks.

3 Japan's total CO_2 emissions in FY2019 were 1,180 million metric tons
- Source: Ministry of Land, Infrastructure, Transport and Tourism ''CO_2 emissions from the transportation sector''
https://www.mlit.go.jp/sogoseisaku/environment/sosei_environment_tk_000007.html

4 The amounts of CO_2 emissions from passenger cars and road freight vehicles were 94.58 million tons and 75.83 million tons respectively in FY2019. (The source is the same as above)

5 France, Germany, China and the State of California have set targets for stepwise expansions of different types of ZEVs. The UK and France plan to ban sales of gasoline and diesel vehicles by 2030 and 2040, respectively. The UK also plans to ban hybrid car sales by 2035.
- Source: Ministry of Land, Infrastructure, Transport and Tourism (December 2020) 「第３回モビリティの構造変化と 2030 年以降に向けた自動車政策の方向性に関する検討会 事務局参考資料」(Committee meeting material, available only in Japanese)：
https://www.meti.go.jp/shingikai/mono_info_service/mobility_kozo_henka/pdf/003_03_00.pdf

6 The European Automobile Manufacturers Association (ACEA) commits to decarbonization by 2050 and claims that achieving this goal requires all new commercial vehicles sold to be fossil-free by 2040.
- Source: ACEA "Joint Statement: The Transition to Zero-Emission Road Freight Transport" (December 2020) https://www.acea.be/uploads/publications/acea-pik-joint-statement-the-transition-to-zero-emission-road-freight-trans.pdf

7 Major automakers such as VW, Daimler, GM, Ford, and Renault, have set production targets for EVs and FCVs and have been increasing their investment in the development of ZEVs.
- Source: IEA "Global EV Outlook 2 s 021" (April 2021)
https://iea.blob.core.windows.net/assets/ed5f4484-f556-4110-8c5c-4ede8bcba637/GlobalEVOutlook2021.pdf

8 Ministry of Economy, Trade and Industry (December 2020) "The Green Growth Strategy toward 2050 Carbon Neutrality'' https://www.meti.go.jp/press/2020/12/20201225012/20201225012-2.pdf

9 "Light automobiles" is a category for the smallest highway-legal passenger cars, vans, and trucks. The cateogry is unique to Japan and known as "kei" ("light" in Japanese).

10 This refers to trucking companies that are licensed to operate only light (kei) vans and trucks. Japanese businesses heavily rely on these operators for product delivery, and their adoption of ZEVs is an important element of the overall ZEV transition.

11 NIO (August, 2020) ''NIO Launches Battery as a Service''
https://www.nio.com/news/nio-launches-battery-service

12 BaaS can be expanded to a quick battery swap service for motor trucks to improve their utilization rate. This enables the use of new batteries for cars while older batteries can be recycled for grid stabilization and as emergency power sources in the aftermath of disasters.

Japan Climate Leaders' Partnership JCLP

JCLP is a coalition of businesses in Japan (178 companies as of May 2021) that aim to create a carbon neutral society, built on the idea that decarbonization is essential to economic development. The group's total sales are 138 trillion JPY (US$1.3 trillion) and electricity demand together amounts to 57.2 TWh. It was set up in 2009 to encourage the business sector to develop a sound sense of urgency on climate action. Since April 2017, JCLP has been the Climate Group's Regional Delivery Partner on RE100, EP100 and EV100 initiatives in Japan.

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