

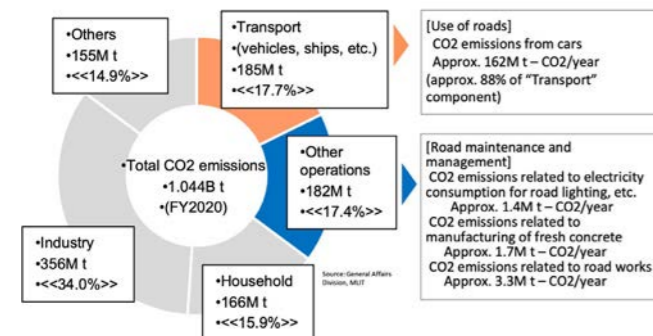
# Realization of a decarbonized society through promotion of GX

## - Contribution to 2050 carbon neutrality -

As natural disasters become more severe and frequent due to climate change, global warming countermeasures are an issue that cannot wait. We will contribute to the realization of a decarbonized society by promoting GX (Green Transformation), including the spread of next-generation automobiles, low-carbon road transportation, and energy-saving and green road infrastructure.

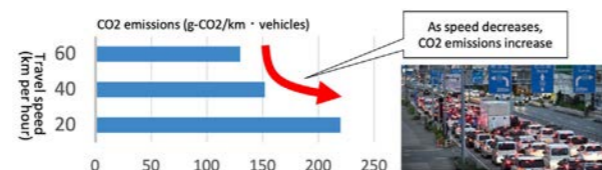
### CO2 emissions in Japan

In the road sector, the "transportation" and "business and other sectors" emit about 170 million tons of CO2 (about 16% of the total).



### Relationship between CO2 emission and driving speed

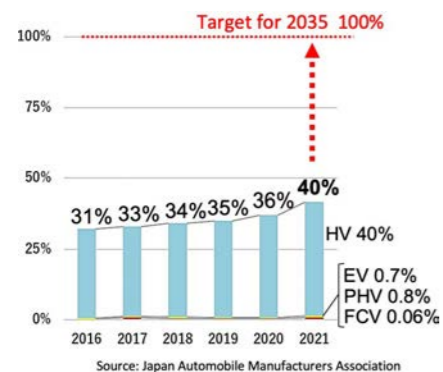
Decreased driving speed due to traffic congestion contributes to increased CO2 emissions



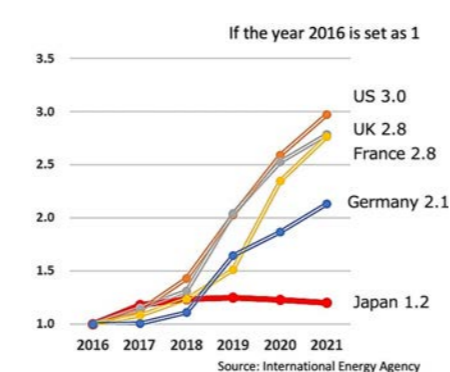
### Uptake of next-generation vehicles

With the government target of 100% electric vehicles in new passenger car sales by 2035, it is necessary to improve the environment for the uptake of next-generation vehicles such as electric vehicles

#### Percentage of new electric vehicles sold



#### Number of EV chargers installed



### Energy saving and greening of road infrastructure

Contribute to the realization of carbon neutrality through energy conservation and the use of renewable energy in road management, etc.



Renewable energy generated at roads: approx. 13000 MWh (approx. 0.4% of power consumption by road administration)



Energy-saving effects with LED lighting. Power consumption reduced by approx. 60% (relative to high-pressure sodium lamps)

Source: FY2021 Road Committee, Basic Policy Committee

### Creating an environment for the uptake of next-generation vehicles

To promote the spread of next-generation vehicles, we will support research and development for their social implementation, and in cooperation with business operators, we will promote the development of road environments that contribute to improving the convenience of next-generation vehicles.

#### Background / data

- Number of quick charging facilities installed for EV: Approx. 8,000 (Mar. 2021) → government target (Ref. 1): 30,000 (2030)
- Status of EV charging facilities
  - Michi-no-Eki (Roadside rest area): 862 (72% of total) ※April, 2022
  - SA・PA: 397 (45% of total) ※April, 2022
- Number of EV charging facility information signs installed
  - Michi-no-Eki 84 stations (Ref. 2) SA/PA 265 locations as of March 2022

### Enhancing the environment for the spread of electric vehicles

Supporting research and development of pavement impact and power transfer efficiency by wireless power transfer systems while driving (Ref. 3)

Establish and disseminate guidelines for the installation of EV charging facilities on public roads and promote their introduction

Cooperate with businesses to provide locations for EV charging

facilities and hydrogen stations in SA/PA and Michi-no-Eki.

Promote the development of EV charging facility information signs

Study on temporary exit from expressways for the purpose of recharging, based on the premise of introducing a payment system for EV recharging fees using ETC cards, in cooperation with METI and business operators

#### Research and development support for dynamic wireless power transfer systems

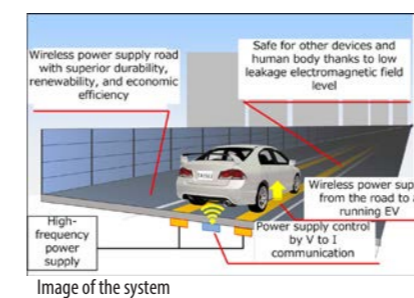


Image of the system



Strength verification at experimental facility

#### Installation of EV charging facilities



Installation of EV charging facilities on public roads



Installation of EV charging facilities at Michi-no-Eki

#### Maintenance of hydrogen rest areas



Hydrogen stations (image)

#### EV charging facility information signs



EV charging facility information signs

Ref. 1: Growth Strategy Action Plan (Cabinet Decision on June 18, 2021) Ref. 2: Target roadside rest areas with EV charging facility information signs installed on national highways under jurisdiction of MLIT Ref. 3: Supporting technological development in the "Technical Research and Development for Road Policy Quality Improvement" Study Summary (New Committee on Advanced Road Technology)



## Low-carbonization of road transportation, energy saving and greening of road infrastructure

We will promote low-carbon road transportation through traffic flow measures and promotion of bicycle use, and promote energy saving and greening of road infrastructure by curbing energy used for road maintenance and management, utilizing renewable energy, and greening roads.

### Background / data

- CO2 emissions in the road sector (FY2020): Approx. 170 million tons (approx. 16% of total)
- Renewable energy generation on roads (FY2021): Approx. 13000 MWh (approx. 0.4% of power consumption)
- LED road lamps for national highways under jurisdiction of MLIT: approx. 40%: as of March 2022

### Low-carbonization of road traffic

Promote low-carbon road transportation through road traffic flow measures such as road network improvement and traffic congestion countermeasures, improving logistics efficiency through double-trailer trucks, etc., and promoting the use of public transportation by promoting the bicycle use and enhancing the functions of transportation hubs

### Energy saving and greening of road infrastructure

Promote the use of LED lighting for roads, as well as advanced lighting Technical solicitation and trial for installation of roadside solar power generation※1

Develop and disseminate technical guidelines for solar power generation facilities utilizing road space and promote their introduction Promote road greening and maintenance of green infrastructure

#### ■ Continuous efforts for low-carbonization of road traffic



Congestion mitigation



Promoting the bicycle use

#### ■ Use of renewable energy

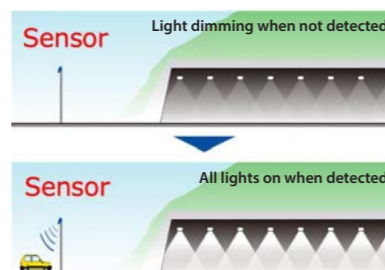


Solar power generation in road space

#### ■ Reduction of energy consumption



LED lighting



Advanced lighting (image)

#### ■ Promotion of road greening



Rain garden (\*2) (Shijyo Horikawa junction)

※1 : Positioned in the plan to promote the introduction of new technology, and technical verification was conducted by the organization to promote the introduction of new technology  
 ※2 : Space with a structure to store and infiltrate rainwater

# Appendix

- History of Roads in Japan
- Technical Standards
- 2040 Vision for Roads in Japan
- Statistics

