

NISSAN MOTOR CORPORATION



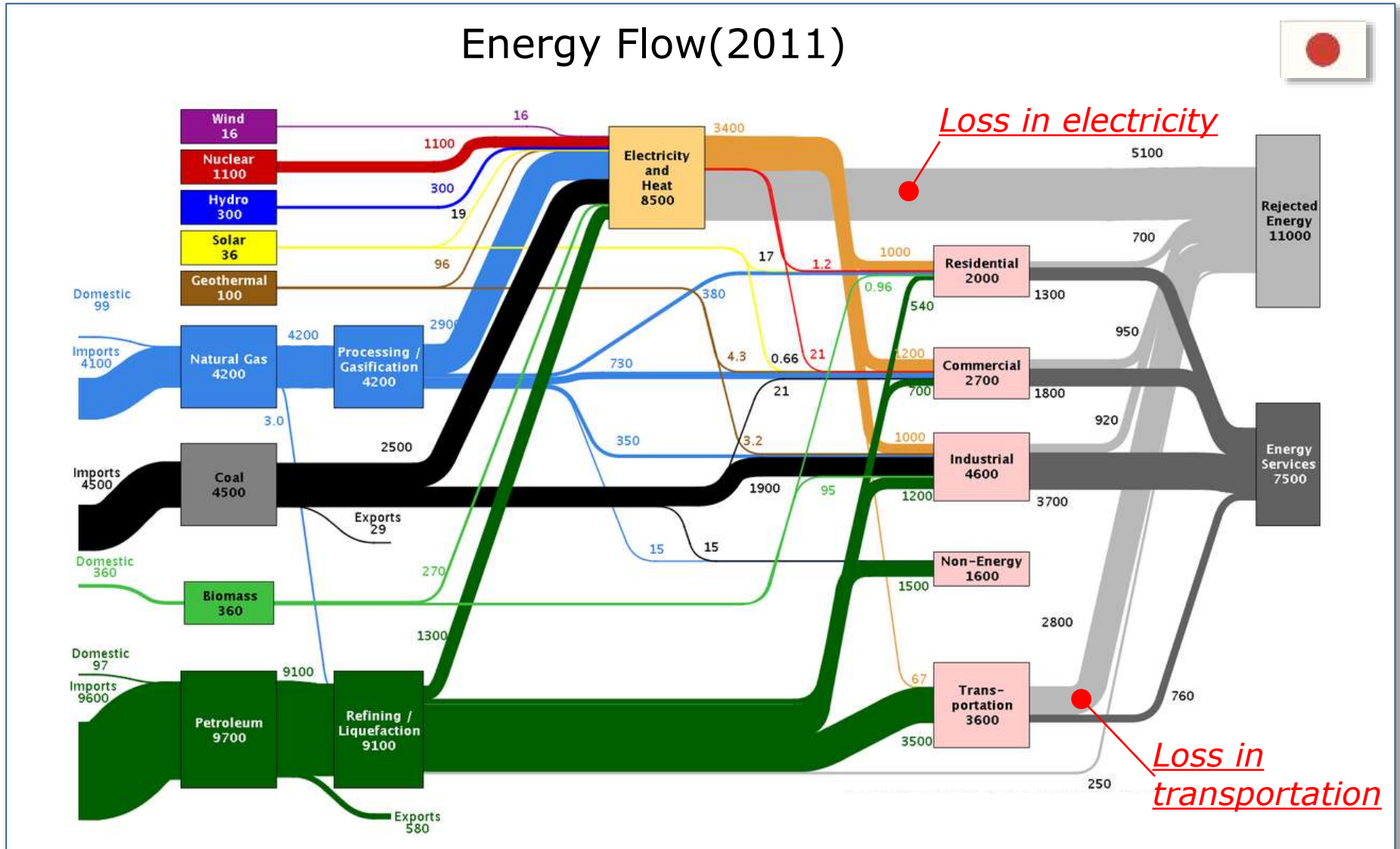
REvision2018

Session3 Bringing Sun and Wind in Japan

EV expansion and Renewable Electricity

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Vehicle electrification is inevitable : Energy

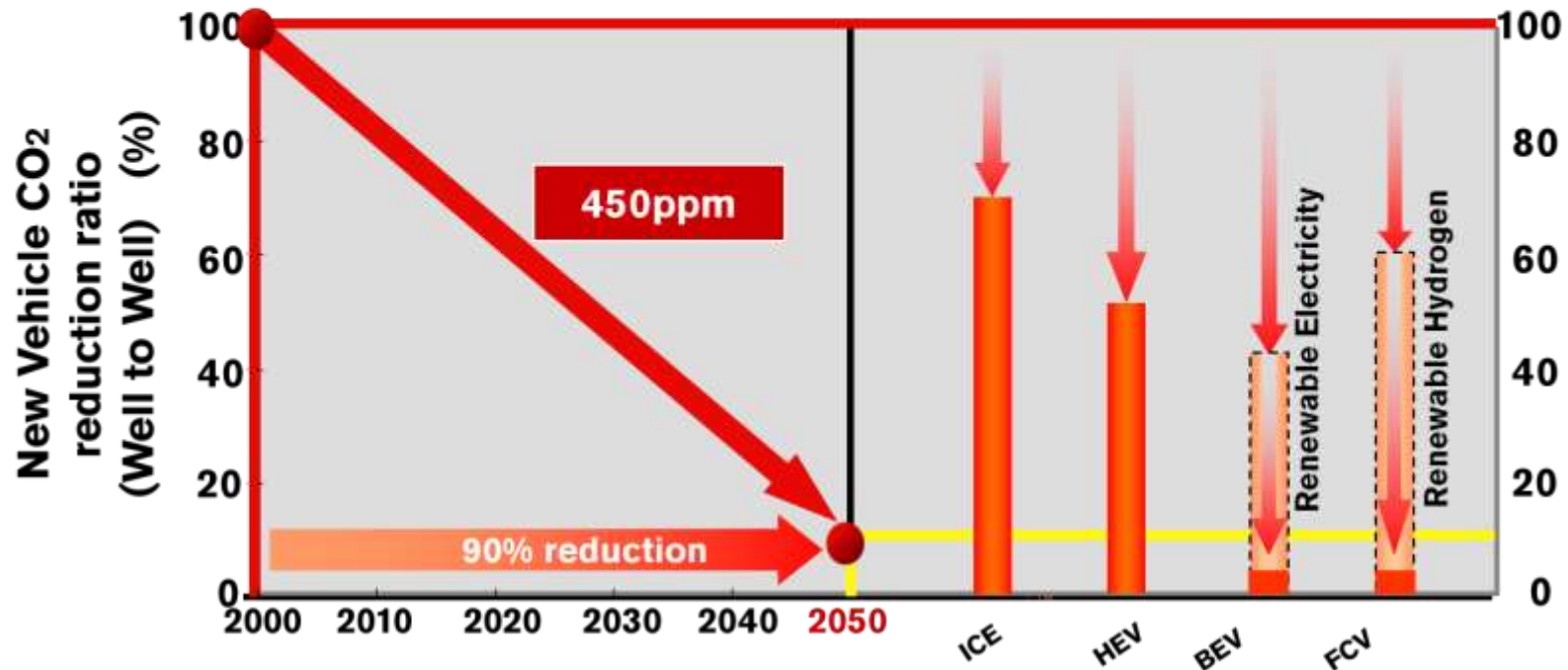


Source : Lawrence Livermore National Laboratory, US

Vehicle electrification is inevitable : CO2

CO2 reduction vision

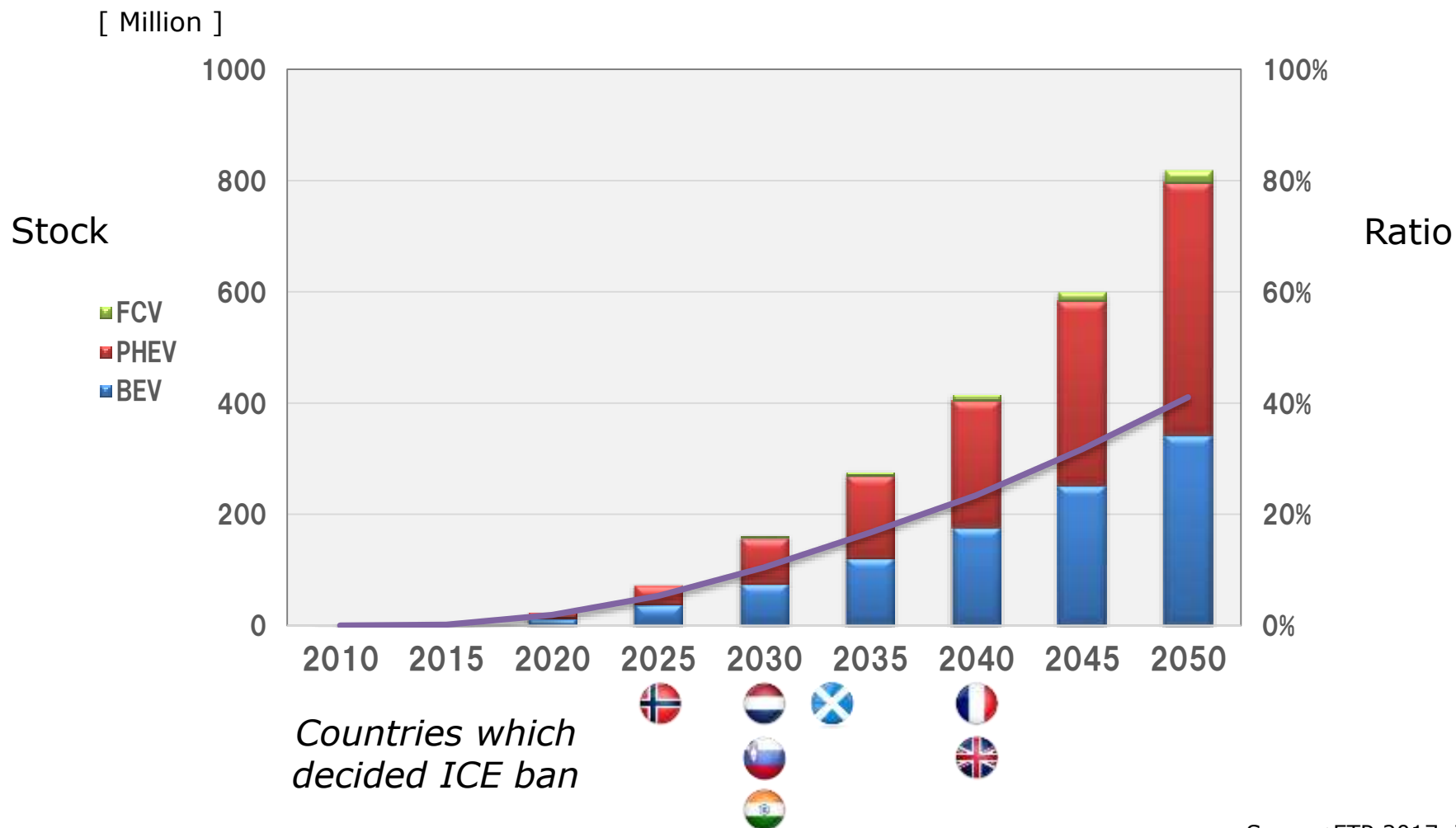
- To reduce CO2 emissions from all new vehicles by 90%,
 - Short & mid term : ICE efficiency improvement
 - Long term : Electric powertrain expansion with Renewable energy



Source : Nissan

40% of LDV will be electrified in 2050?

Prediction of electric cars stock and ratio: IEA 2D scenario



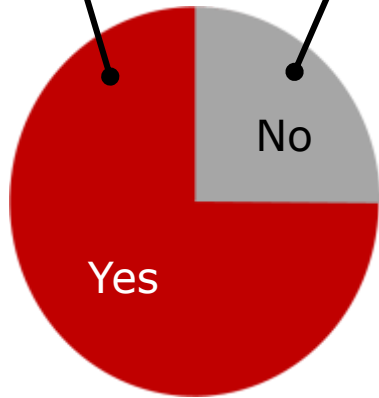
Source: ETP 2017, IEA

Ambitious target enhance technology innovation

- Doubled the mileage of New Nissan LEAF with price reduction

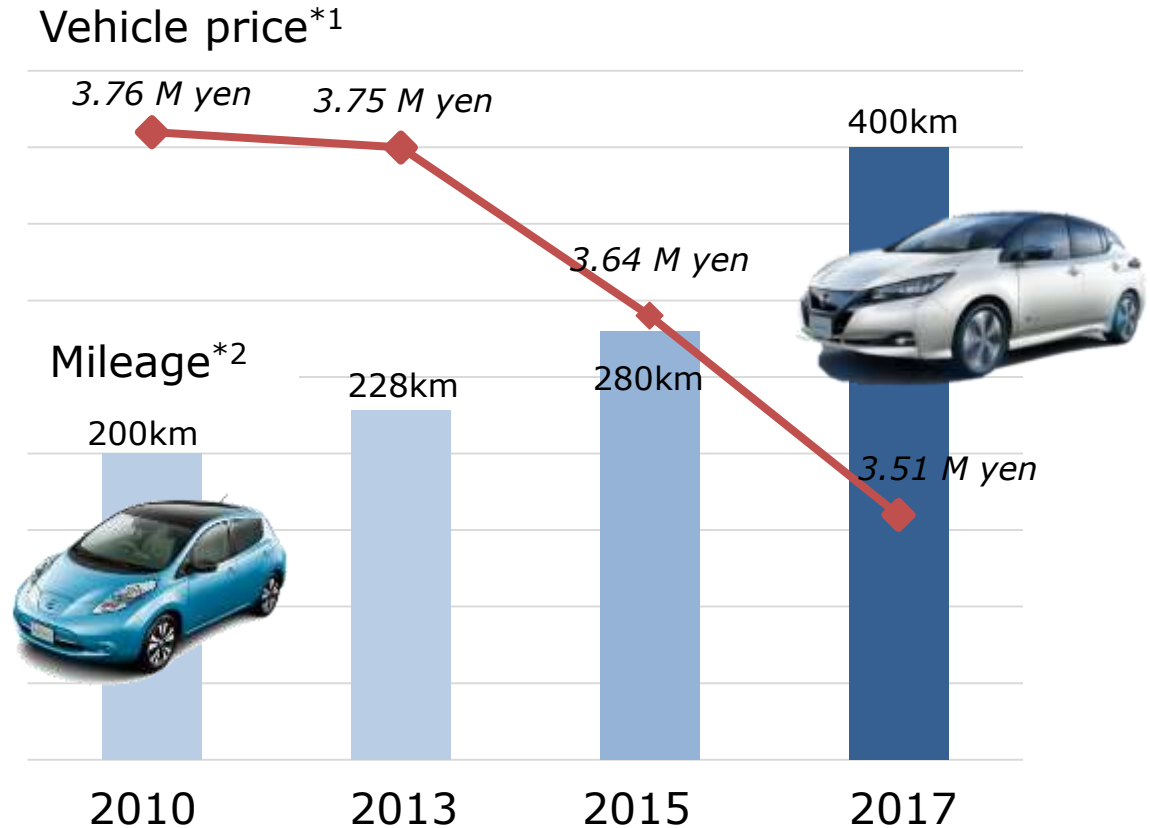
Re-purchasing intention

- Running cost
- Quietness
- Acceleration
- Mileage
- Charging time
- Charging infrastructure



Nissan LEAF owner's survey(Japan)

Nissan LEAF mileage and price

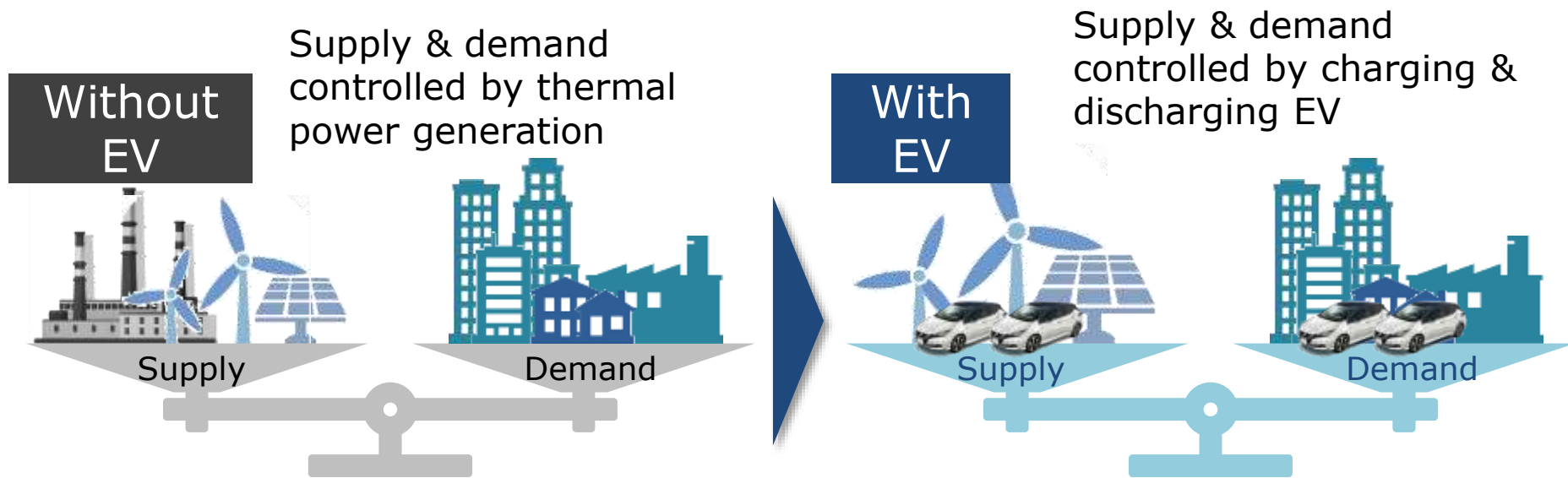


*1X grade *2JC08 mode

Source : Nissan

100% renewable energy society realized by EV

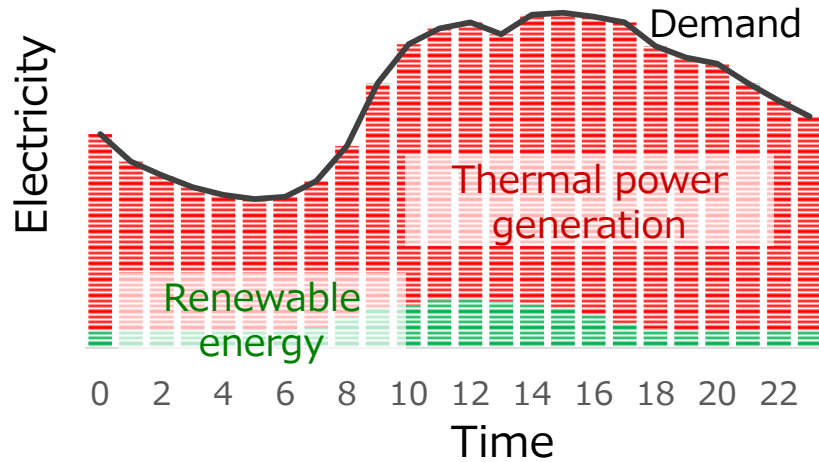
- Fluctuations in power supply of renewable energy controlled by utilization of EV in demand and supply



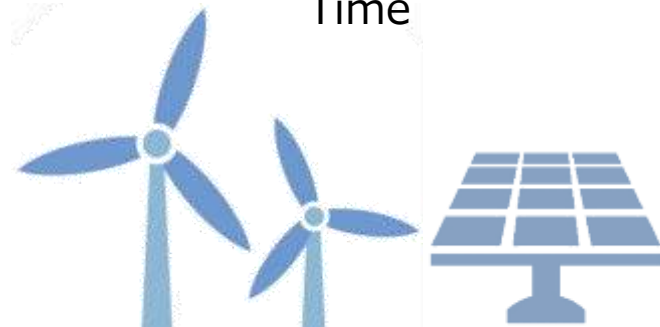
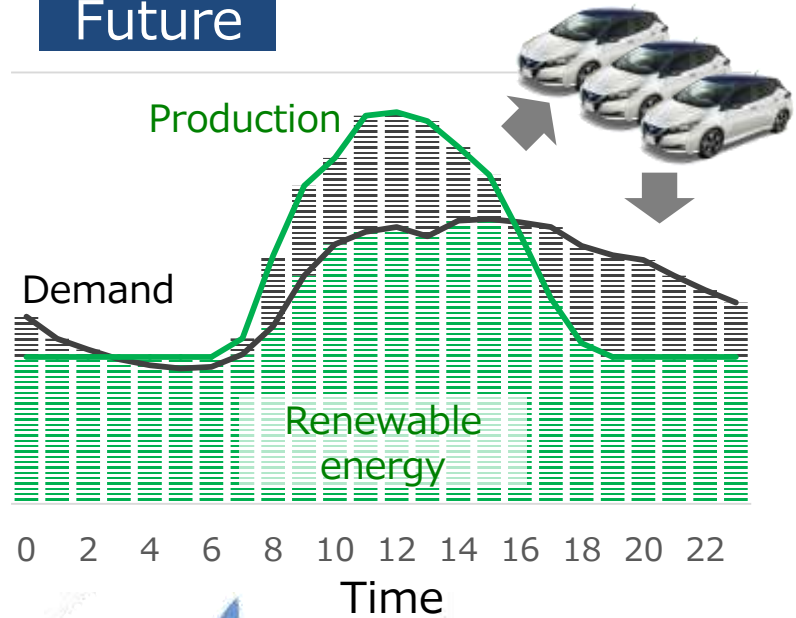
Fluctuations in power supply could be controlled if 10% of passenger car is EV



Current

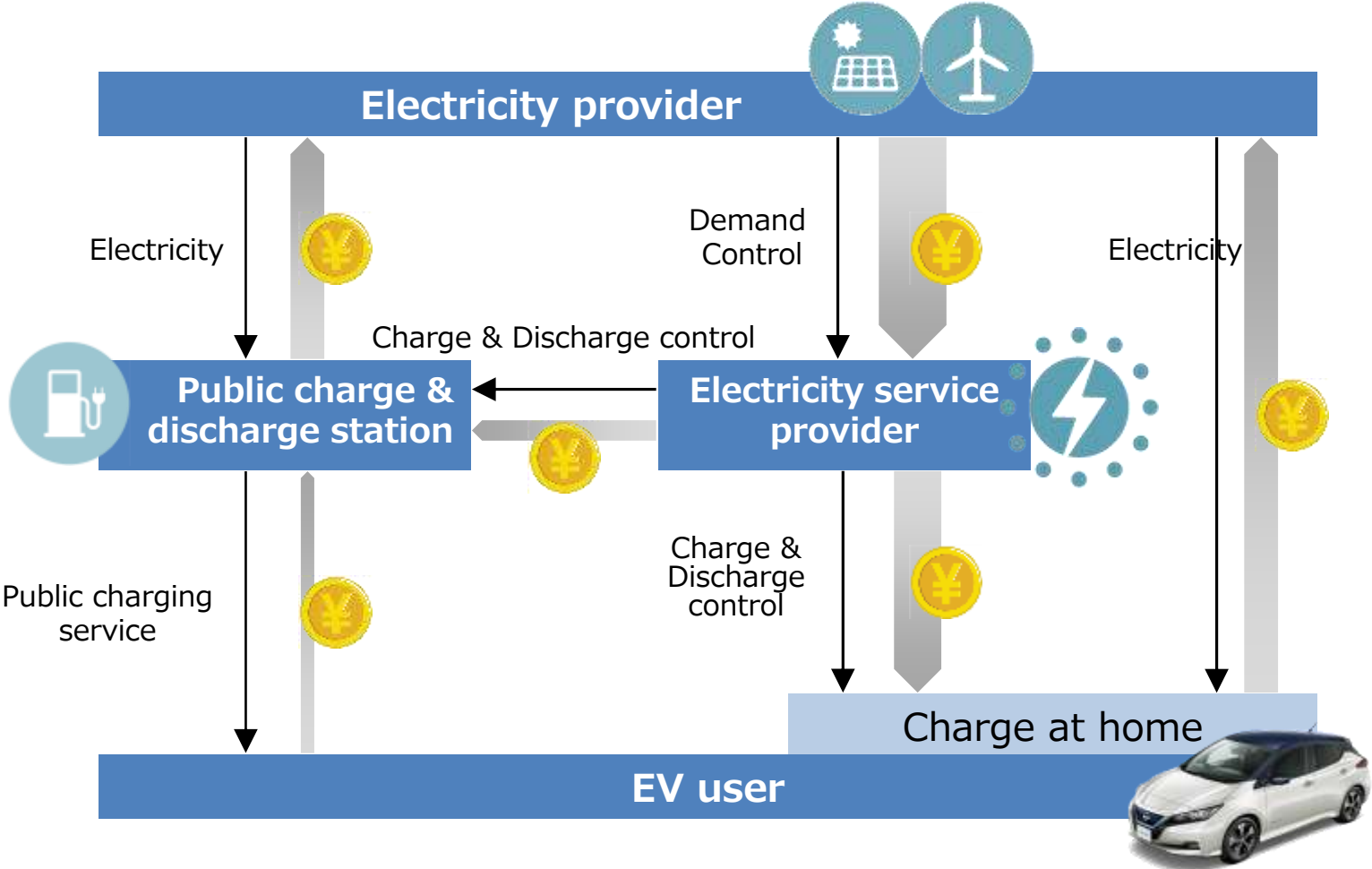


Future





Source : Nissan

Net zero energy cost



Actions are expanding globally

Collaboration with the partners

-  : Already commercialized
-  : Demonstration test

V2H: Vehicle to Home,
V2B: Vehicle to Building,
V2G: Vehicle to Grid



V2G

2016~ 10
ENEL



V2G

2016~ 10
ENEL, NUVVE



V2H

2012~ 7000



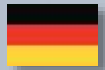
V2B

2012~ 100



V2B

2015~2017 13
DOD, LA Air Force Base



V2G

2016~ 6
ENEL, Mobility House



Smart Charge

2018 60*
KEPCO, SEI



Smart Charge

2017~2018 45*
TEPCO



Smart Charge · V2G

2013~2017 270*
Maui, NEDO, Hitachi



Number of bi-directional charger
* Include normal charger