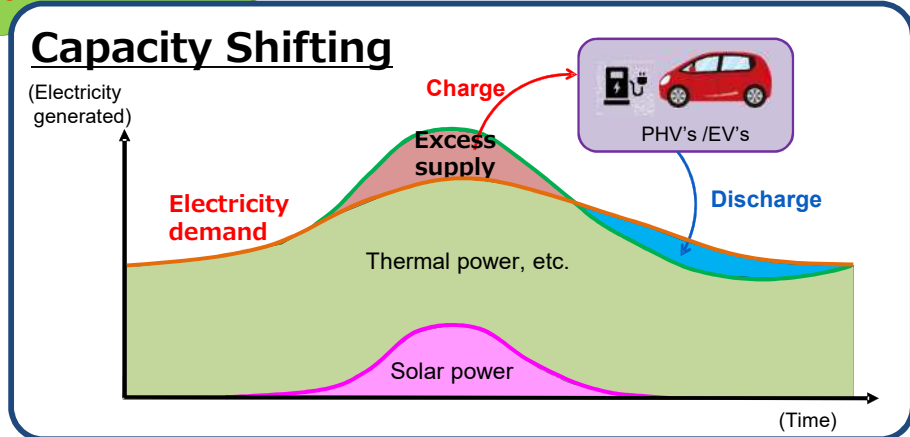
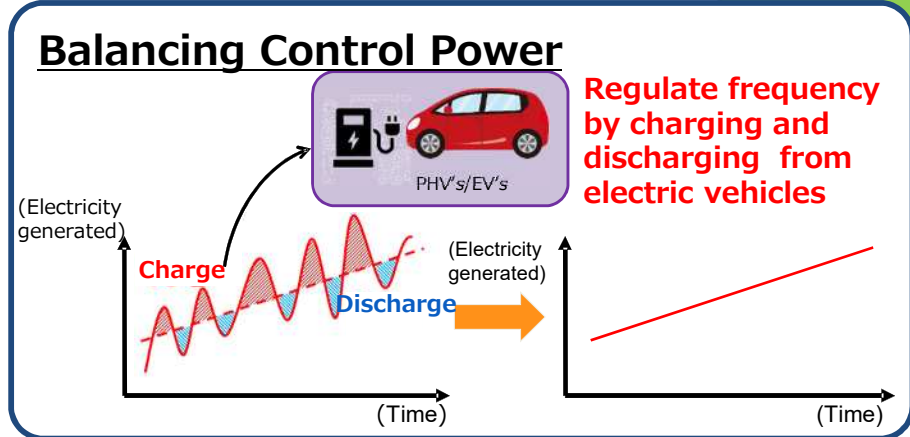
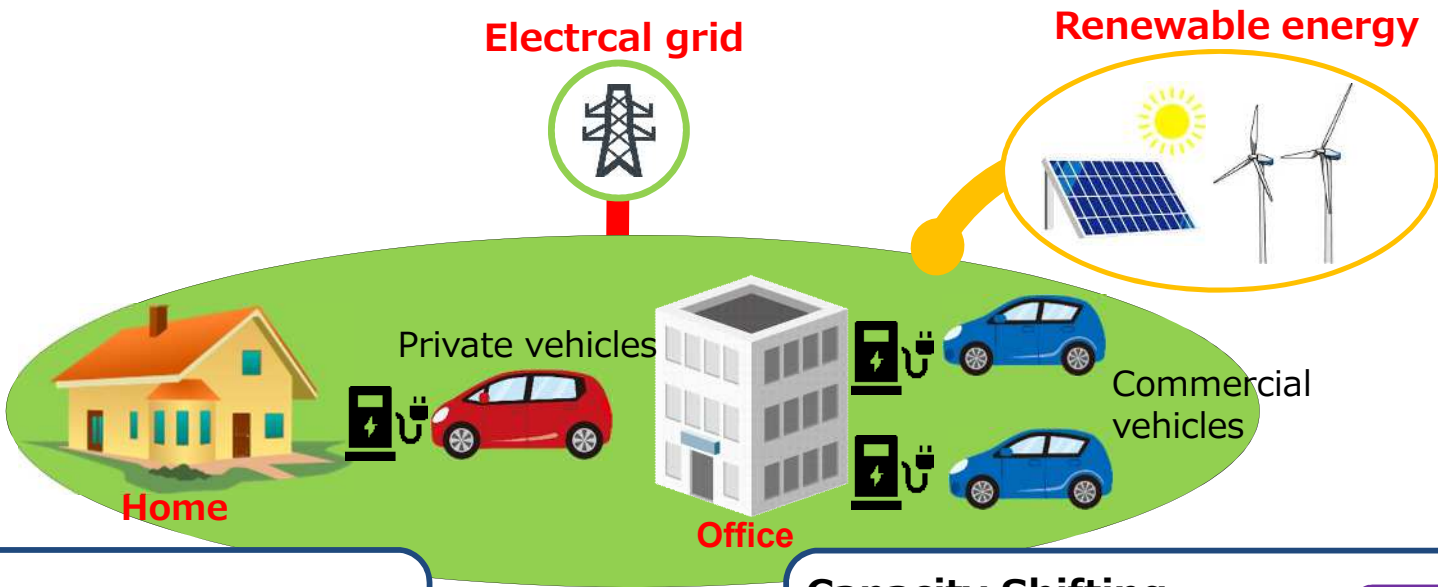


# The Overview of the V2G Demonstration Project

Toyota Tsusho Corporation  
Chubu Electric Power Co., Inc.

# The Purpose of the V2G Demonstration Project

As more renewable energy sources are integrated into the energy production mix, fluctuations and instability of the energy output will grow. This project aims to build a system that adjusts to these fluctuations by charging and discharging electricity vehicle batteries (PHV/EV).



This project will accelerate the introduction of PHEV/EV cars with bi-directional technology and help lower the environmental impacts of transportation. This project will help Grid System Operators (ISO) reduce the cost of adjusting to these fluctuations by providing new sources of stability with electric vehicles.

**Overall, This project contributes to build a low-carbon society and a stable supply of electricity** 1

# The Scope of Demonstration Project

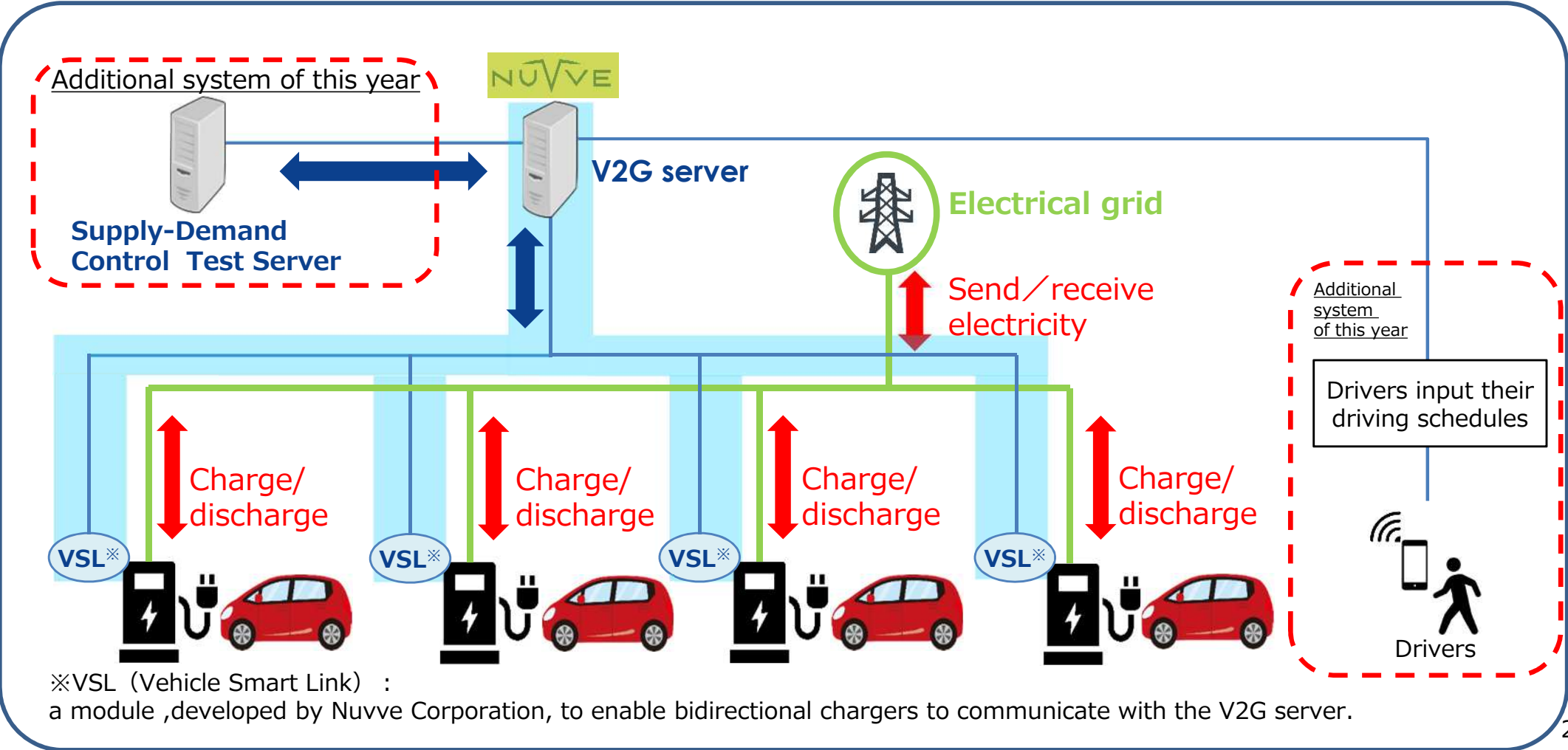
## •Development of V2G Control System

- ✓ To install bi-directional chargers with VSL
- ✓ To install the Supply-Demand Control Test Server
- ✓ To conduct communication control tests with the V2G server.

## •Evaluation of Impact on Electrical Grids

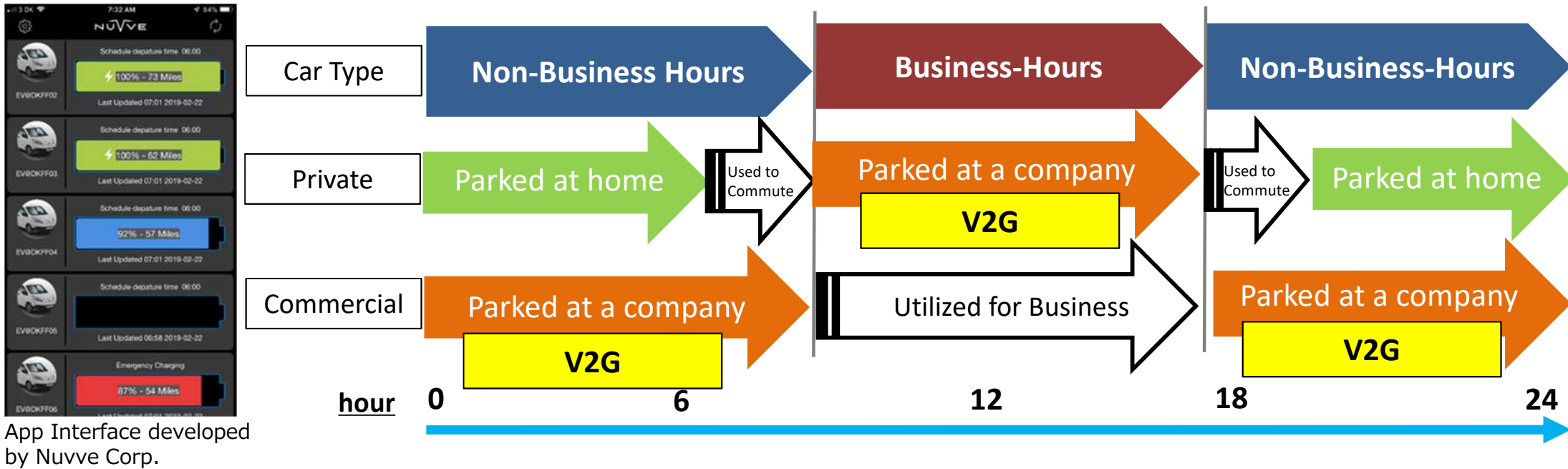
- ✓ To evaluate the V2G Control System's ability to adjust the fluctuations. The commands are to be sent from the Supply Adjustment Test Server to the V2G server.
- ✓ To evaluate impacts that electrical grids receives from back-feeding from the bi-directional chargers.

## The V2G Control System...controls charging/discharging of multiple PHV's/EV's



# The Flow of the Test and the Schedule of Demonstration Project

## ○ The Flow of the V2G test



## ○ The Schedule of the Demonstration Project

	FY2019			
	1Q	2Q	3Q	4Q
The Development of the V2G Control System and of the Supply Adjustment Test Server	From May to October			
The Analysis of Outcome from the Experiment			From October to February	
The Submission of Report				★ Around February, 2020