

Reducing CO₂ emissions through business activities/Smart Factory (Dalian) Practice of Production Upgrading & Data-driven Manufacturing

Energy Consumption Reduction in Smart Factory (DX)

Production Upgrading Initiatives

Significant improve productivity and quality through automation on logistics and operations of engineering.

Practice of Data-driven Manufacturing

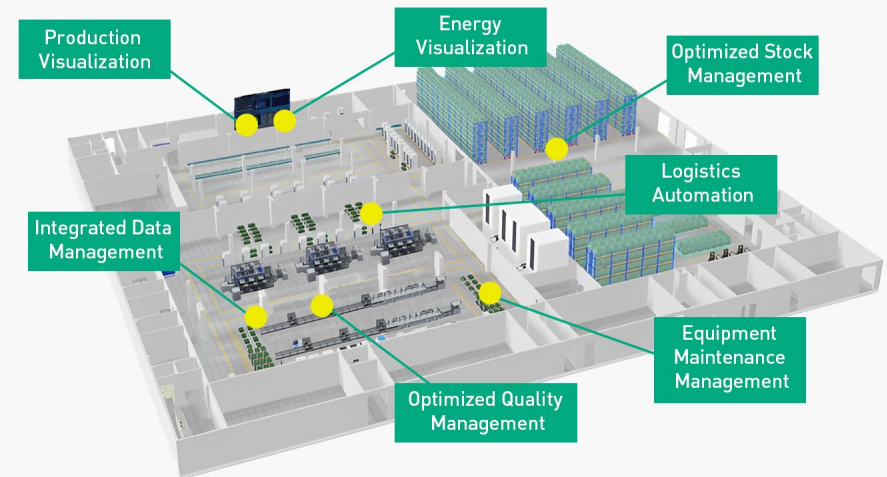
Data collected from sensor.
Engineering visualization achieved through system in real time.
Throughput maximized through productivity improvement.

CO₂ reduction : 1,100 tons/year (FY22)

***Site : Panasonic Automotive Systems Dalian Co.,Ltd.**

Example of Productivity Improvement
(Comparison when Before was 100)

| | Before | After | Improvement Result |
|---|--------|-------|--------------------|
| Volume | 100 | 135 | +35% |
| Electricity consumption per unit produced | 100 | 69 | △31% |



*On-board Charger Production Engineering



Reducing CO₂ emissions through business activities/Utilization of Power Generation System (Wuxi) Creation of Energy by Hydrogen Fuel Battery & Solar Power Generator System

Energy Creation through Internal Power Generation

Hydrogen Fuel Battery System

Annual power generation : 350,000 kWh/year
Waste heat generated by hydrogen is recovered during the power generation.
Contribute to the further reduction of energy load through the exchange of heat and cold.

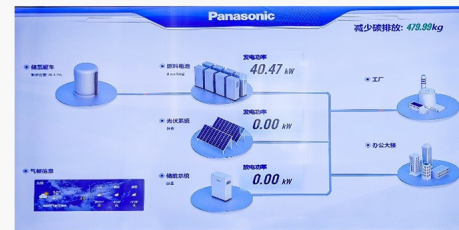
Solar Power Generator System

Annual power generation : 5,280,000kWh/year
Contribute to the realization of Smart · Green Factory :
Contribute to the expansion of green power application through the establishment of EV charging stations.

CO₂ reduction : 3,558 tons/year (FY22)

*Site : Panasonic Energy (Wuxi) Co., Ltd

Hydrogen Fuel Battery System



Completed in Feb. 2023

Solar Power Generator System



1st : Completed in Nov. 2016



2nd : Expected to complete by Jan. 2024



Reducing CO₂ emissions through business activities/Automotive Battery Manufacturing (Dalian) Contribution to Environmental Protection via Installation in Environment Friendly Vehicles

Contribution to Environment by manufacturing Automotive Lithium Battery

Installation in Environment Friendly Vehicles

Automotive battery production : 43.55 Million Cells
Automotive lithium batteries supplied as energy source for HEV and PHEV.
Hybrid vehicles, combined by internal combustion engines and electric motors, could improve fuel consumption and reduce burden to the environment by using electric motors.

HEV : Hybrid Electric Vehicle
PHEV : Plug-in Hybrid Electric Vehicle

CO₂ reduction : 632,000 tons/year (FY22)

CO₂ Emission Reduction : 2.25 Kg/L (Gasoline)
Calculation based on an assumption of 15,000 Km average annual endurance mileage per passenger vehicle.

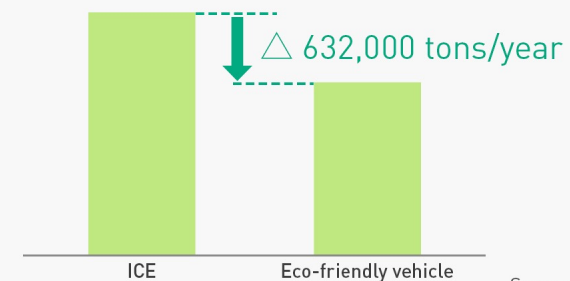
*Site : Prime Planet Energy Dalian Co., Ltd.

(Joint Venture between Prime Planet Energy & Solutions, Inc.,
Prime Planet Energy & Solutions, Inc. is a Toyota and Panasonic Joint Venture Company in China)

Automotive Lithium Battery



CO₂ Emission Reduction Result (FY22)



Source : internal analysis

