

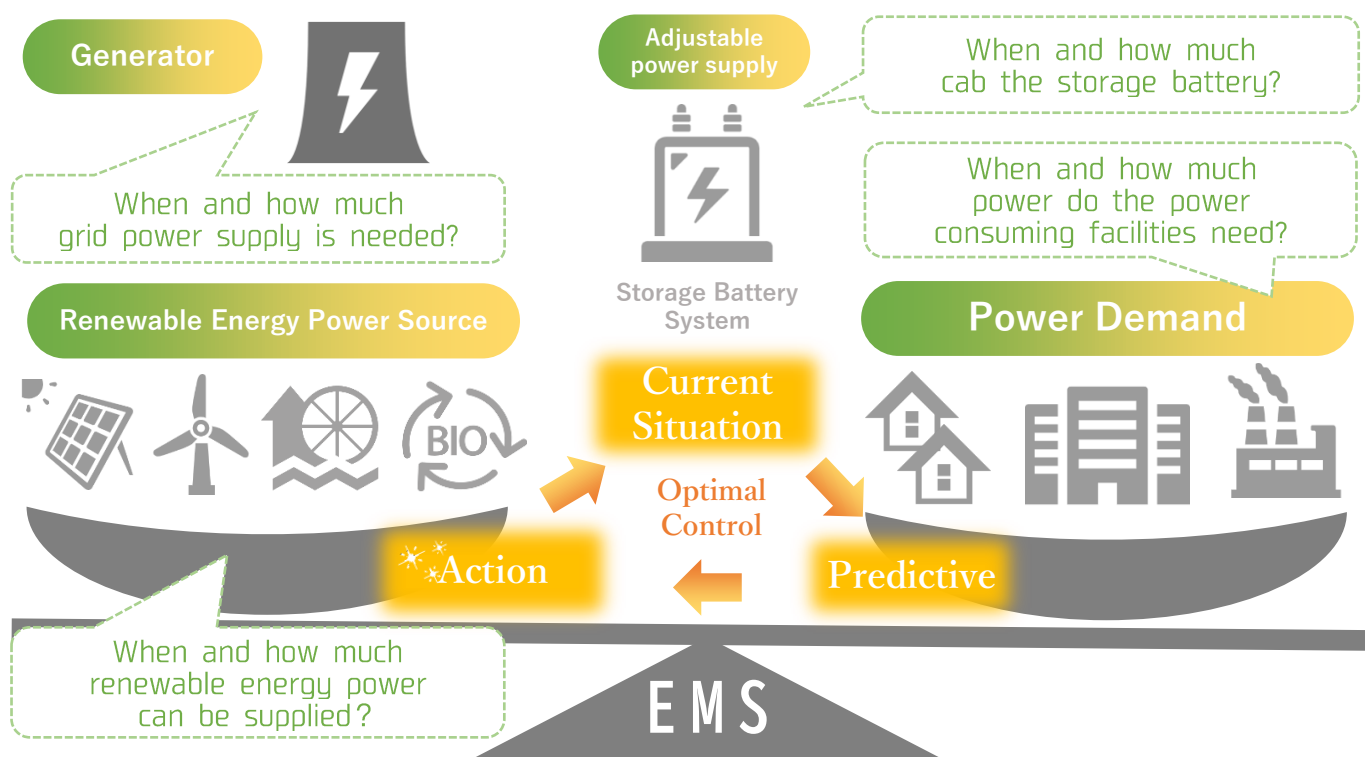
Realizing a smart town with a micro grid

Energy Management System : EMS

Optimal management of community-based energy has made environmental, social, and economic impacts: realization of low carbon community, advanced disaster resilience, and reduced energy cost.

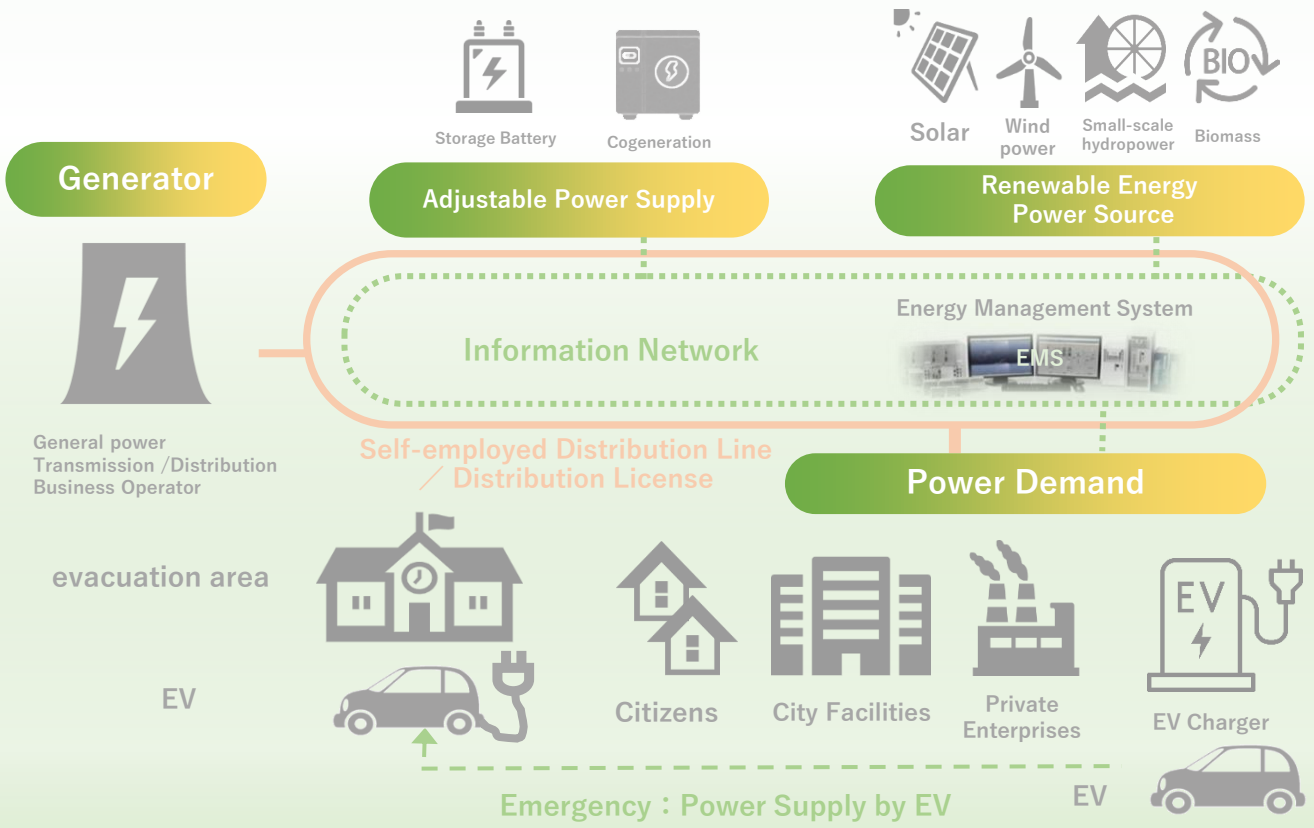
EMS : Energy Management System

EMS measures and monitors electrical and thermal energy, carries out optimal management of energy use and achieves visualization of energy supply and demand. Optimal management of energy use includes optimum operation control of gas cogeneration for combined heat and power, and control of energy demand to minimize received power from the power grid by peak cut and peak shift.

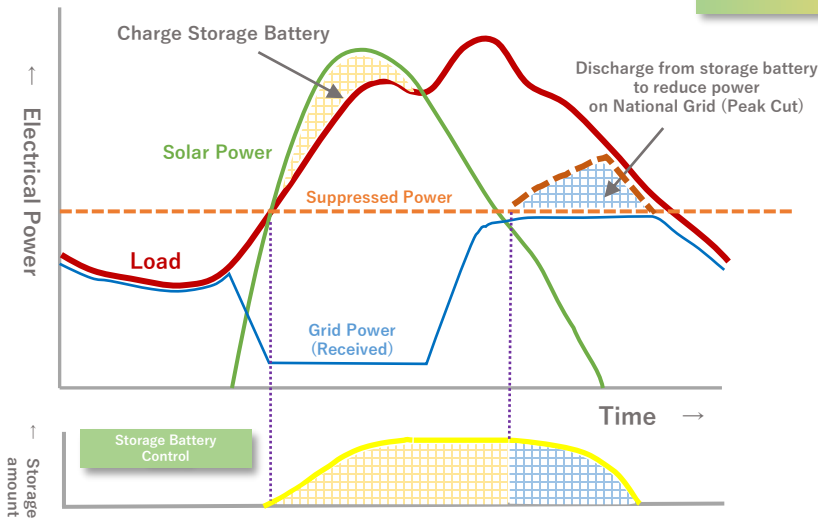


Main Functions	Advantage
Maximum utilization of renewable energy (Maximization of self-consumption)	Reduction of purchased power (Reduction of energy cost)
Controlled by Cogeneration, which supplies electrical power and heat, as a base power source	
In case of disaster, effective use of the renewable energy power supply, base power supply, and storage battery on the private distribution lines	Enhanced resilience in the event of a disaster
In case of disaster, the usage of EV, EV bus charge as power source	Enhanced resilience in the event of a disaster Contribution to the community

Microgrid Solution -Utilization of CEMS -



Power Supply and Demand Adjustment Sample



- ✓ Adjusting power supply and demand using the storage battery system as a power source
- ✓ If there is a surplus of renewable energy power, charge control of the storage battery
- ✓ Peak cut/peak shift control in the eco grid
- ✓ Storage battery SOC management (charging rate)
- ✓ Reducing storage battery capacity and improving economic efficiency by equipping biomass power generation as a base load power source



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