Promote the reduction of CO2 emission by smart grid in the factory

**Summary**
Next-generation energy management system that maximizes the advantage of dispersion cogeneration system with renewable energy and natural gas energy by managing and controlling both energy supply and consumption in the factory.

**Feature/Advantage**
- Forecast variable renewable energy output, power demand and heat demand to realize supply energy cost reduction and supply stabilization.
- Realize the accuracy improvement in energy demand forecast by adding production result, production plan and formulation conditions.
- Support continuous energy saving activity by PDCA cycle and visualizing consumption.

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**Diagram Description**
- **Next-generation FEMS**
  - Controllable command
  - Power supply and demand control
  - Demand forecasting from consumption side
  - Continuous energy saving activity support

- **Merit optimization control of smart grid in the factory**
  - Control command
  - Energy balance
  - Merit optimization campaign
  - Supply and demand control
  - Demand forecasting from consumption side
  - Continuous energy saving activity support

- **Energy Management System**
  - Production plan
  - Energy consumption result
  - Production result
  - Time

**Legend**
- CB: Circuit Breaker
- CG: Co-Generation
- EV: Electric Vehicle
- FEMS: Factory Energy Management System
- IGCS: Intelligent Grid Control System
- PCS: Power Conditioning System
- PV: Photovoltaics

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