

Value Creation at Fuji Electric

By capitalizing on the electric technology under our control—namely, creating, measuring (sensing and measuring technologies), controlling (control technologies), converting (power electronics technologies), and optimizing electricity—Fuji Electric provides products and systems designed to support the use of clean energy, stable energy supply, energy saving, and automation. Through this, we are contributing to developing the SDGs and creating a sustainable society.

Clean Energy

Geothermal power generation facilities contributing to the economy, society, and the environment



We were commissioned to carry out a project to build the Muara Laboh Geothermal Power Plant in West Sumatra, Indonesia. The project encompassed the entire process from design and procurement to construction. We also delivered steam turbines, power generators, and other equipment. The electricity generated by the plant, which is enough to power 420,000 households, is supplied across the entire region of West Sumatra.



Muara Laboh Geothermal Power Plant (Courtesy of PT. SEML)

Clean Energy

Power stabilizers for stable supply of clean energy



The Suzuran Kushiro-cho Solar Power Plant has one of the largest output capacities in Japan. Fuji Electric was responsible for designing and building the entire power plant, along with procurement. We delivered power stabilizers containing storage batteries and similar, together with power conditioning systems capable of highly efficient power conversion, thereby providing a stable power supply to the area.



Storage battery facilities



Power conditioning system

Contributing to the development of the SDGs and the creation of a sustainable society

Clean Energy

Power generation

- Geothermal power generation
- Hydro power generation
- Solar power generation
- Wind power generation
- Fuel cells

Stable Energy Supply

Power electronics systems

- Substation equipment
- Uninterruptible power systems (UPSs)
- Switchgears and controlgears
- Power stabilizers
- Power conditioning systems

Energy Saving

Power electronics systems

- Inverters
- Motors
- Servo systems
- Controllers
- Programmable operator interfaces
- FA systems

Automation

Semiconductors

- Power semiconductors

Food and beverage distribution

- Vending machines
- Showcases

Stable Energy Supply

Renewable energy demand forecasting contributes to optimal use of power



The Soma IHI Green Energy Center was established to facilitate local production for local consumption of renewable energy, aiming at regional development. Fuji Electric delivered a regional energy management system that forecasts the amount of solar power to be generated and each facility's electricity demand. We also delivered substation equipment. The electricity generated is used at the energy center, as well as the Soma City sewage treatment facilities, thereby contributing to the stable supply and optimal use of energy.



In the control building at the Soma IHI Green Energy Center (energy management system)



Substation equipment

Stable Energy Supply

Contributing to stable energy supply and energy saving at data centers



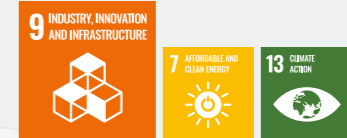
Data centers operate 365 days a year to provide internet and communication services around the clock. The issues these centers face include reducing incidents of equipment failure caused by lightning or instantaneous voltage drops, and consuming less electricity. Fuji Electric delivers comprehensive electrical equipment systems, such as uninterruptible power systems (UPSs) designed to supply electricity when instantaneous voltage drops occur, to domestic and overseas data center business owners. These systems contribute to the stable operation of these facilities, as well as energy saving.



Uninterruptible power system (UPS)

Energy Saving

Saving energy when using air conditioning equipment

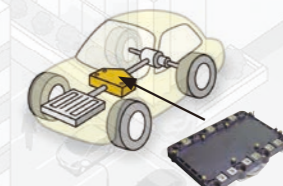


Inverters FRENIC-VG

Fuji Electric delivered inverters for air conditioners produced by a leading air conditioner manufacturer, aiming to realize further energy saving when using air conditioning equipment installed at plants, buildings, and other facilities. The customer's products are now being used across the United States and China, contributing to energy saving in these regions.

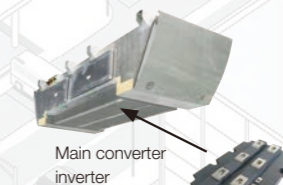
Energy Saving

Energy saving in equipment using power semiconductors



4th-generation direct liquid cooling module

4th-generation direct liquid cooling module for electrified vehicles (xEVs)
Equipping the drive part of electrified vehicles with the module boosts power density by 36% compared to conventional products, thereby enhancing efficiency and reducing size and weight.



Main converter inverter

SiC power semiconductor module

SiC power semiconductor modules for main converter inverters in trains
Equipping the main converter inverters in trains with SiC power semiconductor modules reduces the weight of railcar drive systems by 20% compared to conventional products, while also cutting CO₂ emissions by 7%.

Energy Saving

Helping create environmentally friendly retail stores



Hybrid heat pump vending machines

The heat exchanger technology makes optimal use of heat from the open air, using the heat generated by refrigerating beverages to control electricity consumption and contribute to energy saving.

*Annual electricity consumption cut by about 55% compared to Fuji Electric-manufactured models from 2008.



Non-leak showcase

Green refrigerants are used to reduce environmental impact.