Special Topic 3

Energy & Environment Strategy

Because the Energy & Environment Strategy is one of the fundamental objectives of Group Management Visions V, JR East will continue to address this issue.

Ecoste (eco-station) model station

Ecoste is an initiative to equip railway stations with a variety of environmental conservation technologies, such as energy conservation and renewable energy. With "Energy Conservation", "Energy Creation", "Eco-Awareness" and "Environmental Harmonization" as its four pillars, the Ecoste initiative was introduced at Yotsuya Station (Chuo Line) in March 2011 and at Hiraizumi Station (Tohoku Line) in June 2012, followed by the third model station, Kaihinmakuhari (Keiyo Line) in September 2013. JR East will continue to construct Ecoste model stations that will harmonize with their surrounding geographic characteristics.

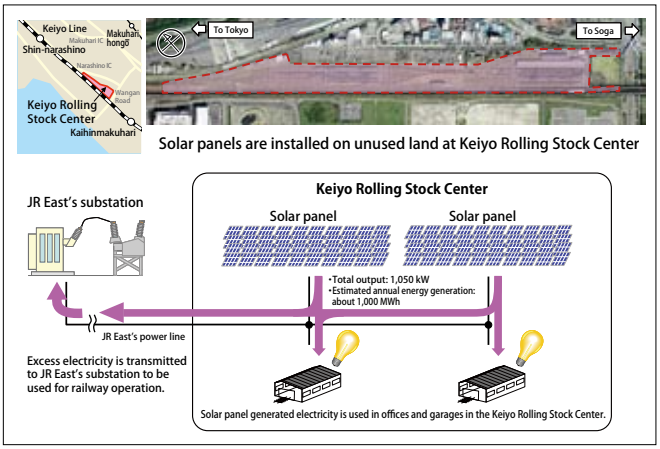
- Promotion of one-step advanced energy saving (energy conservation)
- Active introduction of renewable energy (energy creation)
- Installation of facilities in which customers can be aware of "eco" initiative (eco-awareness)
- Provision of a lively atmosphere in stations by creating harmony between people and environment (environmental harmonization)

Kaihinmakuhari station, Keiyo Line

Large-scale solar power generation facility

JR East plans to commence the operation of its first large-scale solar power plant, the Mega-Solar plant (with an output of 1,050 kW), which has been installed on the grounds of the Keiyo Rolling Stock Center. The electricity generated will be used in the Center, and will also help to operate trains by sending power to our overhead catenary, with the aim of reducing our CO_2 emissions. The Mega-Solar system will generate 1,000MWh per year, and is expected to reduce CO_2 emissions by about 500 tons annually.
With the aim of using solar-generated electricity to maximum effect, JR East will make use of the system to investigate the technology needed to transmit electricity to distant places by this means.

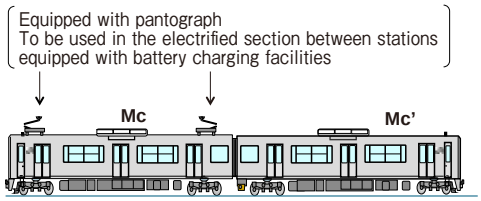
■ Outline of Solar Power Generation Facility at Keiyo Rolling Stock Center



Storage battery train system

JR East, which has been developing a "storage-battery-driven electric car system" as a new means of reducing the burden on the environment in non-electrified sections, has confirmed its commercial viability by running tests with its NE Train (new energy train), the Smart Dentchi-kun. These trains are equipped with large-capacity storage batteries. Electrical power is taken from overhead lines, as with ordinary trains, and is stored in the batteries, which provide the power needed when the train is travelling through non-electrified regions. The batteries are charged at special charging facilities located at turnback stations. This train system eliminates emissions from diesel engines and also reduces CO_2 emissions and noise. Commercial operation will begin in spring 2014, with the introduction on the Karasuyama Line of 2-car trains in the new EV-E301 series equipped with this system.

■ Outline of storage battery-driven electric car system



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	Operating trains Mc	Operating trains Mc	For comparison, Hybrid car	Remarks
Vehicle type	EV-E301	EV-E300	*Kiha E200*	
Seating capacity (No. of passengers)	134(51)	131(48)	117(46)	Maximum capacity
Vehicle weight	40	40	39.6	
Maximum speed	100km/h		100km/h	*Kiha* 40 : 95km/h
Doors	3 double doors on each side. Width: 1300mm Floor elevation:1130mm		2 double doors on each side. Width: 1010mm Floor elevation:1130mm	No-step
Seat configuration	Longitudinal seats		Semi-cross seats	
WC	Yes		No	No WC in *Kiha* 40
Ratio of CO_2 emissions to diesel railcar emissions	Approx. 40 percent		Approx. 90 percent	Ratio when assuming the emissions from diesel as 100%
Storage battery	Lithium ion battery	Lithium ion battery	Lithium ion battery	

*These figures are planned values and are subject to change.