Action by JR-West to Reduce CO2 Emissions
West Japan Railway Company

Overview of JR-West

- Shinkansen
  - Operating km: 44,660
  - No of trains: 290
  - Total daily usage: 87,400

- Conventional Line
  - Operating km: 9,553
  - No of trains: 406
  - Total daily usage: 1,900

Actual Condition of JR-West Energy Consumption Volume

- Group Total: 33.39 billion MJ
- FF 2008 Energy Consumption Volume
  - For train operation: 83.5%
  - Conventional Line: 17.45 billion MJ (52.9%)
  - Shinkansen: 15.94 billion MJ (47.1%)
  - Conventional Line (excluding freight): 1.01 billion MJ (3.01%)

Energy for train operation saving measures

1. Introduction of energy-saving rolling stock
2. Replacement of high-efficiency transformer
3. Traction feeding between up and down line
4. Improved power feeding
5. Optimized regenerative brake
6. Improved oil and fuel
7. Energy-saving air conditioning
8. Diesel railcar riding coop

Energy for business purpose saving measures

1. High efficiency lighting in station and office building
2. Water recycling and saving elevator and escalator

Transition of Introduction Ratio for Energy Saving Railcars

- End of FY 2009: Energy-Saving Railcars 4,251, Non-Energy-Saving Railcars 1,986
- End of FY 2012: Energy-Saving Railcars 4,731, Non-Energy-Saving Railcars 1,570

Goal of Mid-term Business Plan Over 75% (End of FY 2012)

Survey of power use at Nada station

- Estimated annual energy use at mid-size stations: Approx. 1053 kWh/day
  - 385,000 kWh/year

Utilize for energy-saving measures at station

Comparison of the flow of regenerative electricity

- Current System
- Crossed bond

Eco renewal of Osaka station

- Solar power system
- Wind turbine
- Roof forest planting
- Vegetation and afforestation
- Water recycling system