ECO-STATION IN TOKYO URBAN AREA
YOTSUYA STATION

17-18 October 2013
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2B Station design around the world
Contents

- Introduction of Yotsuya Station
- What is Eco-station
- Eco-Designs in Yotsuya Station
- Results and technical validation
- Next Eco-Stations
Introduction of Yotsuya Station

Operation starts at 1891
Commuters 170,000 pax/day (JR East)
104,000 pax/day (Tokyo Metro)
Lines Soubu-Line Chuo-Line (JR East)
Marunouchi-Line Nanboku-Line (Tokyo Metro)
Location E139°43’ N35°41’

Refurbishment as Eco-Station

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What is Eco-station

JR East is planning to make energy-saving stations, Eco-Station projects, by using various ecological technologies.

Eco-Station project: Installing various ecological technologies into station equipment such as energy saving technologies, renewable energy etc.

According to its favorable natural environment, Yotsuya Station was selected to be the first model station converted with an Eco-Station program.
What is Eco-station
The main Eco-Programs at Yotsuya Station

- Energy saving
  - Natural lightning
  - LED lightning
  - Water saving toilet

- Green
  - Green roof
  - Green for Platform roof
  - Green wall

- Energy Creation
  - Solar Panel

- Information
  - Eco-Information Board

Image of Yotsuya Eco-stations
Eco-Designs in Yotsuya Station

Green Roof

- Solar panel
- Natural lightning
- Natural ventilation
- Green roof
Eco-Designs in Yotsuya Station

Platform

Green on platform roof

Green wall
Eco-Designs in Yotsuya Station

Interior

- Solar panel
- Fan
- Natural lightning
- LED lightning
- Natural ventilation

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Results and technical validation

- Estimated reduction of CO2 emission
  -189t/year compared to 2008. (40% reduction)
- Improvement of the thermal environment
- Improvement of the customer’s impression of Yotsuya Station
The difficult problem for project execution

- **Construction hours**
  2h30m/day (01:30AM~04:00AM)

- **Structural matters**
  Old rail diverted to a platform columns

- **Cultural remains**
  Station is located inside the cultural remains of historical Edo-Castle.
  The solar panel was not permitted to be installed in a visible places
Next Eco-Stations

The next Eco-Station program is planned in Hiraizumi and Kaihin-Makuhari.

Future visions

JR East is planning to create various Eco-Stations in other areas. Each Eco-Station will be customized to adapt to it’s regional characteristics.

- May be usage of
  - Hot spring energy
  - Geothermal energy
  - Thermal storage by snow etc.

1700 Stations in JR East operation area
By the way ....... Tokyo Station

- Solar Panels on platform roofs etc.

However
Thank you for your kind attention