



ECO-STATION IN TOKYO URBAN AREA YOTSUYA STATION

17-18 October 2013

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2B Station design around the world

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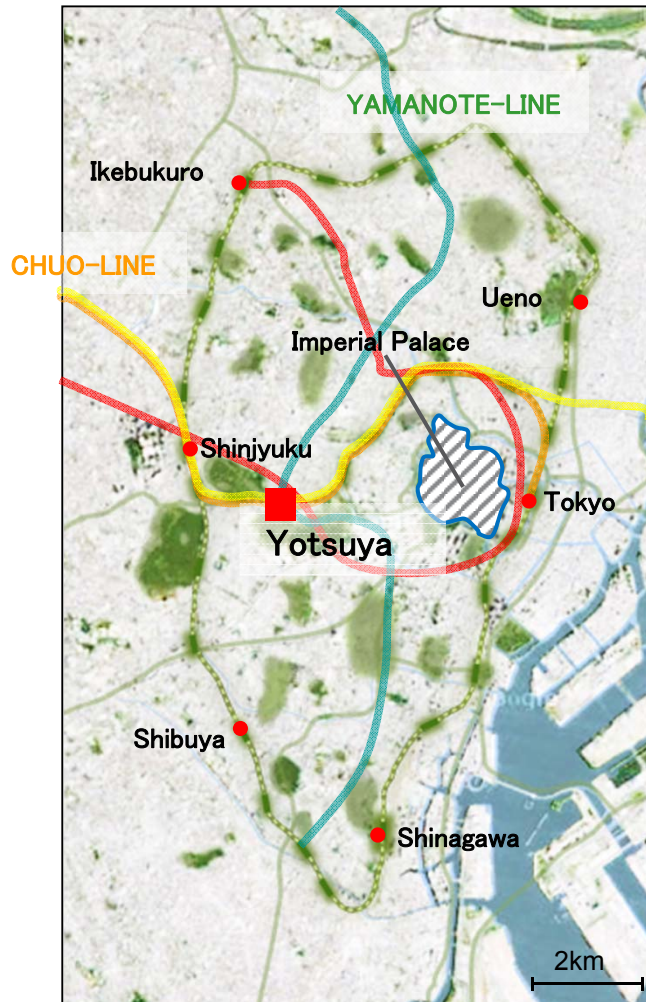


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Introduction of Yotsuya Station

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Operation starts at 1891

Commuters 170,000 pax/day (JR East)

104,000 pax/day (Tokyo Metro)

Lines Soubu-Line Chuo-Line (JR East)

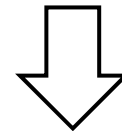
Marunouchi-Line Nanboku-Line (Tokyo

Metro)

Location E139°43' N35°41'



Yotsuya Station before the refurbishment

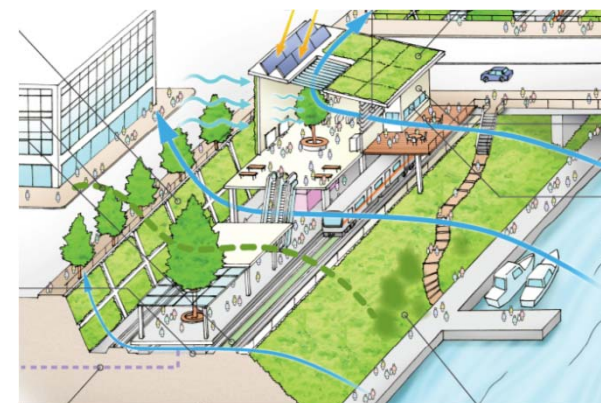
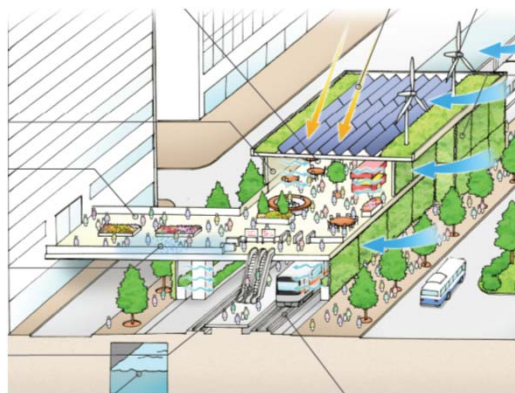


Refurbishment as Eco-Station

What is Eco-station

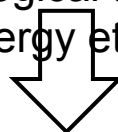
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JR East is planning to make energy-saving stations, Eco-Station projects, by using various ecological technologies.



Typical images of Eco-stations in urban area

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



According to it's 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

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Energy saving



Natural lightning



LED lightning



Water saving toilet

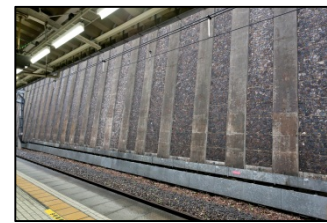
Green



Green roof



Green for Platform roof



Green wall

Energy Creation



Solar Panel

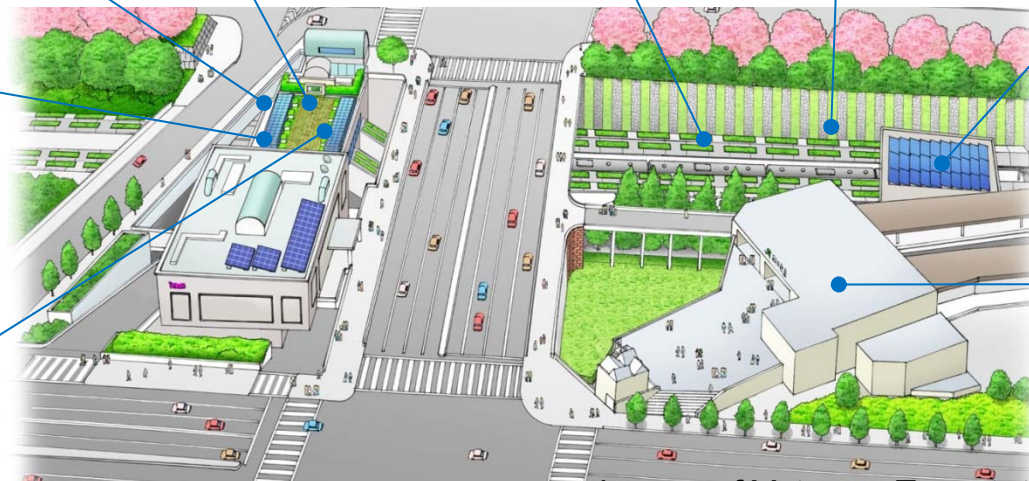


image of Yotsuya Eco-stations

Information

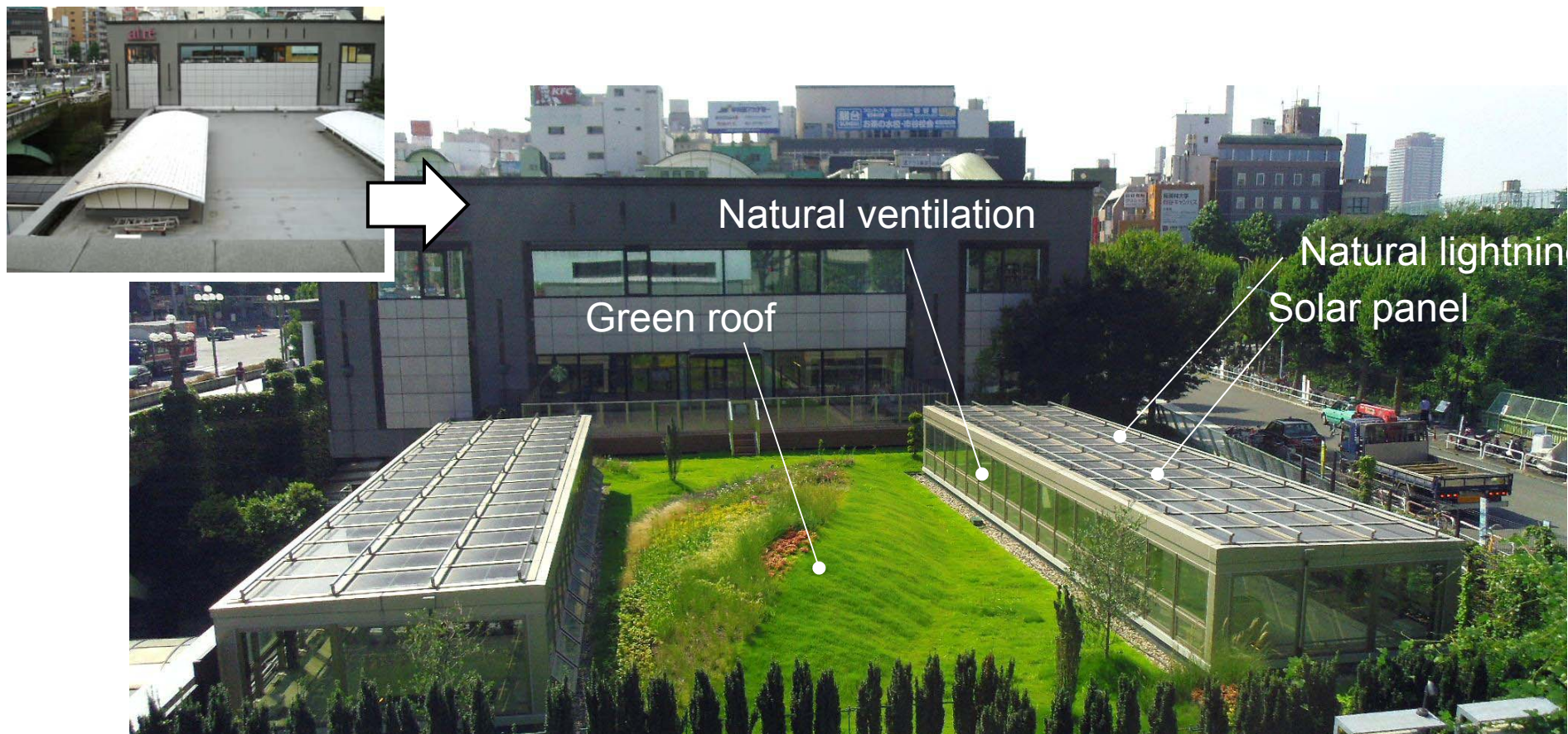


Eco-Information Board

Eco-Designs in Yotsuya Station

Green Roof

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Eco-Designs in Yotsuya Station Platform

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Eco-Designs in Yotsuya Station Interior

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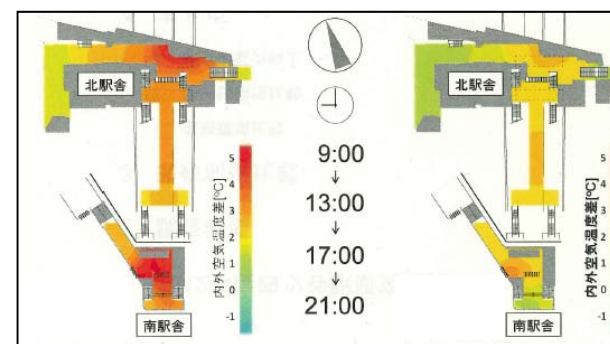
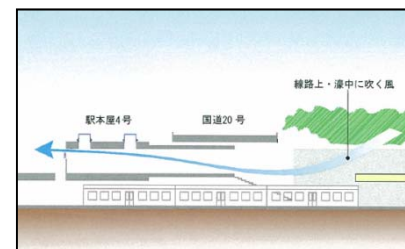
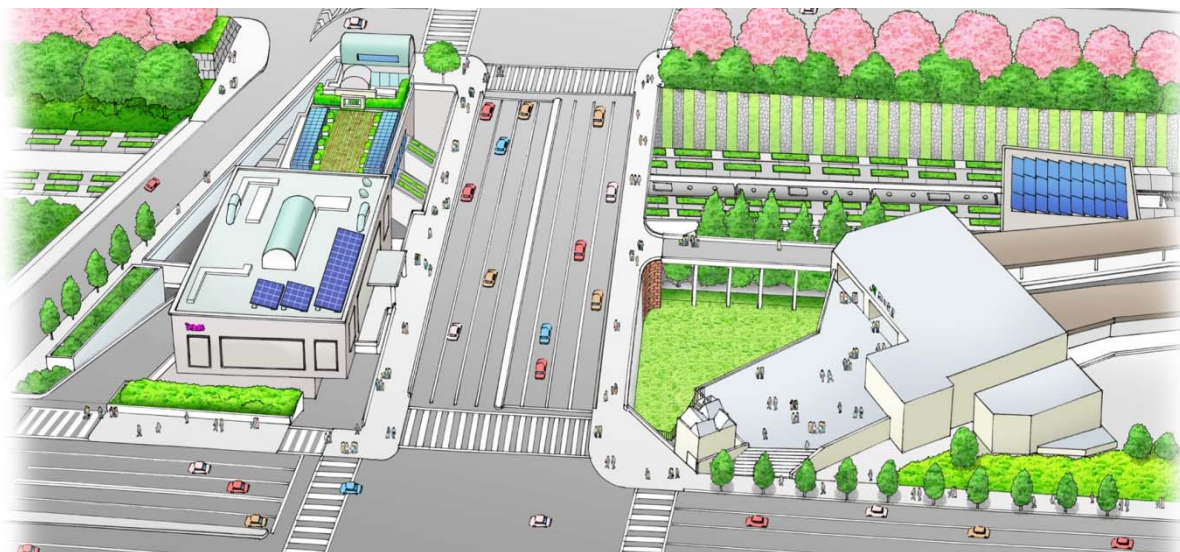


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Results and technical validation

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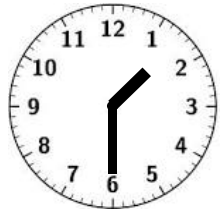
- Estimated reduction of CO2 emission
-189t/year compared to 2008. (40% reduction)
- Improvement of the thermal environment
- Improvement of the customer's impression of Yotsuya Station

The difficult problem for project execution

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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

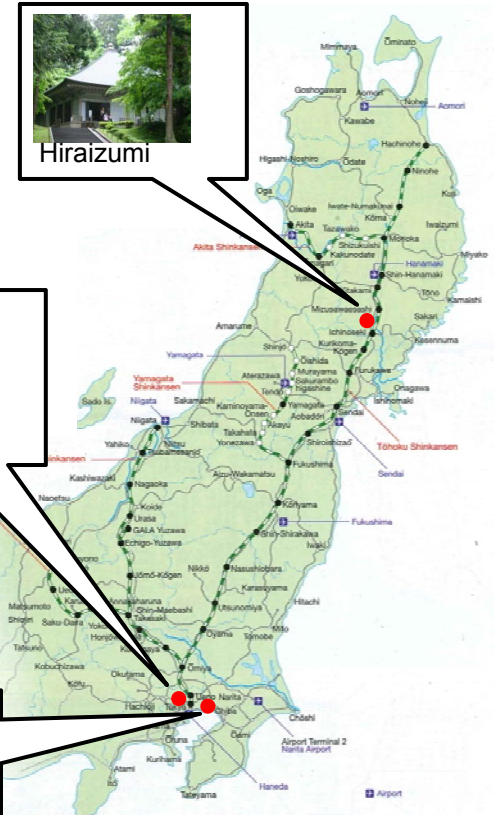
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The next Eco-Station program is planned in Hiraizumi and Kaihin-Makuhari.

Future visions

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

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



Hiraizumi

Yotsuya

Kaihin-Makuhari

1700 Stations in JR East operation area

By the way Tokyo Station

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- ▣ Solar Panels on platform roofs etc.



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...Thank you

for your kind attention