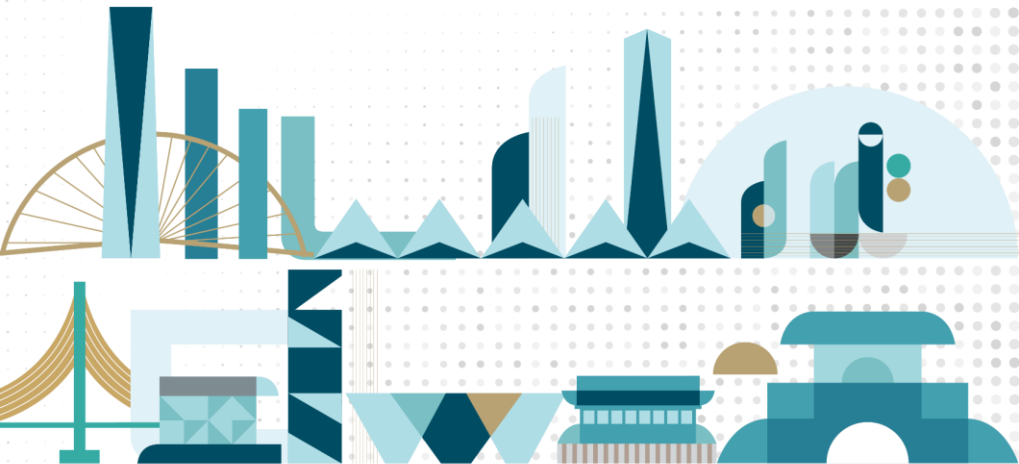


# International Disaster Resilience Leaders Forum Incheon 2022

2022 인천 국제재난복원력  
지도자 포럼

2022.9.28.-29.  
SONGDO CONVENIA  
GRAND BALLROOM A HALL  
송도 컨벤시아 그랜드볼룸 A홀



## DRR Strategies of the City of Sendai

Takahashi Michiru

City of Sendai Disaster-resilience and  
Environmental-friendly Promotion Section,  
JAPAN

주최



후원



# 1 About our city - Sendai

## the Sendai Framework for DRR

Our city

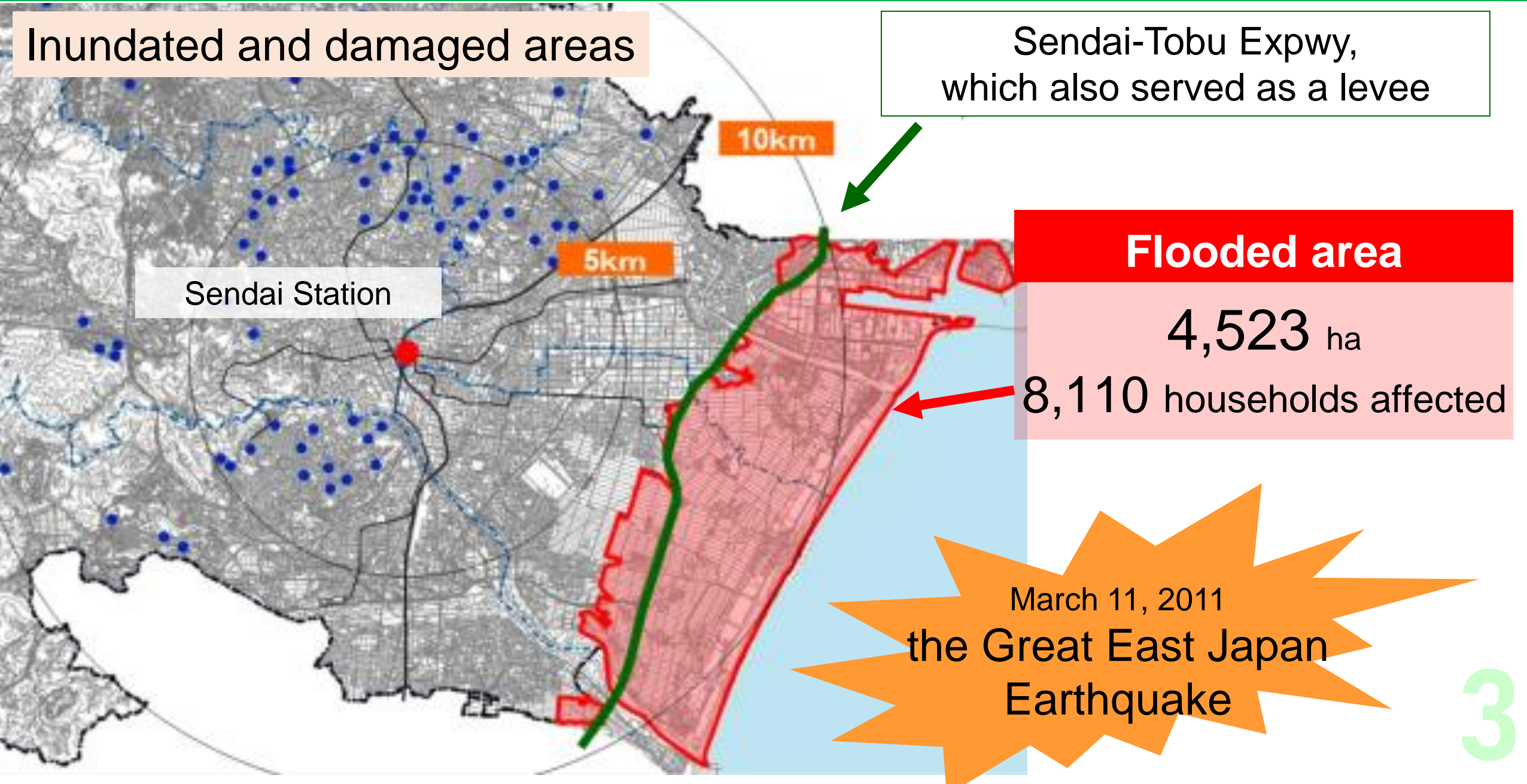
the Third UN WCDRR





## 2 Learning from GEJE

Inundated and damaged areas



## 2 Learning from GEJE

Earthquake resilience rate of  
**school** buildings

...**99.6**%  
(Apr. 2010)

Zero deaths of children or students  
under school supervision

Earthquake resilience rate of  
**City-owned** facilities

...**88.2**%  
(Mar. 2007)

Served as a hub for Disaster  
Countermeasures HQ



Earthquake resilience rate  
of **water** pipes

...**84.5**%  
(Mar. 2010)

Restored in only 18 days  
(Full restoration in a month)

Earthquake resilience rate of  
**gas** pipes

...**80.9**%  
(Mar. 2010)

Restored in only about a month

Earthquake resilience rate of  
**wastewater** pipes

...**84.8**%  
(Mar. 2010)

No wastewater overflow in urban areas  
and no restrictions on use

### Lessons from Past Earthquakes

Multiple defenses in anticipation of a Miyagi offshore earthquake resulted in **minimizing damage** and contributing to prompt **recovery and reconstruction efforts**

### 3 DRR Related Plans and Implementation

1997	Sendai City <b>Basic Plan</b> for Becoming a Disaster-Resilient City	Estimated potential damages from future disasters (including tsunamis) and outlined our vision for disaster risk reduction
2008	Sendai City <b>Earthquake Resilience Policy</b>	Promotion of earthquake resilience renovations of existing structures

Background

1978	Miyagi-ken-oki Earthquake	The first urban earthquake to strike a city with a population of over 500,000
1995	Great Hanshin-Awaji Earthquake	A near-field earthquake that directly struck urban areas

#### Sendai City Basic Plan

- Creating a sustainable and flexible urban environment -

The City of Trees Urban Environment Plan

Basic Green Plan

Sendai City Planning Master Plan

Sendai City Regional Disaster Management Plan

...etc.



### 3 DRR Related Plans and Implementation

March 16, 2022 11:36 P.M.

**M 7.4**

Buildings

**No serious damage**  
such as building collapses

Essential Utilities

Mostly restored  
**by the following day**

No damage observed to  
buildings nor electricity supply



◀ In front of Sendai Station  
immediately after the earthquake



Buses operated as usual  
next morning



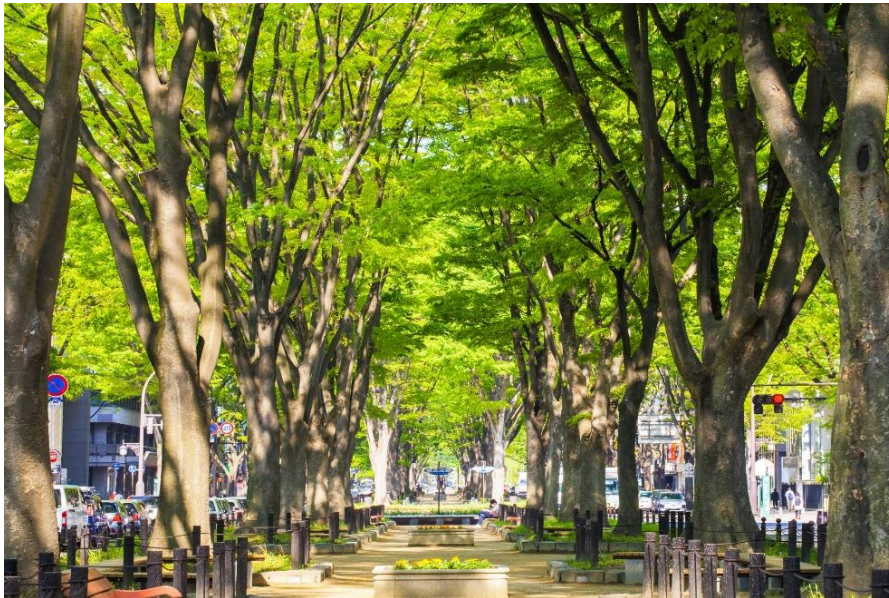
## 4 To the Disaster-Resilient and Environmentally-Friendly City (Prior Investment)



### Study & Share

Seminars of the Sendai Framework for DRR for citizens in Sendai City

**Environment**

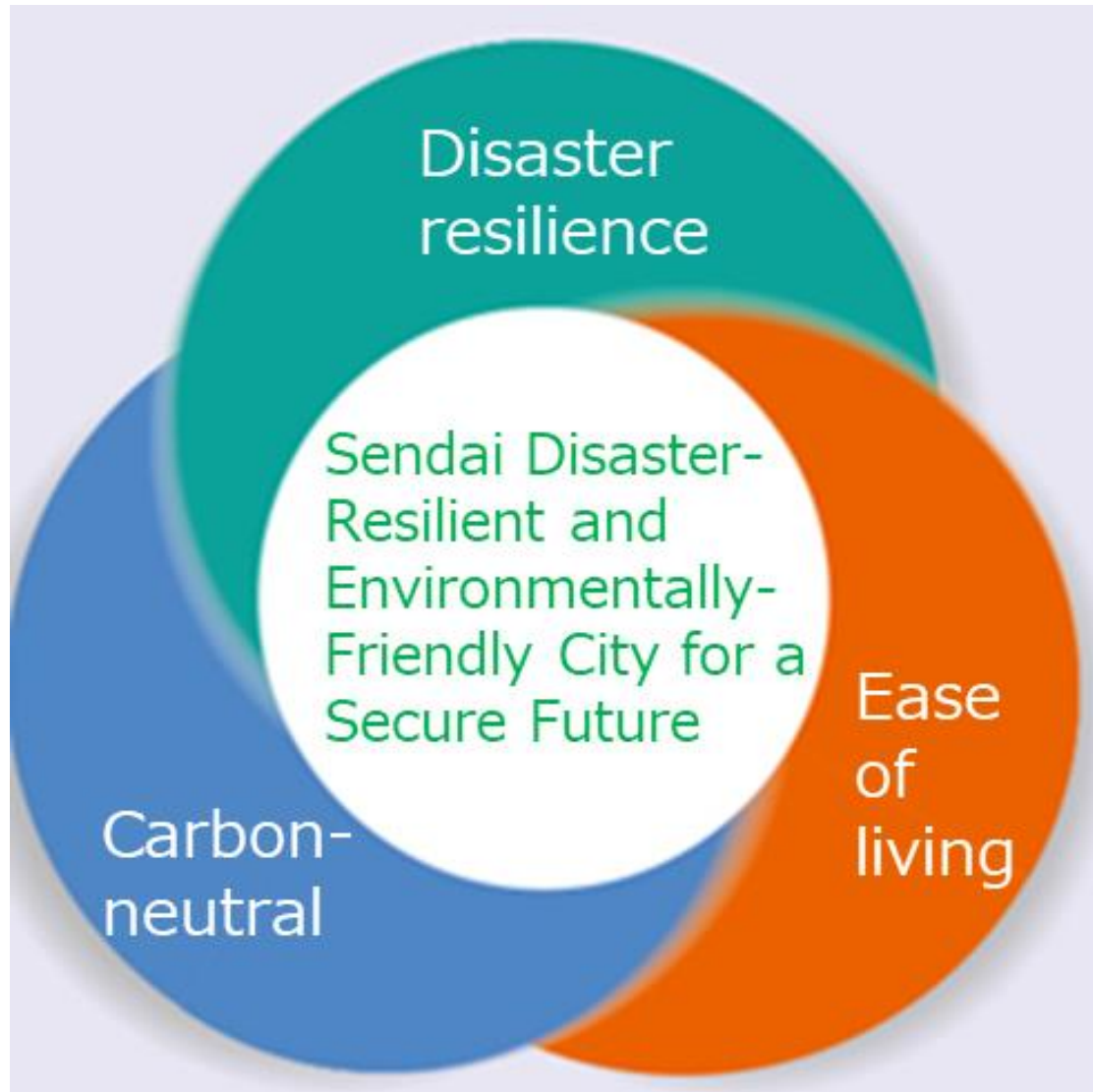


×

**DRR**



## 4 To the Disaster-Resilient and Environmentally-Friendly City (Prior Investment)



### Measures

- City planning
- Human capacity building
- Passing down experiences and lessons

### Background

- History of building Sendai as an environmental city
- Experiences and Lessons of Major Earthquakes and the Earthquake Disaster Reconstruction Plan
- The WCDRR was held in Sendai and the Sendai Framework for DRR was adopted



## 4 To the Disaster-Resilient and Environmentally-Friendly City (Prior Investment)

### Enhancing resilience of utility infrastructure

#### ■ Enhanced DRR and environmental friendliness (Minami - Gamo Wastewater Treatment Plant)



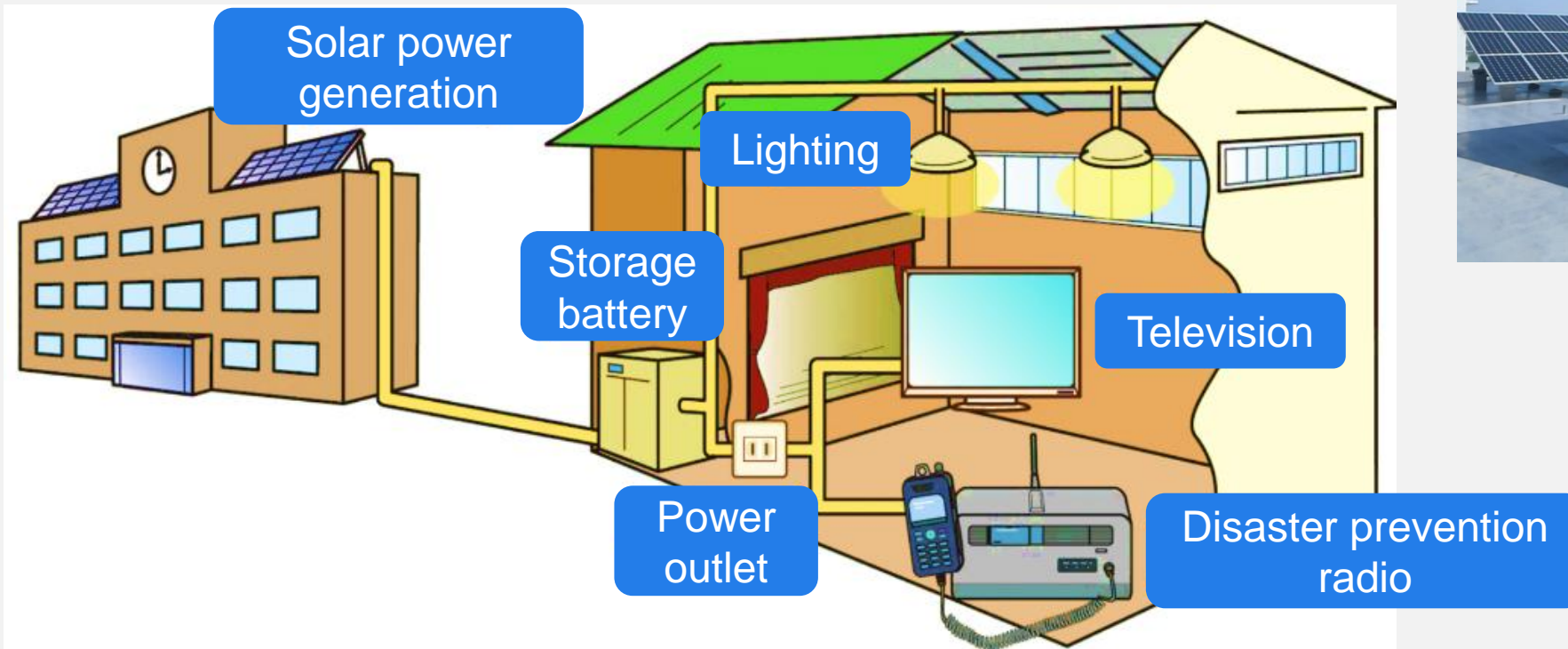
Built back  
better!



A new plant with energy saving features  
and low environmental impact (2016~)

### Energy efficiency measures at designated evacuation centers

#### ■ Installation of disaster resilient solar panels





### ① **BOSAI-TECH**

Integrated DRR, Technology, and Business  
Continuously create new solutions  
<https://sendai-bosai-tech.jp/en/>



② **Midterm review at local government level**  
**for the “Sendai Framework for DRR 2015-2030”**  
through Local Government and Academia partnerships

### ③ **World BOSAI Forum**

World Bosai Forum / International Disaster Risk  
Conference 2023 in Sendai  
■ Scheduled Date : March 9 to 12, 2023  
<https://worldbosaiforum.com/en/>





Thanks for your attention !



<https://sendai-resilience.jp/en/>

[mac001605@city.sendai.jp](mailto:mac001605@city.sendai.jp)