

# Aiming for a Zero-Carbon City

## “Environmental capital, SAPPORO”



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Zero Carbon City International Forum

Mayor, City of Sapporo  
AKIMOTO Katsuhiro

1. Overview of Sapporo City
2. Zero-Carbon Initiatives
3. SDGs and “LEED for Cities and Communities”

# 1. Overview of Sapporo City

# Sapporo's Profile

## Sapporo, Japan

Home to the 1972  
Winter Olympic Games

Hokkaido

- ✓ Capital of Hokkaido, the northernmost of Japan's 47 prefectures
- ✓ The fifth largest city in Japan
- ✓ Hosted the **1972 Winter Olympics**, the first ever held in Asia

1,050 km

Flight Time  
1h 30min  
(Tokyo⇒Sapporo)

Population	1,975,065 (as of October 1st, 2020)
Area	1,121 km <sup>2</sup> (432 sq mi)
Sister Cities	Portland, U.S.A. (since 1959)
	Munich, Germany (since 1972)
	Shenyang, China (since 1980)
	Novosibirsk, Russia (since 1990)
	Daejeon, Korea (since 2010)

# Sapporo Topography

## Area

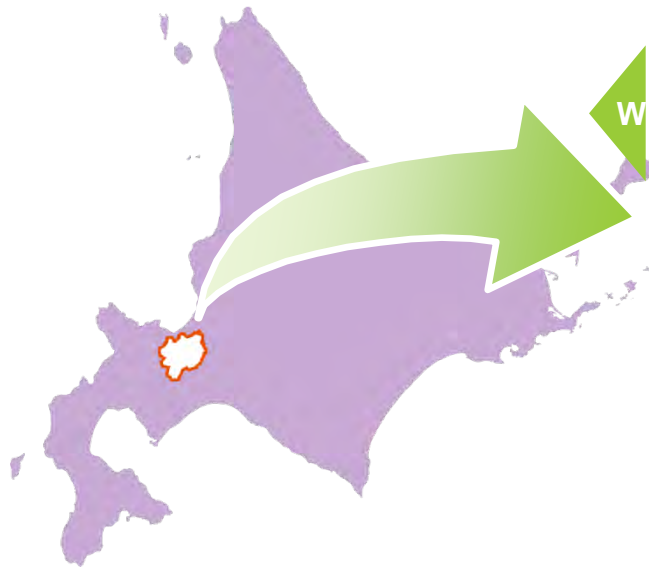
**1,121km<sup>2</sup>**

# North-South

**45.4km**

## East-West

**42.3km**

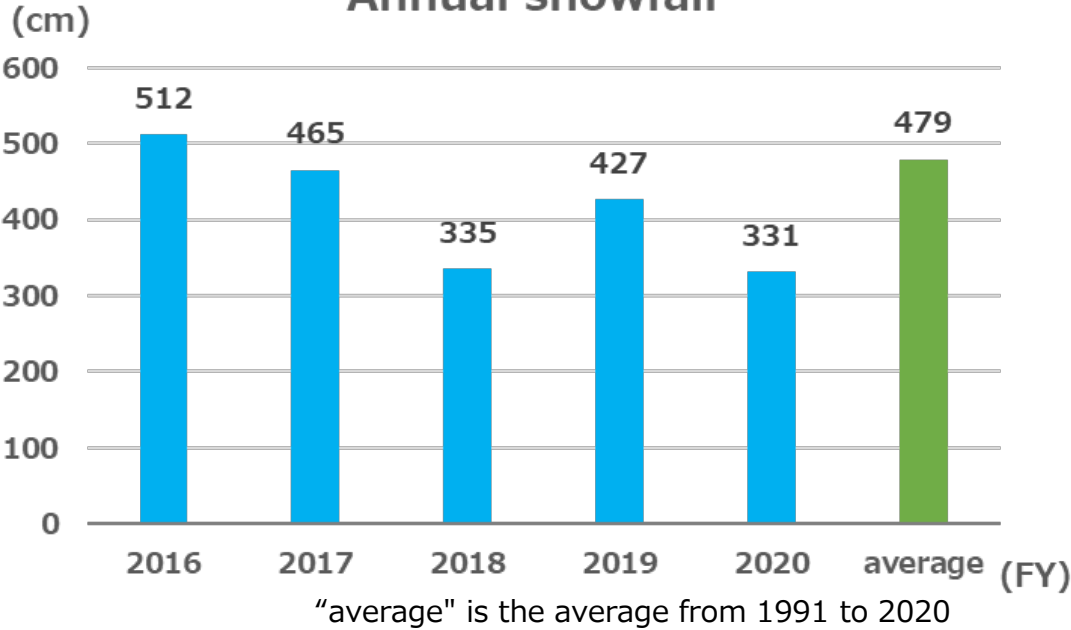


## ■ Areas of Downtown

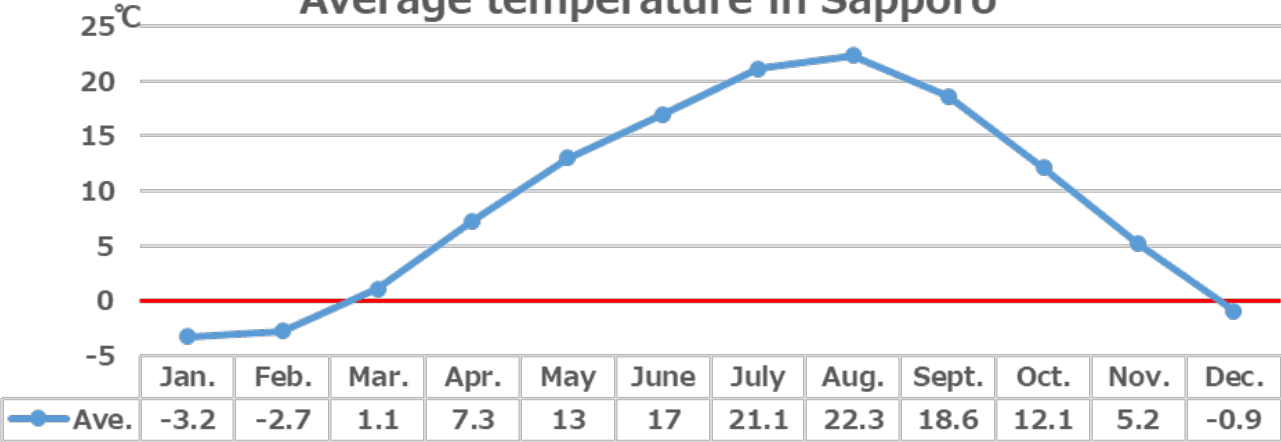




Annual snowfall



Average temperature in Sapporo



## 2. Zero-Carbon Initiatives

# Zero-Carbon City Declaration

In February 2020, Sapporo City announced that it would aim to become a “zero-carbon city” that would reduce greenhouse gases emitted from the Sapporo city area to virtually zero by 2050.

## Climate Change Measures Action Plan

Plan to promote climate change measures for the construction of a sustainable decarbonized society

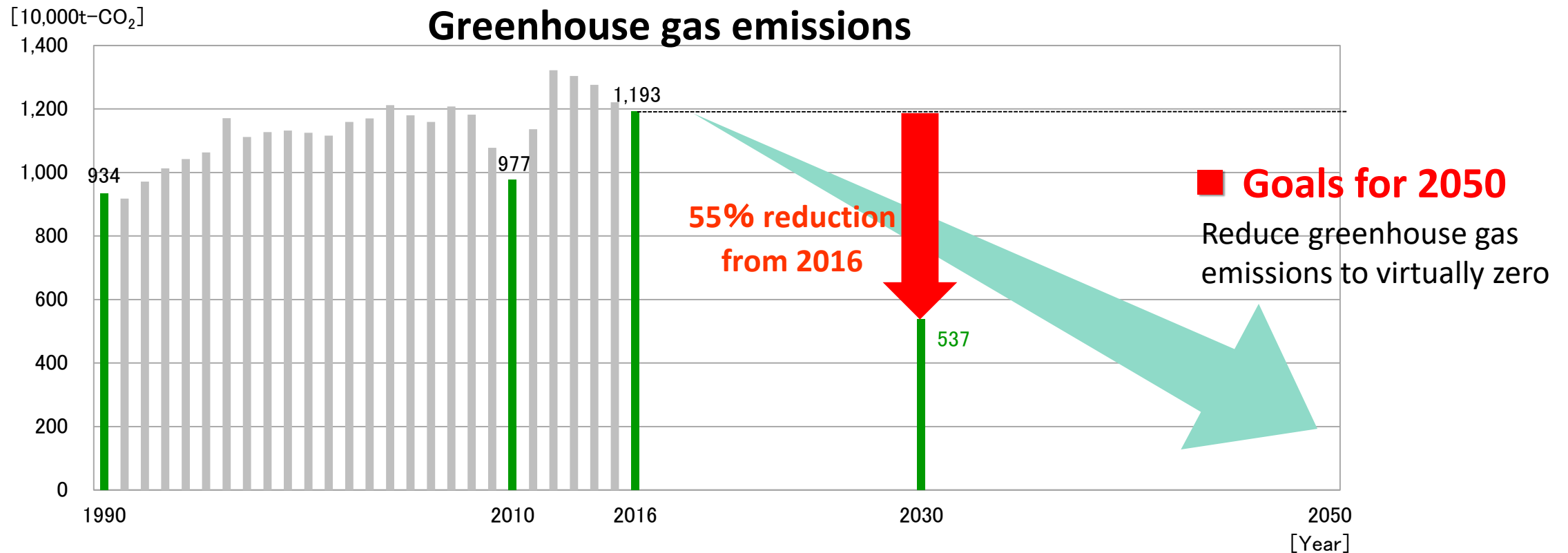
### ■ Goals for 2050

Reduce greenhouse gas emissions to virtually zero



# Climate Change Measures Action Plan

- Through Climate Change Measures, We will contribute to solving various issues such as securing energy in the event of disaster, revitalizing industrial and economic activities, and extending healthy life expectancy.
- This plan also aims to reduce greenhouse gas emissions by 55% in 2030 compared to 2016.



# Effective use of Energy

## →Reducing Heating Energy Consumption



### ● Detached houses

→ Promoting the spread of the “Sapporo version of next-generation housing” , which is a heat insulation and airtight standard set by the city of Sapporo.

### ● Apartment houses and buildings

→ Subsidizing the design cost for the construction of apartment houses and buildings that can significantly reduce energy consumption by improving heat insulation performance and introducing solar power generation.

## Energy Conversion

### →Active use of Renewable Energy

- **Introducing Renewable Energy to Municipal Facilities**
- **Guide Citizens and Businesses to use Renewable Energy Power**



Clock Tower

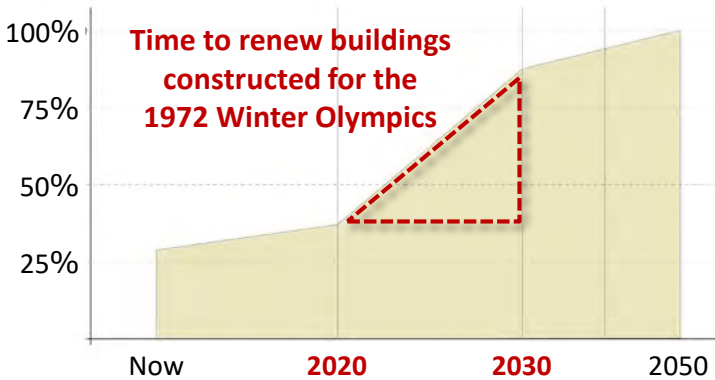
100% Renewable Energy

# Logic behind & measures for CO<sub>2</sub> reduction (Downtown)

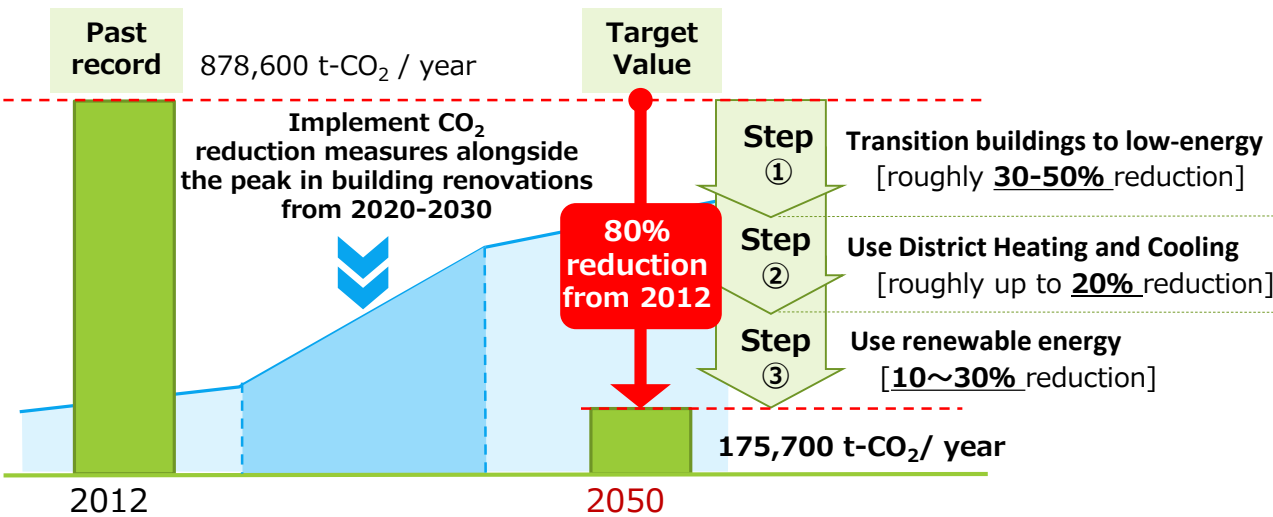
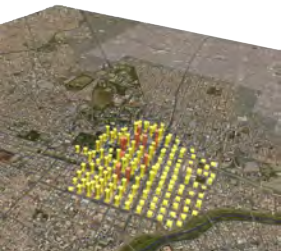
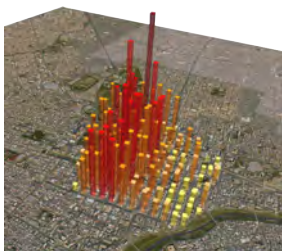
## ■ Sapporo City and Downtown



## ■ Acceleration of redevelopment downtown



## ■ CO<sub>2</sub> reduction goal



Action (STEP①)
City development control & adjustment
Making rules to promote initiatives for sustainable city development in line with building renewals.
Action (STEP②)
Low-carbon and Resilient Heat
Maintenance of cold/hot water pipe network and introduction of cogeneration system to promote low-carbon heat utilization that is unique to snowy cold regions

# Current Status of District Heating in Central Sapporo

**Sapporo Energy Supply Public Corporation Energy Center**



**Use of Snow Cold**

- Heating 82GJ/h
- Cooling 59GJ/h

**Docho-minami Energy Center**



Gas Engine CGS

- Heating 38GJ/h
- Cooling 21GJ/h
- Power generation 1,270kW

**Akarenga-mae Energy Center**



Gas Engine CGS

- Heating 29GJ/h
- Cooling 24GJ/h
- Power generation 700kW



**Chuo Energy Center**



**Use of Wood Biomass**

- Heating 614J/hG

**46 Energy Center**



Gas Engine CGS

- Heating 15GJ/h
- Cooling 5.5GJ/h
- Power generation 315kW



**Sapporoeki-minami Energy Center**



Gas Turbine CGS

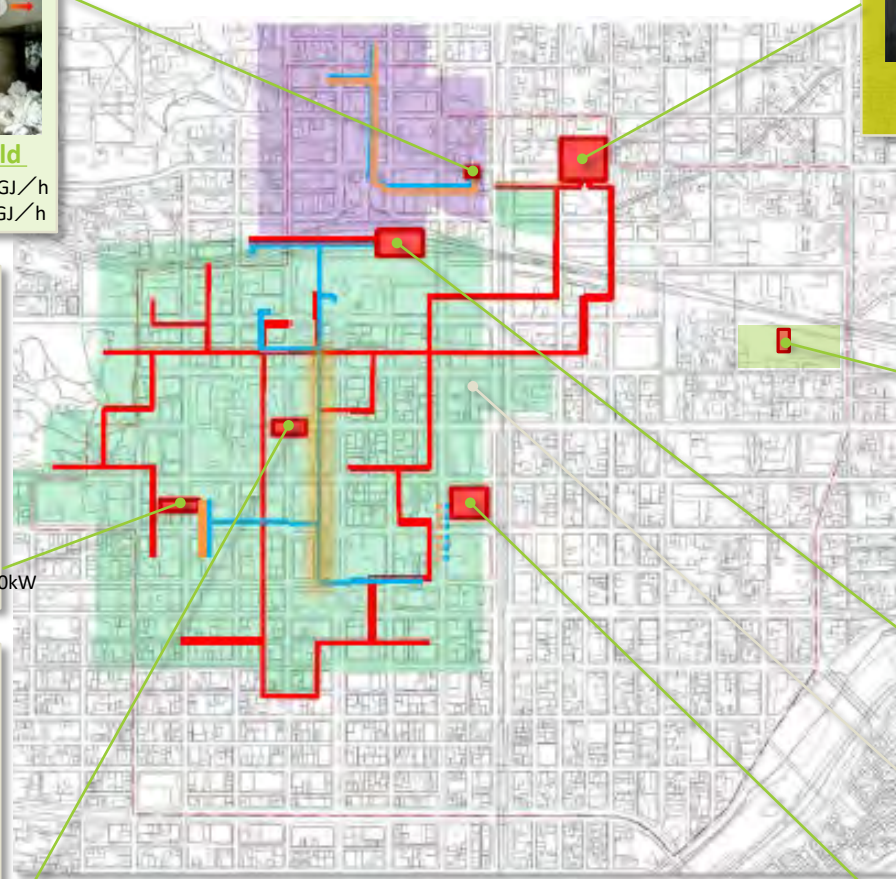
- Heating 170GJ/h
- Cooling 154GJ/h
- Power generation 9,630kW

**Sosei Energy Center**



Gas Engine CGS

- Heating 34GJ/h
- Cooling 11GJ/h
- Power generation 1,400kW



— Very hot water Pipe  
— Hot water/steam Pipe  
— Cold water Pipe  
**Thermal Pipe network extension: about 45km**

### 3. SDGs and “LEED for Cities and Communities”

# SDGs “Future City” in Japan

## ■ Selection as an SDGs “Future City”

- The Cabinet Office publicly invited Japanese cities to implement initiatives working towards achieving the SDGs, and chose cities nation-wide which have proposed superior initiatives
- 29 cities nation-wide including Sapporo were chosen as “Future Cities” on June 15, 2018



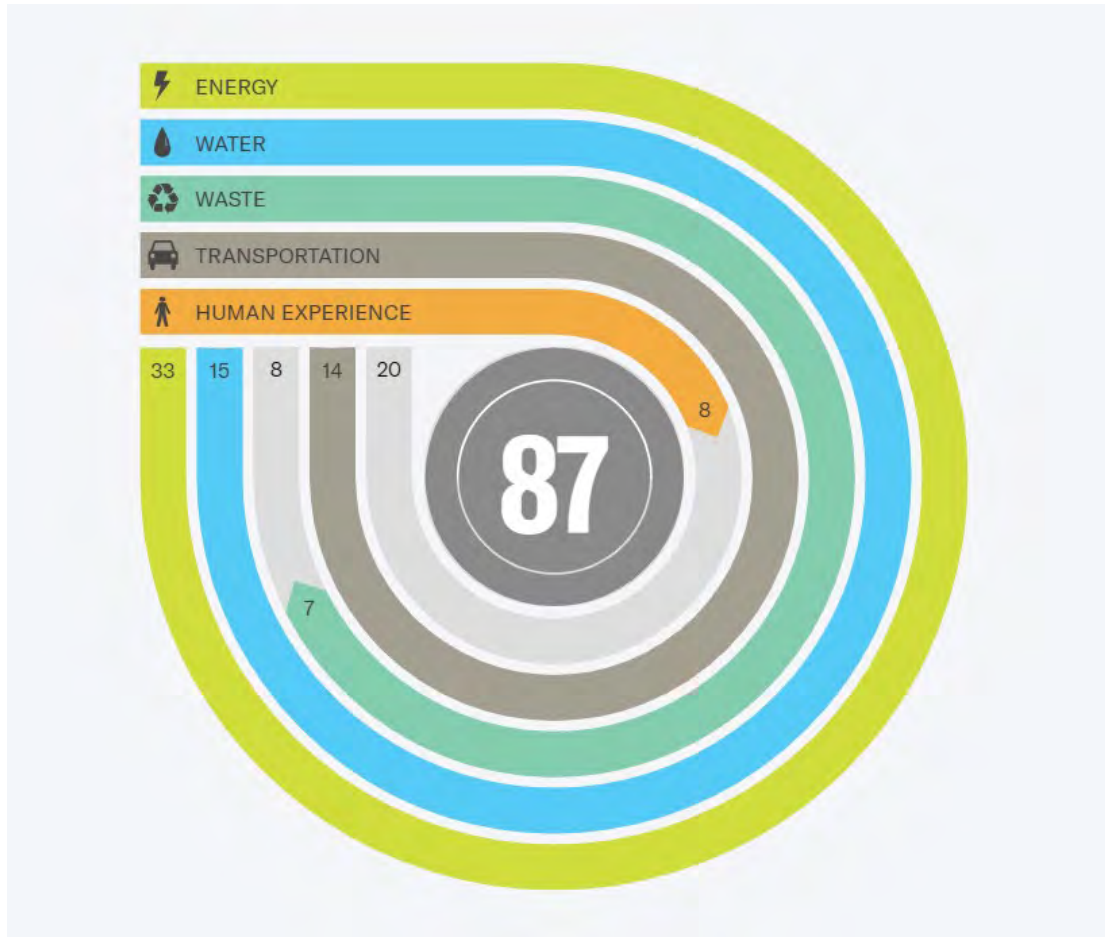
**Towards comprehensive/ integrated urban development with a focus on the environment, economy, and society**

**In order to promote city promotion based on objective evaluation based on world standards,  
Sapporo City has decided to obtain “LEED for Cities and Communities” certification.**



**SDGs “Future City” Selection  
Certificate Awards Ceremony  
(June 2018)**

# LEED for Cities and Communities



Sapporo City is the LEED for cities with the highest score in the world at the time of certification confirmation (January 27, 2020)

# City Development towards 2030, 2050

## ■ Towards achievement of the global common goals of the SDGs and the Paris Agreement





THANK YOU