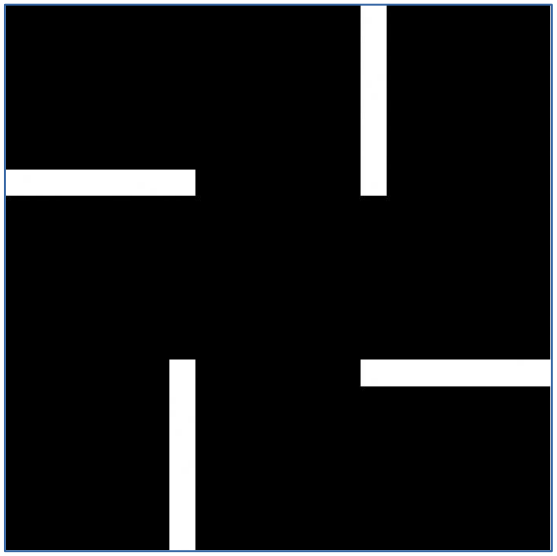
HIROSAKI - DONOSTIA / SAN SEBASTIÁN



International Urban Cooperation (IUC)

City-to-City Cooperation Program

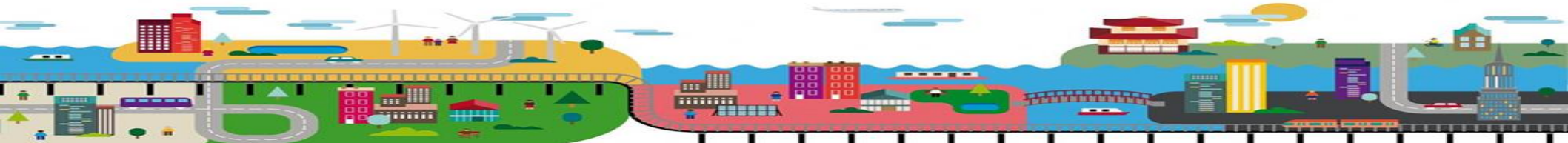
IUC- JAPAN

UCAP

A roadmap for Sustainable Urban Development Challenges based on International Urban Cooperation

DONOSTIA
SAN SEBASTIÁN

International Urban Cooperation JAPAN, 5th Exchange Meeting of the EU and Japanese Cities, Brussels, 2019-11-20



MAIN ACTIVITIES AND KEY OUTPUTS

1- Refurbishment of municipal buildings with high energy efficiency criteria ⟶ Reduction of 40% of the heating demand. Maintaining 21 celsius degrees comfort temperature all day long.

2- Increase the production of renewable energy, mainly photovoltaic solar energy ⟶ Increase the production by 200 megawatts

3- Implementation of the Smart City concept, new urban developments ⟶ Analyze new possible areas in San Sebastian to implement District heatings

CASE STUDY LEARNT IN HIROSAKI 1

Giving a second use to existing buildings: broadening the lifespan of a building

Residence of a Japanese military commander reconverted in coffee shop

Aomori ancient Bank

INTERNATIONAL URBAN COOPERATION
European Union

Construction and refurbishment of new and existing buildings with special focus on historic buildings, with energy efficiency criteria

SPECIFIC OBJETIVE 1:

1.1 Activity name: **Refurbishment of municipal buildings with high energy efficiency criteria**

1.2 Action: (A) Refurbishment of municipal kindergarten

+

(B) Refurbishment of a municipal palace with energy performance criteria

INTERNATIONAL URBAN COOPERATION
European Union

1.2 Action (A): # Refurbishment of municipal kindergarten

View from the outside:

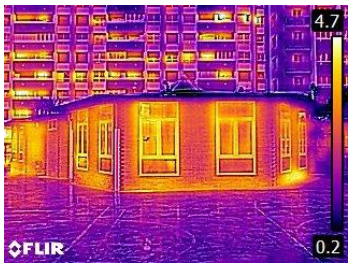
View from the inside:

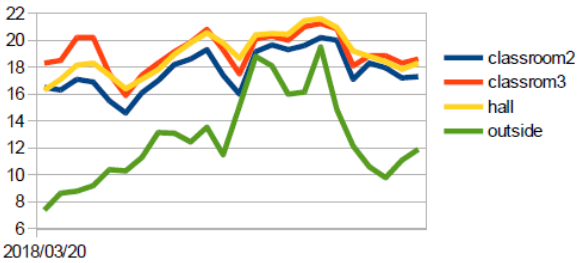
INTERNATIONAL URBAN COOPERATION
European Union

1.2 Action (A): Refurbishment of municipal kindergarten

Sub activity **1.1.1**:
Monitorization of the existing building

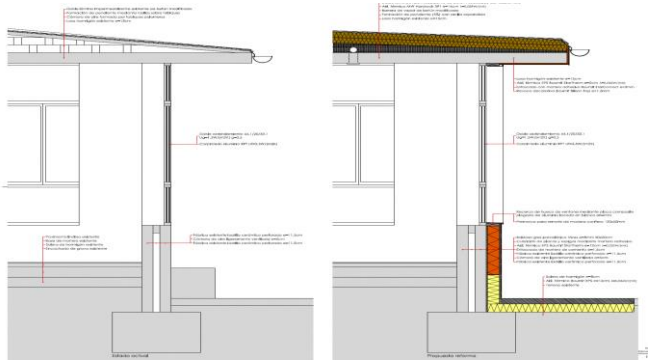
DONE





Sub activity **1.1.2**:
Refurbishment of the building with high efficiency standards. Enerphit (Passiv Haus)

DONE



Sub activity **1.1.3**:
Monitorization of the refurbished building

WINTER 2019 - 2020

1.2 Action (B):

Research on the technical and economic feasibility of retrofitting a municipal palace with energy efficiency criteria.

Views from the outside:

INTERNATIONAL URBAN COOPERATION
European Union

1.2 Action (B):

Refurbishment of a municipal palace with energy performance criteria

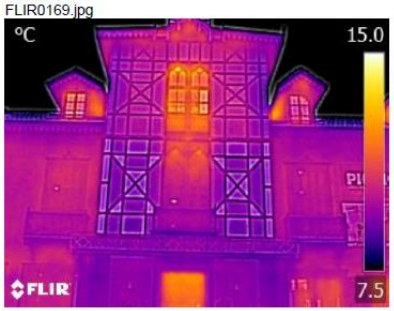
Sub activity **1.1.1**:
Monitorization of the existing building

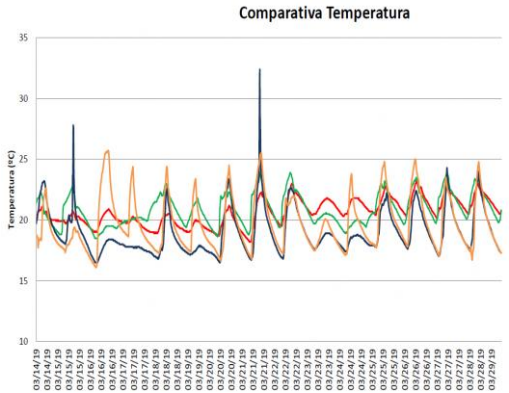
DONE

Sub activity **1.1.2**:
Research of technical and economic viability of different options of refurbishment
DONE

Sub activity **1.1.3**:
Contracting and drafting refurbishment project

YEAR 2020





CASE STUDY LEARNT AT HIROSAKI **2**

The importance of renewable energies to achieve energy self-sufficiency

PV solar panel field on Hirosaki's former landfill

INTERNATIONAL URBAN COOPERATION
European Union

SPECIFIC OBJETIVE 2: Increase the production of renewable energy, mainly photovoltaic solar energy

2.1 Activity name: **Implementation of solar PV on municipal buildings**

2.2 Action: Installation of Solar PV for self consumption of the building in 5 sites

INTERNATIONAL URBAN COOPERATION
European Union

2.2 Action :

Implementation of solar PV on municipal buildings

Selected Buildings:

1. Social shelter

2. Youth hostel (1)

3. Vehicle repair building

4. Youth hostel (2)

5. Plant nurseries

INTERNATIONAL URBAN COOPERATION
European Union

2.2 Action : Implementation of solar PV on municipal buildings

Sub activity **2.1.1**:
Installation on municipal sOcial shelter building in self-consumption mode: 16,2kW

DONE (IN JANUARY 2019)

Abegi Etxea

INTERNATIONAL URBAN COOPERATION
European Union

2.2 Action : Implementation of solar PV on municipal buildings

Sub activity **2.1.1**:
Installation on municipal sOcial shelter building in self-consumption mode: 16,2kW

DONE (IN JANUARY 2019)

Sub activity **2.1.2**:
Writing and implmenting solar PV instalation projects on 4 municipal buildings in self-cosumption mode: 95kW

IN PROGRES – FINISHED IN DECEMBER 2019

Example: La Sirena youth hostel. 18kW

INTERNATIONAL URBAN COOPERATION
European Union

2.2 Action : # Implementation of solar PV on municipal buildings

Sub activity **2.1.1:**
Installation on municipal sOcial shelter building in self-consumption mode: 16,2kW

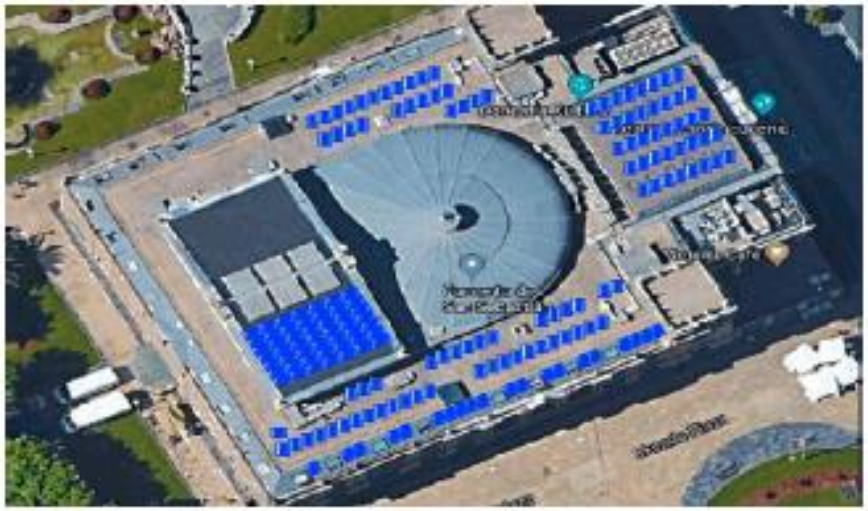
DONE (IN JANUARY 2019)

Sub activity **2.1.2:**
Writing and implmenting solar PV instalation projects on 4 municipal buildings in self-cosumption mode: 95kW

IN PROGRES – FINISHED IN DECEMBER 2019

Sub activity **2.1.3:**
Consulting to authorities in charge of the histirical portection to foresee another 3 installation in historical buildings

IN PROGRES – FINISHED IN DECEMBER 2019



Example: Victoria Eugenia Concert Hall

INTERNATIONAL URBAN COOPERATION
European Union

2.2 Action : # Implementation of solar PV on municipal buildings

Sub activity **2.1.1:**
Installation on municipal sOcial shelter building in self-consumption mode: 16,2kW

DONE (IN JANUARY 2019)

Sub activity **2.1.2:**
Writing and implmenting solar PV instalation projects on 4 municipal buildings in self-cosumption mode: 95kW

IN PROGRES – FINISHED IN DECEMBER 2019

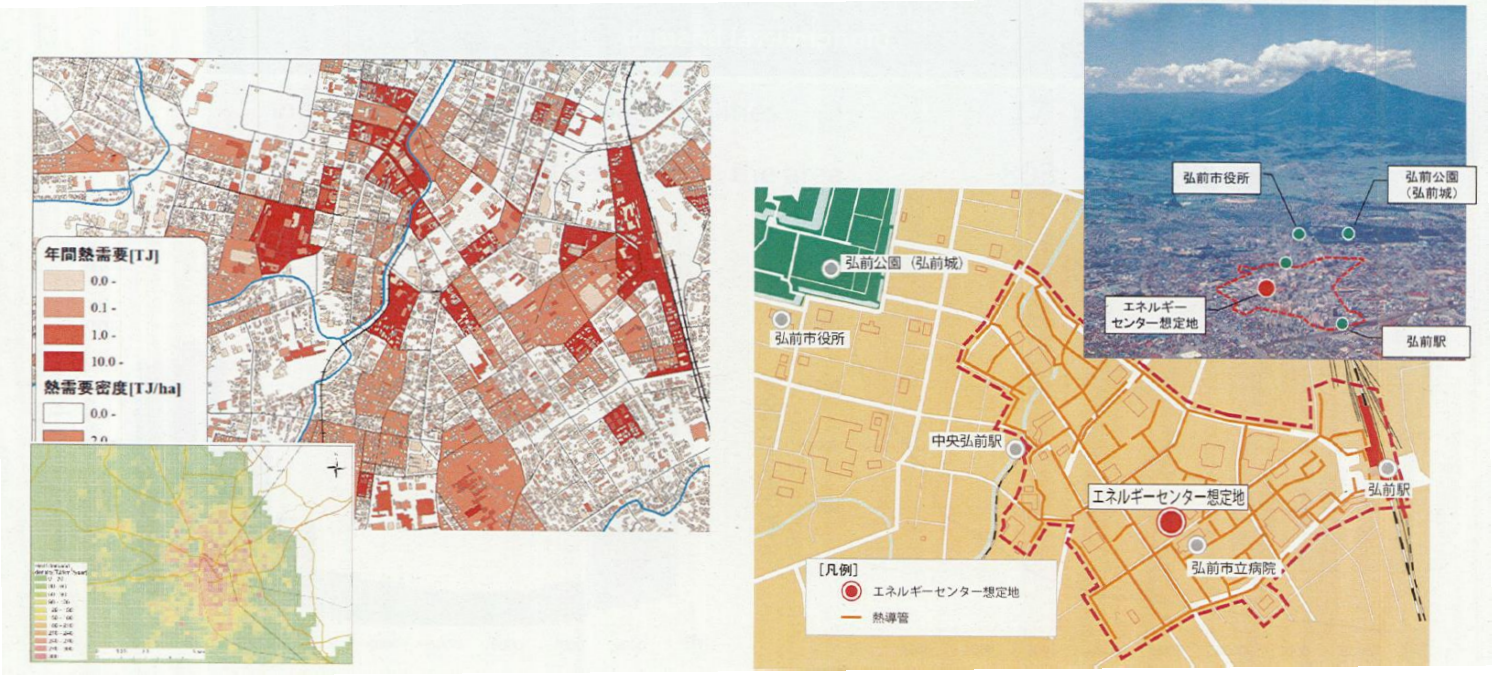
Sub activity **2.1.3:**
Consulting to authorities in charge of the histirical portection to foresee another 3 installation in historical buildings

IN PROGRES – FINISHED IN DECEMBER 2019

Example: Goikoa Palacel

CASE STUDY LEARNT AT HIROSAKI **3**

Implementing district heating systems in constructed urban areas



Proposed grid of district heating in the city center of Hirosaki

INTERNATIONAL URBAN COOPERATION
European Union

SPECIFIC OBJETIVE 3: The implementation and the development of the Smart City concept

3.1 Activity name: **Steps towards a Smart city**

3.2 Action: Hotmaps project. Searching potential areas to implement district heatings

3.2 Action:

Searching potential areas to implement district heatings

Sub activity **3.1.1**:

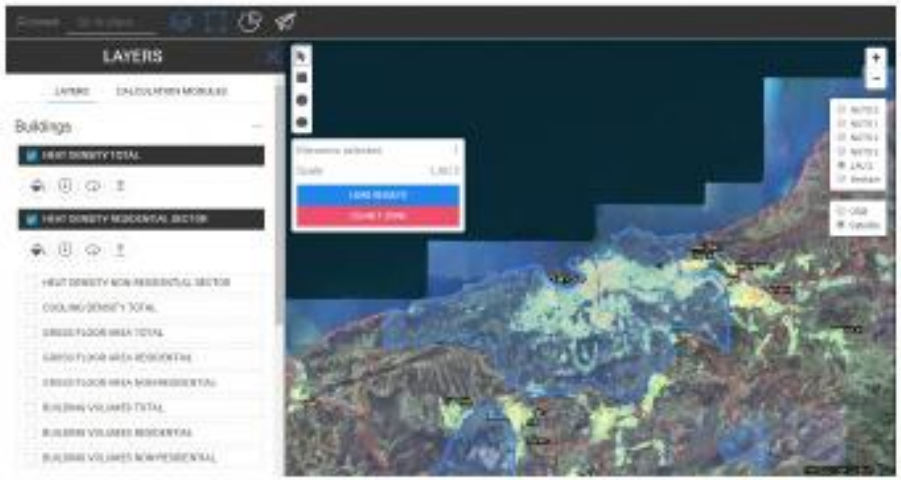
Developing of open source software to analise the potential district heating areas in constructed urban areas

IN PROGRES – FINISHED IN SEPTEMBER 2019

Sub activity **3.1.2**:

Analising the potentiality of the city of Donostia / San Sebastian to implement new district heatings in constructed areas

SEPTEMBER 2019- DECEMBER 2019



Sub activity **3.1.3** :

Selecting the best zones to implement new district heatings in constructed areas

YEAR 2020

Stakeholders and software under developing

MAIN ACTIVITIES AND KEY OUTPUTS

1.Area Management by public-private partnership (Mainly multipurpose use of historic buildings and energy efficiency)

→・Increase of pedestrians and bicycles
・Rise of Land Price
・Increase of resident population

2. Improvement of energy self-sufficiency and energy efficiency

→・Improvement of energy self-sufficiency
・Reduction of greenhouse gas emission

3.Create opportunity and raise consciousness for the Smart City realization

→・Collaboration between businesses sector, research institute, financial sector and public sector will be strengthened
・Innovation by private companies will be enhanced

Study tour in Donostia - San Sebastian（Oct 1 – 3, 2018）

1.Multiple usage of historical buildings

・During the restoration, room size were considered and partitions were removed to accommodate different usage and by heat insulating material rooms were comfort and LED lighting for low energy use

・Heat insulating material in roofs and walls are made mandatory through regulation

2.Approach taken towards project

・Energy and water use, traffic condition, energy for street lighting etc., were made visible and effect of climate change were explained to citizens for better understanding.

・As a public–private collaboration, local government, public enterprise, and private companies contribute financially to a single project.

3.Human resource development (accepting talented personnel)

Talent will gather in attractive city with certain level of incentive. Keeping its own culture but actively welcoming new talent and promoting human resource development, for new city development.

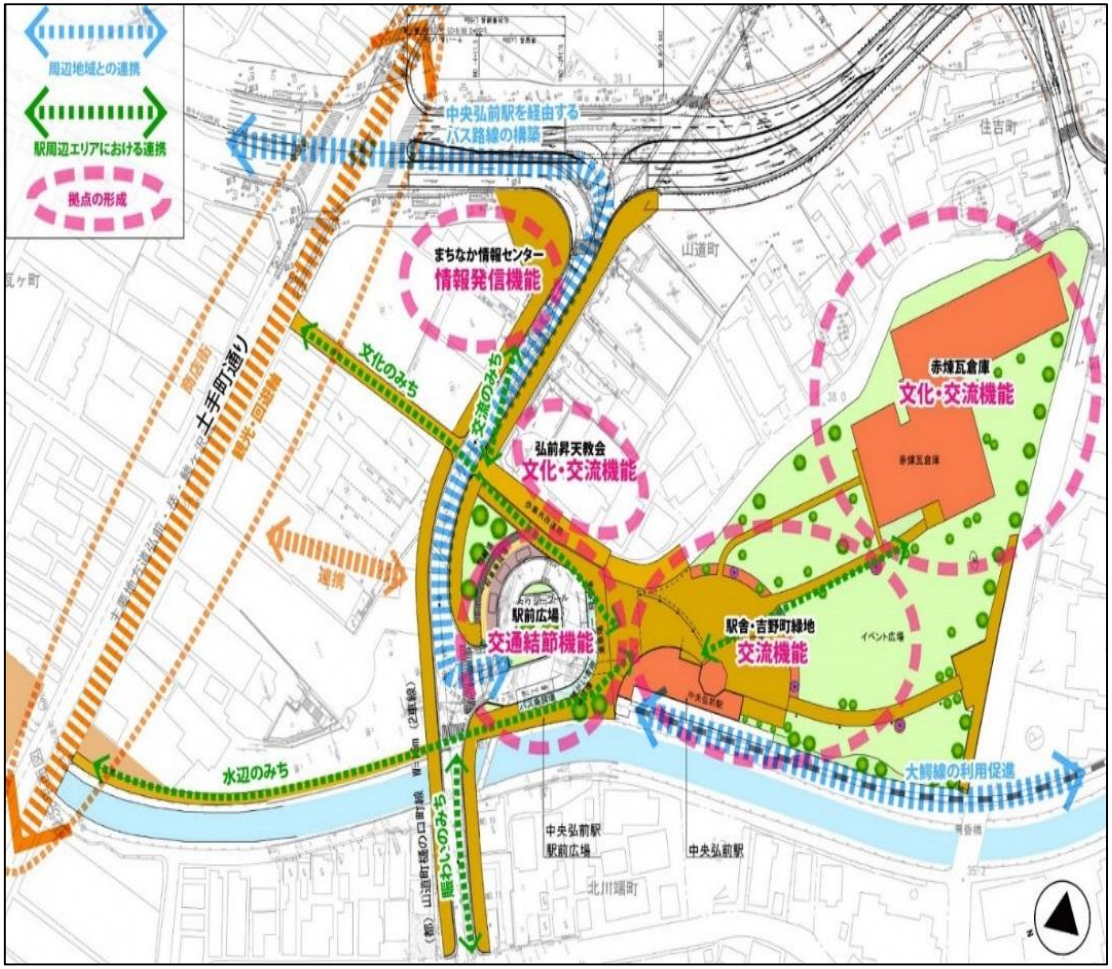
Talent Attraction and Retention - Talent House

Multiple usage of historical buildings

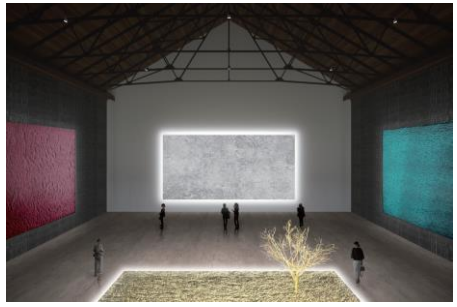
○ In the area next to the central shopping district, we will renovate brick warehouses from Meiji and Taisho periods, and develop cultural exchange facilities centered with a museum.

○ Cultural exchange and green area will be developed, maintained and managed, utilizing experience of private enterprise through PFI method, and sustainable town will be achieved through designated management of 15 years.

○ By integrating development of street, private railway station square, and green space development, we will enhance transport connectivity and improve leisure performance to draw people to the central urban area.



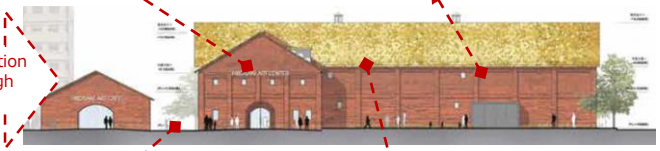
☞ Library for citizens where people can meet and gather



☞ Large size showing space where arrangement of display can be easily made for multiple purpose

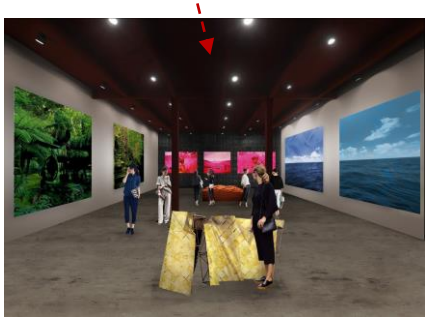
Current Warehouse

Renovation through PFI



☞ New image of museum with「Cider Gold」roof

☞「Museum Road」will connect art and citizen and art



☞「Site Specific」display space that can only been seen here

Multiple usage of historical buildings

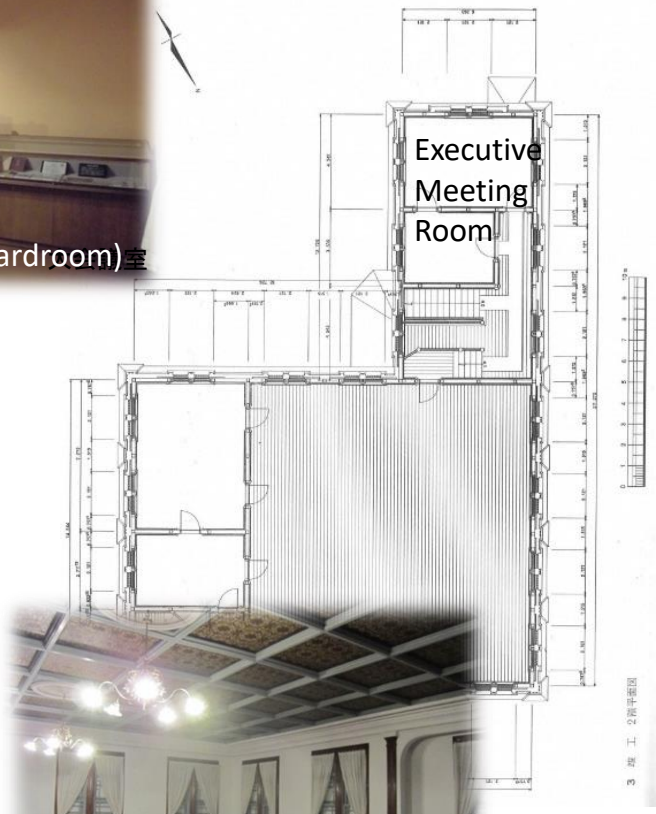
- ○ 1904 architecture. There was a possibility of being dismantled at the time of new construction of the branch in 1965, but it was preserved as a memorial by citizen's movement.
- ○ Designated as a National Important Cultural Property in 1972
- ○ Donation from Aomori Bank on April 12, 2018 and plan to consider new utilization.
- ○ By promoting the preservation and further utilization of important cultural property buildings, it is also possible to foster citizens' awareness of cultural properties.


Aomori Bank Memorial Building (Outside)

First Floor


Current Display（Boardroom）室

Second Floor




Current display (Sales Office)


Current Display（Meeting Room

Regional Energy Business Promotion Project

We'll set up energy center in central city area, supply energy to large facilities in the area.
And we'll develop a snowmelt infrastructure, create energy independence and comfortable space even in winter.

Custome

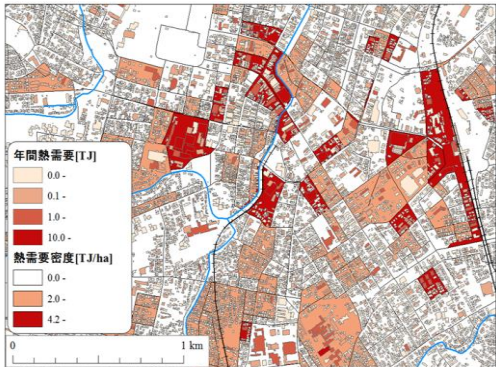
Medical facility | Commercial facility | Hotel | Public facility

Snow melting facility

Flowing heat [Winter]

Tube leading to heat

Existing power grid



Flowing heat | Flowing heat

Electrical

Wood chip

Wood chip manufacturing plant

Payment

Biomass boiler

CEMS

Gas cogeneration

Natural gas

Gas supply company

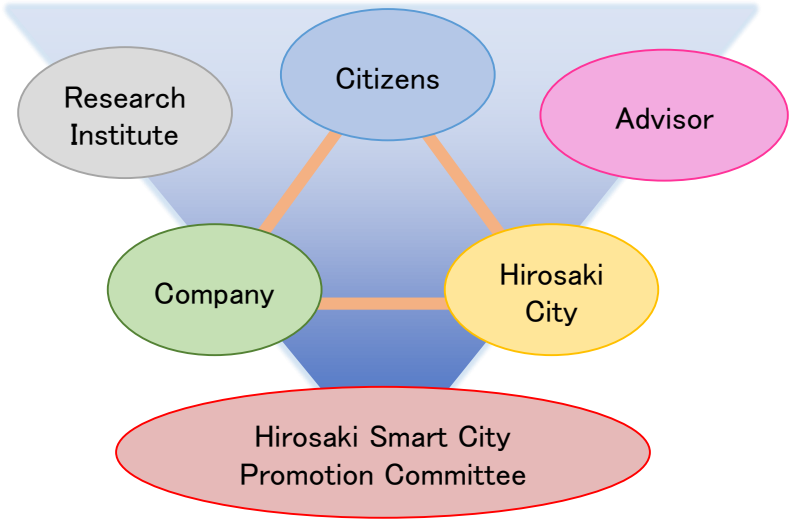
Payment

Energy Business

Smart City Promotion Project

Hirosaki Smart City Promotion Committee

Through cooperative organization of industry, academia, finance and government, we will promote projects by introducing successful cases and exchanging and sharing information regularly among members.



※129 Companies Registered

Presentation by experts and workshops

Hirosaki Style Smart City Academy

To nurture next-generation which bears the future of Hirosaki, we carry out public awareness to promote renewable energy and activity of smart city.

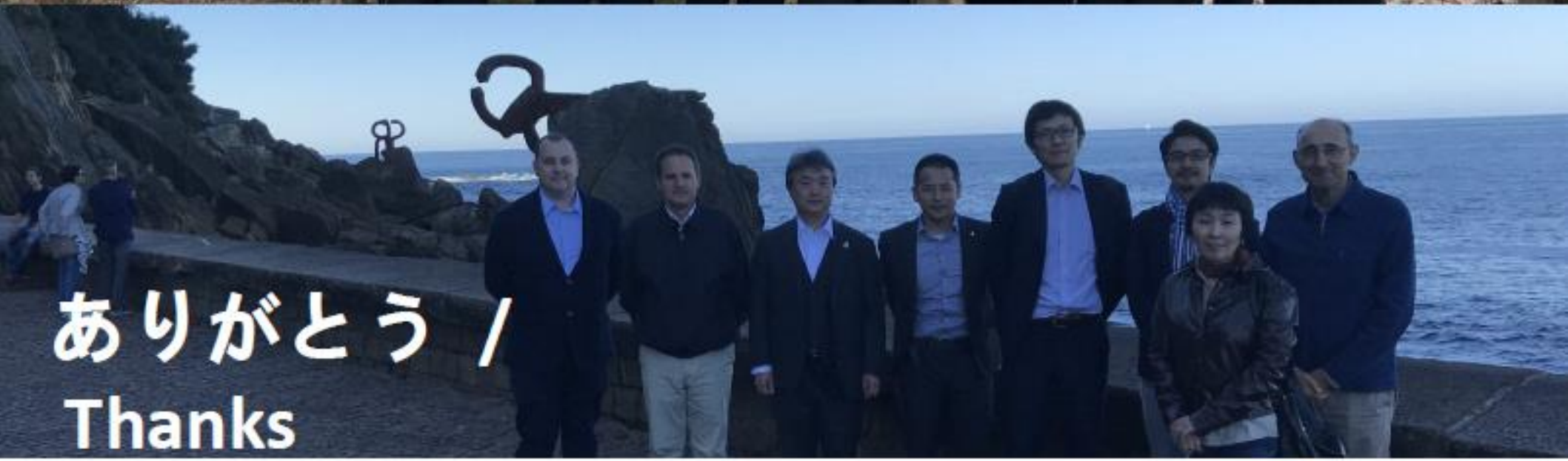
・Environmental education regarding renewable energy.

・Lecture on Smart City etc

Environmental Education for Junior School Students

Smart City work group (High School Students)

INTERNATIONAL URBAN COOPERATION
European Union



ありがとう /
Thanks