

Renewable Energy ~Eco-Model Plan to Promotion~

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Introduction

Global Warming
CO₂ concentrations have increased sharply in the last 50 years.

Nuclear power generation accident in Fukushima forced thousands of people to evacuate.

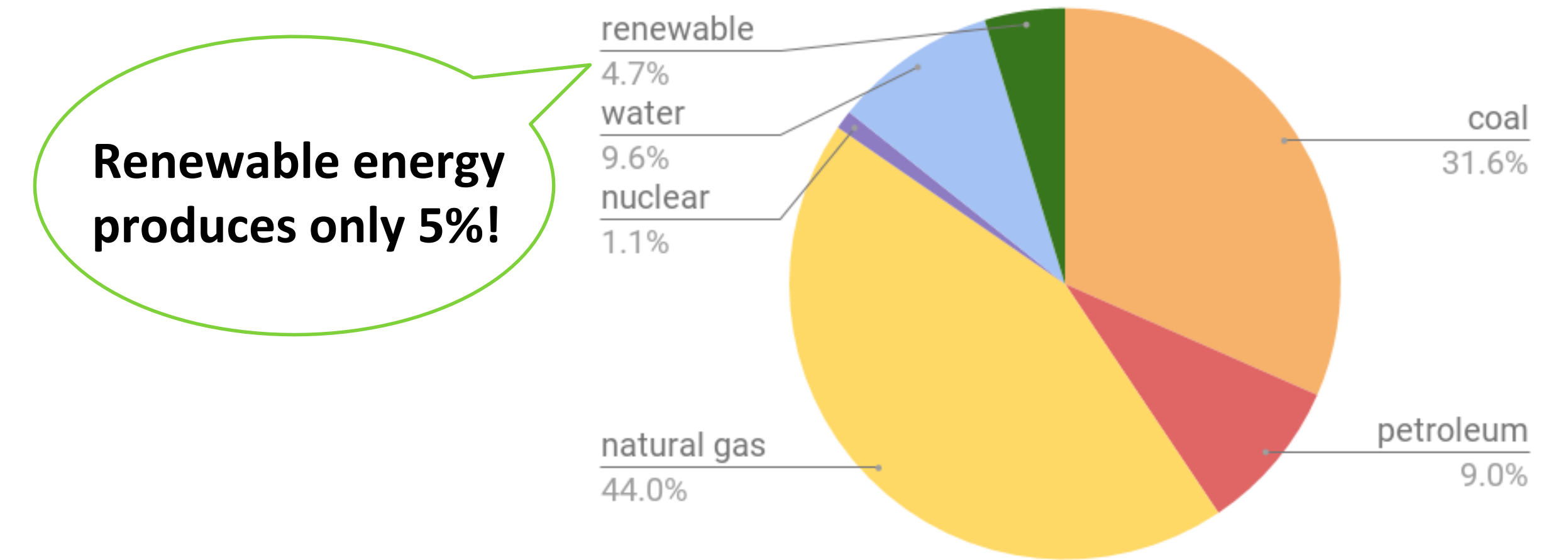
Theme

Eco-model plan that can cover all the electricity needs with renewable energy.

- Propose **practical methods**
- Feel **familiar** and **interested** in energy

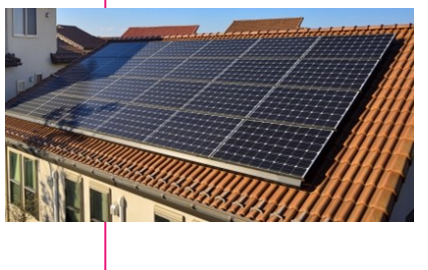

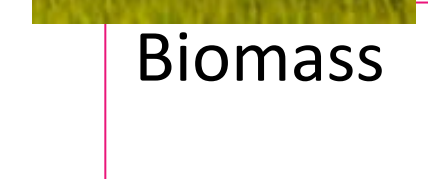
→ **Diorama** (Eco-model town) to illustrate and spread our ideas.

*Renewable Energy Coverage Ratio

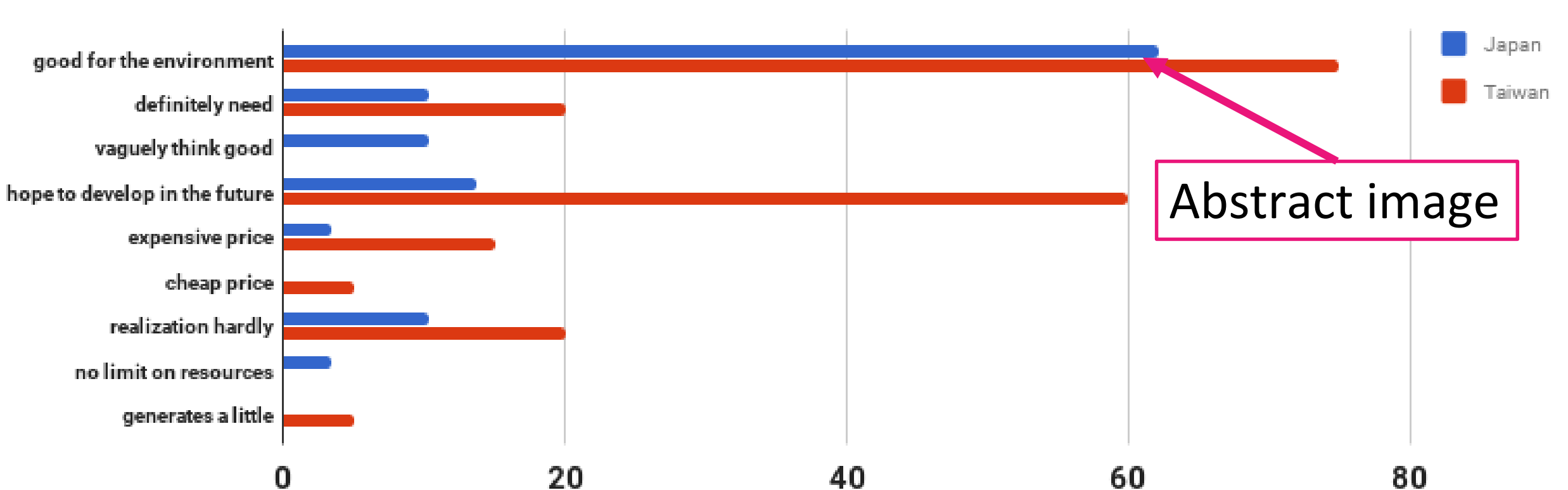


Objective: Promotion of renewable energy!

Characteristics

Item	Advantages	Disadvantages
 Solar	<ul style="list-style-type: none"> • Easy to set • Improves thermal insulation effect • Prevents deterioration of roof material 	<ul style="list-style-type: none"> • Depends on the amount of solar radiation • Needs maintenance
 Wind	<ul style="list-style-type: none"> • Able to generate all day • Successful examples of community-based wind power 	<ul style="list-style-type: none"> • Depends on the wind power • Stops while typhoons approach • Bird strikes • Noise problems
 Biomass	<ul style="list-style-type: none"> • Utilizes garbage • Community-based 	<ul style="list-style-type: none"> • Possibility of deforestation for resource • Takes time to collect and preserve resources

*Survey; Impression on renewable energy



Activities

Visit to Tohoku University

Professor Nakata

- Electricity generation is **efficient in a large scale**, especially for those using turbines, because the number of parts does not change.
- The amount of electricity generated by **solar power** increases directly with the scale.
- The importance of **saving energy**
- Choose electric company dealing with renewable energy after **electricity-liberalization** in Japan.

Movie and Study Workshop with "Energy Shift in Miyagi"

- Shifting renewable energy is **common in the world**
→ Renewable energy is **safe** and **efficient**
- 3 problems
 - Regulation of the amount of electricity
 - No spare capacity in sending lines
 - Expensive contribution for selling electricity
- Hokkaido has abundant natural energy resources.

Eco House

Miyagi

- Eaves
→ Block sunlight in summer
Allow it in winter
- Heater set on the floor
→ **Efficient to warm** the room from the bottom up

Yamagata

- **Renewable energy**
- Solar power
- Solar thermal power
- Pellet stove
→ Biomass energy

Common point

- **Air tightness**
- Triple-glass window
→ Separate the outside air temperature from the inside
- Low ceiling
→ **Reduce energy waste**

Taiwan

Eco house in Japan

- Keep warm
- Wooden
- Air tightness

Green house company in Taiwan

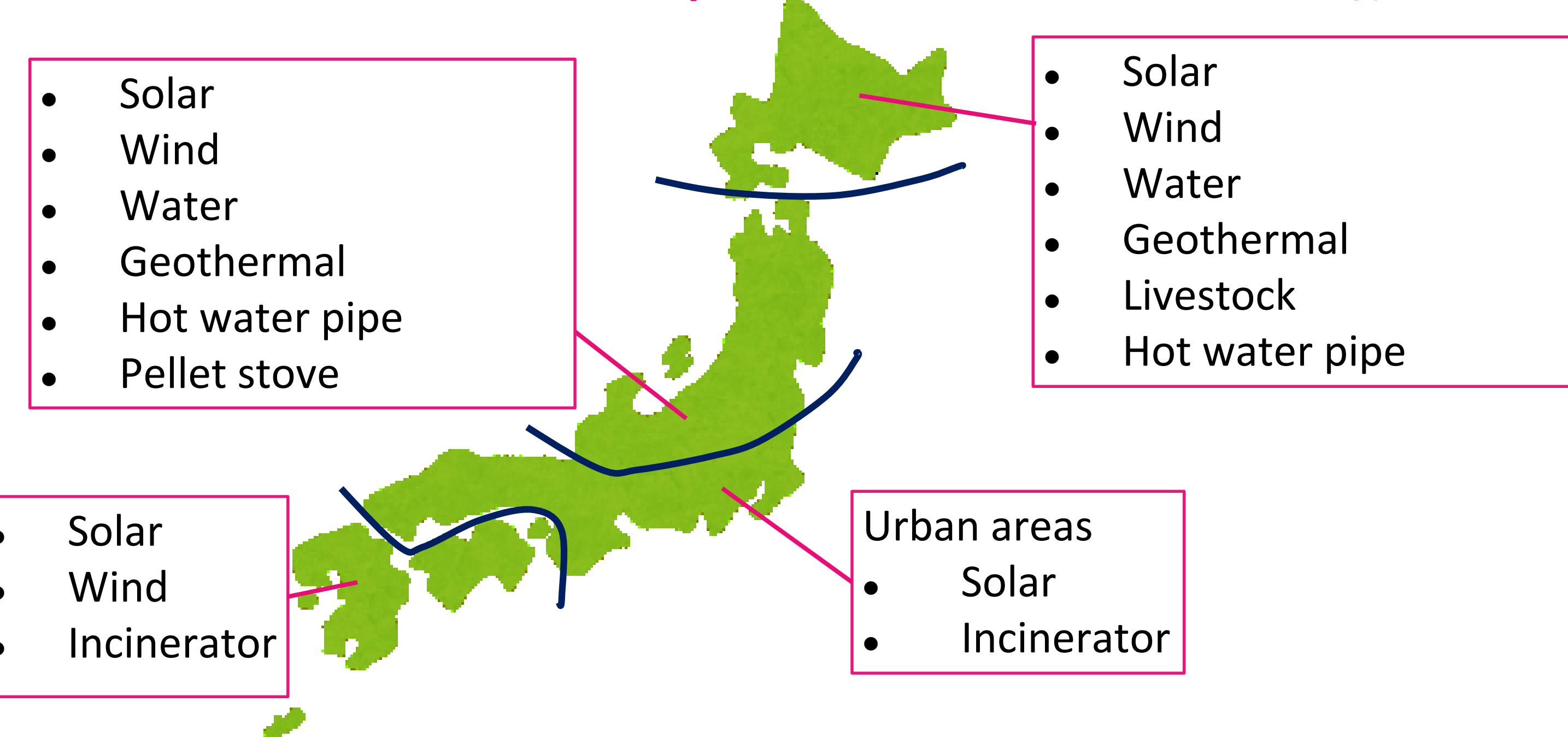
- Keep cool
- Iron (roof), galvanized iron sheet (wall)
- Breathable



Eco-model town & Diorama

Divide into 4 areas

Based on **climate**, **landform**, and **potential** of each renewable energy



Eco-model house and Eco-model town

covering all the electricity needs with renewable energy suitable for each region

Spread **concrete** information about renewable energy

Eco-model town to propose **practical methods**

Diorama to generate **interest** and **attention** from people of a wide range of ages

Hokkaido→



Conclusion

1. We have to promote **renewable energy** for our future!

2. From the survey results, Japanese people have few **concrete real images**.
→ It is important to show concrete information!
Eco-model plan as diorama

3. **Save energy** + **renewable energy**