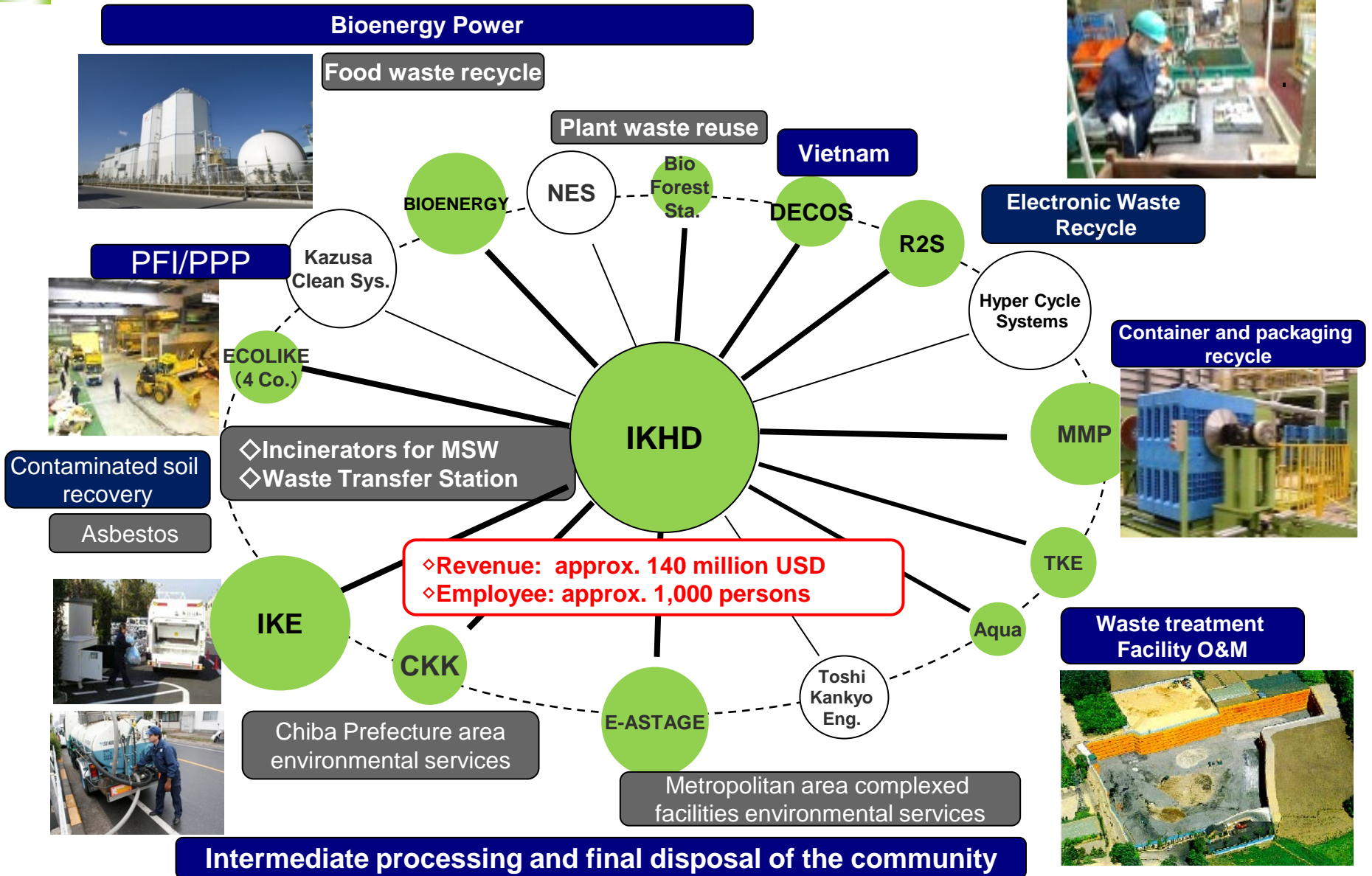


# IKE business development in Vietnam

October 23, 2018

Ichikawa Kankyo Engineering Co.,Ltd

# WHAT IS IKE GROUP ?



# IKE business process in Vietnam



Supported by the Ministry of Environment Japan (MOEJ) aid fund program for market research and FS implementation

2014  
 · Start RPF business by BCC form investment  
 · Set up Hanoi Representative Office

2012 RPF demonstration test

2010 MOU with URENCO HANOI

- ①2010 CDM feasibility study for landfilling prevention of household waste (MOEJ)
- ②2010 Project for Cooperation and Advancement of Recycling-Oriented cities through a Kitakyushu-Dalian partnership (METI)

③2011 -2012 Feasibility study on RPF production and sales business in Vietnam (MOEJ)

④2011 New Mechanism FS for Energy Generation by Waste Management Activities, through Anaerobic Digestion as Model Technology, in Malaysia

- ⑤2013 Feasibility Study on D-waste (Demolition & construction) recycling system in Vietnam (MOEJ)
- ⑥2013 Study in building strategy for environmental business transfer to Asian area

2016/5  
 Establish DECOS JV with URENCO11

2018/8  
 Establish KES environment monitoring company with ECC

STEP II

⑦2014 Feasibility Study on waste transfer station business in Hanoi city (MOEJ)

⑧2014 Feasibility Study of Methane fermentation of sewage sludge and food waste at the sewage treatment

STEP I

2010-2014 Market research

2014 ~ Business development

# Action map in Vietnam

## <Province A>

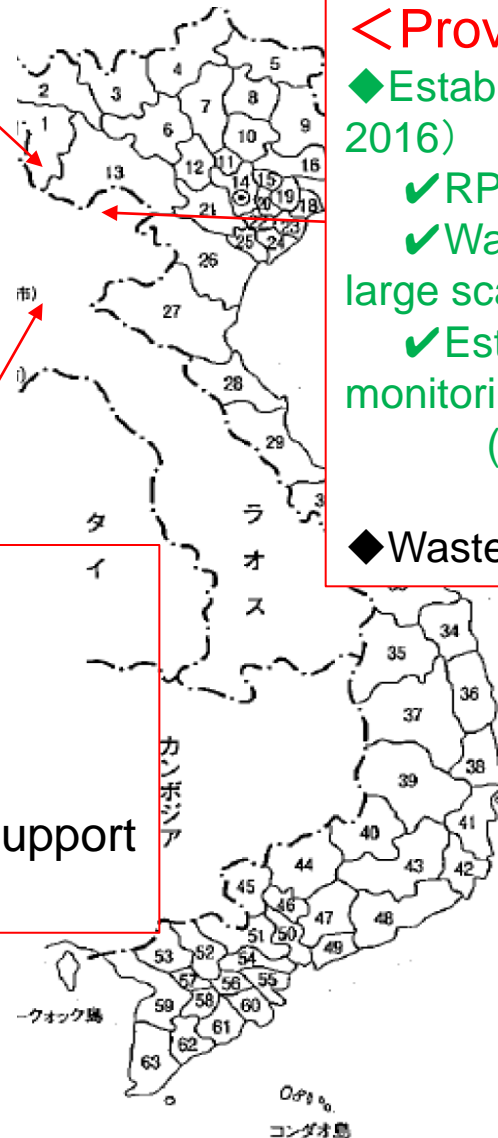
- ◆ Industrial zone construction plan
  - ✓ Placing “Eco center” in industrial zone
  - ✓ IoT adaptation for transportation
- ◆ Waste treatment complex plan

## <Province B>

- ◆ Market research
  - ✓ Waste oil recycle project
  - ✓ Incinerator project
  - ✓ Human resource development support
- ◆ Smart city project in North Hanoi

## <Province C>

- ◆ Establishment of DECOS (May, 2016)
  - ✓ RPF production and sales
  - ✓ Waste management service in large scale shopping mall
  - ✓ Established environmental monitoring service company (August, 2018)
- ◆ Waste treatment complex project



# Introduction of Join venture company in Vietnam




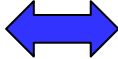
**Dai Dong Environment Solutions Co.,Ltd**



## Company Profile

1. Establishment	May, 2016
2. Capital	500,000USD (55,000,000 JPY)
3. Capital ratio	IKE 51%, URENCO11 19.41%, Other 29.59%
4. Head quarter	Van Lam Hung Yen *Inside URENCO11 waste treatment complex area
5. Staff	20
6. Business content	① RPF production and sales
	② Consulting business
	③ Solution business (Comprehensive outsourcing)

**Structure**


Partnership

- **IKE 51% capital**
- Transfer of waste treatment know-how
- Provide corporate management know-how
- Foreign capital company establishment works

- **Vietnam side 49% capital**
- Human resource
- Infrastructure (Land, building)
- Access to market information

**New business**

**KES**  
(Kankyo Environment Solutions)



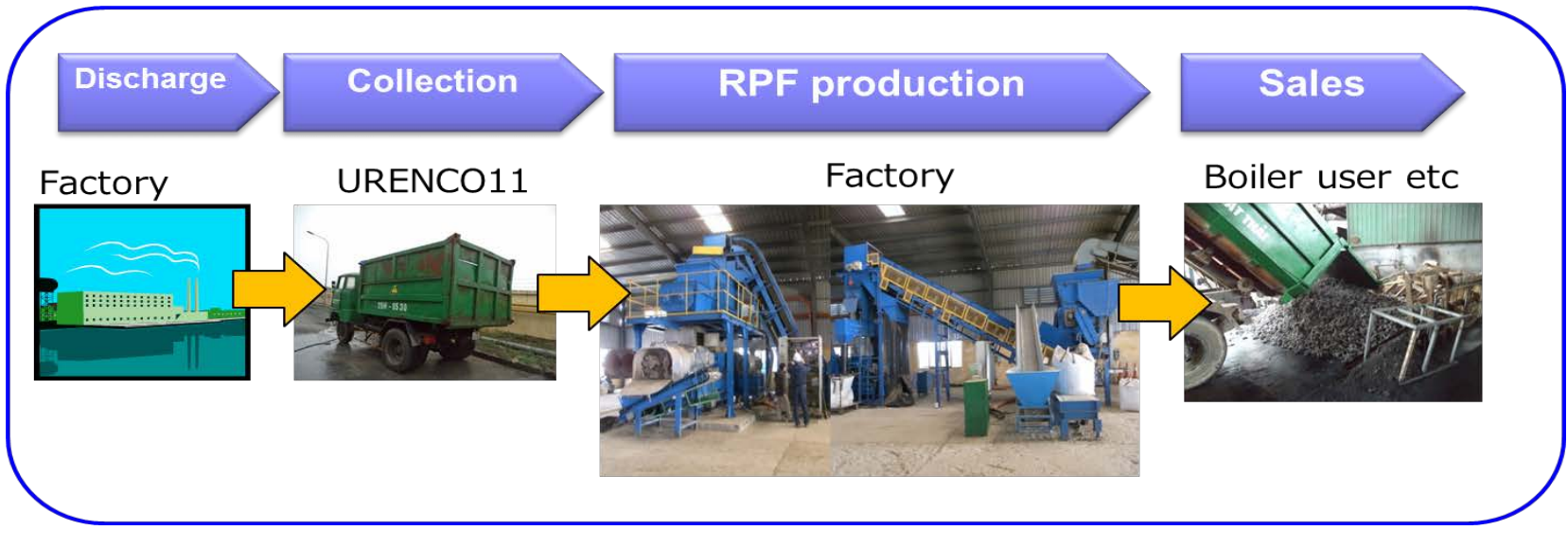
(49%)

Environment Control Center (ECC)  
(51%)

**Environmental Monitoring**  
(air, water, etc)

# DECOS business outline 1/2: RPF business

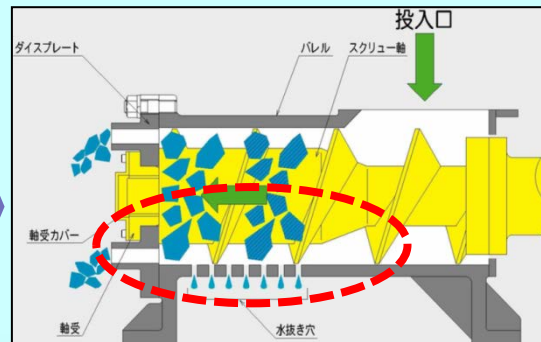
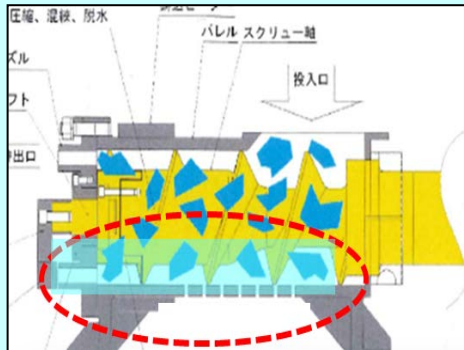
- ◆ Production volume : 10t/day
- ◆ Raw material : Waste plastic  
Paper sludge and other
- ◆ Customer : Paper-mill company,  
Feed company, etc  
Boiler operation company
- ◆ Facility : Shredding machine, RPF machine,  
Magnetic separator, Conveyor





<Support of Ministry of the Environment, Japan (MOEJ)>  
“Financing program to demonstrate advanced low carbon technology innovation for further development in developing countries”

### RPF machine renovation



*Water discharge function for high calorific value*

*Low CO2 emission to coal*



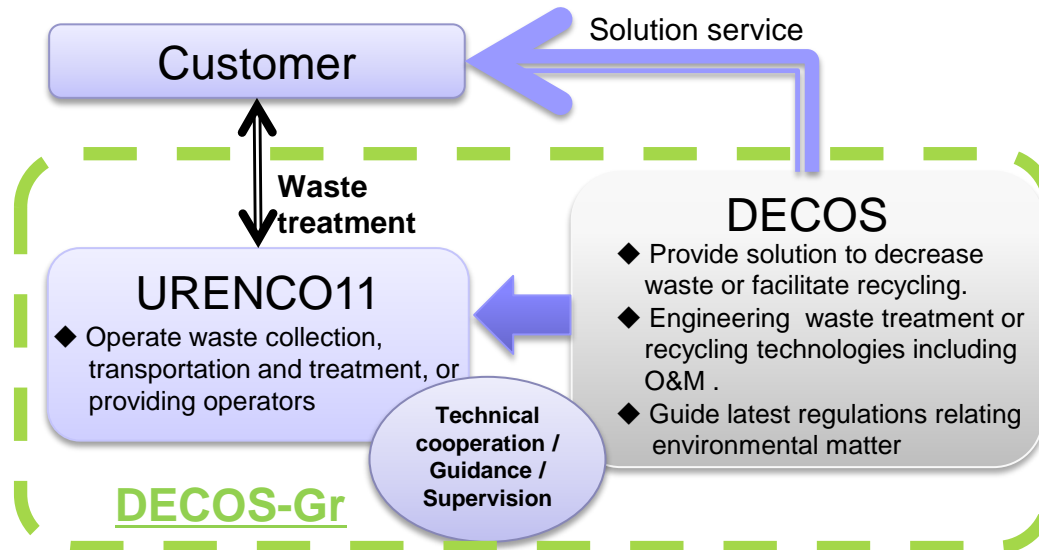
### Test use for demonstration

## Provided service:

**Reduction of CO2 emissions, zero emissions - 3 R, proper disposal of waste -  
Realization of Recycle and execution supervision**

### Service Examples :

- A) Providing waste treatment services  
(Collection and Transportation. Proper treatment);
- B) Providing operation service about waste management  
(Providing sorting worker. Equipment rental service.);
- C) Arranging recycling scheme based on GLOCAL network;
- D) Selling waste treatment machines  
(Water treatment. Waste compressor. Waste crusher and Others made in Japan or Vietnam);
- E) Helping document work for local officials;

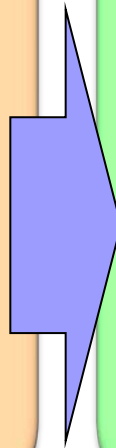




## BEFORE



## AFTER



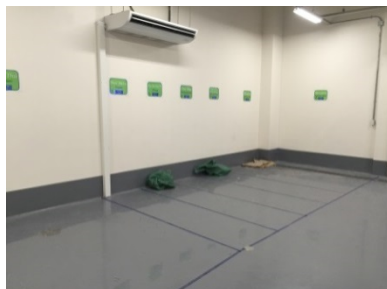
Place indication (entrance)

Place indication (for each item)

Separation guidance, Education

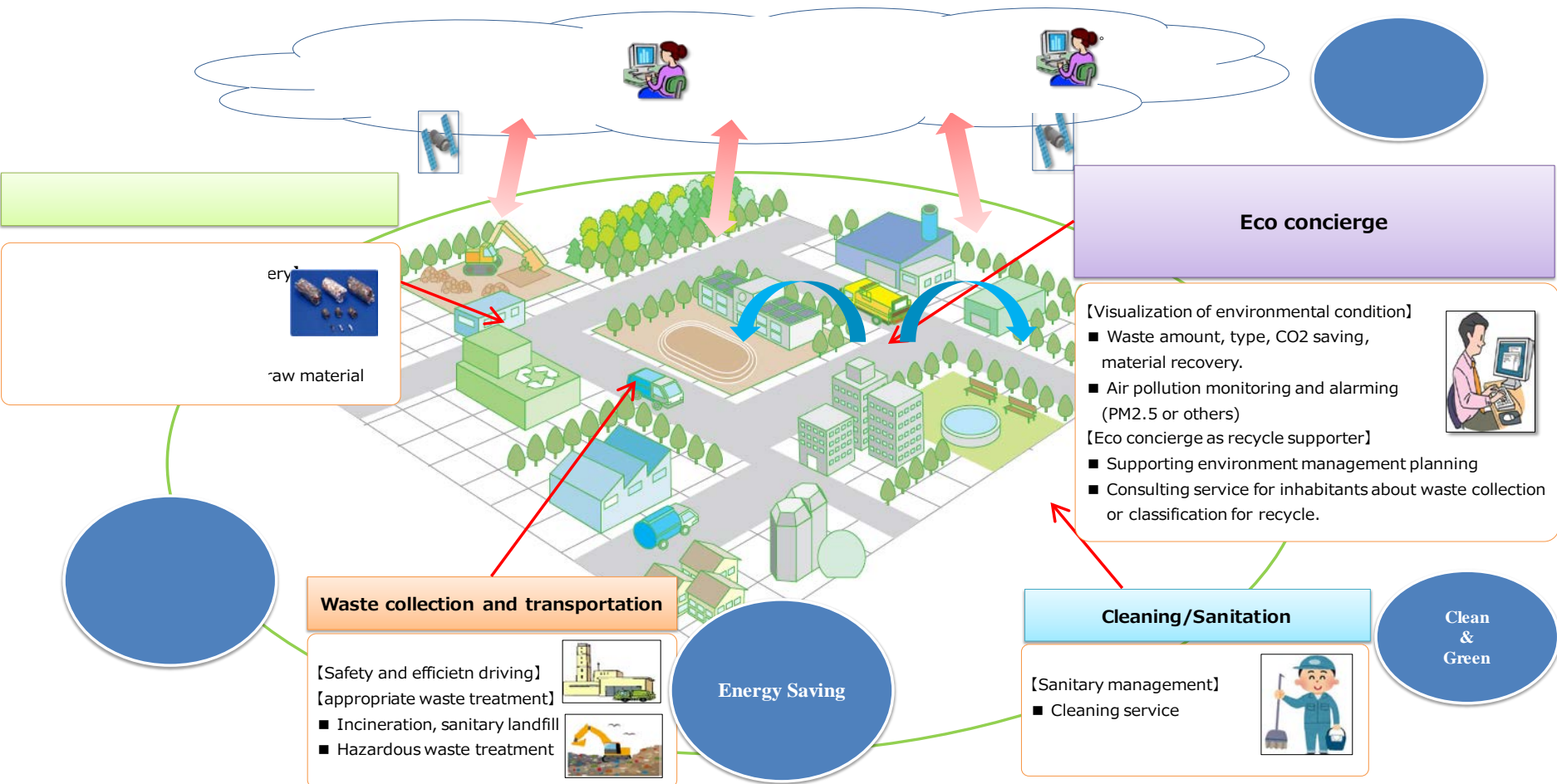
Practical training

Actual measurement



## Hanoi Smart City : ENVIRONMENT SYS.

※ To optimize logistic efficiency, cooperate with other logistics services and organize various information.



Thank you very much for listening!

**CẢM ƠN NHIỀU!**