



**Activities for circular economy promotion under Hai Phong
– Kitakyushu cooperation
Expectation for Japanese Enterprises.**

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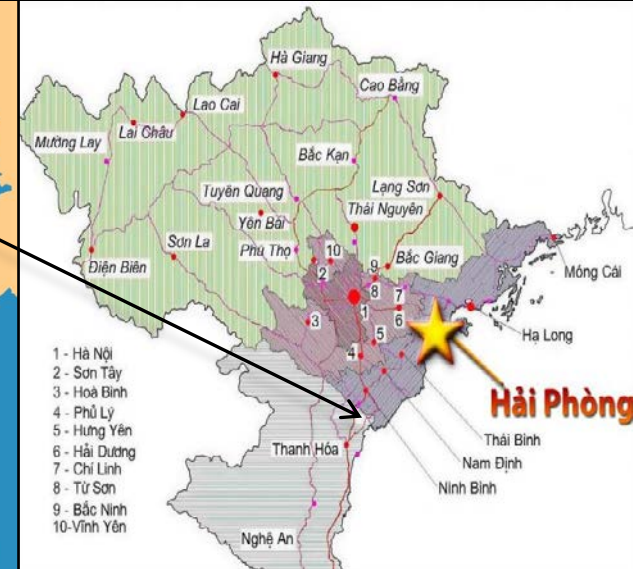
1 Overview on Hai Phong city

Total Area: 1.561 km² (3rd largest city)

Population: About 2 million

Hai Phong is an ideal destination:

- A urban center of national level.
- A center of Industry and commerce, service, tourism, education and healthcare of the North of Viet Nam.
- The Pole of the Dynamic Economic Triangle in Northern Vietnam Hanoi - Haiphong - Quang Ninh
- A seaport city in the sea route from east to west and from north to south
- Cat Bi International Airport to main tourism destinations in Vietnam and regions as Thailand and expected to Japan and Korea





Action plans:

1. Raise awareness of related organs, persons

2. Set up a system of indicators which is suitable with city's condition. Then, city's economic-social development plan will be done based on this system.

3. Study and set up green models such as: Green Port City, Green Urban, Green Industry, Green Agriculture...

4. Build mechanism and policies to support the action plan

5. Implementation of sustainable development plan in 2011 - 2020 term.

Action plans:

6. Research and apply new technology to production

7. Save energy and natural resource. Increase of the usage of clean and recycle energy.

8. Gradually reduce the size and sections which cause high emission

9. Increase international cooperation

10. Do regularly inspection and review the implementation of action plan

Action plans:

11. Carry out action plans to reduce air emission.

12. Issue plan to reject ineffective technology, unfriendly to environment in the field of agriculture, industry, transportation and energy

13. Use save energy equipments

14. Increase the application of new energy, recycled energy to 5%

15. Force 90% enterprises apply cleaner production technology.

16. 90% urban waste to be collected and treatment, in which 85% is recycled.

Challenges for circular economy development

1. **Lack of legal documents/ regulation under environmental law**
2. **Ineffectively implementation of legal documents**
3. **Limited Capital/Fund for environment protection activities and high-tech equipment**
4. **Human resource does not meet the demand in quantity and quality**
5. **Awareness on law implementation is not good enough**
6. **Prevention of environmental crime has not met the demand**
7. **Irregular and timely inspection on environment**
8. **Weak cooperation between functional departments, organs and association**
9. **Lack of knowledge on JCM projects**

LANDMARKS:

- The relationship between Hai Phong and Kitakyushu was established by a Friendship and Cooperation Agreement in 2009 and officially became sister city since April 2014 on the occasion of the working visit led by the Chairman of Hai Phong People's Committee to Kitakyushu.
- Organized 03 Workshops on Haiphong Green Growth Promotion Plan (in 2014, 2015);
- Seminar on Water Supply technology and Management (Oct 9, 2015);
- Seminar on Expansion Waste collection and separation at source in Haiphong (Jan 17, 2018)
- Organized Workshops and Meetings on pilot projects in the framework of Green Growth Promotion Plan of Haiphong City (from 2015 to 2017)



Green Growth Plan

Time to begin:

05/2015

Purpose:

To create a Green Port City with sustainable development

Main Content:

15 Pilot Projects of 7 fields

Pilot Projects in “Green Growth Promotion Plan” to Haiphong proposed by Kitakyushu

Waste	① Separation and composting of household waste
	② Waste Heat Recovery Power Generation & Utilization of Industrial Waste
	③ Recycling of E-Waste
Energy	④ Energy savings and introduction decentralized energy systems in factories & buildings
Transportation	⑤ Introduction of low-emission buses
	⑥ Promotion use of public transportation
Cat Ba Island	⑦ Development of comprehensive resource recycling system
	⑧ Energy saving and introduction of renewable energy & EV buses in Cat Ba Island
Water & Sewage, Rainwater Drainage	⑨ U-BCF expansion project
	⑩ Handicraft village wastewater measures
	⑪ Introduction of sewerage registry system
Environmental Protection	⑫ Restoration of Tay Nam canal
	⑬ Development of air and noise monitoring systems
Green Production	⑭ Installation of high-efficiency furnaces in foundries
	⑮ Promotion of green agriculture

Composting Production Project at Trang Cat Waste Treatment Complex

Testing compost production

[11/2015 -01/2016]

- Testing compost production with Takakura technique was implemented from November 2015 at Trang Cat waste treatment complex by URENCO under the instruction of Kitakyushu expert.
- Fresh waste collected from markets, household, restaurant: 50 tons/day
- Compost quality meets standards regulated by Ministry of Agriculture and Rural Development of Vietnam.



Process of organic waste collection – transport - treatment



Organic waste collection and classification from 26 markets, hotels and restaurants



Special vehicle to carry organic waste



Waste classification on the line



Mixing seed compost with organic waste



Fermenting process



Drying process

The final product is used at the experimental garden and the city center's garden.



Energy saving and introduction of renewable energy & EV buses in Cat Ba Island



Energy savings and introduction of renewable energy and EV buses in Cat Ba Island where Hai Phong City is trying to register as World Heritage.

- ❖ **Period: Feb.2017 to Feb 2020**
- ❖ **Joint development by local company, Soft Energy Controls, with a Chinese company (provider of technologies to control storage batteries)**
- ❖ **Introduction of first EV bus in Viet Nam**

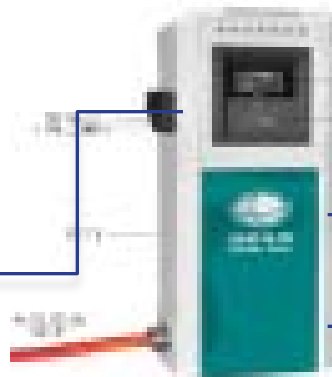
Achieving CO2 Zero Emission Transportation !!



PV Power Generation (Roof-Top) in Bus Port
51KW

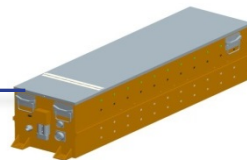


PV Power Generation PCS
51KW(DC/AC)



Battery Pack Charging
576V250A (AC/DC)

Directly Charging
(In case still remain)



Battery Pack



Eco Industrial Park

The Eco Industrial Park has tenants that join Cleaner Production, effectively utilizes resources, improves economic and environmental social effects, and collaborate with production for the realization of industrial symbiosis approach.

The Eco Industrial Park Development Goals

- Cleaner Production methods
- use resources efficiently

Improve the economic effect of tenants

- clean technology
- minimizing the sources of pollution and waste
- encouraging Cleaner Production methods

Improve the environmental conservation

- competitive business community of industrial zones in the market
- protect the environment in the neighboring residential areas

sustainable development goals

* Proposals - Expectation for Japanese Enterprises

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- 1. Public Private Partnership (PPP)**
 - 2. Training in waste treatment, environmental techniques:**
 - Learning on jobs/projects
 - Short term courses
 - Officials, employees
 - 3. Disseminating and transferring know-how**
 - 4. New kinds of projects for associations**



THANK YOU!