Supporting utility	Water and Sewer Bureau of the City of Kitakyushu (**WSBK**)	Case No.	1
On recipient utility		Data from	2013 to 2017

Recipient utility	Haiphong Water Joint Stock Company (**HWC**) in Vietnam		
Cooperation year	2009 to Present		
Service area	Haiphong City		
Service population※1	• Urban area: N/A※2 • Rural area: N/A • Total: 1.36 million	Service coverage※3	• Urban area: N/A • Rural area: N/A • 70% of service area
Water distribution※4	170,000 m^3/day	Maximum water distribution	Distribution capacity: 185,000 m^3/day
Water consumption per capita	N/A	NRW※5	13.0%
Water source	Rivers	Pipe length※6	2,300 km
No. of WTP※7	7	No. of Employees※8	1,157
Water treatment	Coagulation + Sedimentation + Rapid filtration + Chlorine Disinfection		
Water rates※9	4.7 USD/10m^3 (1 USD = 22,425 VND)		

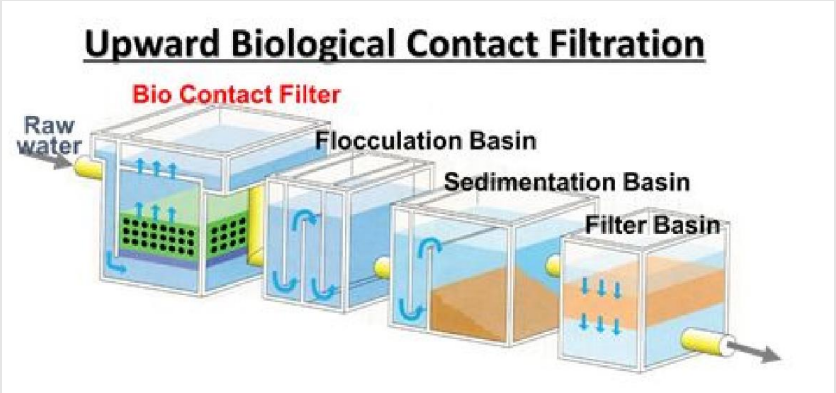
On technical cooperation

Background	• In April 2009, Haiphong City and Kitakyushu City signed a "Friendship Cooperation Agreement". • Upon the agreement, **HWC** called for **WSBK** to provide technical cooperation to solve HWC's water related issues. • WSBK submits a proposal to the Japan International Cooperation Agency (**JICA**) to provide technical cooperation for Haiphong City. • In August 2010, WSBK started JICA's technical cooperation project to

※1 Source: 2014 preliminary report to provide technical cooperation for An Duong Water Treatment Plant
※2 N/A = Not available
※3 Source: 2014 preliminary report to provide technical cooperation for An Duong Water Treatment Plant
※4 Source: 2014 presentation material by HWC trainees
※5 Ibid.
※6 Source: 2014 preliminary report to provide technical cooperation for An Duong Water Treatment Plant
※7 WTP = Water Treatment Plant
※8 Source: 2014 preliminary report to provide technical cooperation for An Duong Water Treatment Plant
※9 Water rates based on "Domestic use for urban area 10,600VND/m^3" http://capnuochaiphong.com.vn/danh-muc/1/gia-nuoc-dinh-muc-35.html (as of 2017)

	improve the efficiency of water treatment for organic substances.
Cooperative scheme	• Cooperation framework: JICA Partnership Project • Recipient organization: HWC • Assisting organization: Kitakyushu Overseas Water Business Association (**KOWBA**)
HWC's challenges	• Deterioration of water quality in source rivers • Water quality analysis • NRW Reduction • Distribution network management
Technical cooperation provided	➢ Water treatment • From 2010 to 2012, WSBK implemented a JICA's Partnership Program to enhance HWC's capacity to address water source pollution due to organic substances. • Project overview - Monitoring and treatment of organic substances - Introduction of an advanced water treatment technology called U-BCF (Upward Biological Contact Filtration)※10 - Verification of U-BCF at a demonstration plant in Haiphong City ➢ NRW reduction • For three years from 2013, WSBK implemented a JICA's Partnership Program to reduce NRW of HWC. • Project overview - Implemented WSBK method to reduce NRW - Explored possibility of sub-dividing the distribution network to better control and monitor the water flow and pressures - Adopted the same mapping system as WSBK's
Future plans and prospects	• HWC has actively introduced Japanese technologies and improved their technical level. These technologies include: - Purchase of Japanese water leak detectors - Introduction of WSBK method to reduce NRW - Adoption of WSBK-style mapping system

※10 U-BCF was developed by WSBK, which has its patent in Japan. For the technical features of U-BCF, please see a report regarding WSBK's water treatment processes on the website of NewTap: http://www.jwrc-net.or.jp/aswin/en/newtap/report/NewTap_Japan_002_04.pdf

		• By continuing this type of technical cooperation, WSBK also envisages to help Japanese companies to develop their businesses in foreign countries.
	Figures and photos	 ▲ U-BCF demonstration plant in Haiphong City  ▲U-BCF treatment process