

SPP Tender Implementation and Impact Monitoring Suwon, Republic of Korea

SUMMARY



Selected as a city for the “SPP Tender Implementation and Impact Monitoring” that is currently being carried out in Asia under the UN 10YFP(The 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns). Suwon kicked off the project in March 2017 and set the target for increasing the ratio of the annual Green Public Procurement(GPP) to over 40% and that of Recycled Asphalt Concrete(RAC) to more than 20% through such a project. To this end, the city engaged in a variety of activities such as training of public servants, workshops and distribution of the guideline on the green public procurement. In particular, it put in place a cooperative procurement system within the city to promote the green public procurement. As a result, Suwon achieved its target ratios of green public procurement and recycled asphalt concrete purchased. On top of that, it reaped environmental and economic benefits worth more than 800 million KRW by using 33,627 tons of recycled asphalt concrete from Jan 2017 to Jun 2018.

I. Background & Purpose

In accordance with Article 11 of Act on Promotion of Green Product Procurement, Suwon successfully created a system needed to stimulate procurement of green products by enacting “Ordinance to Promote Green Product Procurement in Suwon.” It also has provided annual training sessions to public servants to encourage the green public procurement. It is the first local government in the nation that successfully hosted the 3rd International Conference on Green Purchasing in Oct 2009, and pledged to contribute to spread of the green public procurement by adopting “Suwon Declaration.” However, in 2016, the city was ranked

28th out of Gyeonggi Province in terms of green purchasing and showed a mediocre performance with 34.1% of green products purchased and a mere 7.6% of recycled asphalt concrete out of total asphalt concrete sold.

Suwon was chosen as a city for a “SPP Tender Implementation and Impact Monitoring” that is being conducted in Asia under the UN 10YFP for Sustainable Consumption and Production and initiated the project starting from March 2017. Under the project, Suwon determined recycling of asphalt concrete as its core business area and pledged to make its utmost efforts to promote the green public procurement in cooperation with ICLEI Korea Office and Korea Environmental Industry and Technology Institute (KEITI).

Suwon set the project scope and target before the full-scale launch of the project to guide implementation of the project in an effective manner. The project term was divided into two phases (Jan to Dec 2017 & Jan to Jun (First-half) 2018) to compare actual performance with the previous year. Its scope was also confined to recycled asphalt concrete that takes up the lion share of the green public procurement and has enormous environmental impacts and benefits. The final target for the project was determined as follows: 40% or more of green public procurement out of total procurement in Suwon and 20% or higher of recycled asphalt concrete out of total asphalt concrete purchased.

Actively taking advantage of Procura+ Manual (2007) issued by ICLEI European Secretariat, Suwon created its step-by-step strategies and implementation plans and applied them to its pilot project as follows during the project term.

UN 10YFP : The 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns

At the United Nations Conference on Sustainable Development (UNCSD, Rio+20), in June 2012, the world's Heads of States adopted the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (hereafter the 10YFP) the Secretariat has established the 10YFP Trust Fund aimed at providing financial support to the 10YFP and specific programs and initiatives (consumer information, sustainable lifestyles and education, sustainable public procurement, sustainable buildings and construction, and sustainable tourism) in developing countries.

UNEP has been asked to serve as the Secretariat of the 10YFP and KEITI has been selected the Board member of 10YFP representing Asia-Pacific region from September 2013.

ICLEI as a 10YFP partner institute, ICLEI Korea Office has implemented 'UN10YFP SPP Programme: 2017-2018 Asia SPP Tender Implementation and Impact Monitoring Pilot Program' in Suwon City, Republic of Korea.

※ Source : KEITI Special Issues 2015

II. Setting Scope and Targets

III. Strategy and Action Plan

Table 1. The Phased Strategy and Action Plan

Category	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Strategy & Plan	Expand Recycled Asphalt Concrete Purchasing	Establish Cooperative Framework	Approach for Purchase Execution/ Public Procurement	Benefit Analysis	Promotion of Outcome
Action	- Guideline - Training - Workshop	- Cooperative system	- Purchasing - Monitoring	- Environmental benefits analysis - Purchasing evaluation	- Case report - Case presentation

※ Source : Recreated based on the Procura+ Manual issued by ICLEI European Secretariat (2007)

Phase 1 Expansion of Recycled Asphalt Concrete Procurement

The first step to expand the procurement of recycled asphalt concrete was preparation and distribution of a guideline to enhance the green public procurement and use of recycled asphalt concrete. Based on this, training sessions and workshops were held to raise awareness.

- The “Guideline on Procurement of Green Products and Recycled Asphalt Concrete” was created and distributed to all employees of Suwon Main Office, business offices, four ward offices and community centers to help them more easily purchase green products and services.
- Opportunities were created for public servants in charge of facility management who purchase the most of construction materials including asphalt concrete through a visit to the manufacturing site of recycled asphalt concrete, in order to raise their awareness on the recycled material.
- Training sessions were offered to over 50 public servants from Suwon Main Office, Road Traffic Office and Waterworks Office to increase the procurement of recycled asphalt concrete. The training focused on improvement of awareness on recycled asphalt concrete and methods/procedures to purchase it.



Picture 1. Training for Promotion of Green Public Procurement in 2017 (June 2017)



Picture 2. Workshop Session (June 2017)

Phase 2 Establishment of Cooperative Framework



Picture 3. Establishment of Cooperative System in Suwon (February 2017)

As the second step, the mayor of Suwon presided over an extended executive meeting and made a pledge that public officials in the 4th rank or higher including heads of departments or directors should expand purchase of green products and services. The purpose of this cooperative framework was to draw interests and participation of public officials and ultimately to spread it to the civil society.

In particular, the pledge also included that the ratio of the green products purchased (recycled asphalt concrete) should stand at 50% or higher when the government-furnished materials (asphalt concrete, etc.) or other supplies are purchased by a department concerned.

Phase 3 Approach for Purchase Execution / Public Procurement

Table 2. Methods & Procedures to Purchase Recycled Asphalt Concrete

<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>
Site survey on roads	Create a design documents and drawings (Identify quantity of materials)	Order construction	Select a vendor to purchase gov't-furnished materials (Public Procurement Service)	Sign a contract & Purchase materials

※ Source : Suwon(2017), 2017-2018 Guideline on Procurement of Green Products

Based on the scope and target mentioned above, Suwon embarked on its efforts to enhance the green public procurement in overall and increase the ratio of recycled asphalt concrete purchased. Especially, in case of selection of a vendor to purchase asphalt concrete, an official request was made to each government department to ensure that procurement officials should check information about construction materials such as asphalt concrete and availability of a vendor which handles recycled asphalt concrete on the Public Procurement Service¹'s E-Procurement² (see Table 2) first and sign a contract with the vendor and purchase the material. The "Guideline on Procurement of Recycled Asphalt Concrete" that summarizes procurement methods, procedures and vendors that sell recycled asphalt concrete (Asphalt Concrete Association in Gyeonggi) was distributed to the officials to help them to more readily procure green products and recycled asphalt concrete.

The KEITI and ICLEI Korea Office offered continuous monitoring and consulting services to help implementation of the green public procurement in Suwon. The following is the actual performance of the green public procurement based on a series of the processes and efforts.

1 Public Procurement Service:
Consumer organizations assigned such as governmental bodies, local governments, educational institutions and public agencies are required to request procurement to the Public Procurement Service when more than a certain volume of materials or a contract for facility construction is needed. (Source: Website of the Public Procurement Service).

2 E-Procurement:
It refers to an online public procurement system operated by the Public Procurement Service. (Source: Website of the Public Procurement Service).

Table 3. Outcome of Green Public Procurement in Suwon

Category	2016			2017 (as of Dec 2017)			2018 (First-half) (as of Jun 2018)		
	Total Purchase Amount (1,000KRW)	Purchase Amount of Green Products (1,000KRW)	Ratio (%)	Total Purchase Amount (1,000KRW)	Purchase Amount of Green Products (1,000KRW)	Ratio (%)	Total Purchase Amount (1,000KRW)	Purchase Amount of Green Products (1,000KRW)	Ratio (%)
Public Procurement	33,561,119	11,471,895	34.1	28,935,698	15,903,390	54.9 (20.8 ↑)	20,441,084	10,209,437	49.9 (5 ↓)
Asphalt Concrete	8,210,764	627,290	7.6	5,518,050	304,709	5.5 (2.1 ↓)	3,555,475	963,145	27.1 (21.6 ↑)

※ Source : Green Purchasing Information System (Suwon)

- In 2017, the ratio of green public procurement rose by 20.8%p compared to 2016 and stood at 54.9% out of the total public procurement in Suwon, posting a record high.
- During the first half of 2018 (2nd phase of the project), the ratio largely exceeded the 40% target and was posted at 49.9%, creating a good example of the green public procurement over the past 2 years.
- The procurement ratio of recycled asphalt concrete in 2017 stood at 5.5%, a decline by 2.1%p over the same period previous year, but thanks to continuous efforts to raise awareness on the use of recycled asphalt concrete such as workshops, training sessions and distribution of a guideline, the rate increased by 21%p to 27.1% at the first half of 2018, achieving the final target.

Phase 4 Benefit Analysis

ICLEI Korea Office conducted a benefit analysis in perspective of the environment and economy based on records of recycled asphalt concrete purchased in Suwon during the project term.

🔍 Benefit Analysis Methodology

- A methodology used for “Economic Benefit Analysis of GR Certified Products Using Reclaimed Asphalt Concrete” prepared in 2011 by Resource Circulation Industry Promotion Association was updated for this pilot project, and the city conducted its own environmental and economic benefit analysis based on actual procurement performance of recycled asphalt concrete carried out in 2017 and the first half of 2018.
- The methodology for environmental and economic benefit analysis and its applicable cases are not common in the nation’s recycled asphalt concrete sector and it is not appropriate to apply overseas cases since the market scale and prices of recycled asphalt concrete in South Korea are different from those in overseas markets. Thus, it is necessary to modify and update the analysis methodology created in 2011 and discover and develop a new methodology for the future projects.



Economic Benefit as per 1-ton Recycled Asphalt Concrete = ① + ② + ③

① (Budget-saving benefit from price differential)

Unit price of asphalt concrete – Unit price of recycled asphalt concrete

② (Benefit from unused natural aggregate (asphalt concrete)) about 15,000KRW/ton

③ (CO₂ mitigation benefit from reduced use of oil extracts)

30.6kg/ton X 2.79(kg CO₂ conversion factor) X 1ton/1,000kg X 15,003KRW/ton
= 1,280KRW/ton

※ Source : Resource Circulation Industry Promotion Association, 2011

🔍 Basic Unit Status (updated from 2017/2018 standards)

- ① Budget-saving benefit from price differential
Unit price of asphalt concrete - Unit price of recycled asphalt concrete =
57,251KRW/ton – 49,392KRW/ton = 7,859KRW/ton
- ② Benefit from unused natural aggregate (asphalt concrete)
Price of natural aggregate = 15,000KRW/ton

- ③ CO₂ mitigation benefit from reduced use of oil extracts
 $30.6\text{kg/ton} \times 2.79(\text{kg CO}_2 \text{ conversion factor}) \times 1\text{ton}/1,000\text{kg} \times 15,003\text{KRW/ton} = 1,280\text{KRW/ton}$
- **Result of basic unit analysis**
 $①+②+③ = 24,139\text{KRW/ton}$

🔍 Findings based on Suwon’s Methodology for Benefit Analysis

- The result of the benefit analysis based on the methodology above is described in the following Table 4. Through this pilot project, Suwon was able to recycle 33,617 tons of asphalt concrete in total and create the environmental and economic benefits worth more than 800 million KRW.

Table 4. 2017-2018(First-half) Benefit Analysis according to use of Recycled Asphalt Concrete in Suwon

Category	2017 (as of Dec 2017)	2018 (first-half) (as of Jun 2018)
Amount Purchased	14,332ton	19,295ton
Application of Benefit Analysis	14,332ton X 24,139won(KRW)/ton = 345,960,148won(KRW)	19,295ton X 24,139won(KRW)/ton = 465,762,005won(KRW)
Environ. & Economic Benefits (Total)	811,722,153won(KRW)	

Phase 5 Promotion of Outcome

Suwon presented its pilot project’s processes and major outcome at various events at home and abroad such as Eco Forum Global (Guiyang, China in Jun 2017), WCS Mayors Forum (Seoul, South Korea in Oct 2017) and Workshop for Promotion of Public Institutes’

Green Procurement (Seoul, South Korea in Nov 2017) and the COP23 of the UNFCCC (Bonn, Germany in Nov 2017). It plans to develop this into a case study and spread it to numerous international platforms.



Picture 4. Eco Forum Global in Guiyang (17 June 2017) **Picture 5.** UNFCCC COP23 (16 Nov 2017)

IV. Results & Future Tasks

Suwon successfully created the environmental and economic benefits that amount to more than 800 million KRW using 33,627 tons of recycled asphalt concrete from 2017 to the first half of 2018 thanks to the city’s strong policy leadership and dedicated efforts of public employees in charge of procurement. It also witnessed the ratio of the green public procurement to exceed the 50% mark for the first time (out of the total public procurement) and also posted a landmark figure of 27% in terms of procurement of recycled asphalt concrete.

In addition, the city devised and developed the project scope and plans to expand the green public procurement and encourage the purchase of recycled asphalt concrete through continuous advisory and planning sessions with the KEITI and ICLEI Korea Office. Based on these sessions, it achieved such a positive outcome in the green public procurement and, especially, use of recycled asphalt concrete by executing implementation plans step-by-step from 2017 to 2018 (first-half).

Suwon aims at becoming a leading city in terms of the green public procurement by spreading its cases not only to other areas in the nation but also around the globe down the road. On top of that, it hopes that such efforts and performance in the public sector can be widespread to the private sector and lead to a model for sustainable city with resource circulation through sustainable green purchasing.

V. Lessons Learned

- Most of public organizations including Suwon city tend to front-load 60% to 70% of their budgets during the first and second quarters. This should take into consideration before project planning stage.
- Since public organizations in South Korea are obliged to preferentially purchase products and services produced by the disabled, women and social enterprises besides green products (Public Organizations' Preferential Purchasing System), there is a limitation to buy green products when it comes to selection of products and signing of contracts.
 - ※ *South Korea has currently distinguished the Green Public Procurement (GPP) and Sustainable Public Procurement (SPP).*
- Currently, the public trust on the quality and costs of recycled asphalt concrete is relatively low compared to other nations. If it is reinforced through a forum to improve citizens' perception on the recycled asphalt concrete and training of public servants, active public procurement is anticipated in the future for the material.
- Policy leadership and capacity of responsible person(s) are indeed crucial in the green public procurement. For this matter, various training sessions and efforts should entail to promote the leadership and capacity. With appropriate response, practical and strategic measures are expected to be born for the green public procurement.

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