



ASEIC





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ASEIC

International Platform for the Promotion of
ASEM SMEs' Eco-Innovation



Enhancing Eco-Innovation Awareness
The ASEM Eco-Innovation Consulting Project



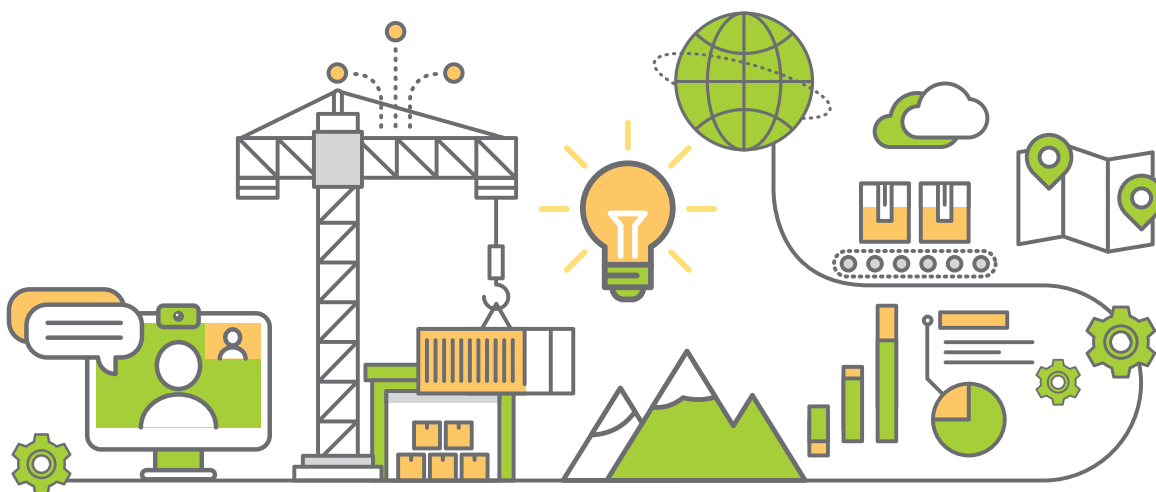
Providing Information on Responding to Climate Capital
The ASEM Eco-Innovation Index (ASEI)



Promoting Overseas Expansion and Mutual Exchange
The Green Business Center



Sharing with Various Global Experts
The ASEIC Global Forum



ASEM SMEs Eco-Innovation Center
Annual Report 2018

ASEIC



ASEIC has celebrated the fifth year since it became independent as an incorporated foundation in 2014.

In 2018, the Center carried out various projects to achieve the goal of 'Promoting Eco-Innovation of SMEs through Asia-Europe Cooperation'.

For this purpose, ASEIC has held the Eco-Innovation Capacity Building Seminar to improve SMEs' awareness of eco-innovation within ASEM, along with ASEIC Global Forum to provide global platforms for experts to convene and exchange ideas on eco-innovation. By assessing the eco-innovation status of ASEM's member countries, the center has also proceeded ASEM Eco-Innovation Index (ASEI) to provide the basis of establishing strategies. Also, ASEM has operated the Green Business Center to encourage its SMEs in entering global markets and promote mutual exchange. Through these various projects, ASEIC has supported Eco-Innovation of SMEs in Asia and Europe.

And ASEIC published this annual report which organizes a series of projects so as to utilize them as references for future business. For the past year, the center has striven for the development of eco-innovation and SMEs' cooperation between Europe and Asia. This report provides comprehensive overview of business and major achievements undertaken by ASEIC over the past year.

ASEIC would like to express its gratitude to the government ministries and eco-innovation experts for supporting the activities of ASEIC in 2018. In 2019, ASEIC will put greater effort to increase its global influence awareness in the field of eco-innovation. And through this process, ASEIC will be committed to fulfill its mission of "Promoting SMEs Eco-Innovation through Asia-Europe cooperation."

Thank you.

December, 2018

Chairman, ASEM SMEs Eco-Innovation Center

Seong Myeong-gi



ASEM SMEs Eco-Innovation Center



introduction

ASEIC introduction

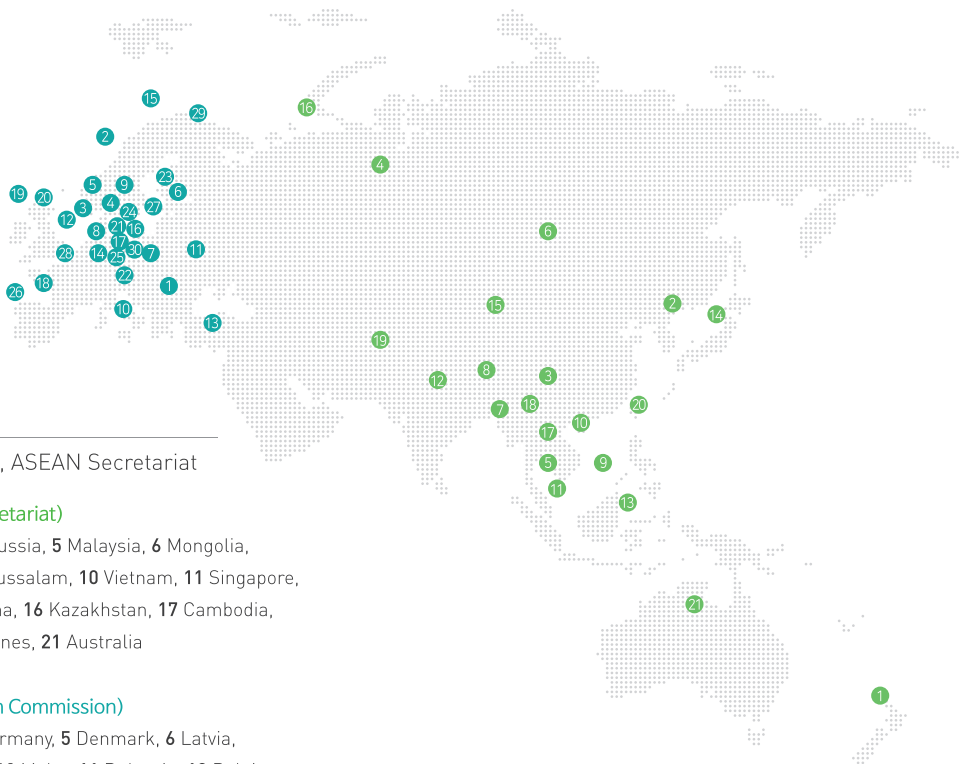
The ASEM SMEs Eco-Innovation Center (ASEIC) is an intergovernmental body that promotes the green growth of small and medium-sized enterprises (SMEs) in Asia and Europe. It was endorsed at the 8th ASEM Summit in 2010 and established in South Korea in 2011.



About the Asia-Europe Meeting (ASEM)

In October 1994, Singapore proposed creating an intergovernmental body founded on the equal partnership of Asian and European countries. Following this proposal, the Asia-Europe Meeting (ASEM) was initiated with the 1st ASEM Summit that took place in Thailand in 1996. Currently consisting of 51 member states, the European Commission, and the ASEAN Secretariat, ASEM holds summits every two years, alternating host locations between Asia and Europe. Apart from the Summit, which is the highest-level forum, there are various levels of regular meetings such as the Senior Officials' Meetings and Ministerial Meetings, including the Foreign Ministers' Meeting, Economic Ministers' Meeting, and Finance Ministers' Meeting. ASEM undertakes a wide range of initiatives promoting political, economic, and socio-cultural cooperation.

*Source : "ASEM Overview." September 2010. Ministry of Foreign Affairs, Republic of Korea



Member State Status

51 countries + European Commission, ASEAN Secretariat

• Asia group (21 countries + ASEAN Secretariat)

1 New Zealand, 2 Korea, 3 Lao PDR, 4 Russia, 5 Malaysia, 6 Mongolia,
7 Myanmar, 8 Bangladesh, 9 Brunei Darussalam, 10 Vietnam, 11 Singapore,
12 India, 13 Indonesia, 14 Japan, 15 China, 16 Kazakhstan, 17 Cambodia,
18 Thailand, 19 Pakistan, 20 The Philippines, 21 Australia

• Europe group (30 countries + European Commission)

1 Greece, 2 Norway, 3 Netherlands, 4 Germany, 5 Denmark, 6 Latvia,
7 Rumania, 8 Luxembourg, 9 Lithuania, 10 Malta, 11 Bulgaria, 12 Belgium,
13 Cyprus, 14 Switzerland, 15 Sweden, 16 Slovakia, 17 Slovenia, 18 Spain,
19 Ireland, 20 United Kingdom, 21 Austria, 22 Italy, 23 Estonia, 24 Czech Republic,
25 Croatia, 26 Portugal, 27 Poland, 28 France, 29 Finland, 30 Hungary

History

ASEIC was launched on 15 June 2011, following the official endorsement of its establishment and operation at the 8th ASEM Summit. ASEIC was operated by the Small and Medium Business Corporation (SBC) until it became an independently-managed foundation in 2014 to better implement projects that foster the inclusive green growth of ASEM member states. ASEIC has since supported technological cooperation and driven eco-innovation among SMEs in the ASEM region, solidifying its position as an intergovernmental body committed to greening SMEs.

ASEIC Activities

The ASEM Eco-Innovation Consulting Project sends a team of professional consultants to SMEs in the ASEM region and provides customized consulting services to improve their green competitiveness.

The ASEM Eco-Innovation Index (ASEI) is a set of quantitative and qualitative indicators of each ASEM member state's eco-innovation performance that can inform countries on their eco-innovation landscapes and help form relevant policies.

The ASEIC Global Forum is held annually to serve as a venue for experts from various fields to share their insights on eco-innovation and conjure up ideas for improvement and joint efforts.

The ASEM Working Group (on Eco-Innovation Competence of SMEs) serves as a ASEM platform for policy dialogue, experience sharing and multilateral cooperation on eco-innovation for the sustainable development of ASEM SMEs.

The Green Business Center encourages SMEs in ASEM member states to expand to global markets and promotes technology exchange between countries.

ASEIC Vision





ASEM SMEs Eco-Innovation Center



2018 Major Projects and Outcomes



ASEM SMEs Eco-Innovation Center



ASEM Eco-Innovation Consulting

ASEM Eco-Innovation Consulting

Project
Introduction





The 2018 Eco-Innovation Consulting Project was re-organized as a form of expanding the participation benefits to many companies from the existing one-on-one visiting management consulting. It developed in-depth capacity building modules and identified greenhouse gas reduction models that can link internationally emerging climate change issues with carbon market mechanisms utilizable by SMEs.

Program

I. Capacity Building Program

SMEs in developing countries among ASEM members have difficulty achieving eco-innovation due to lack of overall knowledge, professional experience, information, resources as well as awareness of government on eco-innovation. To overcome this obstacle, ASEIC planned the capacity building program for enhancing eco-innovation awareness based on discussion about local demand with local partner organizations.

After deriving the demand field of each participating country, subdivided modules customized for countries' status were prepared ; how to establish a roadmap for introduction of related eco-innovation systems and practical training. For some countries that requested site visit to Korean companies, ASEIC operated inbound visit program for participants. Four member countries : Vietnam, Myanmar, Cambodia and Thailand participated in ASEM SMEs Capacity Building program in 2018. A total of 273 SME employees and government officials gathered and the overall average satisfaction level was 88.3%. Detailed demand and program by country were as follows.

State	Vietnam 	Myanmar 	Cambodia 	Thailand 
Date	July 11-13	August 9-10	September 12-14	September 19-21
Place	Ho Chi Minh	Yangon	Phnom Penh	Korea
Field	Energy efficiency	Clean Production Eco-labeling	Clean Production Eco-labeling	Eco-design Eco-packaging
Composition	Introduction of energy saving technology and practice training, Introduction of best practices, business models for each field, and strengthening the awareness of Eco-Innovation, Visit to the related companies			
Target Audiences	Local government, SMEs, Industrial Organizations in each field, etc.			
Attendance scale	30	93	141	9
Satisfaction (100%)	86.1	85.5	85.9	95.6

mean satisfaction

88.3%

country-
specific
program

① Vietnam Eco-Innovation Capacity Building Program

Date / Venue	Place	Subject	Modules
Jul. 11-13, 2018	Vien Dong Hotel	Energy Efficiency Management Plan and Practice for Diagnosis	9 modules such as Energy Saving Case Analysis, Economic Analysis Technique, Know-how of each Diagnosis and Energy Measurement Practice



Group Photo of Participants



Energy Diagnosis Practice



Group work



Seminar for Capacity Building

② Myanmar Eco-Innovation Capacity Building Program

Date / Venue	Place	Subject	Modules
Aug. 9-10, 2018	Mercure Hotel	Clean Production and Utilization of Eco-Innovation in Agricultural Products	8 modules such as Clean Production, Environmental Management and Labeling, Eco-innovation Strategy in Agricultural Products



Seminar for Capacity Building



Group photo of Participants



Q&A Session



MOU Signing Ceremony between ASEIC-Myanmar Ministry of Industry

③ Cambodia Eco-Innovation Capacity Building Program

Date / Venue	Place	Subject	Co-host	Modules
Sep. 12-14, 2018	Cambodiana Hotel	Eco-labeling and Clean Production	UNESCAP, KEITI (Environmental Industry and Technology Institute)	7 modules such as Clean Production and Environmental Management. Additional Workshop to Establish Environmental Labeling Roadmaps



Group photo of Representatives



Seminar for Capacity Building



Group Work for Establishing Roadmaps



Photo of Group Session

④ Korea Visit Program for SMEs in Thailand

Date / Venue	Place	Subject	Modules
Aug. 9-10, 2018	Sang-Am-dong DMC and Company Visit	Eco-design and Eco-packaging	Eco-design-related modules and Site Visit to companies with packaging



Inbound Program Group Photo



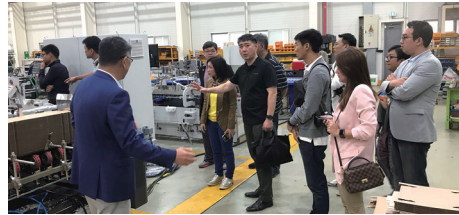
Capacity Building Session



Eco-Design Workshop



Visit to Relevant Organizations



Visit to factory with advanced technology



Introduction of Eco-Packaging



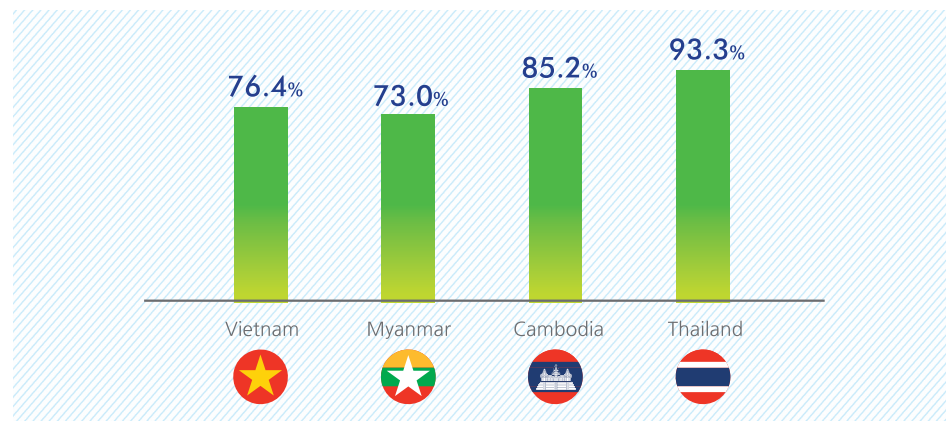
Company Introduction & Product Demonstration



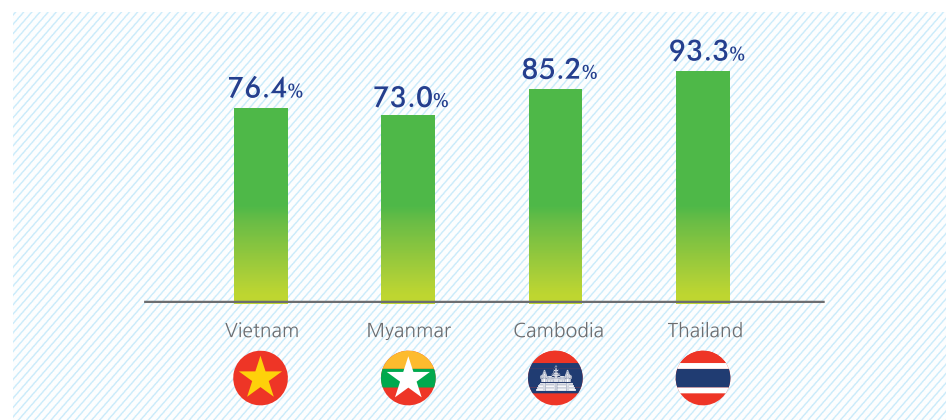
Meeting with interested companies

Average of Awareness Improvement Results

The results of Awareness Improvement and Satisfaction Level by country are shown in the below graph.



Average of Satisfaction Level Result



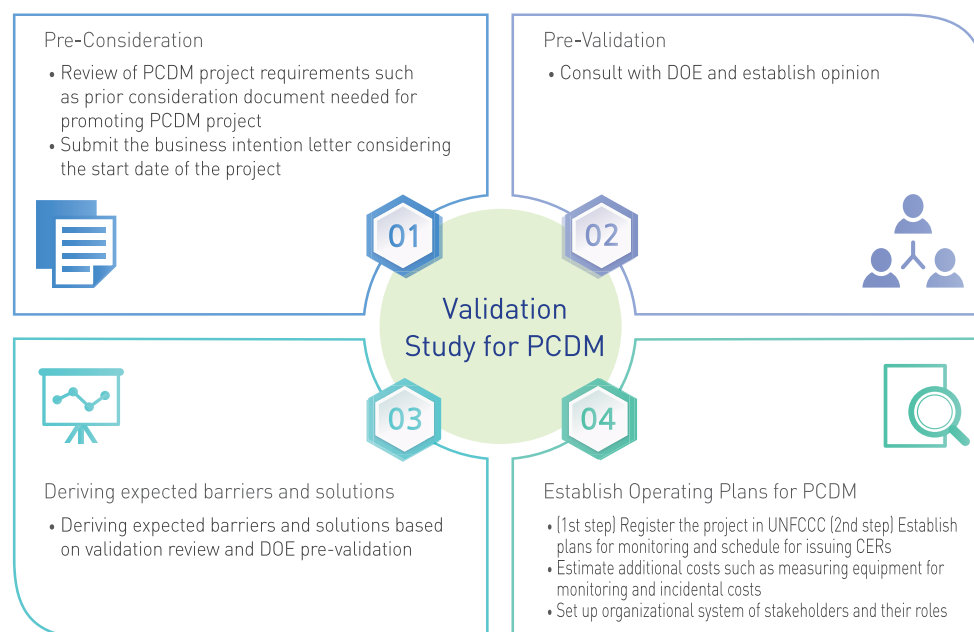
II. Discovering projects to reduce greenhouse gas emissions of SMEs in ASEM region

The Paris Climate Change Agreement, which was signed by 197 nations, officially took effect in November 2016. In response to global warming, countries around the world, including developing countries face with fulfilling the binding obligation on greenhouse gas reductions. From 2021, moreover, competition for carbon credits is likely to be intensified around the world due to the influence of new climate system.

As a result, the investment is expected to increase in various ways, especially to developing countries with abundant potential for greenhouse gas reduction. ASEIC has developed the biomass fuel conversion project to encourage SMEs to adopt green facilities utilizing carbon market mechanisms. In addition, ASEIC aims at establishing strategies for operating carbon credit utilization programs by inviting active participation of SMEs in the ASEM region as well as by developing feasible emission reduction projects afterward.

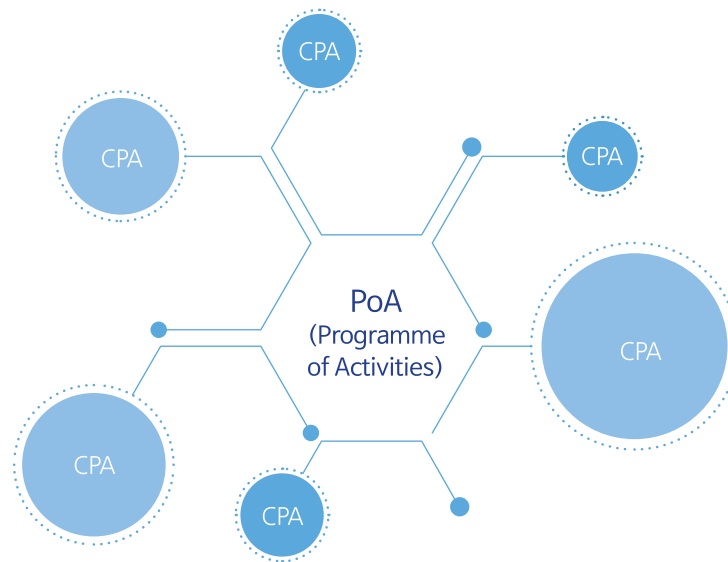
The prior consideration document for the biomass fuel conversion project which was developed in 2018 was submitted to UNFCCC. Review on main project requirements about the applicability of methodology, conformity criteria and project operating system were carried out. ASEIC conducted the relevant pre-validation review on this project and derived the expected barriers and solutions. In addition, the operating plans for the entire PCDM business were established.

Validation Study for PCDM



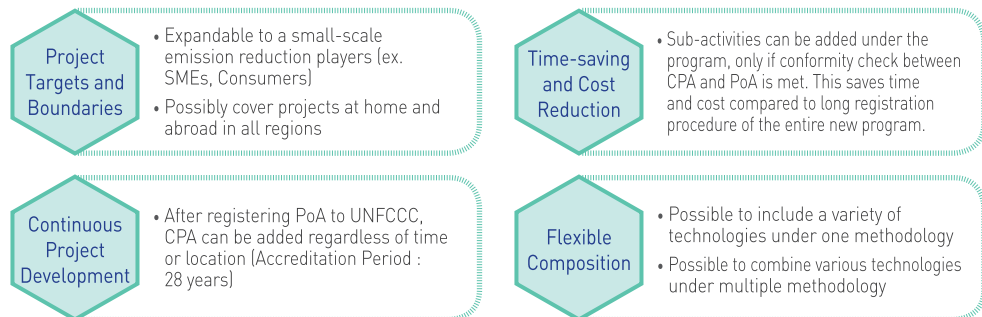
Two component project activities (CPA) have been developed under this program activities. Furthermore, ASEIC is planning to support SMEs in utilizing the overseas emission rights through direct operation of PCDM projects in the future. This business model was created to develop a greenhouse gas reduction program activity(PoA) for SMEs in ASEM member countries in time of introduction of energy efficiency technology. Another purpose of this project is to enable participants to offset the initial costs of technology introduction by securing greenhouse gas emission rights from the UN that can be tradable in the market.

PCDM Project Overview for PCDM



- PoA : Project of Activities that include several Component Project Activities (CPA) (ex. Project for complex energy diagnosis improvement in industrial complex)
- CPA : Component activities that meets standards of PoA, targeting a single work site or multiple consumers

PCDM Project Features



In particular, SMEs have difficulties in obtaining carbon emission credits (ex. CDM) through direct overseas GHG reduction projects due to the lack of skilled experience and low profitability of carbon credit with small-scale emission reduction amount. Therefore, ASEIC aims at supporting SMEs by facilitating the entire process of securing greenhouse gas emission credits as well as helping to selling them in the carbon trading market.

PCDM project is a new scheme proposed by the UNFCCC. This enables small-scale greenhouse gas reduction that used to be hardly commercialized to go through simplified process compared to the conventional ones. Under the single GHG program activity (PoA), additional component program activity (CPA) can be added and participants are expected to save time and cost.

Through this project, ASEIC intends to enhance SME's ability to access to overseas emission credits and to lay a foundation to improve their responsiveness to the new climate system. At the same time, ASEIC will contribute to sustainable production and consumption by utilizing carbon credit mechanism.



ASEM SMEs Eco-Innovation Center



ASEM Eco-Innovation Index(ASEI)

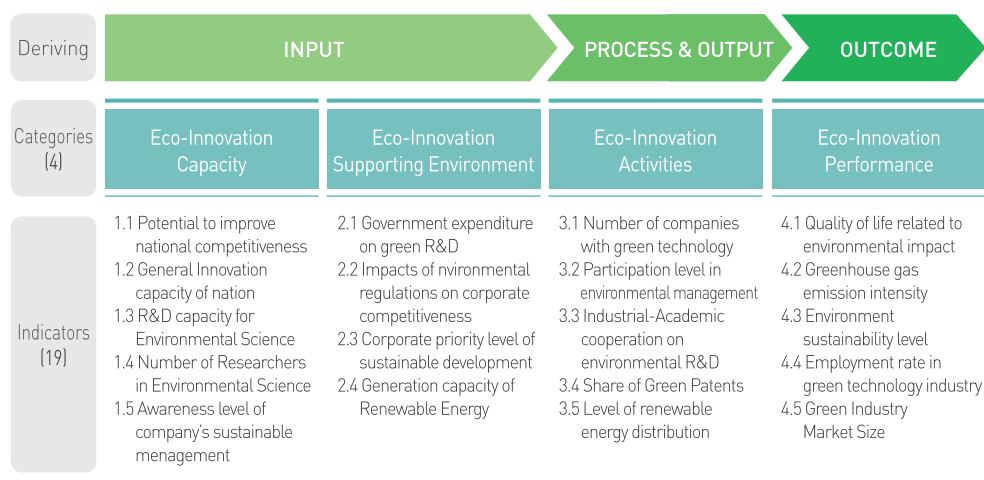
2018 ASEM Eco-Innovation Index(ASEI) and Eco-Innovation Sector Research

ASEM Eco-Innovation Index(ASEI) Framework

The ASEI attempts to measure the actual eco-innovation of ASEM member countries in both quantitative and qualitative perspectives by utilizing data sources gathered and computed from a variety of international organizations to increase its reliability as a universal measure of eco-innovation performance. Ultimately, the ASEI further plans to become an active means of communications between Asia and Europe while promoting reformation of respective government's rules and regulations associated with eco-innovation.

The ASEI measures nation's eco-innovation level in four grouped criteria: **1) Eco-Innovation Capacity**, **2) Eco-Innovation Supporting Environment**, **3) Eco-Innovation Activity** and **4) Eco-Innovation Performance**. Eco-Innovation Capacity measures competitive potential of nation's eco-innovation level in terms of both social, economic and human resources. Eco-Innovation Supporting Environment measures nation's political and financial support on eco-innovation based on government spending, political priorities and etc. Eco-Innovation Activity reflects actual level of actions taken by government, academy and companies with respect to enhancing level of nation's eco-innovational growth. Eco-Innovation performance demonstrates what nation has accomplished in order to tackle environmental, economic and social standpoint of eco-innovation.


Input-Output Model based Measurement and Evaluation of the ASEM Eco-Innovation Index (ASEI)



2018 ASEI Indicators

Area	Index	Source	Remarks
Eco-Innovation Capacity	1.1 Potential to improve national competitiveness	WEF	Global Competitiveness Index (GCI)
	1.2 General Innovation capacity of nation	INSEAD	Global Innovation Index (GII)
	1.3 R&D capacity for Environmental Science	SciVal (Elsevier)	Number of published articles
	1.4 Number of Researchers in Environmental Science	SciVal (Elsevier)	No. of published article authors
	1.5 Awareness level of company's sustainable management	UN Global Compact	Number of participating companies
Eco-Innovation Supporting Environment	2.1 Government expenditure on green R&D	OECD	Gov't environmental R&D expenditure ratio
	2.2 Impacts of nvironmental regulations on corporate competitiveness	IMD	IMD survey result
	2.3 Corporate priority level of sustainable development	IMD	IMD survey result
	2.4 Generation capacity of Renewable Energy	IRENA	Generation capacity
Eco-Innovation Activities	3.1 Number of companies with green technology	Wisdomain	No. of companies with green technology (patent application basis)
	3.2 Participation level in environmental management	ISO	No. patent certification per GDP(MIL. PPP\$)
	3.3 Industrial-Academic cooperation on environmental R&D	SciVal (Elsevier)	Biz-academic environmental R&D cooperation ratio
	3.4 Share of Green Patents	WIPO	Green patent ratio
	3.5 Level of renewable energy distribution	IEA	Share of renewable energy from total energy generation
Eco-Innovation Performance	4.1 Quality of life related to environmental impact	EPI	Environmental Performance Index
	4.2 Greenhouse gas emission intensity	IEA	CO2 concentration
	4.3 Environment sustainability level	WEC	Environmental sustainability ranking in World Energy Trilemma Index
	4.4 Employment rate in green technology industry	IRENA	Number of employment
	4.5 Green Industry Market Size	Wisdomain	Ave. number of family countries per patent

2018 ASEM Eco-Innovation Index(ASEI) and 2018 Annual report

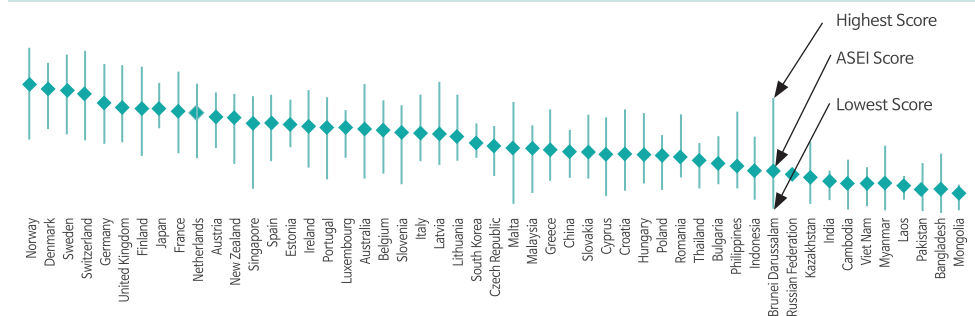
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Regional Analysis

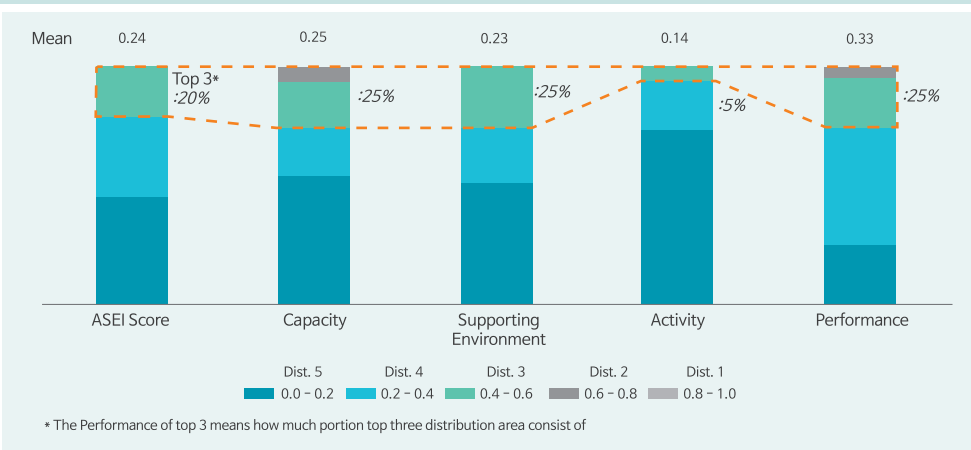
Asian Region
ASEI 2018 Score

Country	Graphs			ASEI 2018 (vs. 2017)	Gap from Asia Average
	2016	2017	2018		
Japan	0.53	0.50	0.51	0.51 (-)	0.27
New Zealand	0.50	0.48	0.46	0.46 (▼0.02)	0.22
Singapore	0.45	0.45	0.44	0.44 (▼0.01)	0.20
Australia	0.42	0.39	0.41	0.41 (△0.02)	0.17

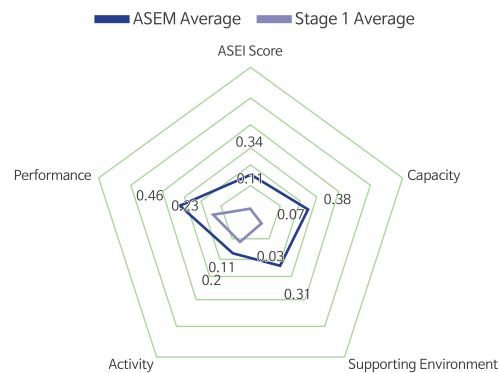
Gap Analysis by Countries



Asia Distribution Analysis on ASEI Score



Development Stage 1 Profile Analysis



2018 Index was used to evaluate the SCP of ASEM member states and included in the report “Implementation experiences in ASEM member countries with the Sustainable Development Goal 12 on Sustainable Consumption and Production” by ENVforum. The analysis results and findings from the ASEI project were presented at multiple international events and the features and outcomes of ASEI were also introduced in the ‘Maastricht Manual on Measuring Eco-Innovation for a Green Economy’ by EU researchers.

Due to the limitation of available data, ASEI includes substitute indicators. In consideration of the difference in eco-innovation data availability and basic research levels between Asia and Europe, the analyses at the each indicator or category level and the trend analyses are more appropriate than evaluation through ASEI ranking of member countries based on the overall index level. For greater utilization and contribution of ASEI to ASEM regions, ASEIC plans to expand international cooperation on collecting eco-innovation data.

Joint research through International Corporation - Eco-Innovation Sector Research (Waste management and plastic consumption and production)

ASEIC published eco-innovation sector research report through co-writing with experts from member countries in order to cooperate on eco-innovation research in ASEM regions. Through the case studies on ASEM member countries, there was a review about current situation of waste management policies by country and the status of the plastic consumption and production, which is one of major issues of the international society. ASEIC intended to grasp the trends of ASEM and to discuss lessons and implication from the perspectives of sustainable development and circular economy. (Case studies on Plastics in Selected ASEM countries: Indonesia, Vietnam, Malaysia, India, Korea, EU)

Analysis of Policy instruments for waste management (India, Vietnam)

BOX 3. Country policy instruments for waste management sector - India			
Types of Policy Instruments	Category	Title of Policy (Year)	
National Strategy: <i>Plan for Resource Efficiency</i>	Resource Efficiency and Sustainable Consumption and production (EU-NET.A&G)	Critical materials/resources	
Policy/Programs (that include use of various economic and financial instruments to create incentives for management of wastes)	Eco-innovation	Promoting SCP in Mining Sector	<ul style="list-style-type: none"> Strategy for Promoting Processing of Construction and Demolition (C&D) Wastes and Utilization of Recycled Products (2018) National Green Recycling Policy (draft stage, 2018) National Mineral Policy (2008) Sustainable Development Framework for Mining Sector in India (2011) Minerals and Mining Development Regulatory Act (MMDR) (2015) Science, Technology and Innovation Policy (2013) Bureau of Indian Standards Act (2016)
	SCP at manufacturing stage	SCP at manufacturing stage	<ul style="list-style-type: none"> National Manufacturing Policy (2011) National Policy on Electronics (2012) National Manufacturing Competitiveness Program (2016) Financial Support to MSMEs in Zero Emission and Zero Defect Certification Scheme (2017)
Legislation and/or policies or rules issued from relevant Institutions/Acts (Policies are combination of command and control approach as well as use of various economic and financial instruments to create incentives for management of wastes at various life cycle stages)	Eco-innovation	SCP across consumption phase	<ul style="list-style-type: none"> Eco-Labeling scheme (Eco mark) 1991 Recycled Programme including production of labelled products (2009) Ty Ash Utilization Policy (1999)
	International	SCP across disposal phase	<ul style="list-style-type: none"> Batteries (Management and Handling) Amendment Rules (2016) Solid Waste Management Rules (2016) Construction and Demolition Waste Management Rules (2016) E-Waste (Management) Rules (2016) Plastic Waste Management Rules (2016)
	International	Multilateral	<ul style="list-style-type: none"> Hazardous and Other Wastes (Management and Transboundary Movement) Rules (2016)

BOX 4. Country policy instruments for waste management sector - Viet Nam			
Types of Policy Instruments	Category	Title of Policy (Year)	
National Plan and Strategy	Sustainability	<ul style="list-style-type: none"> Strategy on Sustainable Development of Viet Nam period 2011-2020 (Decision 151-QD-TTg dated 17 April, 2012) National Strategy on Environment Protection until 2020 and Vision Toward 2030 (Decision No. 1216-QD-TTg dated 02 Sep 2012) National Strategy for Green Growth (Decision 1391-QD-TTg, dated September 21, 2012) and National Action Plan for Green Growth 2014-2020 (Decision 493-QD-TTg dated March 26, 2014) 	
	Eco-Innovation	Waste	<ul style="list-style-type: none"> National Strategy for Integrated Management of Solid Waste (2012), and Vision Toward 2020 (Decision 119-QD-TTg dated 07 May 2013) Master plan for the construction of solid waste treatment sites in five economic areas in the North, Centre and South of Viet Nam to 2020 (Decision 1440-QD-TTg dated 08 October 2008) Master plan for the construction of the solid waste treatment site in the five economic areas of Mekong Delta to 2020 (Decision 117-QD-TTg dated 11 October 2010) Master plan for solid waste management in Can Gio river basin to 2020 (Decision 1311-QD-TTg dated November 16th 2013) Master plan for solid waste management in Thien-Dan river basin to 2020 (Decision 234-QD-TTg dated February 12th 2013) Master plan for solid waste management in Dong Nai river basin to 2020 (Decision 17-QD-TTg dated January 4th 2013)
	Programmes and Actions	International	<ul style="list-style-type: none"> Decision 19-2014/ND-CP dated 14/02/2014 on guidance to implementation of Law on Environmental Protection Decision 18/2013/ND-CP on waste and using management (2013) Decision 16/2013/QD-TTg on take-back and treatment of discarded products (2013) Decision 16/2013/TT-BTNMT on management of hazardous waste (2013) Inter-ministerial circular 58/2015/BYT-BTNMT on medical waste management (2015) Circular 08/2011/TT-BXD on management of construction waste (2011) Law on Environmental Tax (2010)
Legislation	Waste	<ul style="list-style-type: none"> Decision 13-QD-TTg dated 19 December 2014 stipulating the list of allowed inputs for export Decision 41/2013/TT-BTNMT dated 08 September 2013 on management of electronic waste (2013) Law on Environmental Protection (2012) Decision 19-2014/ND-CP dated 14/02/2014 on guidance to implementation of Law on Environmental Protection Decision 18/2013/ND-CP on waste and using management (2013) Decision 16/2013/QD-TTg on take-back and treatment of discarded products (2013) Decision 16/2013/TT-BTNMT on management of hazardous waste (2013) Inter-ministerial circular 58/2015/BYT-BTNMT on medical waste management (2015) Circular 08/2011/TT-BXD on management of construction waste (2011) Law on Environmental Tax (2010) 	

Short case studies of eco-innovation (EU, Malaysia)

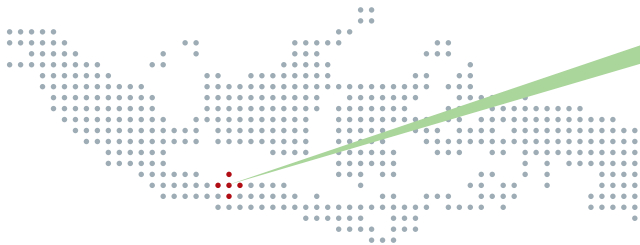
<p>Case study 1: The UK Plastics Pact</p> <p>Packaging accounts for a large proportion of plastic consumption and much of it is used for supermarket products. Initiatives from supermarkets in various European countries reveal there are so many ideas in challenge. For example, major UK retailers have signed a "Plastics Pact" which aims to make all packaging reusable, recyclable, or compostable by 2025²⁴. At the same time, the pact aims for only 30% average recyclable content in packaging, reflecting the difficulty of closing the loop, which is hampered by, among others, the risk of food contamination by trace chemicals. At the same time, a small number of smaller stores aim for source reduction by allowing customers to buy food in bulk using reusable containers.</p>	<p>Case study 1: Pallet-to-pallet</p> <p>A plastic pallets producing company in Malaysia produces pallets using recyclable resins. Extending its responsibility as a responsible producer, customers can return damaged/used pallets to the producer, and on a case-by-case basis, the producer will replace the damaged/used pallets to customers. In addition, customers who are not able to find a way to dispose/manage used pallets can return them to the producer for recycling.</p>
<p>Case study 2: Challenges for biodegradation</p> <p>Bio-degradable plastics are a common cause for confusion. For example, Dutch retailer Ekoplaza opened the world's first "plastic-free aisle" but heavily relies on bio-degradable plastics. Unfortunately, biodegradable plastics do not always live up to their promise of a clean, harmless, closed cycle; biodegradation only happens when materials are separately collected and treated in composting facilities. Many plastics require industrial composting but the waste separation and treatment infrastructure is often not in place. Another challenge of bioplastics is potential competition between feedstock and food production. The European Commission aims to address some of these challenges through life cycle assessment and harmonization of product labelling^{27, 28}.</p>	<p>Case Study 2: Resource tracking system</p> <p>One of the Malaysian plastics industry player is developing a tracking system for plastics products which are accessible to all players along the supply chain, from Brand Owners, to manufacturers, retailers, recyclers and the public. Through the system, number of sold plastic products and number of recovered plastic products when public return them for recycling can be tracked and accounted for, thus enabling data collection and effective management of plastic products.</p>
<p>Case study 3: The Ocean Cleanup</p> <p>The Rotterdam-based non-profit organization The Ocean Cleanup started with a school assignment inspired by a diving trip; eighteen-year-old Boyan Slat from the Netherlands says he saw more plastic bags than fish when diving on the Azores Islands and set out finding a solution. The technology is still under development and consists of a long float with a three-meter deep skirt that traps buoyant particles. The float is carried by the</p>	<p>Case Study 3: Car battery casing – closing the loop</p> <p>One of the plastics recyclers in Malaysia has an effective recovery system for car battery casing in which the cases are collected from car workshops around the country, recycled and remanufactured into car battery cases again, which is sold the car battery manufacturers. This is an excellent showcase of circular economy within the industry which ensure minimal leakage of plastics into the environment as they are all captured and rechannelled back into the manufacturing line.</p>



Green Business Center

Indonesia Green Business Center

The Green Business Center (GBC), located in the SME Tower in Jakarta, Indonesia, is a representative office of ASEIC, which the Ministry of SMEs and Startups of Korea and the Ministry of Cooperatives SMEs of Indonesia operate jointly. Since its establishment in **2011**, GBC has served as a bridge between Korea and Indonesia and supported SMEs of ASEM member countries including Korea to enter into the Indonesian market.



Role in Enhancing Korea-Indonesia Mutual Cooperation

Indonesia-Korea SMEs Business Innovation Forum

- Sep. 6, 2018, Jakarta, Indonesia
- ASEIC Global Innovation Conference(9.5~7) in connection with ASEIC Global Innovation Forum and Korea-Indonesia Business Innovation Forum
- Organization and management of the Forum and support for the conference

2018 Gangwon Entrepreneurship Boot-Camp

- April 17, 2018, GBC Conference room
- Visited by 19 people composed of Professors and student delegation from Gangwon National University
- Introduction about Indonesia and GBC
- Information session about entry into Indonesia including start-up and business activities in Indonesia

GBC Mini Library

- Oct. 1, 2018, Green Business Center
- Book Rental Service including Information books about Indonesia and Korea, Korean and Indonesian books for tenant companies and short-term business travelers

Korea-Indonesia Photonics Convergence Industry Business Fair and Matching Conference

- Dec. 4~6, 2018, Jakarta, Indonesia
- Held jointly by ASEIC and KAPID (Korea Association for Photonics Industry Development)
- Introduction of products and technologies of 15 photonics industry promising companies and matching conference with local companies. Performance of Local Business of Indonesia

OSS Seminar for Tenant Companies and Regular Consultation

- Since Sep. 28, 2018, GBC Conference room
- Seminar about Indonesia OSS [Online Single Submission; Online Licensing Integration system] changed since July, 2018 and Construction of constant support system for tenant companies

Opening of Korea-Indonesia Technology Exchange Center

- April 16, 2018, Green Business Center
- Construction of Korea-Indonesia Technology Exchange Center within GBC (operated by INNOBIZ Association) which supports the technology exchange and matching between two countries and giving future technology exchange support



In 2018, GBC has made several new changes and the most remarkable change is to hold the large-scale events. In September, first, GBC played the role as the local operating agency for the “ASEIC Global Innovation Conference”, connecting the “ASEIC Global Innovation Forum” and “Indonesia-Korea SMEs Business Forum” together. In December, GBC also hosted Korea-Indonesia Photonics Convergence Industry Business Fair and Matching Conference in corporation with KAPID, the Korea association for photonics industry development. Furthermore, GBC supported the opening of Korea-Indonesia Technology Exchange Center, operated the mini library and held various seminars. In this way, a variety of programs have been actively developed to support Korean companies by GBC.

Korea-Indonesia SMEs Business Innovation Forum



Indonesia-Korea Photonics Convergence Industry Business Fair and Matching Conference



2018 Gangwon Entrepreneurship Boot-Camp



OSS Seminar for Tenant Companies and Regular Consultation



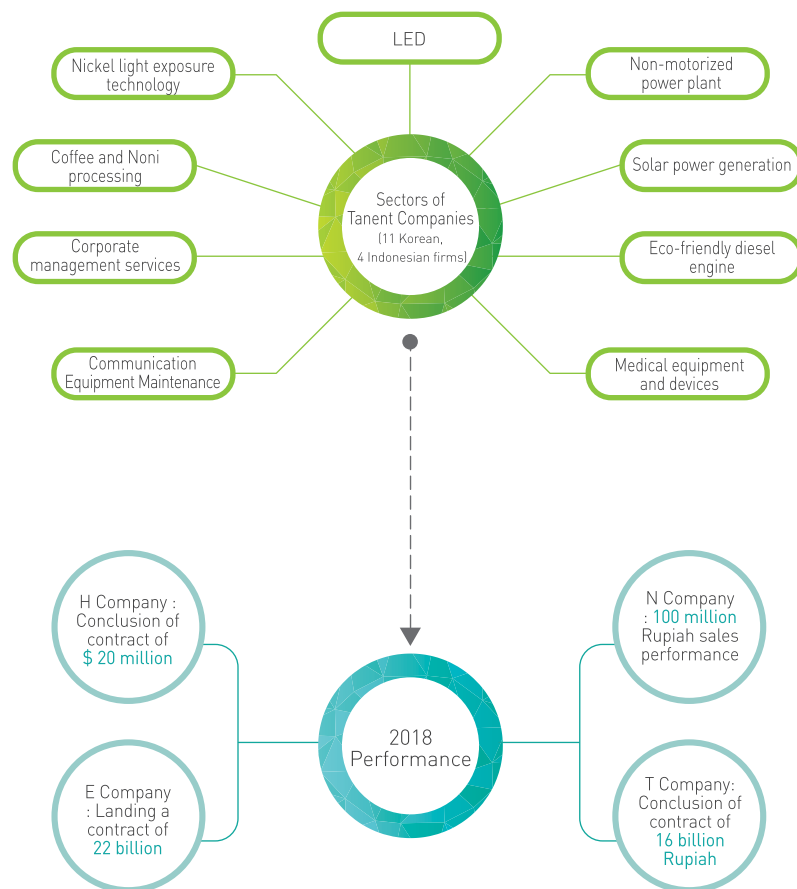
Opening of Korea- Indonesia Technology Exchange Center



Indonesia Green Business Center

Business Assistant for Korean and Indonesian SMEs

GBC was favorably received for supporting SMEs in ASEM member countries wishing to enter the Indonesian market. In 2018, GBC supported 11 Korean companies to enter Indonesia and to perform business activities, along with 4 Indonesian companies. These tenant companies engaged in eco-friendly and technological innovation business moved into GBC and received various supports for consulting on legal or accounting issues related to establishment of local corporation, business operations and local employment, local networking, office and meeting room rental, and other administrative supports required for successful business operations in Indonesia. Through GBC's support, tenant companies have shown rapid growth since their move in to GBC.



The Green Business Center plans to actively carry out its bridging role between Korea and Indonesia in terms of facilitating G2G and B2B cooperation. The Center further aims to expand its range of support programs to more ASEM member countries in addition to Korean and Indonesian companies. Beyond its function as a representative office of ASEIC, GBC is willing to strengthen its role as a representative organization for all-round collaboration between Korea and Indonesia





ASEIC Global Forum

The 4th ASEIC Global Innovation Forum 2018



ASEIC Global Eco-Innovation Forum 2018



Group photo

The ASEIC Global Eco-Innovation Forum has been held since 2015 in order to enhance awareness of eco-innovation and to build cooperative relations with government agencies, international organizations and relevant organizations. In 2018, the 4th ASEIC Global Innovation Forum attempted new changes, compared to the former events, for the purpose to strengthen the expertise of the forum and to discuss in depth.

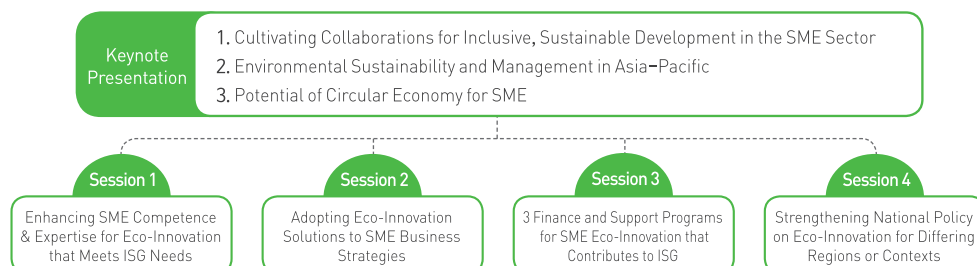
First, ASEIC encouraged the participation of various countries and institutions and invited speakers and participants with proven awareness and expertise as well. In addition, different from the past 3 years, this year's forum was hosted in Indonesia and its scale was enlarged to achieve concrete cooperation results. Finally, the ASEIC Global Innovation Forum was connected with the Indonesia-Korea SMEs Business Innovation Forum, with the official name of "ASEIC Global Innovation Conference".

This year, the 4th forum was hosted on September 4~5th, at Jakarta Gran Melia Hotel in Indonesia under the theme of 'Strengthening SME Eco-Innovation for Inclusive and Sustainable Growth'. ASEIC Chairman Sung Myung-ki initiated the event with an opening address and a welcome speech was given by Meliadi Sembiring, the Secretary of the Ministry of Cooperatives and SMEs of Indonesia. About 40 experts including 33 from 7 governments of ASEM member countries and 10 from international organizations participated in the conference as they made presentations and discussions from various perspectives.

The forum consisted of opening speech, two sessions for the 1st day and two sessions for the 2nd day. Various presentations and discussions took place to strengthen eco-innovation of SMEs for inclusive and sustainable growth.



The 4th ASEIC Global Innovation Forum 2018



	Topic	presenter
Keynote Presentation	1. Cultivating Collaborations for Inclusive, Sustainable Development in the SME Sector	Michael Kuhndt / Executive Director, Collaborating Centre on Sustainable Consumption and Production
	2. Environmental Sustainability and Management in Asia-Pacific	Robert Steele / Executive Director, Systainability Asia
	3. Potential of Circular Economy for SME	Ir. Medrilzam, MPE / Director, Environmental Bureau, Ministry of National Development Planning Department, Indonesia
Session 1	Enhancing SME Competence & Expertise for Eco-Innovation that Meets ISG Needs	
	Potential of Circular Economy for SME	Ki-Hong Kim / Professor, Handong University
	ASEIC and ASEM Working Group Activities on SMEs Eco-Innovation Competence	Sun-Mi Koo / Senior Researcher, ASEM SMEs Eco-Innovation Center
	Supporting Technology for Innovative SMEs and Start-ups	Dudi Iskandar / Director, Center for Agricultural Production Technology, Agency for the Assessment and Application of Technology(BPPT), Indonesia
	Social entrepreneurship : Inclusiveness and Sustainable Growth	Dessy Aliandrina / Founder and Executive Director, Sociopreneur Indonesia
	Eco-Innovation in SMEs: A Matter of Competence and Behavior	Lars Olesen / Partner and Director, Progress Kft. Hungary
	Competency Standard Development: Enhancing SME Competence & Expertise for Eco-Innovation	Nurtjahjwilasa, Professional Forestry Trainer and Facilitator, Ministry of Environment and Forestry, Indonesia
Session 2	Adopting Eco-Innovation Solutions to SME Business Strategies	
	SME Eco-Innovation Cases in Thailand under Innovation and Technology Assistance Program(ITAP)	Songphon Munkongsujarit / Senior Consultant, Innovation and Technology Assistance Program, National Science and Technology Development Agency(NSTDA), Thailand
	SMEs Eco-Innovation Cases in Vietnam	Nguyen Thai Thuy Hoa / Training Manager, Small and Medium Enterprises Development Support Center 2(SMEDEC2), Vietnam
	Enhancing SMEs Capacity through Eco-Innovation Practices in the ASEM Channel	Sudarshan Khanal / Manager, Asia Network for Sustainable Agriculture and Bioresources
	Developing Socially and Environmentally Responsible Small and Medium Farm-Forest Business	Ki-Hong Kim / Professor, Handong University
Session 3	Panel Discussion: Marco Rubinato (Project Advisor, Executive Agency for Small and Medium-sized Enterprises(EASME), Unit A2 SME-Instrument) / Ira Larasaty (SCP Expert, South-east Asia, SWITCH-Asia)	
	Finance and Support Programs for SME Eco-Innovation that Contributes to ISG	
	Impact Finance in SDG Context	Artak Rober Melkonyan / Chief Operating Officer, UN SDG Impact Finance
	ASEAN-R0K Cooperation Projects	Marco Rubinato / Project Advisor, Executive Agency for Small and Medium-sized Enterprises(EASME), Unit A2 SME-Instrument
	Cultivation of Local Climate Technology SMEs Tech Transfer & Joint Venture	Kyung-Jin, Hyeong / Deputy Director, Korea Technology Finance Corporation(KOTEC)
Session 4	Supporting Technology for Innovative SMEs and Start-ups	Supporting Technology for Innovative SMEs and Start-ups
	Panel Discussion: Christopher Knowles (Principal, Elements-Climate and Environment Finance) / Tiza Mafira (Senior Analyst, Climate Policy Initiative)	
	Strengthening National Policy on Eco-Innovation for Differing Regions or Contexts	
	Rethinking Science, Technology and Innovation (STI) Policy for the Sustainable Development Goals	Michal Miedzinski / Senior Research Associate, Institute for Sustainable Resources of University College London
	Eco-Innovation and Sustainable Consumption and Production (SCP) Policies in Vietnam	Thang Nguyen Trung / Deputy Director General, Institute of Strategy and Policy on Natural Resources and Environment, Vietnam
	Supporting Technology for Innovative SMEs and Start-ups	[Trina Fizzanty / Senior Research Fellow, Research Center for the Development of S&T, Indonesian Institute of Sciences(PAPPIPTK-LIPI)]
	Extracting Policy Advice from ASEM Eco-Innovation Index(ASEI)	Mi-Hoon Jeong / Senior Researcher, ASEM SMEs Eco-Innovation Center
	Panel Discussion: Woo-Seong Lee / Research Fellow, Science and Technology Policy Institute)	



Opening Speech by Myung-ki Sung, Chairman of ASEIC



Keynote address by Michael Kuhndt, Executive Director, Collaborating Centre on Sustainable Consumption and Production)



Q & A Session



Panel Discussion



Closing address by Se-jong Kim, Secretary General of ASEIC

In the future, while maintaining the basic framework of the forum, ASEIC will make various and new attempts not only by dealing with diverse subjects such as technology and innovation but also by spreading eco-innovation of SMEs. In this manner, the forum can provide an opportunity for ASEM experts to consider jointly and share ideas for SME growth from a wide-ranging perspective.

Asia-Europe Environment Forum (ENVforum)

The Asia-Europe Environment Forum (ENVforum) is a partnership of Asia-Europe Foundation (ASEF), Government of Sweden through the Regional Asia Environment Conference Support Programme administered by Stockholm Environment Institute (SEI), Hanns Seidel Foundation (HSF), ASEM SMEs Eco-innovation Center (ASEIC), and the Institute for Global Environment Strategies (IGES). The ENVforum has hosted annual conferences and national and regional workshops with partners and published research reports as a way to strengthen discussions and cooperation on Sustainable Development Goals (SDGs) between Asia and Europe. Activities in 2018 include eight events in Thailand, Lao PDR, Myanmar, Poland, and Korea.

ENVforum established in 2003 and ASEIC joined the partnership since 2012.



2018 Annual Conference

- Topic: Asia-Europe Pathways to Responsible Consumption and Production: From Linear to Circular economy
- Date/Place: Oct. 23 ~ 24, 2018 / Poland Warsaw, Ministry of Investment and Economic Development of Poland
- Participants: Countries' representatives from relevant ministries in the ASEM region, International experts, civil society, and business representatives working on SDGs' implementation, Sustainable development experts and practitioners based in Poland

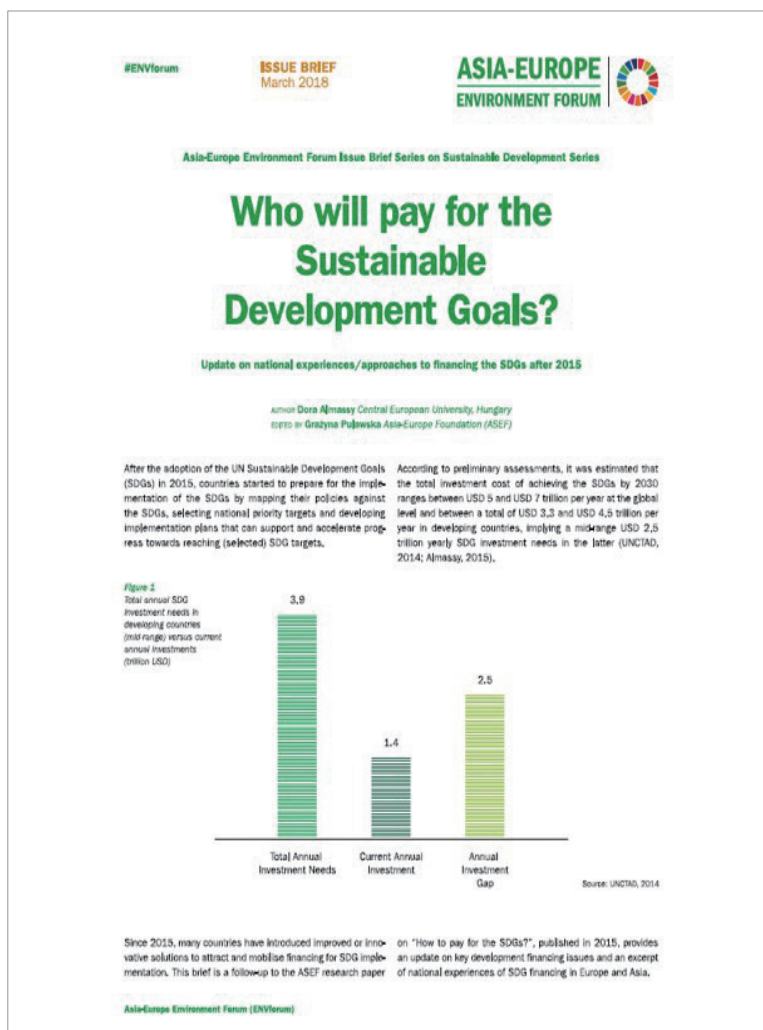
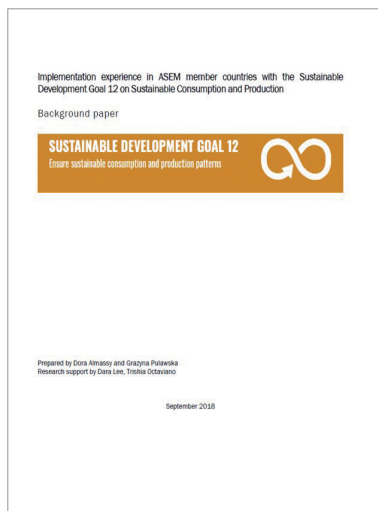


Steering Committee meeting



ENV Forum report

2018 Annual Conference





ASEM Working Group on SMEs Eco-Innovation Competence

ASEM Working Group on SMEs Eco-Innovation Competence

The ASEM Working Group on SMEs Eco-Innovation Competence (hereafter referred to as “the Working Group”) is a working group that aims at promoting eco-innovation of SMEs in ASEM region and has provided a platform for policy dialogue, experience sharing and cooperation initiatives through discussion about various cooperation projects among member countries.

The 6th ASEM Working Group on SMEs Eco-Innovation Competence

- Co-organizer : ASEIC/ LUXINNOVATION (Institute under the Ministry of Economy, Luxembourg)
- Participants : Government officials and recommended experts in 11 ASEM member countries
* Denmark, Luxembourg, Bulgaria, Netherlands, Germany, Philippines, Laos, Vietnam, Cambodia, Malaysia and Korea
- Composition : Case presentation of member countries, discussion of interested business
- Contents : Report on the results of the joint corporation project in 2017-18, Cooperation Project (draft) of member countries in 2019-20



Group photo of Representatives



Eco-innovation field visit in Luxembourg City

Subject	Project
Development of Government Competency	ASEM Cooperation Research : Promotion of international research cooperation within ASEM (Collecting data about eco-innovation in member countries)
Development of SME training program	Online training program : Development of mobile education program for eco-innovation competency of SMEs (using Micro Learning) * Micro-Learning : Personalized learning Eco Innovation Internship Program : Operating overseas internship program to help eco-innovation-related talents to enter SMEs in member countries
SMEs consultation	Supporting the strategy development activity of SMEs : Development of future prediction tools for SMEs in member countries to overcome various crises such as climate change and support sustainable development Establishment of network for start-ups of member countries : Establishing networks between support organization for start-ups in member countries and cooperation such as connecting investors and supporting overseas expansion

Partnership Projects

(Strengthening government capacity) Seminar on Environmental Technology Verification (ETV) for Asian countries



Group photo of the seminar participants

- Date/Place : August 30-31, 2018 / Seoul Raum, Korea, Environmental Industry & Technology Research Complex
- Organizer : ASEIC, Korea Environmental Industry & Technology Institute
- Participating countries : Poland, Japan, Malaysia, Cambodia, Vietnam, Indonesia, Philippines, Laos, Indonesia and Korea

- Participants : 20 experts in environmental technology, verification and standards

The experts shared the ETV system or similar system of each country and apprehended the current situation of ETV in Asia. And the future corporation plans were discussed as well.

(Supporting SMEs) Korea-Denmark Eco Innovation Investor Summit

- Date/Place : Oct. 21(Sun)-24(Wed), 2018 / Green-Tech Center, Vejle city, Denmark
- Events : ① Start-ups IR event
② SMEs Technology matching (B2b)
③ R & D Research Seminar
- Organizer : Korea ASEIC, Business Development Agency, Innovation Business Association, Chungnam Creation Economic Innovation Center, Vejle city of Denmark, Green-Tech center



Photos of participants

- Participants : 80 people / Government officials including Finn Mortensen, the Representative of 'State of Green of Denmark', Founder of green field or SMEs investor, etc.
- Results
 - (IR event) 18 companies from Korea / six investors (institutions) in Denmark attended
 - (Company matching) Four companies from Korea and total 16 consultations (four MOUs)
 - (Research Seminar) Attended by researchers from 3 domestic universities / local researchers and technical experts

(Strengthening SME Capability) Eco-innovation entrepreneurship training for foreign workers in Korea

- Host-Organizer :
Ministry of SMEs and Startups /ASEIC
- Cooperative organizations :
Indonesia & Cambodia Community in Korea
- Support : ASEAN-Korea Center, Foundation of AG. Tech, Commercialization and Transfer(A+), Seoul Center for Creative Economy & Innovation
- Date : Nov. 4, 11, 18(Sun), 2018 (3 days)
- Place : Seoul Center for Creative Economy & Innovation



Group Photo of trainees

The aim of the training was to improve awareness about eco-innovation and eco-business and promote the entrepreneurship. This training strengthened the competency that 45 Cambodian and Indonesian workers need for entrepreneurship activities after returning back to their countries.

(Strengthening SME Capability) Strengthening Eco-Innovation Technologies for SMEs in Cambodia (Solar technology)



Photo of Event Organizers

- Host/Organizer/Cooperative organizations : Ministry of SMEs and Startups(Korea), Ministry of Industry(Cambodia) / ASEIC / Renewable Energy Association
- Date : Dec. 18(Tue)-19(Wed), 2018 (2 days)
- Place : Water Management Authority, Phnom Penh, Cambodia
- Target : SMEs in Cambodia, Local Government Officials

- Education Contents :
(1st Day) Improving the capacity of SMEs in Cambodia to utilize solar power generation
(2nd Day) Development of a business model for start-up of the photovoltaic field

The purpose of this program was to eliminate the burden of expensive electricity bills in Cambodia with a basic education on energy production using solar energy. The Working group supported development of a business model utilizing solar energy technology. This project helped SMEs in Cambodia to improve the awareness of the solar energy technology and strengthen the start-up capability connected to new renewable energy.



Trends Survey and Publication of Environment-friendly Innovation Technology

Trends Survey and Publication of Environment-friendly Innovation Technology

As the importance of communication and sharing information increases with new media age, ASEIC has been making an effort to create the place, where ASEM member countries can share information of eco-friendly and innovative technologies, and actively communicate with one another.

As part of this effort, the trend information magazine began to be distributed in a form of Korean-English webzine after last June. The magazine contains the policy, industry, technology, and event trends of eco-friendly and innovative technologies. The Korean trend information magazine is distributed monthly, but English one is bimonthly. If you want to subscribe, you can apply at the ASEIC homepage (English: <http://www.aseic.org/main.do>, Korean: <http://aseic.or.kr/main.do>.)

The Number of Contents by Subject

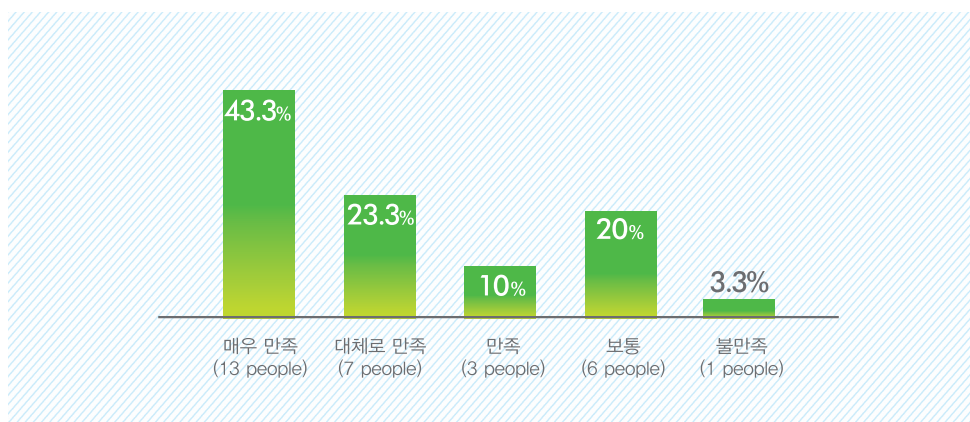
Sort	Detailed planning	Policy trend	Industry trend	Technology trend	Event information	ASEIC news	Total
Korean	7	129	68	60	39	11	314
English	4	38	14	18	-	7	81

The Number of subscribers (institutions)>

Sort	institutions	subscribers
Domestic	155	239
Overseas	71	107
Total	225	346

Satisfaction survey

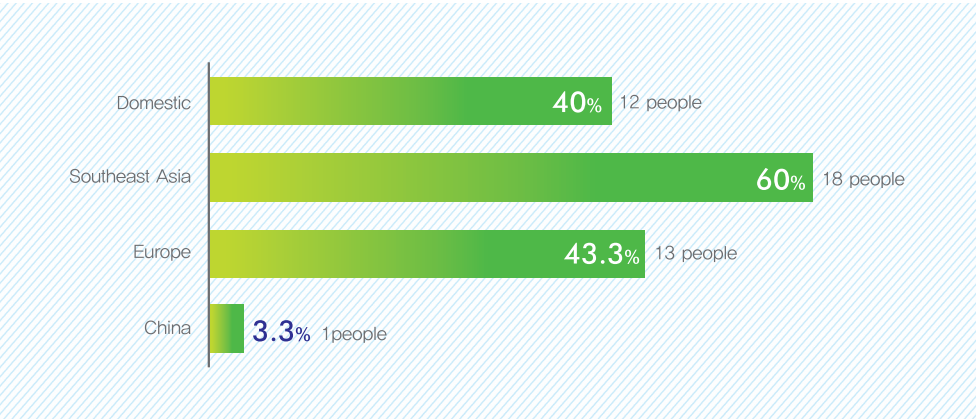
In the satisfaction evaluation, it is considered to be generally satisfied as 66.6% answered “extremely satisfied” and “very satisfied”.



Each country's information preference

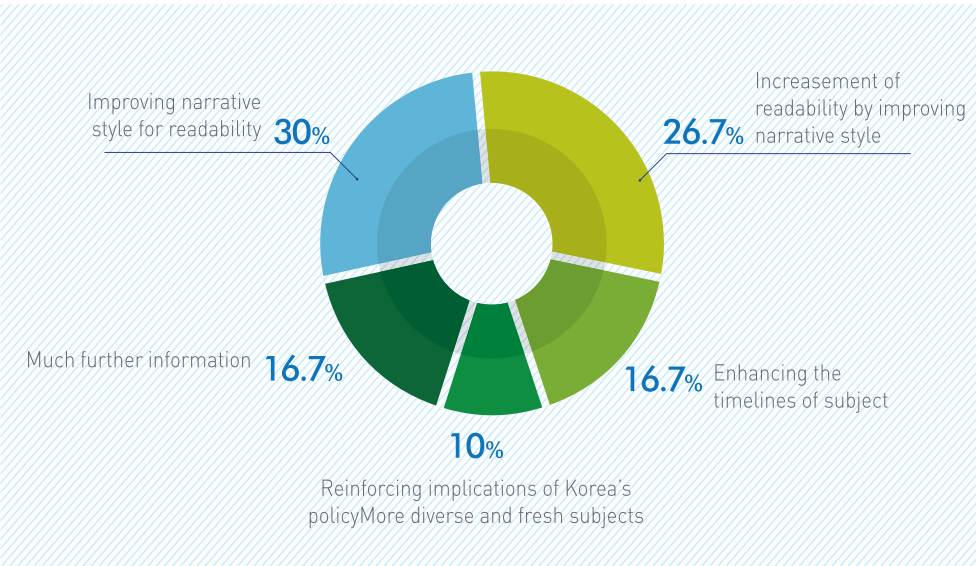
The preference is far higher in Southeast Asian, European, and domestic information. Therefore, it is necessary to increase the information proportion of those countries.

The European and domestic information needs to be dealt importantly with focusing on news about Southeast Asia. For other countries, it would be preferable to publish their news in a single form.



Improvements

Respondents highly requires not only to enhance the timeliness of subject but also to improve narrative style for readability. Next, they need much further information and more diverse topics.



ASEIC Annual Report 2018

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Chief Director

Sejong Kim, Secretary General, ASEIC

Written by

Younji Kang, Senior Researcher, ASEIC

Sunmi Koo, Senior Researcher, ASEIC

Mihoon Jeong, Senior Researcher, ASEIC

Soyoon Kim, Researcher, ASEIC

Jungho Kim, Researcher, ASEIC

Edited by

Jin ho Yang, Researcher, ASEIC

Coordinated by

Soyoon Kim, Researcher, ASEIC

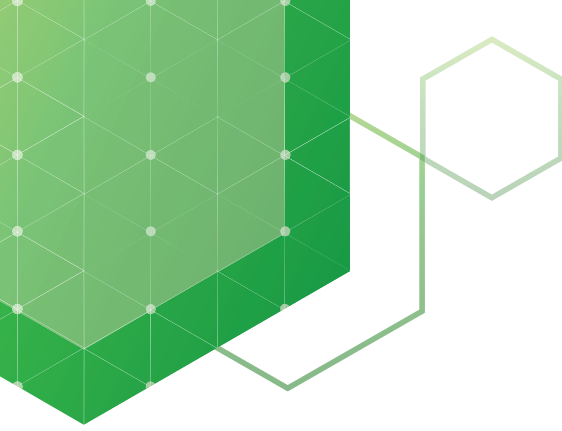
Jin ho Yang, Researcher, ASEIC

For any inquiries regarding this report, feel free to contact us.

Contact Email : info@aseic.org

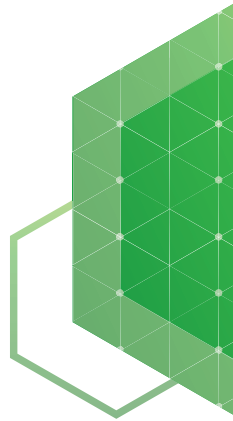
The full report is available online at

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ASEM SMEs Eco-Innovation Center
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E-2FL, Pangyo Inno-Valley 255,
Pangyo-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
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