



# ASEIC

ASEM SMEs  
Eco-Innovation Center

**2014 Annual Report**

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## Chapter 1

## Message from the Chairman

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ASEIC fosters and promotes the eco-innovation of ASEM members states. Environmental issues have been prominent in our minds for some time now. Global economies have shifted their focus from blind to sustainable growth, highlighting the importance of dealing with such issues. In this atmosphere, ASEIC is leading change among small and medium sized enterprises (SMEs), the main growth engines of the global economy, towards sustainable, innovative growth.

ASEIC supports the green growth of SMEs in Asia and Europe through engagement in a variety of projects. Some examples include the ASEM Eco-Innovation Consulting Project, geared towards enhancing the green competitiveness of SMEs in ASEM member states; the ASEM Eco-Innovation Index (ASEI), designed to measure the level and status of eco-innovation of ASEM member countries, pinpoint areas in need of improvement, and enhance eco-innovation related policies and regulations at the global level; the ASEM Inclusive Eco-Innovation Programme, through which technology is shared with Asian member countries; the Green Business Center, which supports SMEs in ASEM member states in their entry into overseas markets and in technology exchange; and the Global Forum, which offers a platform for information and idea exchange on eco-innovation with diverse experts around the world. At the 10th ASEM Summit held in Italy in October 2014, the significance of eco-innovation among SMEs was highlighted even more strongly. The meeting also officially delineated the roles and responsibilities of ASEIC, bestowing on the center a greater sense of duty that was much embraced by its members.

In 2015, more aggressive public campaigns will be carried out to raise awareness of the center domestically and internationally. ASEIC will also continue in its efforts to promote cooperation among the SMEs in ASEM member countries based on the sharing of green growth and appropriate technologies. In September 2015 ASEIC will host a conference to share the outcomes of the center's activities to date and further root the principles of eco-innovation in the international community.

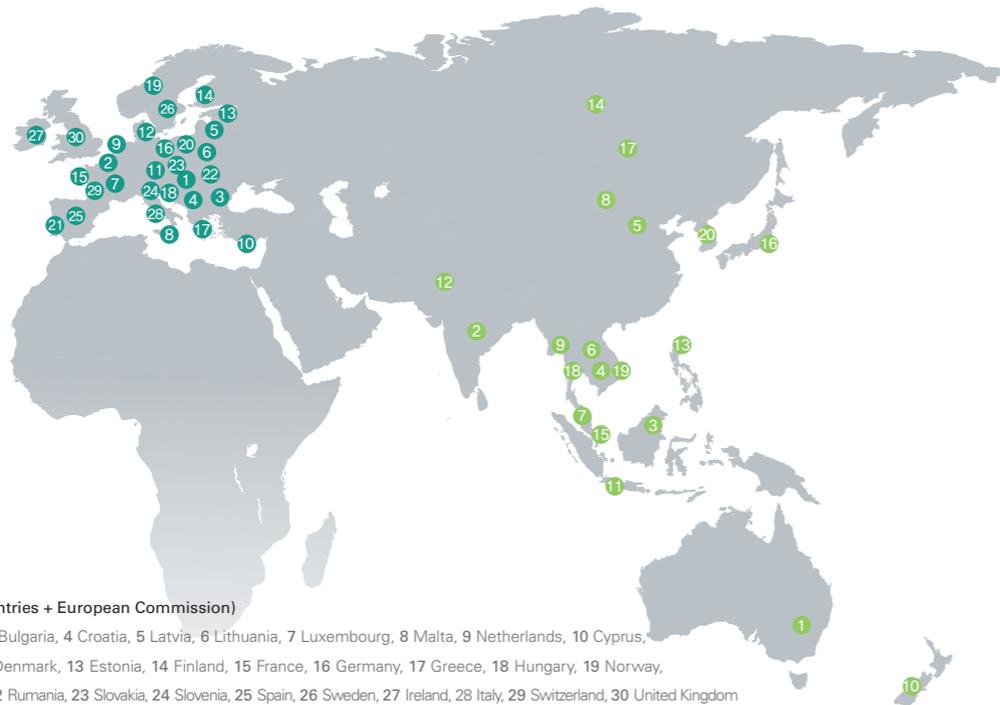
The center will seek qualitative improvements by pursuing proactive cooperation and solidarity at all levels of society, and be ambitious in developing new projects, fulfilling its vision to become a bridge for eco-innovation among SMEs in Asia and Europe. Please join us in our efforts. Thank you.

Lee Kyu-dae

The Second Chairman of the ASEIC

# Chapter 2 Introduction

ASEM members [51 countries + European Commission, ASEAN Secretariat]



**Europe group (30 countries + European Commission)**

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

**Asia group (21 countries + ASEAN Secretariat)**

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

### Introduction to the Asia-Europe Meeting (ASEM)

ASEM was first suggested by Singapore in October 1994 with the aim of building cooperative relations between Asian and European countries based on equal partnerships. It was officially established in 1996, and the first ASEM Summit was held in Thailand that same year.

Currently, ASEM comprises 51 member countries, the European Union, and the ASEAN Secretariat. Summits are held every two years alternately in Asia and Europe, and are attended by the heads of each member state and government, the European Commission, and various stakeholders. Various multi-level meetings are held under the summit's umbrella, such as ministerial meetings and senior officials' meetings, among others. In addition, ASEM pursues a variety of cooperative projects aimed at facilitating free trade, fostering potential investment, and conserving the environment.

[www.aseminfoboard.org](http://www.aseminfoboard.org)

## ASEIC Vision

To serve as an international platform to promote eco-innovation by providing support for technology cooperation of SMEs in ASEM member countries



### Introduction to the ASEM SMEs Eco-Innovation Center (ASEIC)

ASEIC is an international organization for the enhancement and promotion of green growth among SMEs in Asia and Europe, undertaking independent activities to that end.

The leaders of ASEM member countries officially endorsed the establishment of ASEIC at the 8th ASEM Summit, and ASEIC was finally established on June 15, 2011, thus assuming its role as an international organization fostering the green growth of SMEs in ASEM member states. Notably, ASEIC was re-launched as a foundation in 2014. The center is fully committed to supporting technical cooperation among the SMEs of both regions and to greening SME management practices.

### Key activities of ASEIC

ASEIC's major activities are largely divided into the ASEM Eco-Innovation Consulting Project, the ASEM Inclusive Eco-Innovation Programme, the ASEM Eco-Innovation Index (ASEI), the Global Forum, and the Green Business Center (GBC).

The ASEM Eco-Innovation Consulting Project provides support for SMEs in their efforts to incorporate eco-innovation strategies by providing consulting and tailored solutions for the companies to move more squarely towards the ideals of green business. The ASEM Inclusive Eco-Innovation Programme promotes the sharing of appropriate technologies with SMEs in Asian developing or least developed countries, thereby helping along the growth of SMEs in those areas.

The ASEI measures in quantitative and qualitative terms the level and status of eco-innovation in ASEM member countries, providing a vital basis upon which to enhance related policies for the best effects. Moreover, the Global Forum offers a meaningful venue for experts in diverse fields to gather and exchange opinions on green growth, dialogues that help to disseminate the principles and philosophies of eco-innovation among ASEM member states. The Green Business Center, operated in Jakarta, Indonesia, provides strategies for SMEs in ASEM member countries to expand into global markets, and also facilitates technical exchanges. ASEIC also publishes newsletters on a regular basis to spread information on the organization and its eco-innovation activities to as broad an audience as possible. ASEIC actively encourages SMEs in Asia and Europe to develop practical, implementable eco-innovation strategies. The center is also dedicated to ensuring active and open communication among the governments, companies, and individuals of ASEM member countries.

# Chapter 3 Opening Ceremony of ASEIC

Major Projects  
in 2014 and  
Outcomes

A new start  
for the eco-  
innovation of  
SMEs

The opening ceremony of ASEIC was held to celebrate its re-launch as a foundation, and to introduce ASEIC to various domestic and abroad organizations.

The 2010 ASEM Forum on Green Growth and SMEs held in Korea provided momentum for the establishment of ASEIC. At the forum, 8 member countries including China and Denmark issued a joint declaration encouraging the establishment of an organization to promote eco-innovation for the SMEs of ASEM member countries. At the 8th ASEM Summit held in Belgium in 2010, the member countries officially endorsed the establishment of ASEIC in Korea, and ASEIC was finally established in June 2011. Initially ASEIC was managed under the Small and Medium Business Corporation (SBC), but was re-launched as an independent organization in April 2014 in order to expand its influence as a bridge for eco-innovation of SMEs in Asia and Europe. To commemorate its new beginning, ASEIC held an opening ceremony at COEX in Seoul on September 17<sup>th</sup>, 2014.

Hosted by Seong Myeong-ki, Chairman of both ASEIC and Inno-Biz Association, the opening ceremony was attended by about 100 notable individuals, including Han Jung-wha, the Administrator of the Small and Medium Business Administration (SMBA) of Korea, Seong Myeong-ki, then ASEIC Chairman and Chairman of the Inno-Biz Association, Ambassadors of ASEM member states, and representatives from various Korea-based international organizations and other related Korean organizations and companies. After a brief introduction to ASEIC and its current projects, ASEIC Chairman Seong gave his opening address followed by SMBA Administrator Han Jung-wha, who delivered words of encouragement. Both speakers focused on the significance of the opening ceremony and ASEIC's vision and mission as an independent organization, raising expectations for its future. The speeches were



01. Han Jung-wha, the Administrator of the SMBA, is delivering words of encouragement
02. Seong Myeong-ki, former ASEIC Chairman, is delivering opening address
03. Anne Marie Sloth Carlsen, the Director of the UNDP Seoul Policy Center, is delivering congratulatory remarks
04. Young Su-gil, the Director of the Sustainable Development Solutions Network, congratulated ASEIC on its independence



01



02



03



04

followed by a congratulatory remarks by Anne Marie Sloth Carlsen, the Director of the UNDP Seoul Policy Center, and Young Su-gil, the Director of the Sustainable Development Solutions Network. Young congratulated ASEIC on its independence and expressed his organization's full support of ASEIC's role of promoting eco-innovation of SMEs in Asia and Europe.

The opening included a signboard hanging ceremony, during which notable guests took the stage. The audience enthusiastically applauded ASEIC's new beginning, as the new signboard was revealed.

- Han Jung-wha, the Administrator of the SMBA of Korea
- Seong Myeong-ki, then ASEIC Chairman
- Young Su-gil, the Director of the Sustainable Development Solutions Network
- Anne Marie Sloth Carlsen, the Director of the UNDP Seoul Policy Centre
- Asfaha Beyene, the Senior Advisor to the Executive Director of the Green Climate Fund
- Darius Nassiry, the Head of the international cooperation department at the Global Green Growth Institute
- Iric C. Arribas, Consul General of the Philippine Embassy in Korea
- Valia Pentarvani, Head of mission of the Greek Embassy in Korea

The main event was followed by a gala dinner that provided the participants an opportunity to socialize and network. ASEIC Chairman Seong talked of how ASEIC was founded to nurture the green and mutual growth of SMEs in Asia and Europe, and of the organization's dedicated commitment to foster eco-innovation, the sharing of green technologies, and creating of new business opportunities for SMEs in both regions.

The opening ceremony was an invaluable opportunity to increase awareness of ASEIC in Korea, which has relatively low recognition in comparison to global society. ASEIC will hold steadfast to its primary goal of realizing the eco-innovation of SMEs by proactively pursuing cooperation among ASEM member states, international organizations, and related institutions.

- 01. Special guests are taking a commemorative photo
- 02. Korean traditional music group ensemble "Sinawi"
- 03. Participants in the gala dinner are making a toast



01



02



03

Participants

No	Participants
1	Han Jung-wha, SMBA(Small & Medium Business Administration) Administrator
2	Seong Myeong-ki, Former ASEIC Chairman
3	Young Soo-gil, SDSN-Korea Co-Chair & Director
4	Anne Marie Sloth Carlsen, UNDP Seoul Policy Center Director
5	Asfaha Beyene, GCF Senior Advisor
6	Iric C. Arribas, Embassy of Philippines Consul General
7	Valia Pentarvani, Embassy of Greece Deputy Head of Mission
8	Darius Nassiry, GGGI Deputy Director
9	Choi Chul-an, SMBA Director of Bureau
10	Jo Jong-iae, SMBA Section Chief
11	Nam Hyun-jae, SMBA Deputy Director
12	Kim In-sung SBC(Small&medium Business Corporation) Vice president
13	Ahn Hyun-ae, SBC Manager
14	Lee Choon-hee, ASEIC Vice Chairman
15	Kim Hung-jun, ASEIC Director
16	Kim So-hee, Climate Change Center Director
17	Jang Dong-yeong, Seoul National University of Science and Technology Professor
18	Yang Bong-whan, Korea Technology and Information Promotion Agency for SMEs President
19	Han Mi-sook, Hanyang University Professor
20	Somlith Khantivong, Embassy of Laos Minister Counselor
21	Boydo Godev, Embassy of Bulgaria Commercial Counselor
22	Lee Kwi-ho, Korea National Cleaner Production Center Director
23	Kim Hyun-ook, Dept. of Environmental Engineering of University of Seoul Professor
24	Nguyen Hoang Hai, Ministry of Science and Technology State Agency for Technology Innovation Deputy Director General
25	Levente Pallos, Embassy of Hungary Commercial Counselor
26	Chung Jong-hyok, KOICA(Korea International Cooperation Agency) Managing Director
27	Denis Krasilnikov, Embassy of Russia Second Secretary
28	Nam Ki-woong, New & Renewable Energy Center, Korea Energy Management Corporation President
29	Lee Sang-pal, Korea Environmental Preservation Association Secretary General
30	Kang Jeong-muk, ICLEI Korea Office Program Officer
31	Hong Sung-tae, Climate Change Research Institute of Korea President

•Others: Entrepreneurs, journalists, Employees of Innobiz Association and ASEIC etc.

# ASEM Eco-Innovation Consulting Project

Major Projects in 2014 and Outcomes

ASEM Eco-Innovation Consulting Project

The ASEM Eco-Innovation Consulting Project deals with environmental issues and creates new business opportunities for SMEs in developing ASEM member countries.

### Consulting Services Tailored for Needs of SMEs in Developing Countries

The ASEM Eco-Innovation Consulting Project aims to help SMEs in developing and least developed ASEM member states to implement eco-innovation. Consultants visit the companies and offer consulting services tailored for local needs. ASEIC shares green technologies with SMEs faced with environmental issues after rapid economic growth and industrial development, assisting them in their efforts toward practical and implementable strategies.

Under the consulting project, ASEIC encourages companies to boost their green competitiveness and seek out diverse new business opportunities, contributing to the sustainable and green growth of ASEM member countries. In 2014, ASEIC visited 30 SMEs in total in Malaysia, the Philippines, and Vietnam, proposing 282 solutions for these countries towards realizing green growth. Moreover, on-site training and education were provided to raise awareness of sustainable management principles and environmental regulations, and suggestions were made to participating companies on how they can comply with such regulations.

Consultants visit a Vietnamese company participating in the ASEM Eco-Innovation Consulting



Country	Number of Participating Firms	Economic Benefits	Environmental Benefits (CO2 mitigation)	Proposals	Implementations	Rate
Malaysia	10	MYR 2,793,395.9/year KRW 942.71mn	955.57 tCO2	68	17	25%
Philippines	10	PHP 35,659,932/year KRW 872.95mn	26.46 tCO2	34	20	59%
Vietnam	10	VND 4,742,990,600/year KRW 237.14mn	2,570 tCO2	180	110	61%

Over half of the consulting solutions suggested by ASEIC consultants were put into action. The economic benefits of in-field consulting services are estimated to be KRW 942.71 million in Malaysia, KRW 872.95 million in the Philippines, and KRW 237.14 million in Vietnam. In addition, reductions in carbon dioxide emissions are estimated at 955.57 tCO2, 26.46 tCO2, and 2,570 tCO2, for each country, respectively.

Country	Partner	First Seminar	Second Seminar
Malaysia	SIRIM	Jun 25, 2014 Asia Pacific University, Kuala Lumpur 100 participants	Oct16, 2014 Impiana Hotel, Kuala Lumpur 50participants
Philippines	DTI	Jun 27, 2014 Cavite Provincial Gov't building 40 participants	Oct 21, 2014 Laguna City Hall 34participants
Vietnam	NASA_MOST	May 30, 2014 Continental Saigon Hotel, Ho Chi Minh 80 participants	Oct 14, 2014 NASA_MOST, Ho Chi Minh 42 participants

ASEIC selected consulting service providers for each country in April 2014, received applications for consulting services from companies and selected target companies in May, and held eco-innovation seminars for local governments and SMEs in June. The seminars were co-hosted with the governments or partner organizations of the respective countries. In addition, ASEIC signed an MOU on support for green industries with Malaysia's SIRIM to solidify cooperation in future eco-innovation consulting projects.

A seminar to improve awareness on eco-innovation(Malaysia)



In the second half of 2014, ASEIC carried out a diagnostic study for each participating company, provided customized consulting services, and held a second seminar to share good practices. At the seminar, 30 companies participating in the consulting project received completion certificates.

01. A seminar to improve awareness on eco-innovation(Vietnam)

02. ASEM Eco-Innovation Consulting completion ceremony



01



02

The consulting project in 2014 differs from previous years in that local governments supported 16 percent of the total project budget, which reflects their deep interest in the project.

Though the number of participating companies declined from 42 in five countries in 2013 to 30 in three countries in 2014, the benefits of the project increased. Economic benefits climbed from KRW 15.9 billion in 2013 to KRW 20.52 billion in 2014, and CO2 emissions reductions rose from 1,892 tCO2 in 2013 to 3,552 tCO2 in 2014.

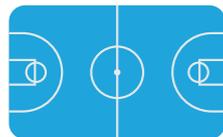
### ASEM Eco-Innovation Consulting Best Practices

Rubber waste management for Philippine shoemaker J, and production process improvement for Malaysian electronics firm Y and Vietnamese noodle manufacturer T, were distinguished as best practices of the Eco-Innovation Consulting Project in 2014.

Company J, a Philippine shoemaker, faced the issue of shoe rubber waste. The company had resorted to burning or dumping about 20 kilograms of shoe rubber waste per day. Moreover, Liliw, where the company is based and home to more than 200 shoemakers, was generating more than 4 tons of rubber waste, causing severe air pollution in the city. After an initial diagnosis, the consultants sought ways to recycle the rubber waste for the benefit of the local community. They suggested that the city embark on joint management of the rubber waste to collectively mitigate environmental pollution, create a profit model through recycling rubber waste, and utilize plastic densifiers to enable its reuse as shockproof rubber flooring on community basketball courts. As most shoemakers in Liliw are small and unable to afford plastic densifiers, the consultants reviewed whether it would be possible to link with the Share Service Facility Program of the Department of Trade and Industry of the Philippine. In particular, the central and city governments welcomed the idea of joint management of rubber waste and the profit model through recycling rubber waste.

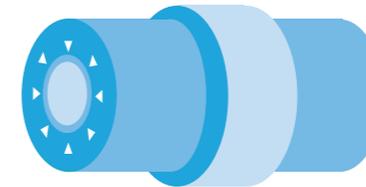


Rubber waste

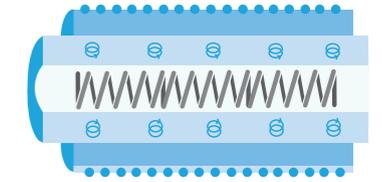


Local community basketball courts where the recycled rubber will be used as flooring materials

Company Y, a Malaysian electronics maker, was using band heater plastic injection molding machines. The injection molding machines were utilized for more than 50,000 hours/yearly and took up 80 percent of the plant's total electricity use. The consultants found that a significant amount of heat was being lost in the heater, and suggested replacing the band heaters with induction heaters as a way of saving up to 60 percent of energy consumption. To ease the financial burden from machine replacement, the consultants informed the company of the supports offered through the "Green Tech" initiative of the Malaysian government. Moreover, ASEIC is assisting the company with an MOU on technical cooperation with a company in a developed country that holds green technology.



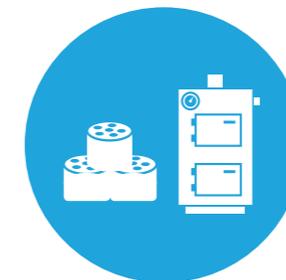
Band heater



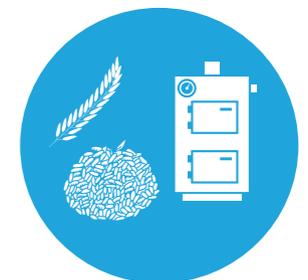
Induction heater

**Induction heating:** Most metals generate heat when exposed to a high-frequency magnetic field. An induction coil cable placed in the heating system in plastic molding machines generates heat inside, preventing heat loss.

Vietnamese food manufacturer T—which mainly produces rice noodles and ramen—is, like most companies of the food industry, a highly energy-intensive company. The company relied on coal-based boilers for its operations, which had significantly raised its greenhouse gas (GHG) emissions. The consultants reviewed the possibility of replacing the company's coal-based boilers with green biofuel-based ones run by rice hulls (in plentiful supply in Vietnam, a country that harvests rice year round), and carried out feasibility tests on the prospect. They found that the rice hulls could reduce fuel costs by 33 percent and GHG emissions by 8,590 tons annually. The consultants also suggested that the rice hull ash be used for brick reinforcement, and discussions on this issue between the company and a brick manufacturer are currently underway.



Coal-based Boiler



Bio-fuel Boiler using rice bran

# ASEM Inclusive Eco-Innovation Programme (Eco-Innovation for the Poor)

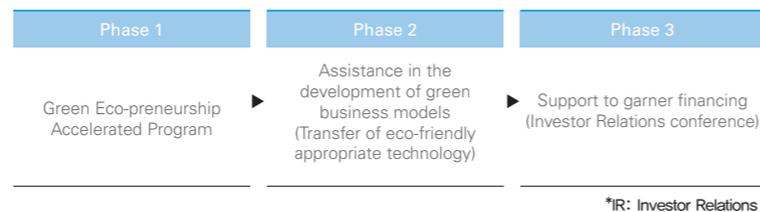
Major Projects  
in 2014 and  
Outcomes

ASEM Inclusive  
Eco-Innovation  
Programme (Eco-  
Innovation for  
the Poor)

“Appropriate technology” is generally defined as technology deemed suitable for local needs. Sharing appropriate technology means giving access to the environmentally-sound technologies that encourage active local participation in green growth. The ASEM Inclusive Eco-Innovation Programme aims to foster eco-friendly SMEs in least developed countries (LDC) by assisting them in environmentally-conscious economic and technological development.

ASEIC carries out the programme in phases to provide systematic support for local SMEs. In Phase 1, the target companies participate in the Green Eco-preneurship Accelerated Program, in which they learn how to develop green business models; in Phase 2, they are counseled on how to put their business models—which incorporate eco-friendly appropriate technologies—into action; and in Phase 3, the companies attend an investor relations conference to reach out for the financial support they need to carry out their goals.

Table 1. ASEM Inclusive Eco-Innovation Programme, by phase



In 2014, the programme was carried out in Lao People’s Democratic Republic and Cambodia, both ASEM member countries. Laos, which joined the programme for the first time, began in Phase 1, while Cambodia accelerated to Phase 3 as the programme had been conducted in the country previously.

## Green Eco-preneurship Accelerated Program in Laos

In Laos, ASEIC carried out an eco-preneurship building program for local prospective entrepreneurs (teams), SMEs, and general individuals. This program, intended to encourage development of business models with minimum environmental footprint, consisted of a one-week intensive training session and eight weeks of workshops, and was held in cooperation with Korea’s Handong Global University, the National University of Laos, and the Lao National Chamber of Commerce and Industry.

Week	Date	Theme	Location
1	Aug. 22-26	One-week intensive training session (boot camp)	National University of Laos, in Vientiane
2	Sept. 6	Eco-innovation business	
3	Sept. 13	Market analysis and business development	
4	Sept. 20	Financial analysis	
5	Sept. 27	Marketing	Lao National Chamber of Commerce and Industry, in Vientiane
6	Oct. 4	Interim examination	
7	Oct. 11	Product development, accounting/financial management	
8	Oct.18	Legal preparation, business plan writing	
9	Oct. 25	Presentation of management strategy and ethical foundation as well as completion ceremony	Raffles Hotels, in Vientiane

Completion ceremony of  
Green Eco-preneurship  
Accelerated Program in Laos



Fifty-four people took part in the program, including CEOs and employees of SMEs in Laos, prospective entrepreneurs, local public servants working at SME-related government departments, professors, and financial industry employees. The program fostered participants’ capacities to pinpoint business opportunities, brainstorm new ideas, and seek out business expansion. In a survey to gauge the level of participant satisfaction, 65 percent expressed high satisfaction with the program (33 percent said they were “satisfied,” and 2 percent said they were “neutral”).

Eco-preneurs Investor Relations  
Conference 2014 in Cambodia



## Eco-preneurs Investor Relations Conference 2014 in Cambodia

From 2011 to 2012, ASEIC, in collaboration with the Global Green Growth Institute, shared appropriate green technologies with Cambodia and undertook the Green Eco-preneurship Accelerated Program with SMEs to support them in efforts to expand their businesses based on appropriate technologies.

In 2014, ASEIC held an investor relations conference to provide prospective entrepreneurs (teams) in Cambodia, where financial support for SMEs is lacking, with a valuable opportunity to attract potential investments.

Time/Venue	Sept. 20, 2014/ Hotel Le Royal, Phnom Penh
Participants	About 130 people (including those from 10 companies and 5 investors)
Agenda	Booth exhibition, presentation on business plans, keynote speech and awards ceremony, entrepreneur/investor meetings

Prior to the IR conference the participants received counseling on their business models and how to most clearly and effectively present the feasibility of their business plans to potential investors; they were also given presentation coaching and rehearsal opportunities.

Date	Details
Aug. 23	Definition of eco-innovation, products and services
Aug. 30	Entrepreneurship and market analysis
Sept. 6	Financial statements and breakeven point
Sept. 13	Devising a business plan
Sept. 19	Presentation coaching and rehearsal
Sept. 20	Eco-preneurs Investor Relations Conference

Among the 10 participating companies, six earned the opportunity for more serious discussion with potential investors. This program was designed to provide new startups with an opportunity to harness potential investment sources, with its broader goal being to expand the survival rate of startups and encourage more startups in Cambodia. ASEIC is eager to see SMEs play a greater role in sustainable development in the country, as eco-preneurship expands further in the startup phase.

01. A participating company is explaining its product to potential investors
02. A participant is presenting his business plan



01



02

## Chapter 3

# ASEM Eco-Innovation Index

### Major Projects in 2014 and Outcomes

#### ASEM Eco-Innovation Index

The ASEM Eco-Innovation Index (ASEI) was designed to quantitatively and qualitatively measure the level of ASEM member countries' eco-innovative policies and to promote eco-innovation at the regional and global level.

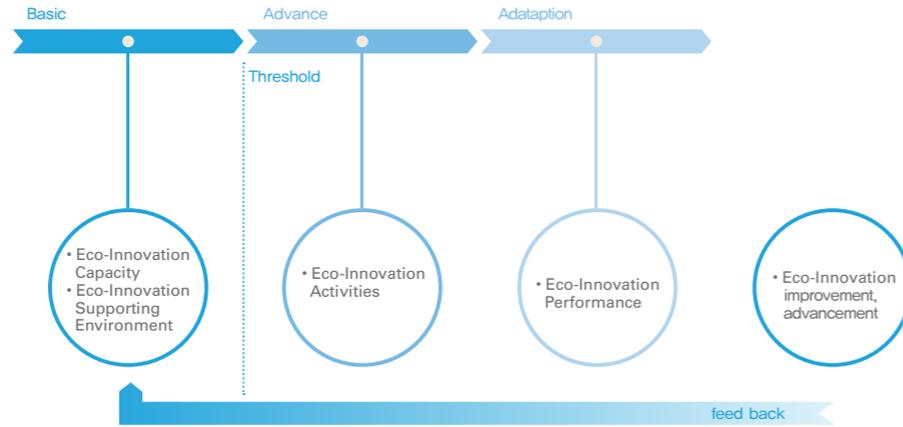
### Research on Eco-Innovative Policies

The ASEI measures the current status of eco-innovation of ASEM member countries, and its outcomes can help shape the direction and strategies to expand and deepen the roots of eco-innovation. In particular, the ASEI plays an important role in expanding eco-innovation in regions and countries; spurring dialogue on eco-innovation between Asia and Europe; and encouraging improvements in eco-innovation policies and regulations.

In 2012, the ASEI measured eco-innovation levels of 15 Asian and European ASEM member countries, and in 2013 the number rose to 25 countries with cases studies of company innovation. In 2014, ASEIC built up the theoretical foundations of ASEI indicators and expanded the countries subject to the index to 49 ASEM member countries. Moreover, to enhance qualitative analysis, the eco-innovation programs and policies of governments and SMEs were included in the analysis, and social, environmental, and economic dimensions were integrated into the analysis framework.

In 2014, the ASEI storyline and evaluation framework were established. Among the four areas of evaluation—eco-innovation capacity, environment to support eco-innovation, eco-innovation activities, and eco-innovation performance—eco-innovation infrastructure, including eco-innovation capacity and supportive environment were categorized as the “Basic” stage; activities undertaken based on the infrastructure established as the “Advance” stage; and successful eco-innovation performance as the “Adaptation” stage.

## ASEI Framework



To measure each country's eco-innovation capacity, eco-innovation supporting environment, eco-innovation activities, and eco-innovation performance, data were collected based on 20 selected indicators. The ASEI for each country was then derived based on 12 statistically meaningful indicators out of the total 20.

## ASEI Indicators

Twelve statistically significant indicators (**highlighted in bold**) of the 20 were utilized.

Evaluation Area	Indicators
Eco-Innovation Capacity	<b>1.1 Country's Economic Competitiveness</b>
	<b>1.2 Country's General Innovation Capacity</b>
	1.3 Green Technology possessed/acquired Firms
	1.4 Green Technology R&D Institution Capacity
Eco-Innovation Supporting Environment	<b>1.5 Awareness of Sustainability Management</b>
	<b>2.1 Government's R&amp;D Expenditure in Green Industry</b>
	<b>2.2 Implementation of Environmental Regulations</b>
	2.3 Maturity of Investment Setting for Green Technology Industry
	2.4 Investment Scale towards Green Technology SMEs
	3.1 Commercialization Level of Green Technology
Eco-Innovation Activities	<b>3.2 Firms' Participation on Environmental Management System</b>
	<b>3.3 Economic Influence of Leading Environmentally Responsive Firms</b>
	<b>3.4 Green Patents</b>
	3.5 Activeness of Renewable Energy Utilization
Eco-Innovation Performance	<b>4.1 Level of Environmental Impact on Society</b>
	<b>4.2 CO2 Emission Intensity</b>
	<b>4.3 Country's Energy Sustainability level</b>
	4.4 Water consumption intensity
	4.5 Jobs in Green Technology Industry
	<b>4.6 Green Industry Market Size</b>

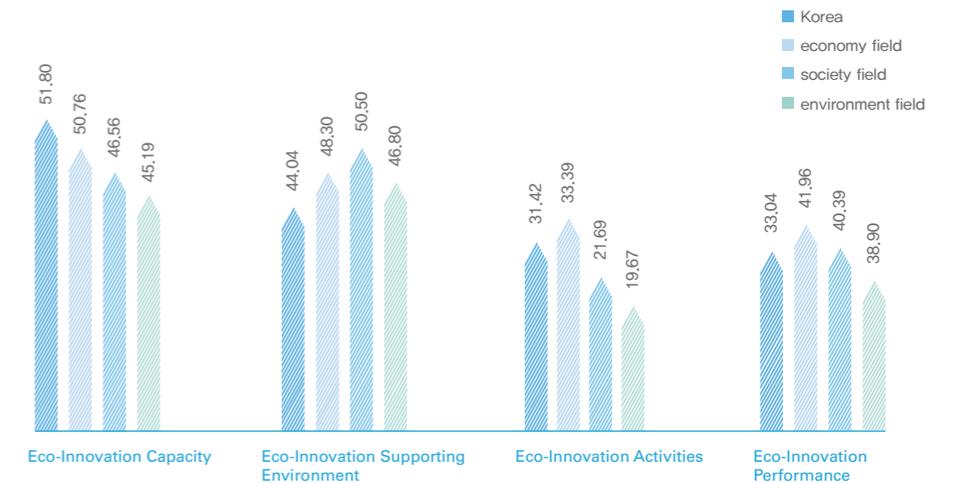
In particular, for quantitative measurement, 49 ASEM member states were categorized into four groups according to the triple bottom line (economic, social, and environmental) measure of sustainability. Per-capita GDP (economic), the Global Sustainable Competiveness Index published by the World Economic Forum (social), and Global Sustainable Competiveness Index (environmental) were used to categorize the member countries into groups for comparative analysis.

## (Example) Korea's ASEI

In 2014, analyses in each evaluation criteria showed scores of eco-innovation capacity ranging from 2.10 (Myanmar) to 72.30 (France); environment to support eco-innovation from 14.85 (Greece) to 77.96 (Estonia); eco-innovation activities from 0.00 (Myanmar) to 70.34 (Japan); and eco-innovation performance from 3.84 (Myanmar) to 54.13 (China).

	Evaluation Area	The number of countries	Average	Standard deviation	Minimum value	Maximum value
Eco-Innovation	Eco-Innovation Capacity	49,00	39,63	18,03	2,10	72,30
	Eco-Innovation Supporting Environment	49,00	43,47	13,43	14,85	77,96
	Eco-Innovation Activities	49,00	20,34	17,80	0,00	70,34
	Eco-Innovation Performance	49,00	36,25	11,67	3,84	54,13

In the category of eco-innovation activities, Japan scored high with 70.34 due to the strong influence of eco-friendly companies in the country and its high number of green patents despite average-level participation in eco-friendly management. Though mediocre in other areas, Spain scored high in eco-innovation capacity, at 71.73, due to Spanish companies' high level of awareness of sustainable



management, the highest level among all member countries. Switzerland scored high in all areas except eco-innovation activities (34.25), as the country lags behind high-scoring countries in the influence of major eco-friendly companies and the number of green patents. France scored high in eco-innovation capacity, which is attributable to its higher-than-average scores in capacity for boosting national competitiveness and general innovation; it also scored high in level of sustainable management awareness.

Korea was categorized into Group 2 in all economic, social, and environmental dimensions, and scored higher than the average of other countries in the same group in eco-innovation capacity and activities, but received relatively low scores in eco-innovation supporting environment and eco-innovation performance. This result indicates the country has strong potential to promote eco-innovation and has comparative advantage in eco-innovation activities led by the private sector, despite relatively low support. It also implies that Korea would perform better in implementing eco-innovation if the government expanded support for R&D of eco-friendly technologies and strengthened its commitment to expanding the green market and reducing GHG emissions.

## Outcomes of ASEI

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Statistical analyses of the differences between Asia and Europe in the four examination areas revealed that the two regions showed disparity in eco-innovation capacity, eco-innovation activities, and eco-innovation performance, but no difference in the eco-innovation supporting environment. In addition, in terms of eco-innovation evaluation criteria, statistically significant correlations were found among all 12 indicators.

To ensure the reliability of the ASEI's findings, ASEIC requested interim and final reviews of the ASEI from a global advisory board comprised of the Eco-Innovation Observatory (EIO), UNU-MERIT, and Germanwatch. The ASEI findings were also presented at international conferences to garner opinions from global experts of eco-innovation. In particular, ASEIC participated in the 2014 Asia-Europe Environment Forum (ENVforum) in September 2014 to present the results of the ASEI and collect opinions from global environmental experts and policymakers in Asian and European countries. The ASEI was also presented for the first time at the 2014 Fall Symposium of the Korea Environmental Policy and Administration Society and the SCI Online Forum (environment and resource sustainability session). The validity and reliability of the ASEI and its research methods were recognized by domestic and international experts.

In 2014, ASEIC has strongly posited the ASEI as a reliable index for measuring the current status of eco-innovation of ASEM member states. The solid theoretical bases and trajectory of the ASEI, clearly laid out in 2014, solidified the objectivity and validity of the index, enabling measurement not only of the current eco-innovation status of all ASEM member states but also each country's eco-innovation growth potential and weak areas. Moreover, the ASEI in 2014 measured groups of member countries in similar environments based on the triple bottom line, providing the valuable data in order to improve eco-innovation gradually. In addition the incorporation of qualitative evaluation into the index enabled more practical analyses.

In 2015, ASEIC will further improve the ASEI by reinforcing the eco-innovation survey's objectivity and accuracy. Importantly, consensus and cooperation through ASEM member countries' network are needed to carry out this goal to make improvements. ASEIC encourages ASEM member countries' network engagement in the ASEI by ensuring each member country receives the results and that they are given ample opportunities to respond to the survey and research.

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## Chapter 3

# Global Forum

### Major Projects in 2014 and Outcomes

#### Global Forum

Facilitating concrete discussion among governments, international organizations and businesses, ASEIC Global Forum will provide SMEs with valuable opportunities to promote eco-innovation policy and practices in Asia and Europe.

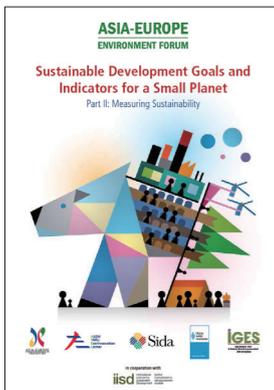
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## Asia-Europe Environment Forum



ASEIC jointly hosted the Asia-Europe Environment Forum (ENVforum) and held a conference under the theme "Sustainable Development Goals for Asia and Europe: Means of Implementation for the Post-2015 Development Agenda" at the European Economic and Social Committee in Brussels, Belgium from September 29<sup>th</sup> to 30<sup>th</sup>, 2014. The conference brought together experts and policymakers from countries in Europe and Asia as well as international organizations including the Organisation of Economic Co-operation and Development (OECD), the European Union (EU), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP). In 2014, the Asia-Europe ENVforum was jointly hosted by ASEIC, the Asia-Europe Foundation (ASEF), the Swedish International Development Agency (SIDA), the Hanns Seidel Foundation (HSF), and the Institute for Global Environmental Strategies (IGES). The International Institute for Sustainable Development (IISD) and the Central European University (CEU) presented the published results from its collaborative research project in a presentation titled "Sustainable Development Goals and Indicators for a Small Planet: Measuring Sustainability."

ASEIC, which jointly hosted a side event of the United Nations Conference on Sustainable Development (Rio+20) in 2012, has since co-hosted the ENVforum as an official partner. Moreover ASEIC regularly hosts the Conference on the Promotion of Asia-Europe's Sustainable Development, and supports related research, publications, and promotional activities for the conference.



Sustainable Development Goals and Indicators for a Small Planet: Measuring Sustainability

At the 2014 conference, Manager Jihyung Joo of ASEIC delivered the opening address in which she reiterated sustainable development as a common vision of the international community. The 2014 conference had significance in addressing measures to achieve the Sustainable Development Goals (SDGs) and ASEIC demonstrated unwavering commitment to fostering cooperation among ASEM member countries towards the rooting of eco-innovation among SMEs worldwide. The ASEM Eco-Innovation Index (ASEIC) was first introduced at the 2013 ENVforum. In the 2014 forum the discussion focused on the background of the ASEI as well as its research themes, methodology, outcomes, and future directions. In particular, ASEIC representatives presented the interim results of the ASEI, and reiterated the importance of delineating a clear definition of eco-innovation and of encouraging eco-innovation activities. They also explained the more sophisticated research methodology of the 2014 ASEI, which includes both quantitative and qualitative data; the limitations of the data collected for the index; and the direction of future research. Opinions were gathered from the global environmental experts and policymakers in attendance, with much dialogue on index research methodology, comparative analyses of Europe and Asia, data collection methods, and expected final results and their implications. The results of a research project titled “Sustainable Development Goals (SDGs) and Indicators for a Small Planet” were also presented at the 2014 ENVforum. The research examines the development of indicators to measure SDGs, and offers indicators for the SDGs in 14 Asian and European countries (selected to cover the social, economic, and environmental dimensions of sustainable development). It also discusses data collection to set SDGs and methods to monitor SDGs implementation progress.

The 2014 ENVforum also hosted discussions on measures to implement the post-2015 development agenda. Main themes included how to implement SDGs after the Rio+20 Summit; how to improve governance structures; and how to develop innovative financing measures, among others. Attendees of the conference agreed on the need to simplify procedures for funds donated by governments and international organizations, such as, the UN, World Bank, and Green Climate Fund (GCF) for developing countries, and on the need for a clear guideline at the global level and constant monitoring. Moreover, the mobilization of private funds—in addition to funds from governments and international organizations—was also pointed as a possibility during the discussions. On the second day, Komatsu’s energy efficiency improvement and Citra’s manufacturing value chain reform were introduced as best examples in eco-innovation, followed by case studies on the European Union, Poland, and the Philippines’ diverse institutions and policies, as well as, international cooperative efforts.

At the Steering Committee meeting, measures to improve future forums were discussed, and some of the ideas proposed included making themes more specific; sharing best practices of eco-innovation of SMEs from diverse countries; expanding opportunities for common projects through working groups; and utilizing the forum as a bridge to narrow the divide between fundraising and fund implementation in developing countries. In addition, there was agreement on the need to develop an eco-innovation capacity building program for Asian developing countries and to present best practices of eco-innovation worldwide.

In 2015, ASEIC will maintain its cooperative relationship with the ASEF, co-host of the ENVforum, and continue to solidify the ASEI research. It will also strengthen the forum as a platform for bridging Asia and Europe and for sharing eco-innovation cases in Asia and Europe.



2014 Korea-China Green Industrial Cooperation Forum and Trade Fair

Entry into China's Green Market

China, one of the two largest countries in the world along with the United States, is propelling its rapid economic growth. The country is also paying keen attention to environmental issues and taking the lead in environmental protection efforts. ASEIC has held the Korea-China Green Industrial Cooperation Forum and Trade Fair since 2011 to provide a venue for sharing environmental policies, issues, and countermeasures; for pursuing dialogue on environmental shifts around the world; and for facilitating exchange of green technologies and products among the SMEs of Korea and China. The forum and trade fair is hosted by ASEIC and sponsored by the Small and Medium Business Association (SMBA) of Korea in cooperation with the Korea Trade-Potential investment Promotion Agency (KOTRA). It was held in Jinan in 2011, Qingdao in 2012, Dalian in 2013, and Xi'an in 2014.

Year	Date	Venue	Theme	Number of Participants	Trade Fair Participants
2011	Nov. 30	Jinan, China	Korea-China cooperation on green technology and joint measures for green industry growth	160	27 Korean companies, 100 Chinese buyers
2012	Nov. 29	Qingdao, China	Joint measures for green industry growth	190	15 Korean companies, 30 Chinese buyers
2013	Nov. 20	Dalian, China	Cooperation for green industries and cooperative model for China's wind-farming business	160	15 Korean companies, 60 Chinese buyers
2014	Oct. 22	Xi'an, China	Environment response strategies such as measures for China's environmental improvement and ASEM members' eco-friendly energy policies	200	35 Korean companies, 90 Chinese buyers

The forum and trade fair was held as part of the MOU signed by the Shanxi provincial government and the SMBA in November 2013. The purpose of the forum was to raise environmental awareness of both governments and private sector; and the trade fair was held to facilitate Korea-China environmental industry cooperation with regard to global environmental companies' potential investment and entry into the Chinese market.



The first day of the 2014 forum (October 22<sup>nd</sup>), held under the theme "Environment Response Strategies," included discussions on China's environmental improvement efforts and the eco-friendly energy policies of ASEM member countries. Experts from diverse fields spoke on various subjects related to global environmental issues and proposed cooperative efforts towards resolving them.

- Green Industry Trend in Shanxi Province and Cooperative Measures by Director of Shanxi Research Academy of Environmental Sciences
- Global Green Industry Trend and International Cooperative Measures by Thierry Schwarz, Director for Political and Economic department of Asia-Europe Foundation(ASEF)
- A case of a Korean waste treatment technology by Jo Jin-seok, Director of Ecotech Engineering
- Korea's Green Industry Trend and Supportive Policies for the Industry by Yang Myung-sik, Deputy Director of the Korean Ministry of Environment of Korea
- Introduction to Industrial Park for Environmental Science & Technology by Director of High-Tech Industrial Development Zone

Before the forum, Choi Su-gyu, Deputy Administrator of the SMBA, and Wang Lisha, Shanxi Province Deputy governor, met to discuss the two countries' cooperative measures in relation to eco-friendly industries and China's support for the entry of Korean SMEs into China's western inland provinces.

The trade fair was held on the second day of the forum (October 23). Around 35 Korean environmental companies (24 technology holders/ equipment makers and 11 finished goods providers), and 90 Chinese eco-friendly project owners and buyers seeking opportunities for cooperation attended the fair. Among the Korean participants, 18 companies of the total 35 were water treatment companies, demonstrating their high interest in China's water treatment market. More specifically, 10 companies out of technology holders and equipment makers were engaged in the water treatment business, and 8 out of the 11 finished goods providers were involved in the water treatment business (water purifier or water treatment filter manufacturers).

The outlook for China's water treatment market is noticeably bright. About 60 percent of China's eco-friendly projects are related to water treatment, and water treatment-related project owners took up a high share of total participants at the trade fair. Thus the entry of Korean water treatment companies into China is expected to pick up pace. Moreover, the participation of many Chinese buyers and owners of projects related to waste treatment and air pollution at the fair indicated the expansion of China's green market into diverse sub-areas.

Meanwhile, 22 buyers and project owners from diverse regions including Shanghai, Dalian, Zhengzhou, and Changsha participated in the trade fair, opening up opportunities for Korean companies to enter China's western inland and other areas.

An SMBA official commented, "I expect the trade fair to generate USD 10 million in exports and provide a good opportunity for Korean companies to make bold moves for entering China's competitive eco-friendly market."

An SMBA Deputy Administrator is meeting with Shanxi province deputy governor.



### Chapter 3

## Green Business Center in Indonesia Takes Off

#### Major Projects in 2014 and Outcomes

#### Green Business Center

Year 2014 was a huge turning point for Green Business Center, an organization to support environmental SMEs expand overseas and to promote technology exchange among ASEM member countries.

#### History of the GBC in Indonesia



Indonesia is one of the fastest-growing Southeast Asian countries. It is the world's 16th-largest economy and the second-largest foreign direct potential investment destination among ASEAN countries. Moreover, its growth potential is strong, as the country ranks first among ASEAN members for business expansion opportunities. In Indonesia, SMEs account for a huge share of the economy: 99 percent of the total number of companies in the country, and 60 percent of the country's GDP.

However, these SMEs face diverse business risks due to the government's inexperience in SME capacity building and insufficient institutions and infrastructure. Moreover, the country is inadequately responding to the global trend of eco-innovation and green growth due to lack of governmental awareness and experience. ASEIC established the Green Business Center in Indonesia in 2011 as a follow-up measure to the MOU signed by Korea and Indonesia in 2010 to promote green industries.





- 01. Reception desk
- 02. Space for joint use (lounge, office devices)
- 03. Hallway
- 04. Cafeteria, office pantry
- 05. Conference room
- 06. Administration office
- 07. Office room
- 08. Meeting room

The GBC provides office space and local consulting services to ASEM member country SMEs to facilitate their entry into Indonesia's green business areas. The GBC will also, in the future, serve as the Asia office of ASEIC.

- Provides office space to SMEs of ASEM member states seeking business opportunities in Indonesia
- Provides market research and marketing consultation services based on ASEIC's international consulting program and advisory services in cooperation with law/accounting firms
- Matches technology supply and demand by finding local companies in need of the technologies held by tenants
- Provides other administrative services for SMEs seeking to do business in Indonesia such as network building support

The GBC, funded by the Korean government (KRW 150 million) and the Indonesian government (KRW 50 million), has successfully supported the entry of 11 Korean companies and four Indonesian companies into the Indonesian market. However, it faced limitations in terms of impact due to insufficient promotion and failure to secure legal standing.

However, changes made at the GBC in 2014 have laid the groundwork for future growth and accelerated support for SMEs in their efforts to enter Indonesia, and have enabled the GBC to serve as ASEIC's Asia office in name and responsibility.

### Changes at the GBC in 2014

First, the GBC became an organization under the umbrella of ASEIC, which became an independent, non-profit foundation in 2014. The GBC can now undertake projects compatible with the vision and mission of ASEIC. Previously Small & medium Business Corporation(SBC) executive served in the role of GBC head, but since 2014 the position is being held by an ASEIC executive to enable the more efficient, effective, and proactive implementation out of projects. Second, the GBC has secured legal standing in Indonesia. Previously the center faced many limitations in hiring local employees, executing budgets, and receiving rents from tenant companies because it could not acquire legal status under Indonesian law. In 2014, because the GBC became an overseas representative office of ASEIC, it was able to receive a business license and is now able to legitimately hire local employees and execute budgets. Furthermore, it now fulfills the legislative requirements for its future role as ASEIC's Asia office. Lastly, the GBC carried out aggressive promotional campaigns to attract tenants to the GBC and boost occupancy rates. The campaigns resulted in the selection of nine Korean tenants among many candidates. The SMEs of other ASEM member states are also set to enter the GBC, thus expecting to realize its mission statement and play its roles actively.

Based on the framework set in 2014, the GBC will provide full support for the SMEs of ASEM member states in their efforts to enter the Indonesian market from 2015, and will assist in the establishment of GBCs in other ASEM member countries. It is also making preparation for its role as ASEIC's Asia office.

## Chapter 3

# ASEIC Website

### Major Projects in 2014 and Outcomes

#### ASEIC Website

Currently ASEIC is introducing itself to various people on the basis of its website and mobile webpage, while ASEM member countries are able to share information more efficiently through these media.

### ASEIC Website



Beneficial Outcomes of mobile Website  
m.aseic.org

ASEIC ensures information sharing and active dialogue with ASEM member countries through its varied communication channels. It also fosters the building of networks among related organizations, and serves as an enabling agent for carrying out joint eco-innovation projects worldwide. ASEIC's official website provides detailed information on the center and is a vital means for the center to present its goals and the progress made to achieve them. [www.aseic.org](http://www.aseic.org)

ASEIC publishes a quarterly e-newsletter, the ASEIC Newsletter, which reports on diverse news related to eco-innovation and green initiatives as well as the outcomes of ASEIC activities. The newsletter is sent to about 150 related organizations, but is also freely accessible on the ASEIC website. Other news is also posted on the website for those interested in eco-innovation and ASEIC projects. In addition, ASEIC updates its news feed twice a week to ensure that the most up-to-date information is available to global visitors to the site. ASEIC also posts all annual reports and other publication on its website, ensuring transparency and accountability. Since becoming an independent foundation in 2014, ASEIC opened a Korean website and created a mobile application to raise domestic awareness of its purposes. Moreover, the official website of the GBC is now linked to the ASEIC website. In 2014, ASEIC published its e-newsletter twice, sending it out to related organizations. The newsletter introduced ASEIC activities for the year and outcomes, and facilitated a 65 percent increase in visitors to the ASEIC website over the previous year.



The ASEIC Newsletter



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