

Post Event Report

ICEC-EU Joint Workshop(June 26-27, 2019)

- Event name: ICEC-EU Joint Workshop
*Host/organizer: ICEC (International Climate and Environment Center), EU, Gwangju Metropolitan City
- Attendees: 70 public officers, representatives of public organizations and research institutions and citizens (Appendix 4)
- Purpose: To identify strategies to reduce greenhouse gas emissions by sharing local governments' climate and environment policies

DAY 1

Wednesday 26 June 2019 10:00-18:00

Rm. 302, 303 at Kimdaejung Convention Center

OPENING 10:00-10:20

Opening Remarks

Won-tae Yun, President, ICEC

- The world is facing the hottest global temperatures, and no one can escape the impacts of climate change.
- This calls for dialogue on a shift towards a low carbon society as well as collective wisdom on greenhouse gas (GHG) mitigation policy. This requires the cooperation of cities, which are at the forefront of fighting climate change.

Congratulatory Remarks

Michael Reiterer, EU Ambassador to Korea

- More efforts are needed to prevent global temperatures from rising. Support from local governments is critical to achieve the emissions reduction goal at the city level.
- Climate efforts will be wasted without support from citizens. Civil efforts will help tackle problems.
- Reducing GHG emissions is something we must do, and international programs are part of this effort. All of us should work to create an eco-friendly city.

Welcome Remarks

Jong-je Jeong, Vice Mayor, Gwangju Metropolitan City

- Signs of climate change are found across the world, such as sea level rise, which further highlights the importance of city-level climate initiatives.
- Gwangju is known for its leading response to climate change, including the Making Gwangju 1°C Cooler Project and the 3,000 Tree Planting Project.
- Hopefully, this workshop will offer an opportunity to share environment conservation policies and explore alternatives with an open mind.

*Speeches available at the ICEC website (<http://icecgj.or.kr>)

KEYNOTES 10:40-11:40

Toward a Low-Carbon City: Emissions Trading and Climate Response by Local Governments

Su-yol Lee, Professor, Chonnam National University

- Climate change is more than just an environmental issue. It affects our everyday life, with serious implications for the economy, livelihoods, markets and businesses.
- Climate action at the local government level may include a cap and trade program that leads to GHG reduction in industries, commercial establishments and the transport sector.
- Efforts are needed to improve a negative sentiment toward emissions trading in the private sector, including fears of competitiveness loss.
- Businesses should be invited to take advantage of government support to facilitate a transition to a low carbon economy, such as credit guarantee funds and green funds. Building an "energy valley" for climate technology and integrating and expanding related industrial complexes will offer opportunities for sustainable growth.

EU Climate Strategies

Pier Roberto Remitti, EU

- The EU has defined the 2020 climate and energy package and the 2030 climate and energy framework in the 2050 long-term strategy to achieve a transition toward a carbon neutral or net zero carbon society.
- The 2020 climate and energy package targets include a 20% cut in GHG emissions from 1990 levels and 20% of EU energy from renewables. Policies to implement the package are in place in 28 EU member countries.
- The EU emissions trading system is a key tool for cutting GHG emissions from large-scale power and energy facilities. By 2020, emissions from the power sector will be 21% lower than 2005 levels.
- The EU believes time is running out to meet the emissions reduction target, and intends to achieve its mid- to long-term goals by meeting short-term targets.

PRESENTATIONS 13:30-16:50

Trends in Climate Technology to Reduce GHG Emissions

Ji-sun Ku, Green Technology Center

- The Paris Agreement represents an attempt to reduce global GHG emissions. Korea, as a signatory, needs to commit itself to reducing its total emissions.
- A set of national strategies and plans are in place, including the Five-Year Plan for Green Growth, the Third Master Plan for Energy and the Renewable Energy 3020 Implementation Plan. Transition to a new climate regime calls for active engagement at the national level.
- Climate technologies are classified into three categories: GHG reduction, climate change adaptation and convergence. Examples of technologies that can be used to create a low carbon city include solar PV, energy efficient buildings, green transport, renewables and green energy.

Renewables Key to Low-Carbon Green Growth: Opportunities and Roles

Sang-ho Jeong, Gwangju Institute of Green Car Advancement

- The Paris Agreement has prompted an energy paradigm shift to renewables. To accelerate the uptake of renewables, the generation cost needs to come down.
- Renewables are not stable enough to provide predictable generation. Use of energy storage systems (ESS) is one way to make them more reliable and predictable.
- A two-track strategy is required to meet the GHG reduction target and expand renewables. In order to improve the uptake of renewables, they should be first introduced to areas where grid parity can be reached and later to energy markets.

Gwangju's Climate Action and Research: Roles and Implications

Byeong-cheol Oh, ICEC

- A city's characteristics should be taken into consideration when developing GHG reduction and climate adaptation approaches. Climate mitigation and adaptation measures should be convergent and complementary.
- Unexpected challenges in Gwangju's city-level climate action include lack of awareness and guidelines and conservatism.
- Climate response involves education, awareness-raising and organic governance, and climate efforts should be sustainable. Participation of local governments is an integral part of national climate action. Infrastructure is the backbone of climate action, and results-driven approaches are to be avoided.

Seoul's Low Carbon Policy

Jung-min Yu, Seoul Institute

- Seoul plans to produce 1 GW of solar PV power by 2022 under its "Solar City Seoul" plan. Other renewable goals are also in place.
- Seoul has set an ambitious goal to build new solar PV plants and produce over 20 MW every year. The city needs to consider ways to lower power consumption and increase benefits to maximize energy efficiency.
- There are many media reports that fuel a negative public sentiment for solar PV. Education and awareness programs will help encourage the growth of solar PV generation.

Gwangju's Urban Carbon Management for Climate Change Mitigation

Tae-ho Kim, ICEC

- Gwangju has a unique legal basis for climate change response (The Ordinance on Climate Change and the Ordinance on Low Carbon Green Growth).
- The Urban Carbon Management System is available as a GHG inventory tool that allows for estimation of GHG emissions, predictive diagnosis and monitoring. The system provides GIS-based data on GHG emissions.
- The crowdfunding app “Dagachi(means, together) Green” was developed to support civil initiatives, and a teachers’ research group comprised of teachers concerned about the environment is working to address climate change.

Climate Technology and Finance: Overseas Examples and Future Challenges

Dong-un Park, Green Technology Center

- The Green Technology Center is tasked with surveying demand for and facilitating climate technology transfer, identifying partnership opportunities and providing customized technical support.
- The center prioritizes joint project opportunities based on the Technology Need Assessment (TNA) and NDC technology, develops a long-term plan based on technological demand and links funding to projects.
- It has worked on many projects abroad, including Indonesia’s master plan on waste-to-energy projects and a green transport system in Bhutan.

DAY 2

Thursday 27 June 2019 09:30-15:00

Rm. 302, 303 at Kimdaejung Convention Center

CREATING A LOW CARBON CITY 09:30-10:40

Building a Low Carbon City: Management Indicators for Local Governments

Soo-gil Oh, Professor, Cyber University of Korea

Member, Sustainable Development Committee of Seoul

- Response to climate change needs to take into account that it is caused by interactions between the earth and ecosystem.
- The environment forms and sustains a society, which in turn sustains an economy. This calls for efforts to explore all possible policy options to create a sustainable future.
- There is a need to encourage public participation and study all policy options to identify climate change solutions.

Toward a Low Carbon City: Energy Transition Village

Woo-jin Shin, Professor, Chonnam National University

- Energy transition is an effort to substitute fossil fuels with safe, clean energy sources and achieve co-prosperity for all.
- Active public participation will help boost the local economy. It is important to maintain the sustainability of the Energy Transition Village by listening to residents’ feedback and educating them to ensure they have a clear sense of goals.
- The role of experts and the government is important to develop an effective public-private partnership.

GHG INVENTORY 11:00-12:00

GHG Inventory Guidelines for Local Governments

Jin-young Jo, Assistant Manager, GHG Reduction Dept., Korea Environment Corporation

- GHG emissions have been on the rise since 2013, in line with economic growth. Korea, as one of the biggest potential emitters, needs to revise its climate roadmap, including climate policy and the target management system.
- With the increased authority of local governments in the non-industrial sector, action at the local level has become more important. A GHG inventory is needed to identify local emission trends and develop a policy that caters to local needs.
- A GHG inventory report and a reduction inventory report are available, which include emission trends, reduction methods, reduction goals and progress against targets.
- Emissions reduction plans are available to calculate emissions, estimate BAU scenario emissions and measure actual emissions. A cycle of planning, implementation, evaluation and reflection is in place to support GHG emissions reduction.

Gwangju's Urban Carbon Management System and GHG Inventory Report

Ji-yeon Kim, Research Fellow, ICEC

- The Urban Carbon Management System offers in-depth insights into a city's GHG emissions trends, which can be used to develop policy measures to create a carbon neutral city.
- In order to address the limitations of the existing inventory, the city has established a new GHG inventory that is divided into buildings, transport and forestry.
- The Urban Carbon Management System provides comprehensive information including emissions volumes from different sectors as well as basic and in-depth analysis with GIS data.
- Gwangju's inventory report is regularly updated on the "Wooridongne Greenhouse Gas Information Center" website. The city is also working to ensure stable and advanced operation of the system and to promote its wider use.

CLIMATE FINANCE 13:30-14:40

International Climate Finance: Progress and Challenges

Jin-young Moon, Head of Southeast Asia and Oceania Team, Korea Institute for International Economic Policy

- Parties to the UN Framework Convention on Climate Change are split into "Annex 1", "Annex 2" and "non-Annex 1" countries, based on the principle of common but different responsibilities and respective capabilities. Korea is a non-Annex 1 country.
- The Green Climate Fund (GCF) was founded as a regional mechanism to raise climate funds to help developing countries.
- Korea has made relatively large investments in mobile combustion sources, but the scope of climate finance is still unclear.
- Public funding alone is insufficient to develop an integrated climate finance system, and there is a need to encourage private funding. Korea needs to think about the role it can play as a host country of the GCF Secretariat.

Financing Options to Support Low Carbon City Initiative

Sang-in Kang, Senior Research Fellow, Korea Environment Institute

- The Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol has set the goal of limiting temperature rise, instead of atmospheric GHG concentration, under a new, post-2020 climate regime.
- The Ministry of Environment and the Korea Adaptation Center for Climate Change need to support and enable local governments' climate change adaptation to protect the public from intense heat waves caused by climate change. These efforts should be linked to the Global Covenant of Mayors for Climate and Energy.
- District heating and cooling offers societal, economic and environmental benefits, including reducing 0.7 ton of particulate matter. Both public and private funding should be directed to help develop low carbon projects and identify investment platforms. There is a need to step up support for city development funds and green city bonds.
- Energy efficiency contract (ECC): Under the conditional energy efficiency scheme for energy service companies (ESCO), local taxes collected by local governments should be channeled into GHG reduction projects and training on citizen autonomy .

Q&A SESSION

Q1.

Bucheon

We have a couple of general questions including the efficiency of solar PV, the installation cost and lifespan of a mini PV system and the waste treatment cost.

A1.

Jung-min Yu

Due to the difficulty of conducting a comprehensive survey of efficiency, we are monitoring only mini PVs and PVs for buildings. We cannot draw overall conclusions of solar PV based on partial system issues. The efficiency of solar PV system is reduced by 0.5% every year at the moment, but the rate of reduction is cut down to 0.2% per year thanks to technological advancements. This means the efficiency will remain at 85% for the next 20 years. A mini PV system costs KRW 650,000, where approximately 50% of the installation expense is covered by Seoul. The payback period is about two years which may be extended if the government decides to cut its subsidy. The increased awareness of solar PV among customers and citizens made a significant contribution to the spread of PV systems. A mini PV system that is directly plugged into home outlets is used to power home appliances. The surplus electricity is used in apartment buildings nearby.

Sang-in Kang

There is a target level of generation for mini PVs, so modules are set up accordingly. The Ministry of Trade, Industry and Energy (MOTIE) and the Rural Development Administration (RDA) in Korea have a big plan to provide 10GW in total by distributing a 100kw system for 100,000 households. The government will grant temporary use permits and establish an institutional system by the end of the year before the plan is carried out.

Q2.

Goyang

During our recent visit to Asan, we heard that it stopped a mini PV project due to public complaints about light reflection. Education and promotional campaigns are necessary to raise public awareness on energy self-sufficiency and renewable energy. The central government provides subsidies to PV projects, but not much progress has been made in remodeling buildings. Policy support at the national level is needed, and it does not necessarily have to be passive housing. Do you have any plans on this?

A2.

Jung-min Yu

The Seoul Children's Grand Park also received civil complaints regarding light reflection and electromagnetic waves. Many groundless complaints are raised from the public. At the moment, a solar PV system is installed in every highway rest area. Despite some safety concerns, they are well operated without problems. This means that the public is overconcerned and therefore overreacting. Eliminating the PV systems entirely to minimize reflected light does not make any sense. If related ordinances or standards are laid out, public acceptance will grow. The public utility electricity tariff takes up a greater proportion than that of general use electricity. People will be more welcoming to the idea once they realize that the public utility electricity tariff can be curtailed with the use of the rooftop solar PV system. Therefore, it is important to nurture numerous experts specialized in education and promotional campaigns.

As for buildings, loan support is provided for building retrofit projects (BRPs such as insulation or window improvements). Unfortunately, such support faces challenges due to issues with a vast number of stakeholders of a building. In some cases, convenience of a building can be diminished. From a remodeling perspective, BRPs can improve convenience in run-down areas and environmental friendliness of facilities. Therefore, it is important to revamp the system through building improvements rather than policy or technological support.

Sang-in Kang

Solar PV panels are installed at an inclination of 23.5°, which means there is no actual light reflection.

People are making complaints because of their misunderstanding. When granting a permit for remodeling, city governments should lay out a long-term policy by introducing regulations aimed at increasing energy efficiency.

Q3.

Jeollabuk-do Province

In general, a carbon point program seems to have loopholes in providing incentives for reduction. It is important to provide incentives for those who have decreased more than the average energy consumption after calculating the average energy consumption of a building with the same floor area. However, there are no practical benefits for taking part in the current program, since it does not impose a penalty for over-consumption. The effectiveness of the greenhouse gas policy can be reinforced by providing incentives based on the average energy consumption. What's your take on this?

A3.

Sang-in Kang

If the government provides incentives only when energy consumption this year is less than that of last year, such scheme is likely to put a burden on the public as they are required to use less and less energy every year. However, providing incentives based on the average energy consumption for a building with the same floor area will help encourage more reduction.

Q4.

Yeosu

There are many requests for Low-Carbon, Green Apartment Projects from residents, presumably thanks to its sizable incentives. It would be better if the system can be further improved. In addition, Yeosu is a city with a significant number of ships. Is taking inventory of mobile combustion sources going well in the case of ships? Also, is there a long-term economic benefit to replace the existing power source to hydrogen for ships?

A4.

Sang-in Kang

At the moment, the inventory of mobile combustion sources in coastal areas is not managed. I will share data on the greenhouse gas emissions from ships in coastal areas after reviewing the related EU guidelines.

Q5.

Ansan

Climate change research is extensive and requires considerable expertise. Unfortunately, frequent personnel transfers jeopardize the continuity of work. What I realized while working on climate change issues is that this field requires specialized expertise and the emission trading scheme (ETS) is not something that a single government department should be responsible for. Numerous public awareness-raising campaigns are needed as well as policy research at the national level.

A5.

Sang-in Kang

A research hub specialized in climate change and environment is located in some region including the ICEC in Gwangju and the Seohaean Research Institute in Chungcheongnam-do Province. In the long-term, other cities or regions should follow in their footsteps. Establishing a joint research center operated in collaboration between local governments will make possible more systematic management by coming up with national policies to respond to climate change. 9 metropolitan governments and 200 local governments should work together to move forward.

Q6.

Cheonan

In Cheonan, 41 basic environmental facilities associated with waste disposal or treatment are taking part in the ETS. At the end of the first phase, the city surpassed its emissions reduction quota, thereby generating KRW 1.5 billion in profit from participating in the ETS market. About 36,000 tons of carbon were carried forward during the second phase, which creates a little bit of worries for the third phase. We are trying to come up with appropriate carbon offset programs. We would like to ask the central

government to consider the dissemination of eco-friendly cars or disposal of old diesel vehicles as an eligible offset program. Such programs are not currently considered as an eligible program. In addition, we believe it is unreasonable for a single team to take care of all greenhouse gas related projects because generally a local government do not have a specialized organization with expertise. A professional, systematic organization is needed even at the local government level. A basic framework is already there, so building a regional research center can help solve the problem.

A6.

Sang-in Kang

We need professionals dedicated to dealing with climate change issues. I will give thought to possible solutions.

IMPLICATIONS

- Sharing experience and policy regarding climate change responses among local governments
 - After the announcement of the inventory system by Gwangju Metropolitan City, there was a heightened interest from institutional participants (e.g. EU, ICLEI). It demonstrated the system's potential to be adopted as part of effort to reduce greenhouse gas emissions at home and abroad.
- Establishing a collaborative network to create a low-carbon city
 - Cheonan expressed interest in joining the UEA. The city asked for more information on the UEA and an official letter for an accession application form. ICEC will review its request and reply back.
 - There has been a request for joint hosting of events or projects related to climate change responses in future in collaboration with Cheonan, Goyang, Ansan and other cities.
- Expansion of workshop themes
 - Local governments showed a strong interest in energy issues. If renewable energy issues such as solar PV are chosen as possible themes of future workshop sessions, participation of local governments is expected to grow and the content will become more sophisticated.
 - Multiple questions were raised regarding Seoul's solar PV projects. If workshop themes are expanded to include energy issues in future, we need to invite a host of qualified speakers who can introduce examples of local governments' projects.

FUTURE PLANS

- The ICEC-EU Urban Cooperation Workshop is tentatively scheduled in November 2019.

ANNEX 1. Workshop program

온실가스 저감을 위한 지자체 정책 공유 워크숍

일시 2019. 6. 26.(수)~27.(목) 장소 김대중 컨벤션센터 3층 회의실(302호, 303호)

Day 1. 6.26. (수)

시 간	내 용
09:00 - 09:50	등록
10:00 - 10:20	· 개회사 - 윤원태 국제기후환경센터 대표이사 · 환영사 - Michael Reiterer 주한 EU 대사 - 정종제 광주광역시 행정부시장 · 사진촬영
10:20 - 10:40	커피브레이크
10:40 - 11:40	[기조연설] · 저탄소 도시로 나아가기 위한 온실가스 저감과 지자체의 중요성 - 이수열 전남대학교 교수 · 온실가스 감축을 위한 EU의 노력 - Pier Roberto Remitti, EU Lead Expert Climate and Energy
12:00 - 13:30	오찬
13:30 - 15:00	[기후기술] · 온실가스 저감을 위한 기후기술 정책 - 구지선 녹색기술센터 정책연구부 선임연구원 · 저탄소 녹색성장의 열쇠, 신재생에너지의 기회와 역할 - 정상호 그린카진흥원 전략기획부 선임연구원 · 온실가스 저감을 위한 기후기술 협력: 도시 사례 - 오병철 국제기후환경센터 책임연구원
15:00 - 15:20	커피브레이크
15:20 - 16:50	[온실가스 감축 사례] · 국내 사례 - 서울(유정민 서울연구원 수석연구원) - 광주(김태호 국제기후환경센터 경영협력팀장) - 인천(조지영 인천기후환경연구소 연구원) · 해외 사례 - 신경남 녹색기술센터 선임부장
17:00 - 18:00	그룹논의
18:00 - 20:00	저녁식사

Day 2. 6.27. (목)

시 간	내 용
09:30 - 10:40	[저탄소 도시 조성] · 저탄소 도시 구축을 위한 지자체 관리 지표 - 오수길 고려사이버대 교수-서울시 지속가능발전위원회 위원 · 저탄소 도시를 위한 노력: 에너지 전환마을 - 신우진 전남대학교 교수
10:40 - 11:00	커피브레이크
11:00 - 12:00	[온실가스 인벤토리] · 지자체 온실가스 인벤토리 가이드라인: 온실가스 산정기법 - 조진영 한국환경공단 온실가스감축부 대리 · 광주광역시 도시탄소관리시스템과 인벤토리 보고서 - 김지연 국제기후환경센터 연구원
12:00 - 13:30	오찬
13:30 - 14:40	[기후재원] · 국제사회의 기후재원 조성 노력과 과제 - 문진영 대외경제정책연구원 동남아대양주팀장 · 저탄소 도시 구축을 위한 재원 확보 방안 - 강상인 한국환경정책평가연구원 선임연구원
14:40 - 15:00	커피브레이크
15:00 - 15:30	[협력] · 시민협력을 통한 온실가스 감축 사례 : 녹색아파트 만들기 사업을 중심으로 - 김준희 국제기후환경센터 교육사업팀장 · 기후변화대응 및 온실가스 저감 노력을 위한 도시 중심의 협력체 - 김선영 국제기후환경센터 선임
15:30 - 16:30	그룹논의
16:30 - 17:00	· 폐회 - 국제기후환경센터

신청

<https://forms.gle/RPPfNizCFSkXf7GP6>

*워크숍 참석사 교육확인증 발급 및 교육시간 10시간 인정

ANNEX 2. Workshop pictures



Opening Remarks
Won-tae Yun, President, ICEC



Welcome Remarks
Jeong Jong-je, Vice Mayor of Administration,
Gwangju Metropolitan City



Congratulatory Remarks
Michael Reiterer, EU Ambassador to Korea



Group photo



Keynote
Lee su-yol, Professor, Chonnam National University



Keynote
Pier Roberto Remitti, EU