

that the community-based tourism, pursued by a network of cooperatives, NGOs, the government and the private sector, faces the tasks to develop long-term training programs, a standard model of tourism, joint marketing methods and tools for lobbying with the government. There also exist the pending issues of how to manage human resources (issues connected with leadership, communicative skills and stakeholders' interests), to find funding resources (self-funding by local communities is impossible, while external funding deepens reliance on external assistance), to develop a community-based brand, to expand access to information, to control conflicts and to sustain enthusiasm for the community-based tourism.

#### Efforts to Designate Wakatobi Regency as One of Top 10 Destinations of Indonesia

##### Hugua

Wakatobi Regency is made up of four islands, with a population of 120,000. It has Wakatobi National Park and is located at the center of Coral Triangle (known for its marine biodiversity with 750 coral species). Bali is the most famous tourist destination in Wakatobi, and the government is seeking to find another version of Bali. Wakatobi is one of the candidates for new Bali projects and receiving subsidies for the improvement of airport facilities. Under the vision of "Target 2020," Wakatobi aims to be a central destination of the Coral Triangle region.

##### KANG Mi-hee

Considering the preceding examples, community-based tourism needs the sharing of a vision, effective leadership and government support for its success.

##### Silvia BARBONE

All of the issues involving how to share a core vision and create effective leadership depend upon the people at the working level. They should share a vision with their leader under the policies to extend short-term and long-term financial supports to the end. The stakeholders should maintain a cooperative relationship, based on the financial support system. A business model and a data storage system

(knowledge system) are needed to establish a cooperative network and to turn it into a sustainable organization.

##### KANG Ho-sang

Given the relatively smaller financial and human resources in local communities, the linkage of NGOs with academia is required for sustainable tourism. The private sector plays a more significant role in community-based tourism, for which the facilitation of communication among stakeholders is required.

### Policy Implications

- For its success, community-based tourism needs a systematic network among stakeholders and a mixing of various programs. The most important factor for the success of community-based tourism is vision-sharing, and a leadership should be established to that end.
- If a vision is shared through communications with local communities, it could lead to voluntary participation by them in the tourism program and resolve conflicts of interests among the stakeholders.
- The government support may guarantee the sustainability of the local communities. However, the communities with small human resources cannot implement all the government policies. Therefore, an intermediary organization (such as a community enterprise) should be organized to solve such problems.

# Cooperation between Asia and Korea in Sustainable Energy System

## Cheju Halla University

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### JUN Yong-wook

The energy issue is one of the most important tasks that require global efforts for a paradigm shift to pursue low-carbon energy systems, a green economy, eradication of poverty and sustainable development. There should be serious discussions from this perspective on how to develop sustainable energy systems under the Sustainable Development Goals (SDGs) of the UN, on the role of Korea in establishing sustainable energy systems in Asia, on the goal of Korea to reduce greenhouse gases, and on the cooperation between Asia and Korea for sustainable energy systems.

### JUNG Tae-yong

Under the UN's SDGs and "Sustainable Energy for ALL (SE4ALL)," efforts are being made to reach the following goals in three scopes – access to energy, effective use of energy and renewable energy.

#### ■ Access to Energy

Guarantee modern energy service for all

#### ■ Effective Use of Energy

Increase effectiveness of energy use by twice the current level

#### ■ Renewable Energy

Double up the proportion of renewable energy among the global energy mix

For international cooperation on sustainable energy systems, the Korean government selected solar energy, fuel cells, bio-fuel (to replace fossil fuel), secondary batteries, power Information Technology (IT) (for effective use of energy) and Carbon Capture and Sequestration (CCS) as six core technologies to cope with climate change. The government has implemented R&D programs to the end of developing the core technologies by 2020.

To develop new business models based on sustainable energy systems, the Korean government has set up a three-year new energy business plan (until 2017). It is promoting the negawatt market, energy storage systems, solar energy rental services, electric cars, green energy towns, utilization



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of hot waste water at power plants, and zero-energy buildings as eight major projects. The government also established a consultative body for new energy projects, jointly with the Ministry of Trade, Industry and Energy, state-operated companies including the Korea Electric Power Corporation, private enterprises and financial institutions.

**Kojima SATOSHI**

Multilateral sustainable energy systems are connected with many aspects of sustainability.

■ **Environmental Sustainability in Regard to Climate**

**Change**

The energy sector is responsible for greenhouse gas emissions and carbon-intensive energy that worsens climate change.

■ **Economic Sustainability**

Failure to secure stable energy sources might weaken sound and competitive economies.

■ **Financial Sustainability**

It is an international norm to weigh risks of climate change in the decision of investment and recollect investments in carbon-intensive industries. The continued investment in carbon-intensive en-

ergy such as thermal power plants may lead to a financial crisis in a worst scenario when more austere policies on climate change are introduced.

The only measure to prevent the risks of nuclear power is complete closure of nuclear power plants.

The effort to satisfy energy demands and maximize welfare should be accompanied by a clear recognition of the “limitations of sustainability.”

With a paradigm shift, it is also possible to find the optimal level of energy demand and technological options within the limitations of sustainability.

**MOON Sung-sik**

In the Asia-Pacific region, 635 million people face water shortages and 800 million energy shortages, and the numbers are expected to grow with the increase of population, urbanization and industrialization. According to the ADB, the urban population in the Asia-Pacific region could increase from 1,600 million to 3,100 million, thus becoming the largest energy consumption area in the world. Therefore, it is an urgent task to improve the effectiveness of energy use and replace fossil fuels with renewable energy.

Korea is raising energy self-sufficiency rates by using renewable energy at basic treatment facilities, including sewage treatment sites.

Korea has overcome environmental challenges by introducing a variety of environmental legislations as well as by investing in the development of environmental technologies.

**JEON Eui-chan**

Asia has some examples of sustainable energy systems that utilize renewable energy. Clean energy management software, RETscreen, and biomass power investment model, BioPIM, which were designed to assess the economic feasibility of investment and financial support to renewable energy projects, have been developed.

Korea has developed the Sejong Climate Change Screen (SCCS), which is used to analyze potential capacity of developing countries to produce renewable energy, evaluate the feasibility of sustainable development systems in those countries and obtain the optimal renewable energy mix.

Using the system dynamics model, Korea has

suggested to the developing countries the policies and institutional frameworks for wider distribution of solar power plants.

**KIM Yong-min**

In line with Jeju Island’s future vision and its core values, “cleanness” and “coexistence,” Jeju Province is pushing the “Carbon-Free Island” project. As regards the project, it was suggested that the island should cooperate with the Asian countries on sustainable energy systems, based on the geopolitical and environmental characteristics of the island.

The role and value of Jeju Island were explored in connection with the cooperation between Asia and Korea on sustainable energy systems.

■ ■ ■ **Policy Implications**

- A new model of cooperation, integrated with the knowledge, technologies and financial system of Korea, is needed for international cooperation on sustainable energy systems in Asia.
- As Asian countries are located in various regions, from the Pacific and Commonwealth of Independence States (CIS) to Southeast Asia, and have diverse demands of energy, the Korean government has to transfer its experience in energy development to them after packaging them in accordance with their separate needs.
- The technologies of Korea for landfill gas collection, transformation of food waste into energy and treatment of microdusts from diesel vehicles as well as the integration of fuel cells for electric car with IT technologies would help Asian countries to develop renewable energy and cope with their urban environmental problems.
- As the Korean government has accumulated the experience in solving environmental problems, including those from climate change, with R&D investments in environmental technologies and introduction of basic treatment systems and new environmental policies, it looks forward to cooperation with the countries in the Asia-Pacific region on a wide range of environmental projects.
- Korea has suggested many ways to contribute to the establishment of sustainable energy systems in Asian countries, as well as to their introduction of renewable energies, based on BioPIM and SCCS, and system dynamics models.
- Korea suggested how Jeju Island can contribute to cooperation with the Asian countries as an R&D station for “sustainable energy system,” a training and education station for “sustainable energy”-specific workforce and a test-bed for experiments on “sustainable energy.”