

Nordic Green Japan

Clean energy forum suits Japan's needs



Natural life: Green technologies can help future generations live within a sustainable environment. YNGVE ASK/INNOVATION NORWAY

The five Nordic countries — Denmark, Finland, Iceland, Norway and Sweden — have been strong proponents of environmental study and technology.

Similarly, Japan boasts such technology and continues to focus resources on the area.

Japan represents an important market for Nordic green technology and the importance is expected to increase amid Japan's commitment to be the world's leader in environmental technology.

The Nordic countries represent substantial markets for Japanese green technology companies and offer a gateway into the large European market.

In short, Japan and the Nordic countries can benefit each other with synergetic effects of their commitment and excellence in their ecological push.

It is no exaggeration to say that the six countries together are leading the world in environmental technology and their efforts to implement it in daily life.

After the nuclear disaster in Fukushima Prefecture in March, voices are intensifying to stay away from nuclear energy, which was once considered the lesser of two evils because it emits less carbon dioxide than fossil fuel (oil and coal) generated energy does.

Discussions on truly ecological energy, which many countries including Japan aim for to replace nuclear energy, are essential more than ever.

On Nov. 7 and 8, the six countries together are holding an event in Tokyo to boast their ecological technology and explain the importance of ecofriendly policy to the world. The embassies of the five countries, the Ministry of Education, Culture, Sports, Science and Technology and various European companies are organizing the two-day symposium called Nordic Green Japan to discuss various ecological issues.

Nordic Green Japan consists of eight special topic sessions, two panel discussions and networking opportunities in which speakers and participants communicate with each other.

The two-day event will create a business opportunities for both Nordic and Japanese companies to enter each other's markets and find a way to collaborate.

It will feature 67 speakers from the Nordic countries and Japan. They include ambassadors, politicians, researchers, professors, scientists and people in the industries involved.

The green technology conference will kick off with a welcome session with Icelandic Ambassador Stefan Larus Stefansson, State Secretary Rikke Lind of the Norwegian Ministry of Trade and Industry, Tetsunari Iida, director of the Institute for Sustainable Energy Policies and Mizuho Fukushima, the president of the Social Democratic Party.

Themes of the eight special topic sessions are:

- Geothermal and tidal energy
- Wind energy and osmotic energy
- Bio-energy
- Hydrogen and transportation
- Clean maritime transportation
- Energy policy and energy markets



Green technologies: (Clockwise from above) The membranes used for osmotic pressure power generation are coiled up inside pressure vessels; the Middelgrunden wind turbines near Copenhagen, Denmark; the Hellisheidi Geothermal Plant at Mount Hengill, an active volcanic ridge in Iceland. STATKRAFT/EMBASSY OF DENMARK/NATIONAL ENERGY AUTHORITY OF ICELAND



- Smart city — sustainable urban development
- Smart-grid and use of advanced ICT (information and communications technology) solutions

The topics of the two panel discussions are "Nordic-Japanese cooperation in energy" and "Green technologies and electricity markets and policy."

The Nordic countries have advantages in promoting green energy and ecology. Denmark has established solid technology on wind power generation and volcanic Iceland has developed geothermal energy generation.

The five countries also have a culture of conserving their natural settings, such as lakes and forests. Their emphasis on education and welfare helps develop the public's environmental mind.

Such characteristics help their governments push for environmental technology.

Japanese and Norwegian companies and scientists are currently in collaboration on developing energy generated by the difference in salt density between seawater and freshwater.

The power generation is called osmotic pressure power generation. It uses a membrane through which water penetrates but salt does not. Pumping seawater in a tank and freshwater in the other tank separated with the membrane from the other tank will create water flow from the freshwater tank to the seawater tank, spinning a turbine.

Unlike hydropower generation, osmotic pressure power generation does not have to be on a mountain with an altitude difference.

Norwegian utility Statkraft and Nitto Denko Corp. are planning to build an osmotic pressure plant producing 2,000 kilowatts in 2015. Nitto Denko makes the type of membrane that is now in use to create freshwater out of seawater.

One benefit of osmotic pressure power generation is that it

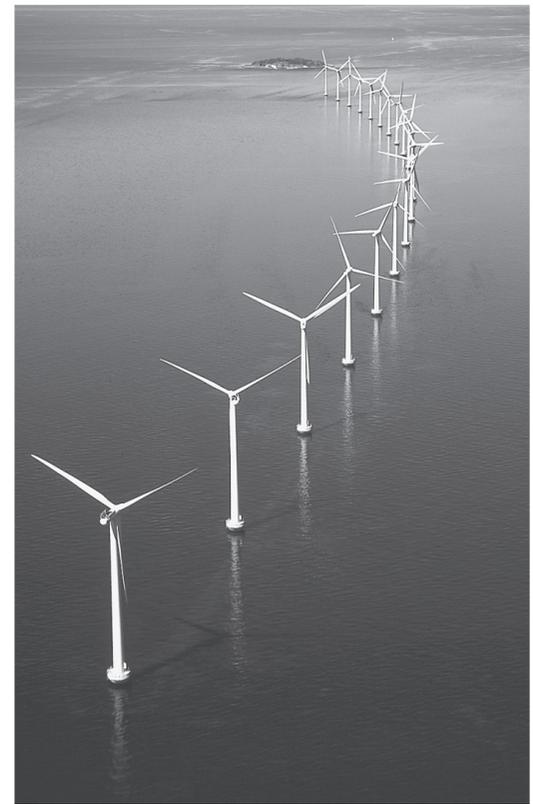
will not be disturbed by weather changes, making it an efficient energy source. Research shows that the plant utilization ratio of osmotic pressure power generation will be more than 85 percent, while that of solar power is 12 percent and wind power 20 to 22 percent. That would make cost per kilowatt ¥9 to ¥26 for osmotic pressure power, compared to ¥40 for solar power and ¥14 to ¥24 for wind power.

Sweden also develops alternative energy and is on course to reduce greenhouse gases.

Swedish greenhouse gas emissions have declined by

more than 9 percent since 1990, according to the website of the Government Offices of Sweden. These emissions reductions occurred at the same time as gross domestic product (GDP) increased by some 48 percent from 1990 to 2007, which shows that there is no link between the increase of greenhouse gas emissions and the increase in economic growth, the website says.

Sweden's national emissions are low, whether calculated per person or per unit of GDP, compared with most other developed countries, according to the



Government Offices of Sweden. These relatively low emissions are largely due to the use of hydroelectric and nuclear power in electricity production and a significant use of biofuels. This development can also be explained by an active climate and energy policy.

Denmark is aiming to have renewable energy this year that will account for 20 percent of its energy consumption by constructing wind turbines and taking other measures.

Iceland is the leading country in utilizing natural geothermal power, which accounts for 15

percent of the country's power generation. The ground heat not only creates steam to spin turbines but is also used to heat the water supply.

Finland is three-quarters covered with forests and has many lakes and rivers. It has many national parks and Finnish people love nature. Thus, the country has the traditional legal concept of "everyman's right," which allows free right of access to the land and waterways, and the right to collect natural products such as wild berries and mushrooms, no matter who owns the land.

Nordic collaboration, global benefit

On Nov. 7 and 8, the conference Nordic Green Japan 2011 will open its doors at the Miraikan (National Museum of Emerging Science and Innovation) conference hall in Tokyo.

This green technological conference is unlike many such conferences because it is hosted by the five Nordic countries: Denmark, Finland, Iceland, Norway and Sweden. This is not the first time we are pooling our resources here in Japan, a country that has for a long time had a special place in the hearts of the peoples in our part of Northern Europe.

Our five countries share a long history of working together on the world stage in promoting peace, culture and technologies that can be of benefit for other countries.

This kind of Nordic regional cooperation could even be a model for collaboration between different countries here in Northeast Asia, where we can see a myriad of unexplored opportunities to forge new partnerships for the benefit of the peoples in this part of the world.

There is no need to go into great detail in describing how the horrible events of March 11 changed everything. The tragic loss of life, destruction of towns, villages and the livelihoods of thousands of people have saddled the Japanese government and the affected prefectures with reconstruction work that will, in many cases, take decades to complete. The peoples of the Nordic countries express their deepest sympathy to all those that were affected by the events.

Nordic Green Japan is a two-day conference covering the broadest possible spectrum of green technologies where Nordic companies have for decades been world leaders in innovations. They have made a firm commitment to "go green," which has spawned some of the world's leading companies in geothermal, solar, wind, biofuels, sustainable buildings and other areas.

Japan is now actively seeking international collaboration in developing and deploying green innovation to address domestic and international opportunities.

We have many distinguished speakers and guests attending this conference, for example Rikke Lind, deputy minister of trade and industry of Norway; Mizuho Fukushima, leader of the Social Democratic Party and member of the House of Councilors; Tetsunari Iida, director of the Institute for Sustainable Energy Policies; and keynote speakers: Teija Lahti-Nuutila, director of energy and environment industries of Tekes; Hiroshi Komiyama, president emeritus of The University of Tokyo; and Tomas Kärberger of Chalmers University of Technology, who is the executive board chairman of the Japan Renewable Energy Foundation (JREF).

Finally, our five countries hope that Nordic Green Japan 2011 will also present to the Japanese people new ideas in the rebuilding processes that lie ahead that could benefit the way of life for future generations.

Ambassador of Iceland Stefan Larus Stefansson
Ambassador of Norway Arne Walther
Ambassador of Finland Jari Gustafsson
Ambassador of Denmark A. Carsten Damsgaard
Ambassador of Sweden Lars Vargo



Smart city: Malmö, Sweden is a model for sustainable urban development. JUSTIN BROWN/IMAGEBANK.SWEDEN.SE

maerskline.com

Creating opportunities in Global commerce

'Daily Maersk' - Introducing Absolute Reliability

A daily service between Asia and Europe with promised on-time delivery will change liner shipping. Shipping with Daily Maersk saves 13% CO2 emissions per TEU moved compared to the industry average.



MAERSK LINE