

JEO

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Feature

- P.2 Contribution of Japanese Technologies to Global Warming Countermeasure and Its Commitment to Their Diffusion

Current topics

- P.4 The Sixth Meeting of the Regional 3R Forum in Asia and the Pacific
- P.5 Reach Out to the World: JAPAN Water Style
- P.6 Project: Connecting and Supporting Forests, the Countryside, Rivers, and the Sea

Relay Column

- P.7 Achieving Co-benefits on Regional and Global Environment
- P.7 Developing Biodiversity Conservation Educational Materials in Bangladesh

National Parks of Japan

- P.8 Large Expansion of the Yoshino-Kumano National Park

Voice of MOE Family in the World

- P.8 Beijing Won't Be the Same after a Year



Sakurada-mon Gate dressed up with the fresh white snow in the Kokyogaien National Gardens, Tokyo

Contribution of Japanese Technologies to Global Warming Countermeasure and Its Commitment to Their Diffusion

Development and Demonstration of New Technologies to Reduce CO₂ Emission

Japan submitted a new emission reduction target, a 26% reduction of greenhouse gas by 2030. To achieve this target, it is essential to develop and attain early implementation of technologies that will enable further carbon dioxide reduction. Therefore, the Ministry of the Environment of Japan (MOEJ) has been promoting RD&D (Research Development and Demonstration) projects for new technologies to reduce CO₂ emissions, including the first zero energy building (ZEB) which achieves net-zero energy consumption, a solar powered hydrogen station, and a highly-efficient, low-cost, and compact hydroelectric power generator using unused energy contained in water flowing through the pipes in the water supply system.

Joint Crediting Mechanism (JCM)

The JCM is appropriately evaluates contributions from Japan to GHG emission reductions or removals

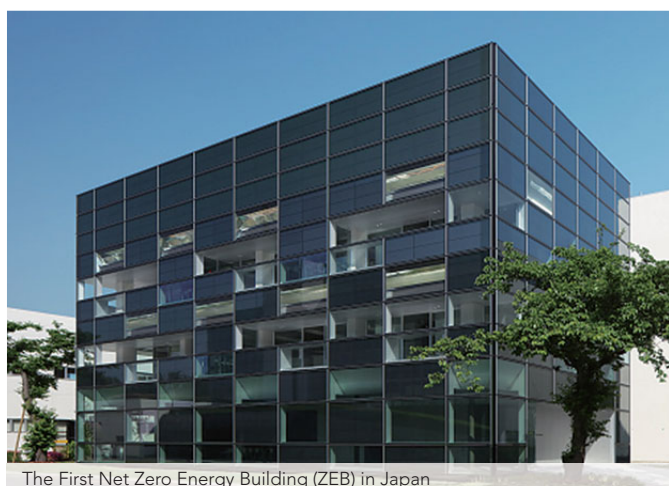


Photovoltaic power generation in Palau

in a quantitative manner achieved through the diffusion of low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan's emission reduction target. Fifteen countries are currently participating in this mechanism. Accumulated emission reductions or removals by FY 2030 through JCM programs are estimated to be ranging from 50 to 100 million t-CO₂. With the aim to support the implementation of JCM projects, MOEJ has been implementing JCM Financing programs such as JCM Model Projects and Asian Development Bank Trust Fund, in which selected to a total of 43.

Next-generation Material "Cellulose Nanofiber"

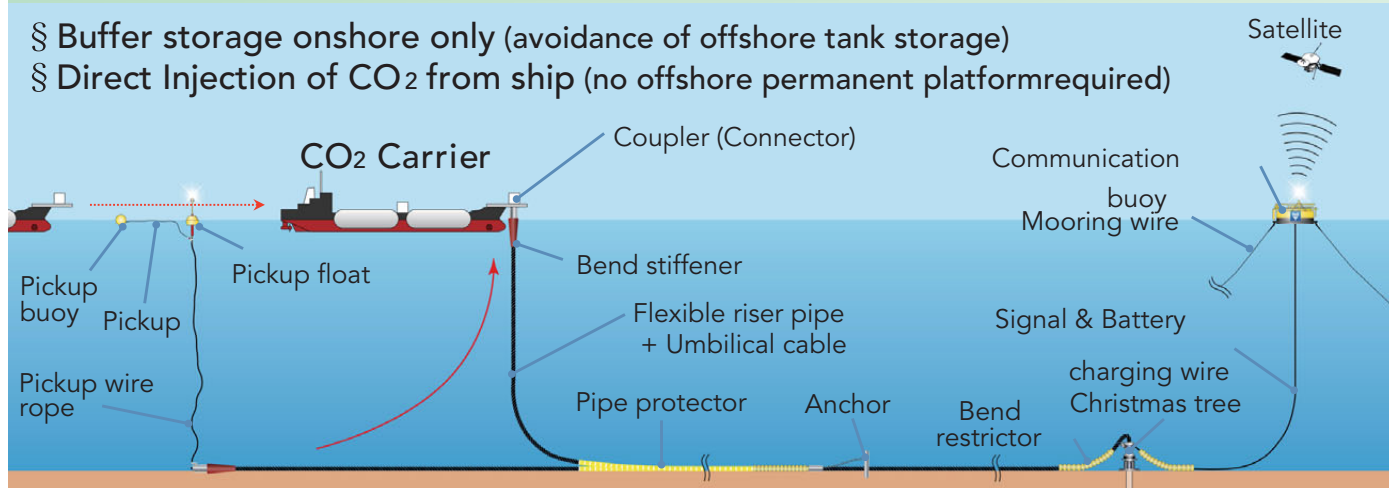
Plant-derived cellulose nanofibers (CNF). The MOEJ is committed to the use of this next-generation material which has the potential to be a core technology in many products in the field of green-



The First Net Zero Energy Building (ZEB) in Japan

Responding to prevent global warming requires implementation of GHG emission reduction measures not only within Japan but also on a global scale, and contributing to the promotion of such measures in developing country is essential. Close involvement is extremely important in disseminating leading low-carbon technologies in the world through the promotion of initiatives such as the Joint Crediting Mechanism (JCM). The following section addresses contributions for these disseminations.

CO₂ Shuttle Ship Transportation & Onboard Injection System



house effect measures. CNF is a nano-sized scale fiber isolated from trees and other plants. It is light in weight but has a high material-strength, and less prone to heat deformation. If automobile plastic parts are reinforced with CNFs, better fuel efficiency from lighter weight is expected to decrease vehicle CO₂ emissions. It will also lead to an efficient use of rich domestic forest resources, with a potential to build a low-carbon, material circulation society.

Environmentally Friendly Carbon Dioxide Capture and Storage (CCS)

The Fifth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) suggests that suppressing temperature increase after the industrial revolution to 2 degrees Celsius or less is nearly impossible without a large-scale introduction of CCS. Therefore, demonstration projects are currently underway in several countries.

Japan leads in the CO₂ Capture technology from exhaust gas using amine solutions, with Japanese corporations participating in CO₂ capture facility designs in these demonstration projects both domestically and internationally. MOEJ also plans to pioneer in demonstration in the following fields; the technology to evaluate and control environment impacts of amine solutions, as well as the technology to transport captured CO₂ offshore (areas that could pose less environmental impact, etc.) by a vessel to inject it to a seabed stratum for storage.

**Global Environment Bureau
Ministry of the Environment**

The Sixth Meeting of the Regional 3R Forum in Asia and the Pacific



High-level participants' group photo

The Ministry of the Environment of Japan (MOEJ) co-hosted “the Sixth Meeting of the Regional 3R Forum in Asia and the Pacific” with the Republic of Maldives and the UN Center for Regional Development (UNCRD) from August 16 to 19 in Male, Maldives. In November 2009, the Forum was established by the proposal offered by the Japanese Government and aims to serve as a collaboration platform for a broad range of concerned parties, in order to build a Sound Material-Cycle Society in Asia and the Pacific through the promotion of 3Rs. The meeting was attended by over 300 participants who were 39 representatives of governments including Ministers or State Ministers, international organizations, aid agencies, private sectors, research institutions and NGOs, mainly from the Asia-Pacific region. From Japan, Mr. Yasuhiro Ozato, the State Minister of the Environment, attended the meeting with his staffs.

On the theme of “3Rs as an Economic Industry,” the meeting discussed:

(1) Evolving 3Rs trends and development in Asia and the

Pacific

- (2) Enabling 3Rs science-policy-business interface towards sustainable cities and communities
- (3) Sustainable tourism developments in Small Islands Developing States (SIDS)
- (4) Extended producer responsibility (EPR) and industry ecology grants for sustainable resource management
- (5) Reports from field-specific round-table dialogues on harnessing economic opportunities through 3Rs, main accomplishments by country on implementing the Hanoi 3Rs Declaration, and country-specific group meetings
- (6) Waste and freshwater nexus
- (7) “State of 3Rs in Asia and the Pacific”

The Chairs' Summary was adopted on the last day of the forum.

The next meeting is scheduled to take place in Australia next year.

MORE Information

Sixth Regional 3R Forum in Asia and the Pacific

<http://www.uncrd.or.jp/index.php?page=view&nr=905&type=13&menu=198>



Opening address by State Minister Ozato



Yoshinori Suga

Deputy Director
Office of Sound Material-Cycle Society
Waste Management and Recycling Department



Reach Out to the World: JAPAN Water Style

MOEJ Proposes a New Way to Approach Water Resources for Future Water Cycle System



Based on the “Basic Act on Water Cycle” enforced in July 2014, the Ministry of Environment of Japan (MOEJ) launched, in August the same year, a public-private collaborative project which aims to promote maintaining and recovering a sound water cycle. This “Water Project” was founded to build a public-private collaboration platform to promote initiative and self-motivated approaches from private sectors, with the goals that achieve sound water cycle maintenance/recovery, and water environment preservation. Its current participants total over 100 diverse organizations including national and municipal governmental agencies, private corporations, and private organizations such as NPOs.

Since June 2015, this concept has been proposed to

corporations and local public organizations as “JAPAN Water Style,” a vision that advocates public-private co-operation to firmly support our water cycle in view for the future. Supporting companies of this Vision will recommend “Water Style” as a new approach towards water resource, to the citizens of Japan who form a critical part of this water cycle. “Water Style” is presented by individual companies through their products and services, to heighten awareness for water-conscious lifestyles.

Water is a theme, which is fundamental to our life, with close link to many aspects of our lives, products, and what we eat. As people recognize such intimate, important connections, they will start to choose their personal styles that suit them most among a wide range of suggested options.

We will continue developing our project to lead us to promote preservation of Japan’s water cycle and water environment through the promotion of “Water Style”.



Michio TANAKA

Sub-section Chief
Water Environment Division
Environment Management Bureau



Water Day FESTIVAL

Project: Connecting and Supporting Forests, the Countryside, Rivers, and the Sea

Our life is supported by nature's bounty that is represented in forests, the countryside, rivers, and the sea. Clean air, plentiful fresh water, food and resources, natural protective force from disasters, and culture and recreation based on natural surroundings--such bountiful, countless benefits we enjoy come from the natural world.

Yet, we have observed negative impact such as fragmentation of ecosystem, and quality degradation, from excessive, unsustainable development, or inadequate use and management due to decreasing or aging population. Changes in local communities and people's lifestyles have also disconnected the linkages between people and nature. We find ourselves not having time to appreciate nature's bounty, and fewer children have opportunities to freely play in it.

Such awareness is the background of a new project team established at the Ministry of the Environment of Japan (MOEJ) in December 2014, "Connecting and Supporting Forests, the Countryside, Rivers and the Sea." Based on dialogues and discussions at seven study group meetings with experts, we compiled and published an interim report in June this year. The report outlines our study, from how to manage sustainable environment for future generations, ways to create a nationwide support system to conserve and enhance nature's bounty through enforced partnership between the countryside and the cities. The two parties

long had an unbalanced relationship; the countryside being the sole protector and giver of such blessings, and the cities being only the taker, or beneficiary.

The MOEJ will continue its studies, as it hosts symposiums and meetings to encourage national level dialogues, to develop more specific ways to build an effective system based on thorough discussions with a broad range of parties involved.



Terraced paddy fields (tanada) of Iwakubi Shoryu, Sado city, Niigata Prefecture

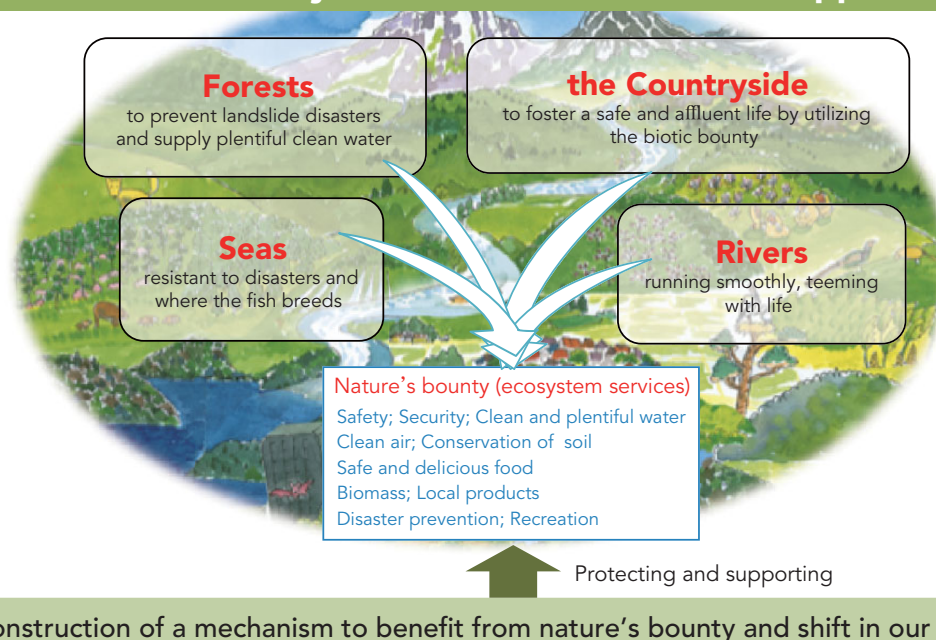
Kana HAYAMIZU

Assistant Director
Office for Mainstreaming Biodiversity
Nature Conservation Bureau



Nature's Bounty (Ecosystem Services) from Forests, the Countryside, Rivers and Seas

Forests, the Countryside, Rivers and Seas that support our life



Achieving Co-benefits on Regional and Global Environment

Osumi Co., Ltd. has specialized in measuring and analyzing pollution prevention in Japan since its foundation in 1968 under a mission “to keep providing a ‘safe’ and ‘secure’ environment for people on earth.” Our extensive expertise in environmental issues from regional to global scales has helped continue expanding our business.

Our past accomplishments involve JICA projects to improve environmental management competency in Syria, and to enforce countermeasures on air pollution in Ulan Bator, Mongolia. We are currently working to achieve co-benefits, of both

GHG reductions and regional environmental improvements.

The following list describes some examples from the 12 JCM co-benefit projects with which we have been involved.

- Higher-efficiency boilers for heating in Mongolia
- Energy saving and CO2 emission reduction measures such as introducing fly-ash mixed cement, and improving coal-fired power plants in Mongolia
- Utilization of agricultural biomass in cement burning as a fossil fuel alternative method in Laos
- Ongoing JCM project building through inter-city cooperation of Da-Nang city and Yokohama city

Other related co-benefit projects are the promotion and demonstration projects of JICA-supported energy-saving business currently being carried out in Da-Nang City, Vietnam.

My future goals are to produce results with the application of concentrated expertise, along with support from related organizations.



Minoru HIRAO

Chief Engineer
Research Second Group
Technical Headquarters
OSUMI Co., Ltd. (OECC Member)



Children gathered to see our air pollution survey in Syria (These local children were seen here at a JICA-assisted meteorological observation device installation point near a comprehensive chemical fertilizer plant (General Fertilizer Company: GFC) in Qattinah village, Homs City, Syria. The plant affects them severely depending on wind direction.)

Developing Biodiversity Conservation Educational Materials in Bangladesh

JEEF, for the sustainable coexistence of people and nature in and out of Japan, conducts environmental education activities featuring hands-on learning. Our overseas initiatives have extended their international environmental education efforts, mainly in Asian countries such as Bangladesh, Indonesia, Bhutan, and Thailand, working with local partner organizations. Since January 2013, JEEF in cooperation with a local NGO, Bangladesh Environment and Development Society (BEDS), developed educational materials (text books, card game,

board game, etc.) on biodiversity conservation based on the only world natural heritage site in Bangladesh “the Sundarbans region,” which is also registered under the Ramsar Convention. Our approach to region-centered activity in this case entailed providing the materials to students in 50 elementary schools in the vicinity and their families, and establishing a professional training program for teachers to improve their teaching skills in environmental education. We aim to develop this program into an education model for biodiversity conservation in Bangladesh in the future for official accreditation and implementation in elementary schools nationwide as supplemental educational materials. Currently, pilot classes are being held in 82 grade schools all over the country.

MORE Information

Japan Environmental Education Forum
<http://www.jeef.or.jp/english/>



Hideki SATO

Expert on Rural and Environmental planning
International division
Japan Environmental Education Forum



Elementary students enjoy learning about environment using our board-game style material.

Large Expansion of the Yoshino-Kumano National Park

Yoshino-Kumano National Park



There are mystical and tranquil mountains, deep valleys and the Nankai Sea where the Kuroshio (Black) Current flows. The rich history and culture have been nurtured by the nature in the Kii Peninsula, the largest peninsula in Japan.

The National Park established in February 1936 encompasses

areas registered as World Cultural Heritage, BR, and Japanese Geoparks Network sites. The Park, which is endowed with nature and culture welcomes and never fails to delight its visitors. In September 2015, its designated area expanded greatly when coastal waters around the Kii Peninsula have also been integrated. It was a new step forward to enforce marine conservation in the region.

The extended area boasts nature's gems; Tenjinzaki where the National Trust movement began in Japan, diverse geographic features in the coastline including internationally-recognized rare fold that looks like a phoenix, and in the sea, the northernmost coral community in the world and the fluorescent colored sea anemone called "ookawariginchaku," which only lives in Japan.

It takes 2 hours by train from Osaka or 1 hour from Tokyo by airplane to get here. We warmly invite you to visit the Yoshino-



Tenjinzaki where the National Trust movement began in Japan

Kumano National Park once, and enjoy all the unique natural wonders in Japan that this place can offer.

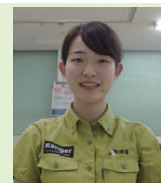
MORE Information

Yoshino-Kumano National Park

<http://www.env.go.jp/en/nature/nps/park/parks/yoshino.html>

Tomomi IWANO

Park Ranger
Tanabe Ranger Office
Kinki Environment Office
Ministry of the Environment



Voice of MOE Family in the World

Beijing Won't Be the Same after a Year

Everything changes rapidly in China. You may need to buy a new map after 5 years.

One of the things people want to change most is the environmental situation. For example, annual average level of PM2.5 in 2014 was nearly six times the standard of Japan. Sometimes it even exceeds the maximum level of the index (500µg/m³), which is seriously hazardous to human.

The level, however, dropped by 15% in the first half of 2015 from that of 2014. Not only wind condition, but also drastic

policies are alleged to work well. Having blue sky even without wind would be the common dream of the people, including me. Japan is active in cooperating in this area, and hopes to be of help to have this dream come true.

There are also many things I hope not to be changed, one of these is people's habit of caring for babies and kids. Whenever I take my 3-year-old child on a bus or subway, there is always someone yielding a seat for her. Always! Visit China with kids and you'll appreciate it.



Contrast of smog & blue sky in Beijing (Oct 2014)

Naomi INOUE

First Secretary
Economic Section
Embassy of Japan in China

