Environment, Climate Change and Clean Energy Collaboration

Makoto Watanabe
Executive Director
New Energy and Industrial Technology Development Organization
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About NEDO

- Addressing energy and global environmental problems
- Enhancement of the level of industrial technology
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NEDO’s Activity (International)

Europe/Russia
- Smart Community
- Wind Power Generation

China
- Energy Saving Building
- Bio Ethanol Production

North America
- Smart Community
- Zero Energy Building
- HVDC Feeding System
- Hybrid Solar Inverter & Battery System

Middle East
- Water Treatment System

ASEAN
- Bio Ethanol Production
- Waste Power Generation System
- Smart Industrial Park
- EV Bus

India
- Solar Power and Micro Grid System
- Energy Management System in Telecom Towers
- Smart Grid

Oceania
- Water Treatment System

Collaboration with International Agency

Asian Development Bank (ADB)
Collaboration for Dissemination on Renewable Energy Technologies

International Renewable Energy Agency (IRENA)
Collaboration for Dissemination on Renewable Energy Technologies

United Nations Industrial Development Organization (UNIDO)
Collaboration for information sharing
Smart Community Concept and NEDO Projects

Control energy flow efficiently by connecting the supply side and demand side with IT

- Stabilization of electricity supply with demand side management
- Promotion of energy saving
- Creation of disaster resistant communities

Sendai microgrid demonstration site in Japan

Smart grid demonstration in New Mexico, USA
**Completed Projects**

9. Highly Efficient Coal Preparation System  
10. Sinter Cooler Waste Heat Recovery System  
11. Coke Dry Quenching System  
12. Waste Heat Recovery System of Steel Plant  
14. Dual-Fuel Generation System  
15. Capacity Building Project

**Ongoing Projects**

1. Solar Power and Micro-grid System  
2. Green Telecom Tower Project  
3. Smart Grid Project [Panipat]  
4. High-Performance Industrial Furnace (FS)  
5. Energy Center for Steel Plant (FS)  
6. ICT-Based Green Hospital (FS)  
7. Feasibility Study for USC Coal-Fired Power Plant [Srikakulam]  
8. Feasibility Study for USC Coal-Fired Power Plant [Badarpur Thermal Power Plant]
Solutions to India’s Challenges

Coexistence of economic growth and solutions to energy and environmental problems

✓ Establishment of a smart infrastructure

(1) Energy consumer side:  Smart community systems
⇒ Effective use of energy utilizing IT

(2) Energy supply side:  Cutting-edge power generation technology
⇒ Using high efficiency and environmentally-friendly thermal power generation as a baseload electricity source
Smart Grid Pilot Project in Panipat

Contribution to development of Indian distribution network

- Reducing distribution loss
- Improving supply reliability
- Providing operational know-how

India Smart Grid Pilot Project  NEDO Smart Community Project

Smart Community Demonstration

Advanced Distribution Network

Providing Operational Know-how

Operational Know-How of Japanese Power Distribution System

Before  After
Efficiency Improvement of Coal-Fired Power Generation Technologies

- **Sub-C (Sub-Critical)**
  - Steam pressure lower than 22.1MPa

- **SC (Supercritical)**
  - Steam temperature lower than 566°C, steam pressure 22.1MPa or higher

- **USC (Ultra-supercritical)**
  - Steam temperature 566°C or higher, steam pressure 22.1MPa or higher

- **A-USC (Advanced Ultra-supercritical)**
  - Steam temperature 700°C, steam pressure 24.1MPa
Environmental Improvement by USC Technology

Impact of CO₂ Reduction in India

Impact of SOx, Nox, PMs Reduction

Source: IEA World Energy Outlook 2012 and Ecofys International
Comparison of Fossil Power Efficiency and CO₂ Intensity 2013

Note: SOx, NOx: ppm; PM: mg/m³N
India-Japan Energy Forum since 2006

[Images of the forum events and participants]
Ongoing Collaboration with India

A collaboration with Andhra Pradesh since 2014

A collaboration with Confederation of Indian Industry since 2013

Japan-India Innovation Seminar in 2015

Make in India Week in 2016
Prime Minister Shinzo Abe announced that the Government of Japan will host an annual global conference, the ICEF, every year in October in Tokyo.

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**Steering Committee of the last year’s**

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**Hosts**

METI

NEDO
ICEF provides a global platform to promote discussions and collaboration.

About ICEF

Annual Meeting

On-line Discussion

TOP10 Innovations

Networking

Statement
• ICEF 2015 Concurrent Sessions

Cross-Sectional
- Technology Transfer
- Business Engagement
- International Framework
- Role of Public Funding

Power Generation
- Nuclear Energy
- Solar Energy
- Wind Power
- CCS
- Geothermal Power
- Hydrogen Energy
- Artificial Photosynthesis

Industrial
- Cement
- Iron and Steel

Consumer
- Zero Energy Building

Transportation
- Advanced Liquid Biofuels
- Low-Carbon Mobility

Systems
- Energy Systems
- Electricity Storage
- Smart Grids
NEDO Representative in India

• NEDO Overseas offices

Officials working in NEDO’s Delhi Office

Mr. Tetsuya Tanaka
Chief Representative
9th Floor, Hotel Le Meridien Commercial Tower, Raisina Road, New Delhi 110 001, India
Tel: +91-11-4351-0101
Fax: +91-11-4351-0102
Thank you!

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