

Introduction of NEDO and our international projects

March 5, 2024

New Energy and Industrial Technology Development Organization
Energy Conservation Technology Department

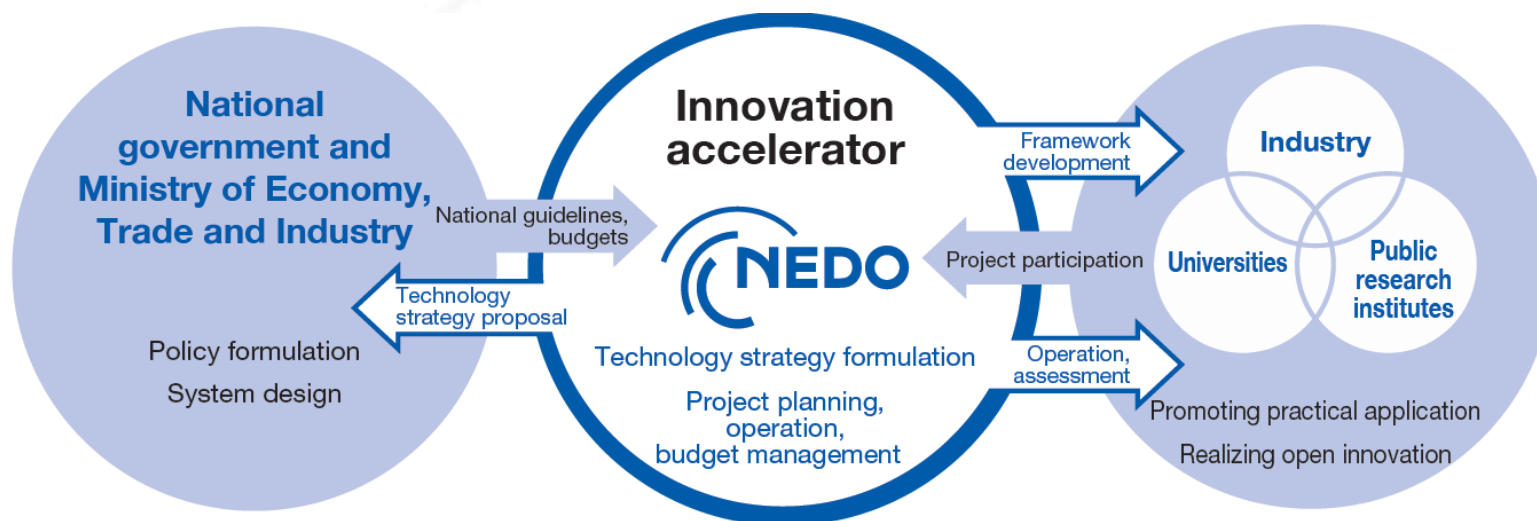
TOYODA Akari

Overview of NEDO

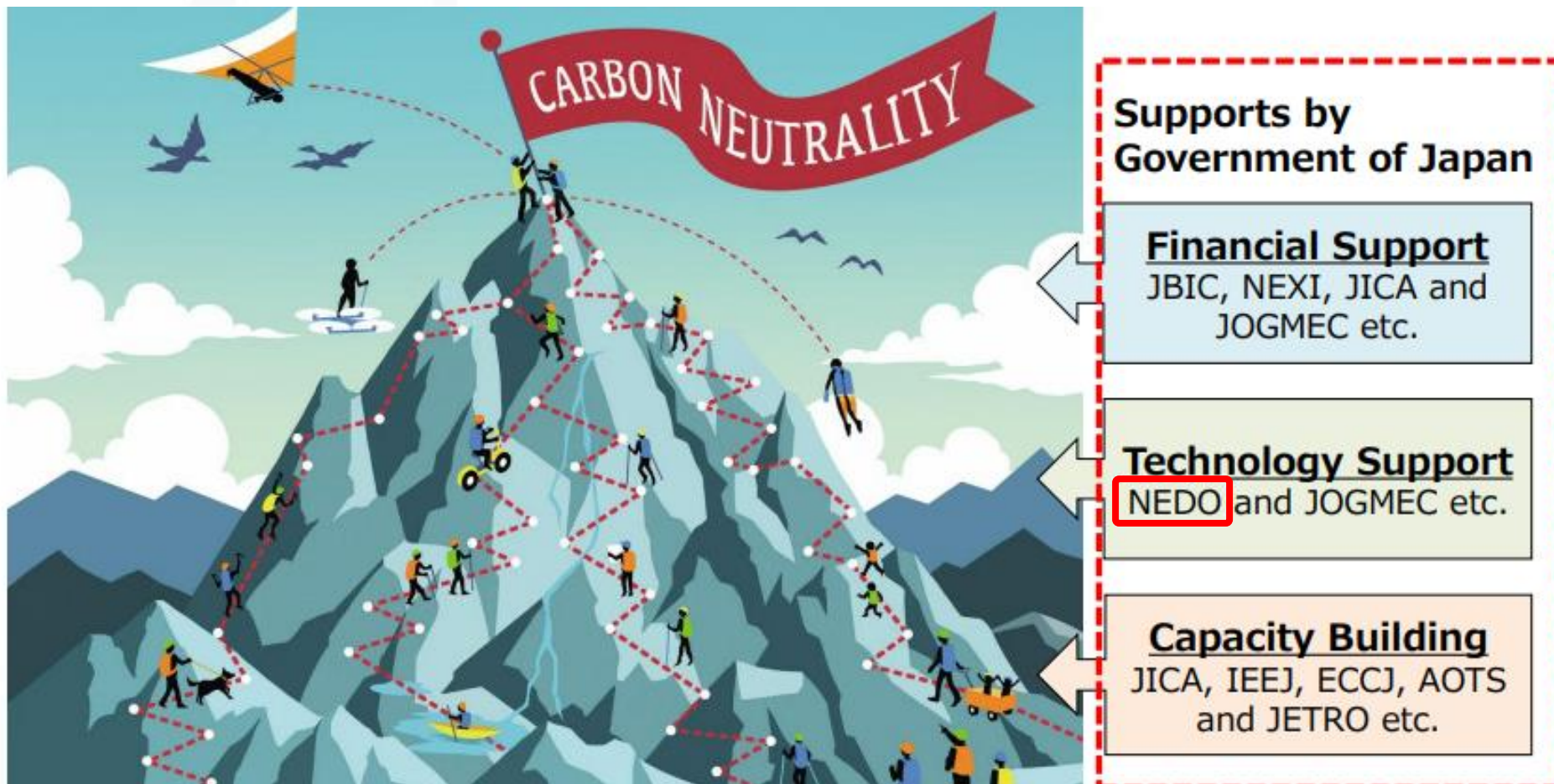
What is NEDO?

New Energy and Industrial Technology Development Organization

Organization	National Research and Development Agency
Mission	<ol style="list-style-type: none"> <i>Addressing energy and global environmental problems</i> <i>Enhancing industrial technology</i>
Established	1980
Budget	152.8 billion yen (FY2023, ca. \$1.2B) +additional “FUNDS”
Number of Staff	1,464 (as of April 1, 2023)



What is NEDO?



Ref: <https://www.meti.go.jp/press/2023/12/20231218004/20231218004-5.pdf> (Page9)

Our Activity Fields

FY 2023 Budget total 152.8 billion yen (ca. \$1.2B)

Energy Systems (56.0 Billion yen)

Areas of focus

- Grid control technology
- Energy storage technology such as batteries
- Technology related to hydrogen production, storage, transport, and use
- Renewable energy technology



Energy Conservation and Environment (42.4 Billion yen)

Areas of focus

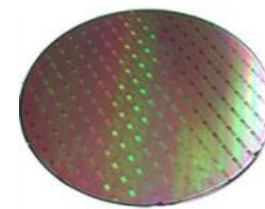
- Innovative energy conservation technology
- Environmentally-friendly process technology
- Development of high-efficiency coal-fired power generation technology
- CCUS technology
- Fluorocarbon control technology
- 3R technologies including resource sorting/metal refinery technology
- International demonstrations, JCM



Industrial Technology (37.7 Billion yen)

Areas of focus

- Robot and AI technology
- IoT, electronics, and information technology
- Manufacturing technology
- Materials and nanotechnology
- Bioeconomy

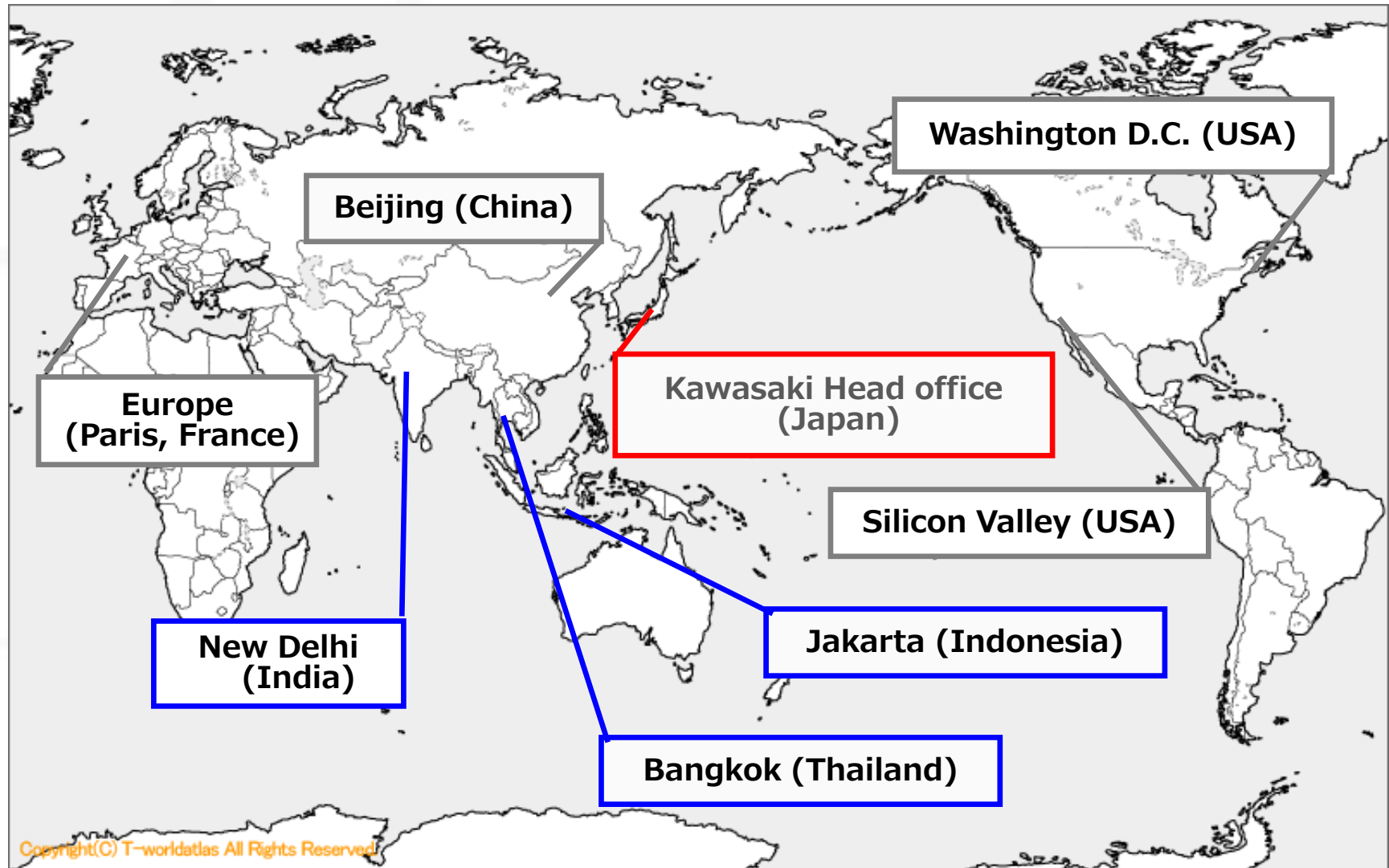


New Industry Creation & Discovery of Technology Seeds (9.1 Billion yen)

Areas of focus

- Fostering technology-based startups
- Promotion of open innovation

Overseas Offices of NEDO



International Demonstration Project of NEDO

Overview of our International expansion support



- ① International Demonstration Project on Japan's Technologies for Decarbonization and Energy Transition
- ② Program to Facilitate Private-Sector-Led Promotion of Low Carbon Technology Overseas (JCM)
- ③ Deep-Tech Startup Support Program

	① International Demonstration Project	② Private-Sector-Led Promotion of Low Carbon Technology (JCM)	③ Deep-Tech Startups Support Program
Summary	Contribute to <u>the diffusion and development of energy-related industries, energy transition and decarbonization</u> in Japan and abroad, and energy security in our country	Implement overseas projects utilizing the Joint Crediting Mechanism, etc., to quantify the amount of reduced/absorbed greenhouse gas emissions achieved by using Japan's superior low-carbon technology and systems and will send out the results as its international contribution consequently.	Supporting <u>startups in the deep tech area</u> that are unlikely to generate a cycle of innovation in a natural way, but if realized, will contribute to solving social issues.
Budget/case	4 billion JPY (demonstration phase)	1 billion JPY (demonstration phase)	3 billion JPY (All phase)
Subsidy rate	Large enterprise: 50% SME: 67% (2/3)	100% (national commissioned)	67% (2/3)
Signing of MOU	Required	Required	Optional
Applicant	Japanese companies and their overseas subsidiaries	Japanese companies and their overseas subsidiaries	Startup companies <u>developing technology in Japan</u>
Call for Proposals	Twice/year	Once/year	4 times/year

Purpose of Project

- To demonstrate Japan's advanced technologies contributive to realization of S+3Es (Safety, Energy security, Economic efficiency and Environment) in overseas countries, and furthermore, to **contribute to dissemination and development of Japan's energy-related industry, domestic and overseas energy transformation and decarbonization, and Japan's energy security** through demonstration in institutionally advanced overseas energy markets.

Demonstration of large-scale hybrid storage battery system (Germany)



Demonstration of portable storage battery sharing (Indonesia)



Demonstration of expansion of EV's range (U.S.)



Demonstration of operations of large EV buses by 10-min. charging (Malaysia)



Demonstration of energy-saving cellulose sugar manufacturing system from surplus bagasse raw materials (Thailand)

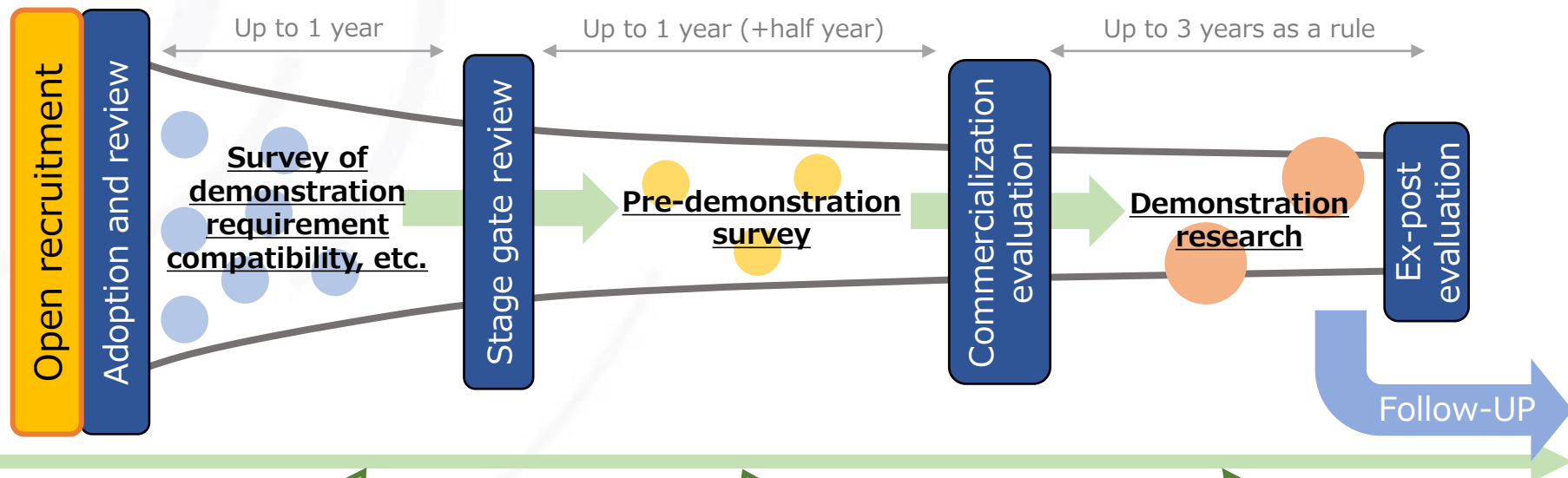


Demonstration of combined operation of power transmission and distribution of storage batteries (U.S.)



The purpose and methods are established based on a basic plan and an implementation policy
→ https://www.nedo.go.jp/activities/AT1_00175.html

Project Structure and Flow



- Survey of partner country's energy situations, related policies, business environment, etc.
- Consideration of demonstration elements, goals and possibility of dissemination

- Design of demonstration equipment and systems
- Detailed plan of demonstration research
- Commercialization plan after demonstration research
- Negotiations with partner country's company, etc.

- Design, manufacture, transport and installation of demonstration equipment and systems
- Demonstration operation

- Hosting of/participation in open days, seminars and exhibitions
- Human resource development, dispatch of experts, etc.

Examples of Implementation

America

- Redox flow batteries (U.S.)
- Intercity EV charging stations (U.S.)
- Energy-saving buildings (U.S.)
- Hybrid inverters (Canada)

Europe

- Locally producing and consuming smart communities (Germany)
- Hybrid storage battery systems (Germany)
- DC power transmission systems (Italy)
- Air conditioning demand response (Portugal)
- Cogeneration systems (Uzbekistan)
- Smart communities (Slovenia)
- Smart grids (Poland)

Northeast Asia

- Bioethanol (China)
- Energy-saving buildings (China)
- Energy management systems (China)

Middle East and Africa

- Energy-saving wastewater recycling systems (Saudi Arabia)
- Energy-saving desalination of sea water (Saudi Arabia)
- Energy-saving desalination of sea water and wastewater recycling (South Africa)

India

- Large-scale solar power generation systems
- Smart grids
- Steel mill energy centers
- Green hospitals

ASEAN

- Industrial waste power generation (Vietnam)
- Cellulose sugar manufacturing systems (Thailand)
- EV bus operation systems (Malaysia)
- New public transport systems (Philippines)
- Electric motorcycle battery sharing (Indonesia)
- Compressed Natural Gas (CNG) vehicles (Indonesia)

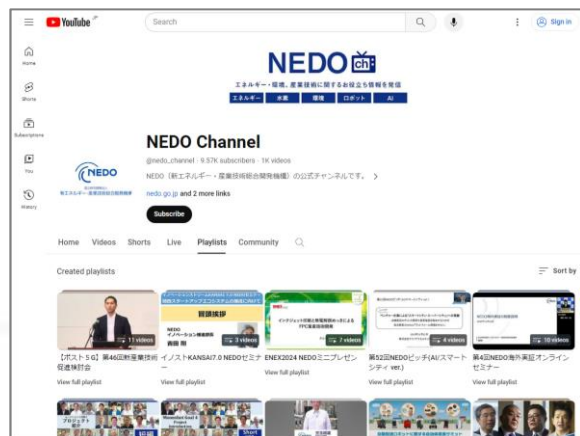
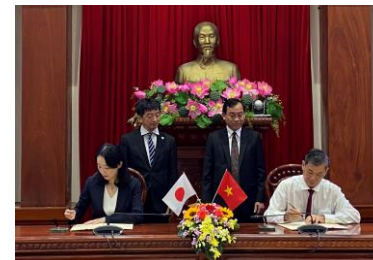
* Supported by NEDO overseas offices as required.

America (Washington, Silicon Valley), Europe (Paris), India (New Delhi), ASEAN (Bangkok), North East Asia (Beijing)

Examples of ongoing demonstration projects

Demonstration Project on Enhancement of Energy Saving Shrimp Aquaculture System with Biomass from Local Products (Tiền Giang Province, Việt Nam)

https://www.nedo.go.jp/english/whatsnew_00289.html



NEDO Channel (YouTube)

https://www.youtube.com/@nedo_channel/playlists



Transformation of steel plants! – Japan and India's first Energy Center introduction project –

https://youtu.be/zm_fkqEs-uw?si=iqRvLCqQW9DQLrwD



Thank you for your kind attention!!



More about NEDO



**More about NEDO's
demonstration projects in
AZEC partner countries.
(Search for "NEDO")**