



Introduction of the NEDO's scheme for realizing the Co-creation on BCG economic model between Thailand and Japan

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New Energy and Industrial Technology Development Organization

NEDO Asian Representative Office

Representative

YONEKURA Hidenori

1. Role of NEDO and NSTDA
2. NEDO's funding scheme
3. Similarities and Differences between BCG and GGS
4. Example of Existing NEDO project in Thailand related to BCG
5. Expected areas and ideas for Co-creation

Role of NEDO and NSTDA



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NEDO's scheme for International collaboration



International Energy Demonstration Project

Purpose

- ✓ Aims to contribute to **solving foreign energy problems** through a demonstration of Japanese technology and systems for **energy conservation**.

Overview of the scheme

- ✓ **Up to 4.0 Billion JPY / project**
- ✓ **1/2 ~ 2/3** grant from NEDO
- ✓ Consist of 3 phases of basic study, Feasibility study and Demonstration
- ✓ NEDO conduct CfP(Call for Proposal) 1 ~ 2 times per year
- ✓ Japanese EP, University and Institute can apply



[Link to CfP 2021](#)

- Japanese Only
- Next CfP will open in Spring 2022

Program to Facilitate Private Sector-Led Promotion of Low-Carbon Technology

Purpose

- ✓ Aims to **demonstrate Japan's low-carbon technologies** and systems with partner countries and to contribute to achieving target obligations under the Paris Agreement.

Overview of the scheme

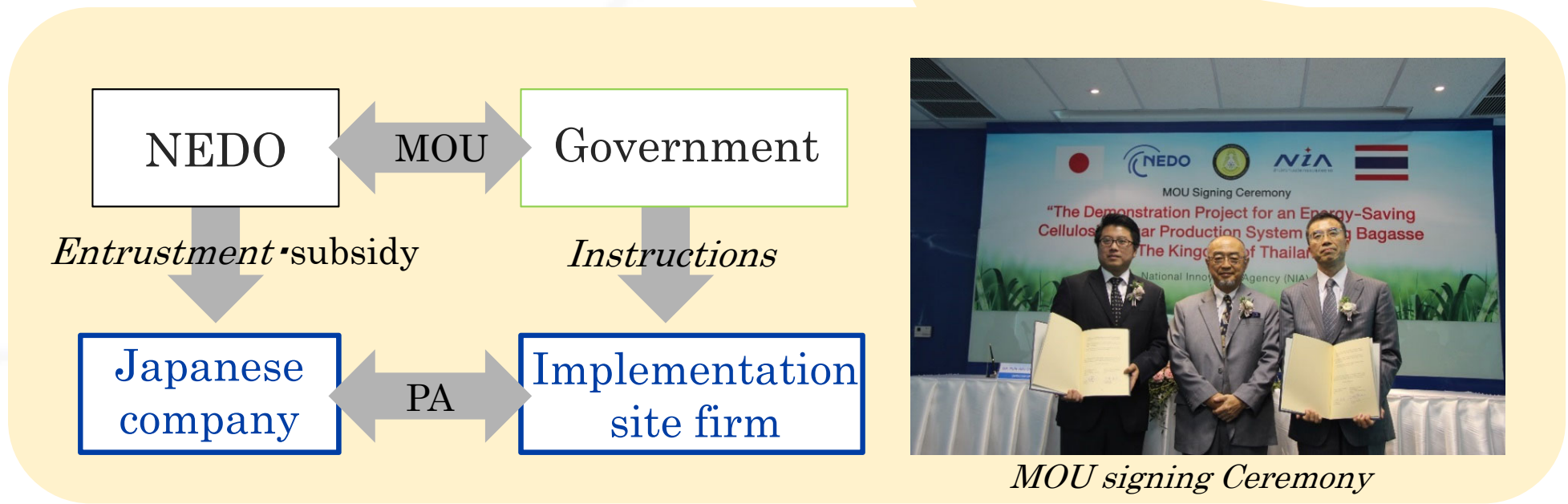
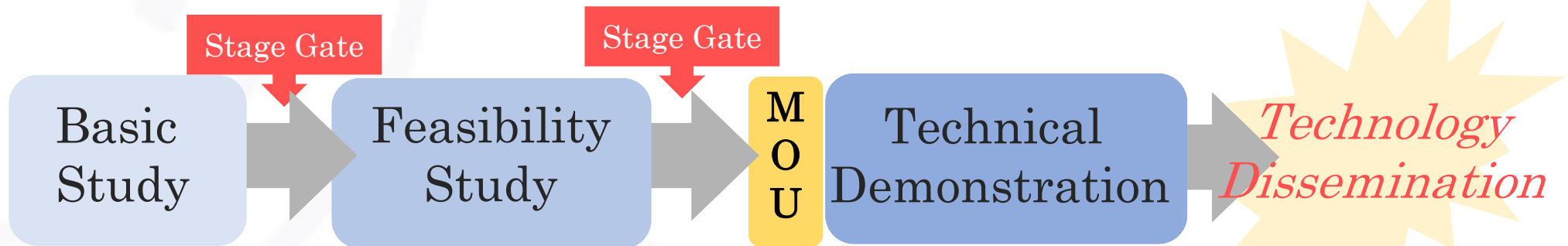
- ✓ **Up to 1.0 Billion JPY / project**
- ✓ **100%** grant from NEDO
- ✓ Consist of 2 phases of Feasibility study and Demonstration
- ✓ NEDO conduct CfP(Call for Proposal) 1 ~ 2 times per year Japanese EP, University and Institute can apply



[Link to CfP 2021](#)

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NEDO's scheme for International collaboration



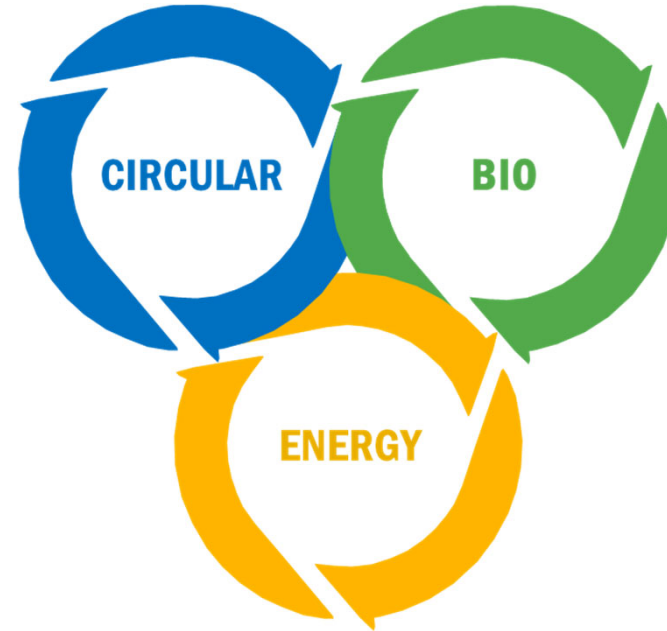
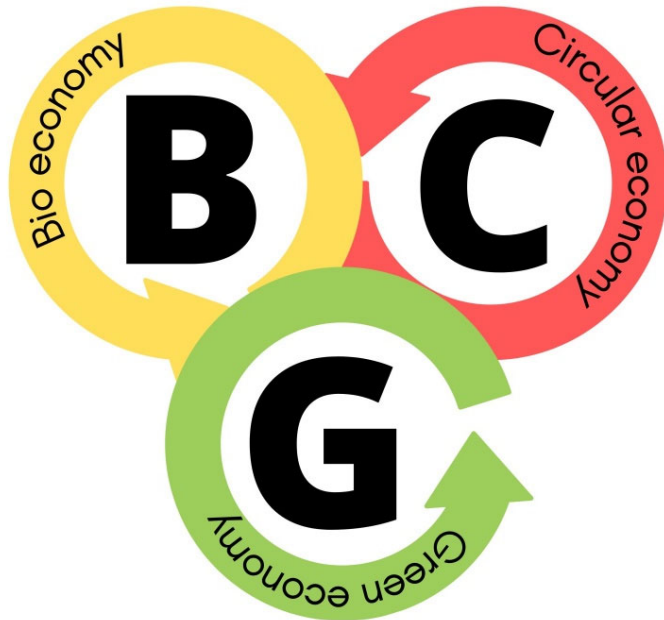
MOU: Memorandum of Understanding
 PA: Project Agreement

NEDO's scheme for International collaboration



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Similarities and Differences



Background of BCG

Social Challenges

Middle
Income
Trap



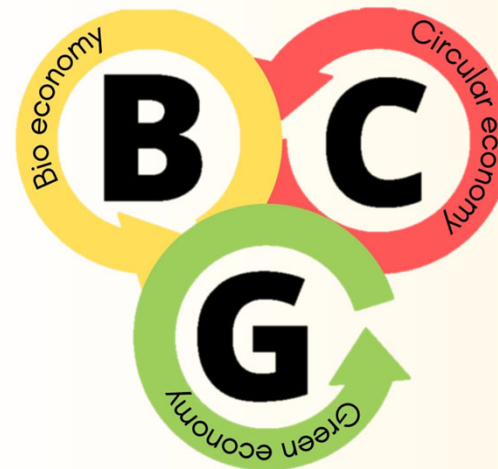
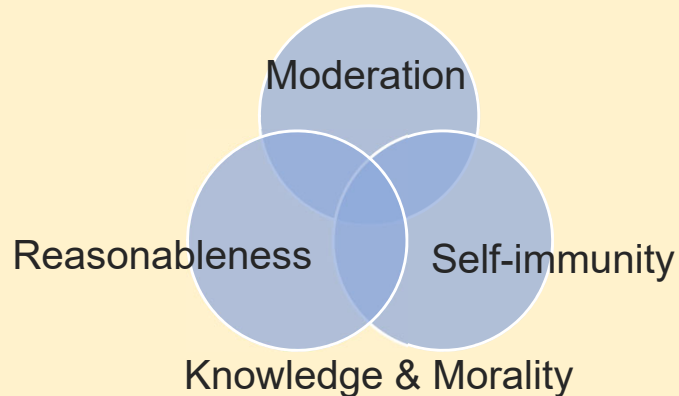
Income gap



Environment
al Problems

Sufficiency Economy

Balance & Sustainability



Digital repository of
bioresources, cultural
capital and local wisdom

**Transform Agricultural
System**

Improve quality and safety
of food

**Biobased economy High-
value products**

Sustainable goods and
services

Carbon Credit

**Sustainable and Green
tourism**

**Reducing and Recycling
resources**

Quadruple helix approach
for low carbon society

Background of Green Growth Strategy



National Energy and Environment Strategy for Technological Innovation towards 2050 (NESTI 2050)

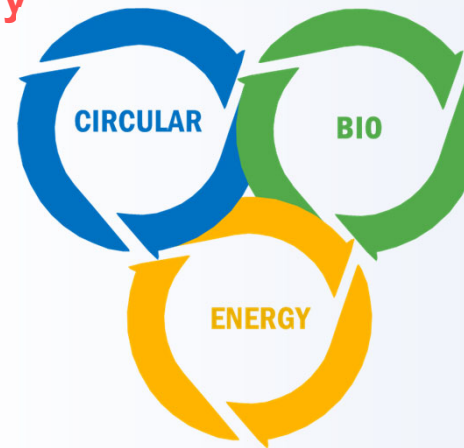
2016

2019

2020

Green Growth Strategy Through Achieving Carbon Neutrality in 2050

The Long-term Strategy under the Paris Agreement



Offshore wind

Fuel ammonia

Hydrogen

Nuclear power

Mobility and battery

Semiconductor and ICT

Maritime

Logistics, people flow and infrastructure

Smart-agriculture

Aviation

Carbon Recycling

Housing and building, PV

Resource circulation

Lifestyle-related industry

2008
New Low Carbon Technology Plan

Common items between TH's BCG and JP's Green Growth Strategy



Reducing and Recycling resources

Digital repository of bioresources, cultural capital and local wisdom

Transform Agricultural System

Improve quality and safety of food

Biobased economy High-value products

Sustainable goods and services

Carbon Credit

Sustainable and Green tourism

Quadruple helix approach for low carbon society



Biomaterials

Material circulation

Renewable Energy

Fuel ammonia

Hydrogen / Fuel cell

Battery / Utilization of EV/FCV

Efficient Logistics

Bio fuel / Smart agriculture

Digitalization

Scientific behavior change

Offshore wind

Housing and building, PV

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Mobility and battery
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Lifestyle-related industry

The Demonstration Project for an Energy-Saving Cellulosic Sugar Production System Using Bagasse



- This project install demonstration plant **to produce cellulose sugars** that can be converted into raw materials for bioethanol and various chemicals, and **co-produce high value-added products such as polyphenols and oligo-saccharides** from the bagasse with high efficiency **by utilizing membrane bio-process technology** developed by Tray Co.,Ltd..



< Bagasse >



high value-added products

Cellulose sugars




Oligo-saccharides



Polyphenols



You could see the video
on this project in NEDO
Youtube channel! 

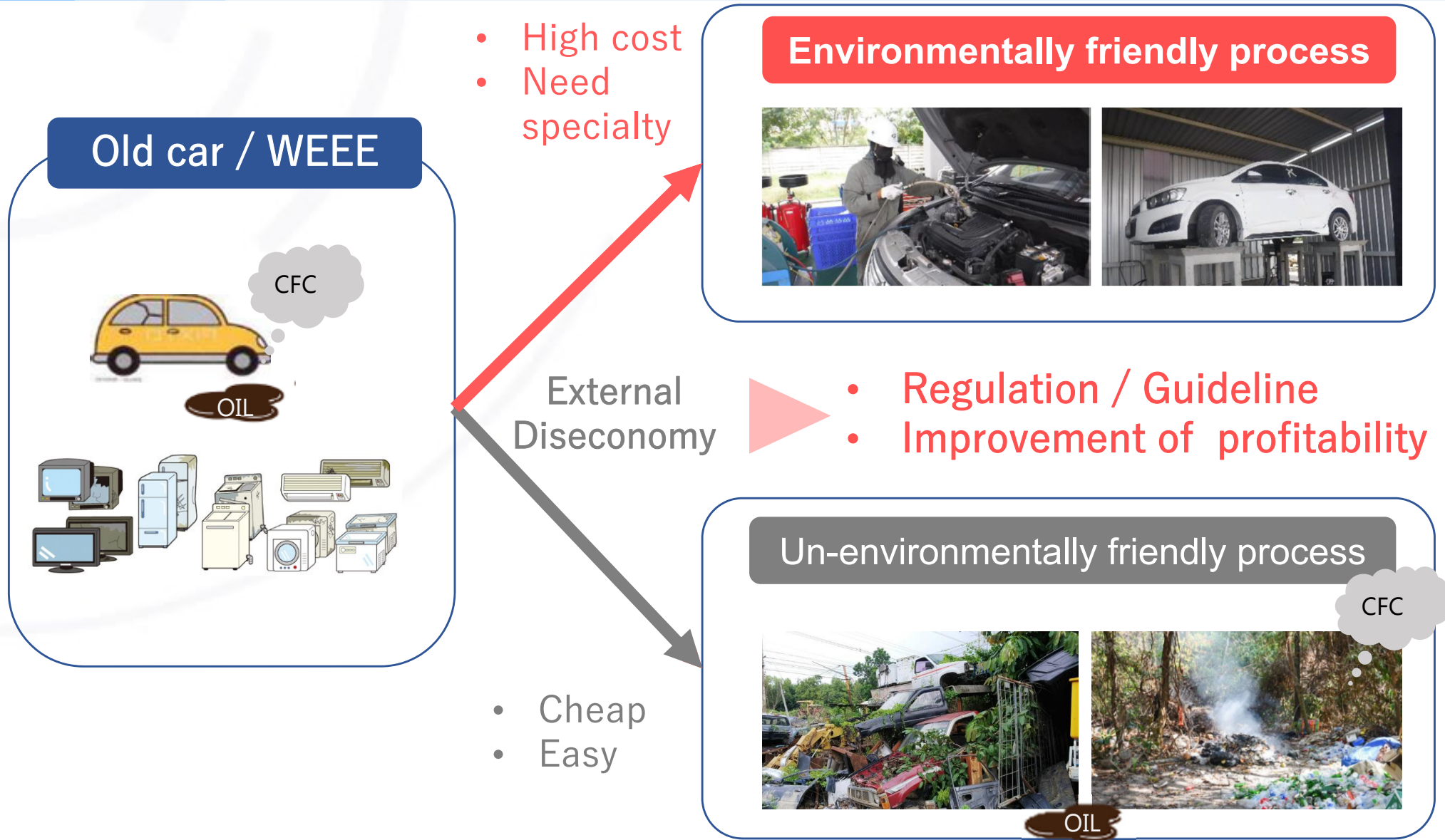


English



Japanese

For the appropriate Circulation



The Demonstration Project for An Energy-Saving Resource Circulation System to Establish Efficient and Suitable Resource Recycling For ELV



- In this project, an effective and proper circulated resources system on End-Of-Life Vehicles (ELV) were demonstrated.
- In addition to the **collection of CHC**, waste oil, introducing an environment-friendly dismantling process with traceability, the introduction of an **dismantling machine has greatly improved the dismantling work efficiency.**



Environmentally hazardous materials from ELV



Aging vehicles emitted hazardous substances such as PM2.5

Demonstration Plant In Green Metals Thailand (GMT)



Instruction

GMT

MOU



Funding

ID

Toyota Tsusho

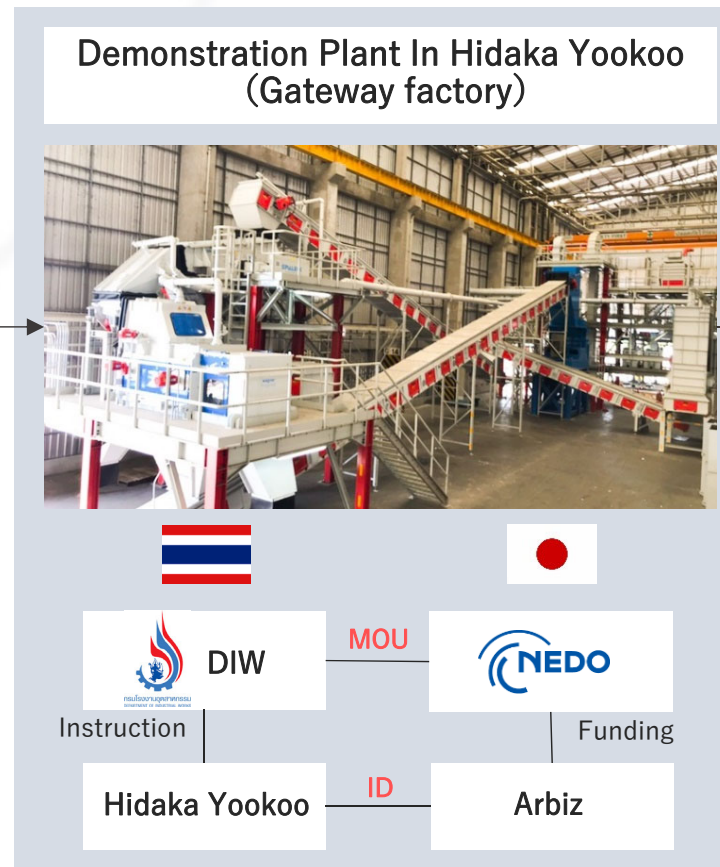
The Demonstration Project For an Energy-Saving Resource Circulation System to Utilize








- In the project, a consistent recycle system integrated with Japan's advanced technologies to sort Electronic and Electrical Equipment Waste(WEEE) is introduced.
- Efforts to facilitate proper waste disposal will also be made by **providing support for the introduction of new guidelines in Thailand.**



- harm workers' health
- causes water and soil contamination and GHG emission
- inefficient in terms of material circulation

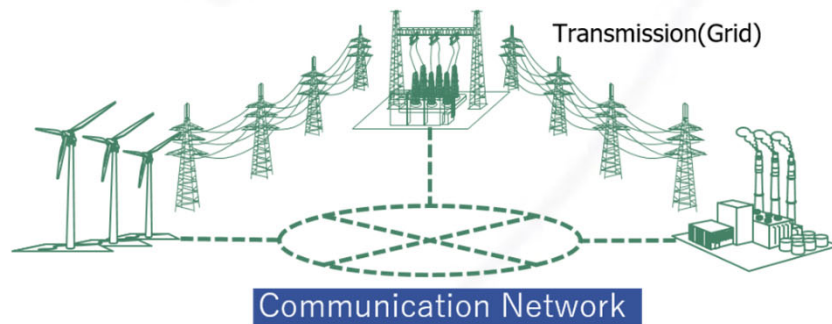


-  Steel
-  Aluminum
-  Stainless steel
-  Copper
-  Shredder Residue
-  Plastic
-  Hazardous slag

The Demonstration Project for Low-carbonized Operation for Power Grid utilizing online voltage-var(Q) Optimal Control (OPENVQ) with ICT

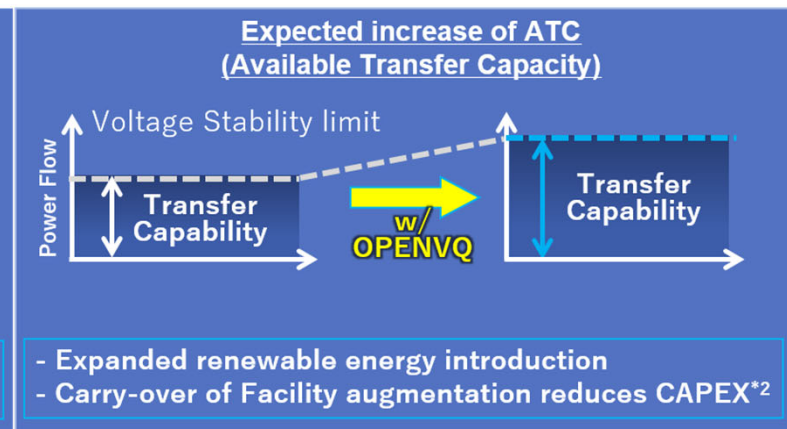
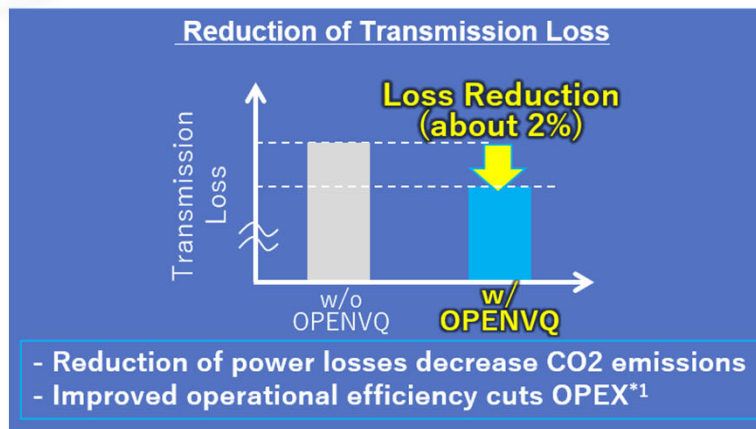
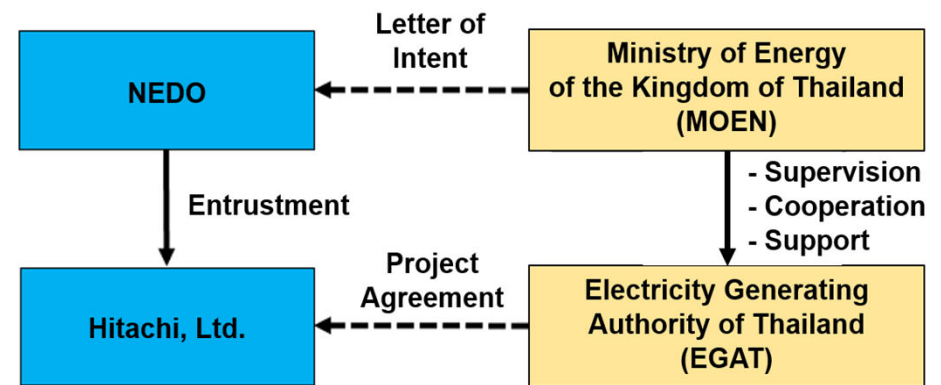


- This project introduces online optimal control system, named OPENVQ to the transmission system of the Electricity Generating Authority of Thailand(EGAT).
- OPENVQ can reduce GHG by **reducing transmission loss** (direct effect) and support **increasing transmission capability for enhancement of renewable energy** (Indirect effects).



OPENVQ can improve grid performance without asset enhancement

OPENVQ optimizes voltage profile



List of NEDO Projects in Thailand



		Project Name	Entrusted JP Company	NEDO'sCP	Period	Phase *
Thailand	1	The Demonstration Project for an Energy-Saving Cellulosic Sugar Production System Using Bagasse	Toray, Mitsui Sugar	NIA	2016-2023	III
	2	The Demonstration Project for an Energy-Saving Resource Circulation System to Establish Efficient and Suitable Resource Recycling for End-of-Life Vehicles	EX Research Institute / Toyota Tsusho	MOI · DIW /IEAT	2021-2022	IV
	3	The Demonstration Project For an Energy-Saving Resource Circulation System to Utilize WEEE in Thailand	Arbiz	DIW	2019-2022	III
	4	Mae Moh Power Plant Digitalization Project	Marubeni	MoEN	2020-2023	III
	5	The Demonstration Project for Low-carbonized Operation for Power Grid utilizing online voltage-var(Q) Optimal Control (OPENVQ) with ICT	Hitachi	MoEN	2020-2023	III
	6	The Demonstration Project for High Quality Industrial Water System with Energy Saving Technology	Maezawa Industries	TBD	2020-2021	II
	7	The Demonstration Project for Smart Energy and Mobility System in Bang Sue Smart city	Pacific Consultants, Osaka Gas, Japan Environment Systems,Toyota, TDEM	TBD	2020-2021	I
	8	The Demonstration Project for maximizing solar power deployment and area energy management in the power grid at the Amata City Chonburi Industrial Estate	KEPCO, NTT DATA	TBD	2021-	I
	9	The Demonstration Project for electrification of THERMAL CRACKING for zero CO2 Emission Ethylene Production	Toyo Engineering	TBD	2021-	I
Lao PDR	1	The Demonstration Project of high-voltage PEM type electrolyzer to realize green ammonia production and supply	Hitz	TBD	2021-	I

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Lifestyle-related industry

Common items between TH's BCG and JP's Green Growth Strategy



Renewable Energy

- Solar in Dam
- Solar as distributed energy
- Recycle of Solar panels



出所: EGAT

Efficient Logistics

- Emerging industry
- AI / efficiency



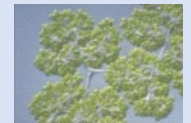
出所: <https://www.sanook.com/auto/66869/>

Fuel ammonia / Hydrogen

- Clean emission
- Shift smoothly from thermal generation

Bio fuel / Smart agriculture

- Bio jet fuel
- Technology for new crops



Battery / Utilization of EV/FCV

- Energy management
- Reuse / Recycle system



出所: <https://www.sanook.com/auto/66869/>

Digitalization

- Every field

Scientific behavior change

- Nudge

NEDO Bangkok 事務所では、事業企画段階の
ブレストから、具体的な案件相談・アドバイスまで、
案件組成に向けた幅広いサポートを行っています

NEDO Bangkok Office provides a wide range of support for project
composition, from breasts to specific project consultation and advice.

皆様からのご相談、お待ちしております！



日本語

NEDO Asian Representative Office Website
https://www.nedo.go.jp/introducing/bangkok_office.html

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English