FY 2023 AJSI Webinar
6 February 2024

Capacity Building Activity toward Carbon Neutrality in ASEAN countries

Takashi KANAZAWA
International Planning Department
International Cooperation Division, ECCJ

Energy Efficiency Facilitating Hub
THE ENERGY CONSERVATION CENTER, JAPAN
SE4ALL EEF HUB

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Table of Contents

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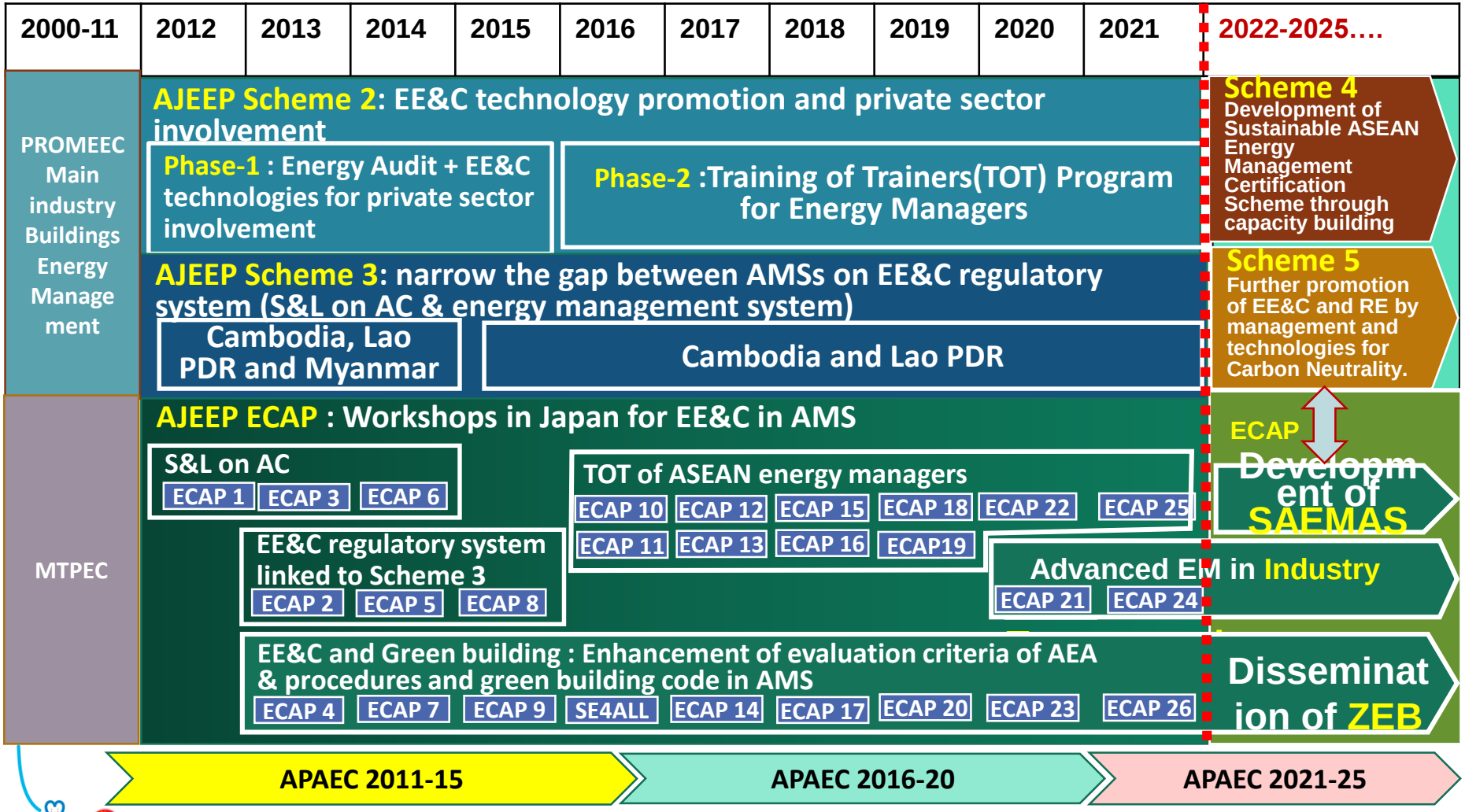
1. History of AJEEP Program

ECCJ, under the financial support of METI and cooperation of ASEAN Centre for Energy and ASEAN EE&C-SSN has been conducting ASEAN-Japan EE&C cooperation for 22 years since 2000. The specific activities of 10 years' AJEEP program are summarized below.



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2. Overview of the new scheme of AJEEP Program

- **Scheme 4: Development of Sustainable ASEAN Energy Management Certification Scheme (SAEMAS) through capacity building**
- **Scheme 5: Further promotion of EE&C and RE by management and technologies for Carbon Neutrality**
- **In line with APAEC PHASE-Ⅱ**

Scheme 4 and 5 proceed toward the Common Goal

Scheme 4 Approach

- **Capacity Building**
- **Support SAEMAS construction**

-Integration of AEMAS and AJEEP TOT as ASEAN common standard
-Preparation of new and advanced contents rerated to Carbon Neutrality

Scheme 5 Approach

- **Information sharing**
- **Policy recommendation**
- **Trial CO2 reduction diagnosis**

-Disseminate ZEB family concept, introduce energy management in transportation sector, Implement trial CO2 reduction potential diagnosis in factory/building in conjunction with Scheme 4.
-Organize CN/EE&C Projects at the site of factory/building in collaboration with JPN private sector

1. Establish SAEMAS in order to Introduce advanced EM across ASEAN

2. Develop CN/EE&C Projects at the site of factory/building

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3. The objective of the Scheme 5

Objective of the Scheme 5

To disseminate and promote advanced technologies for energy utilization in the buildings, industry and transportation sectors towards Carbon Neutrality (CN)

Implementation

(1) Enhance understanding of building-type design guideline, promotion of technology lists for ZEB and guidance / implementation of CN Diagnosis

(2) Introduce Energy Management in transportation subsector and raise awareness for improving energy efficiency

(3) Enhance understanding of CN realization scenarios of each industry and CN technologies, and guidance/ implementation of CN Diagnosis

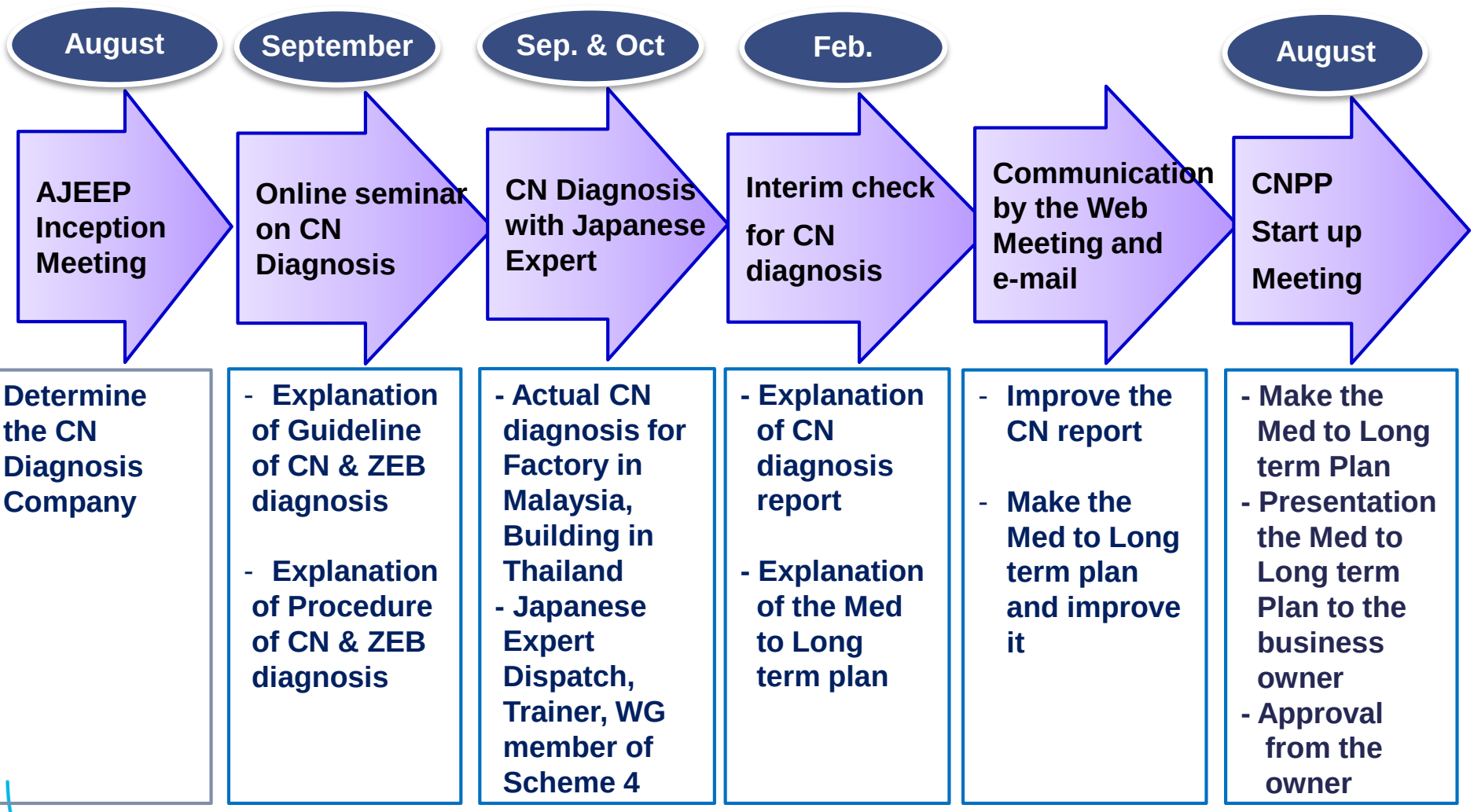
Objectives of the capacity building on CN for AMS

To enhance the capacity of AMS to implement policies and incentives on sustainable EE in building

To raise awareness on energy use and methods to increase energy efficiency in transportation sector

To make/implement EE&C Project towards CN

4. Activity flow of CN Project Promotion



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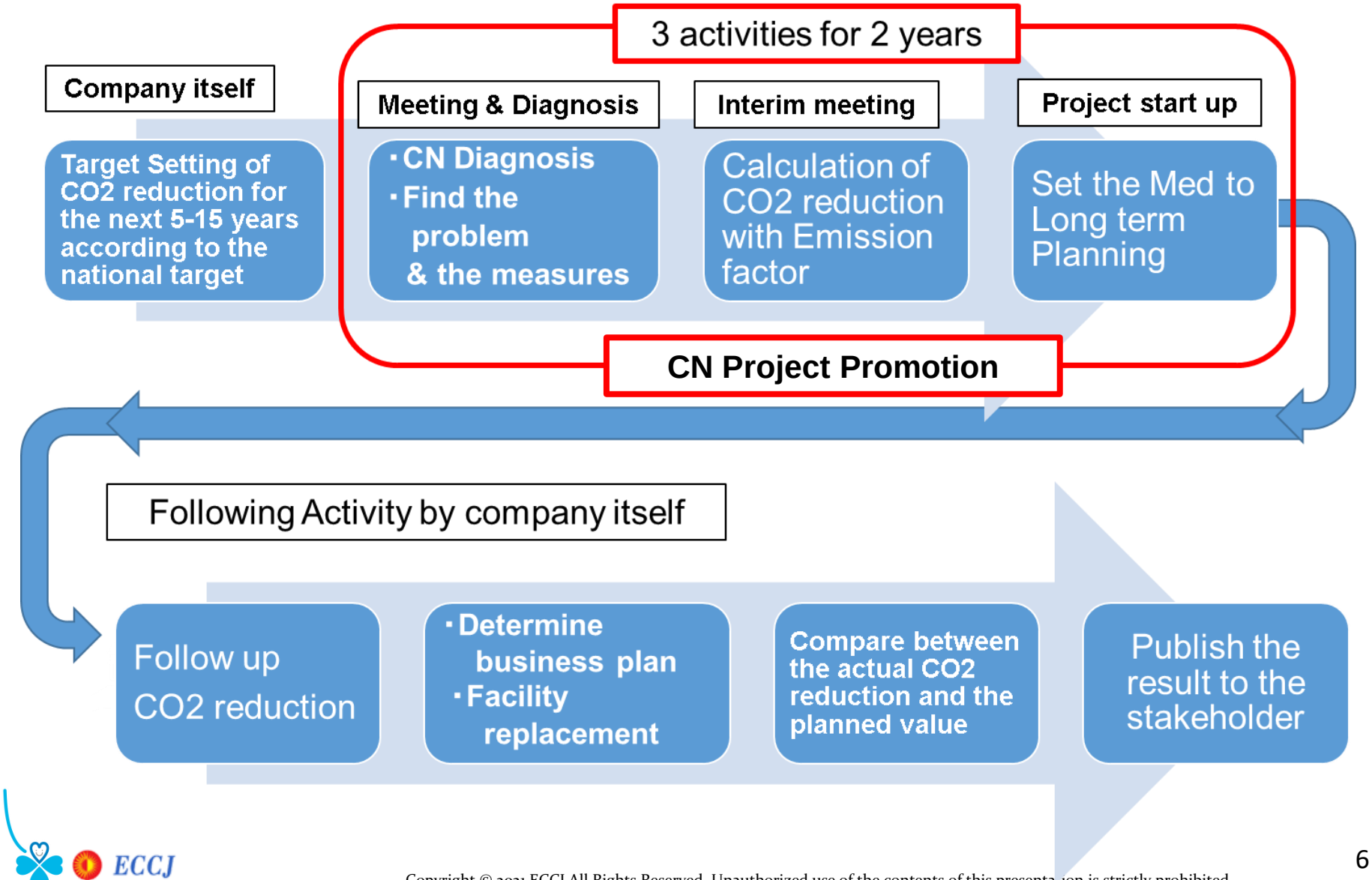
5. Procedure of CN Project Promotion - 1



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5. Procedure of CN Project Promotion - 2

FY2023			FY2024	After FY2025
Inception	Aug.	Sep. Feb.	August	

Scheme 5
CN Project Promotion

Online seminar

CN diagnosis

Find issue and Countermeasure

Med to long term plan

Determine diagnosis site

Factory in Malaysia & Hospital in Thailand

Evaluate result Equipment replacement

Follow up

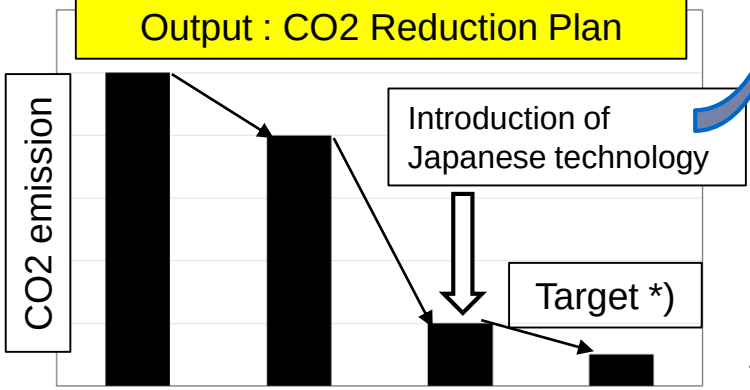
Final Report & disclose to site executives and stakeholders

Benefit to Japanese company
Promotion of Japanese technology

CN diagnosis seminar
- Explanation of CN diagnosis
- Select by AMS

- Scheme 5: Expert dispatch & cooperation of Japanese company
- Scheme 4: TOT trainer WG member

Output : CO2 Reduction Plan



***) Target is not necessary to ZERO CO2.**
Target is set according to the national target & company policy.

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6. CN Diagnosis in 2023 - 2024

6.1 CN Diagnosis for Factory in Malaysia

Objective

1. OJT by the actual CN diagnosis with Japanese Expert
2. CN Diagnosis site : NITTO DENKO in Malaysia
3. Learn how to conduct the CN diagnosis for the energy manager, AJEEP Trainer and WG members of Scheme 4

1) NITTO DENKO MATERIALS MALAYSIA SDN BHD

NO.	ITEM	NITTO DENKO
1	Company profile:	
	-Name	NITTO DENKO MATERIALS MALAYSIA SDN BHD
	-Address	Persiaran Budiman, Seksyen 23, 40300 Shah Alam, Selangor
	-Contact person	RUSTAM AFFENDI BIN REJAB
	-Number of employees	288
	-Area	11,868 m^2
2	Production capacity:	
	-Product	Adhesive tapes
	-Annual amount	In m^2
3	Plant:	
	-Process line	Available
	-Drawing	
4	Energy consumption:	
	-Annual	Available
	-Weekly	
	-Daily	
5	Energy type:	
	-Electricity	
	-Gas	Available
	-Fuel	
	-Water	

6. CN Diagnosis in 2023 - 2024

6.1 CN Diagnosis for Factory in Malaysia

CN Diagnosis Result :
2 CN Proposals and 6 EC Proposals

	Item	content
CN Proposal	Solar power generation	Set the solar panel on the roof or the parking area
	Fuel transition of drying furnace	• Fuel transition of the oil boiler for the heating of the drying furnace (Hydrogen or electrification） • Electrification of the drying furnace

6. CN Diagnosis in 2023 - 2024

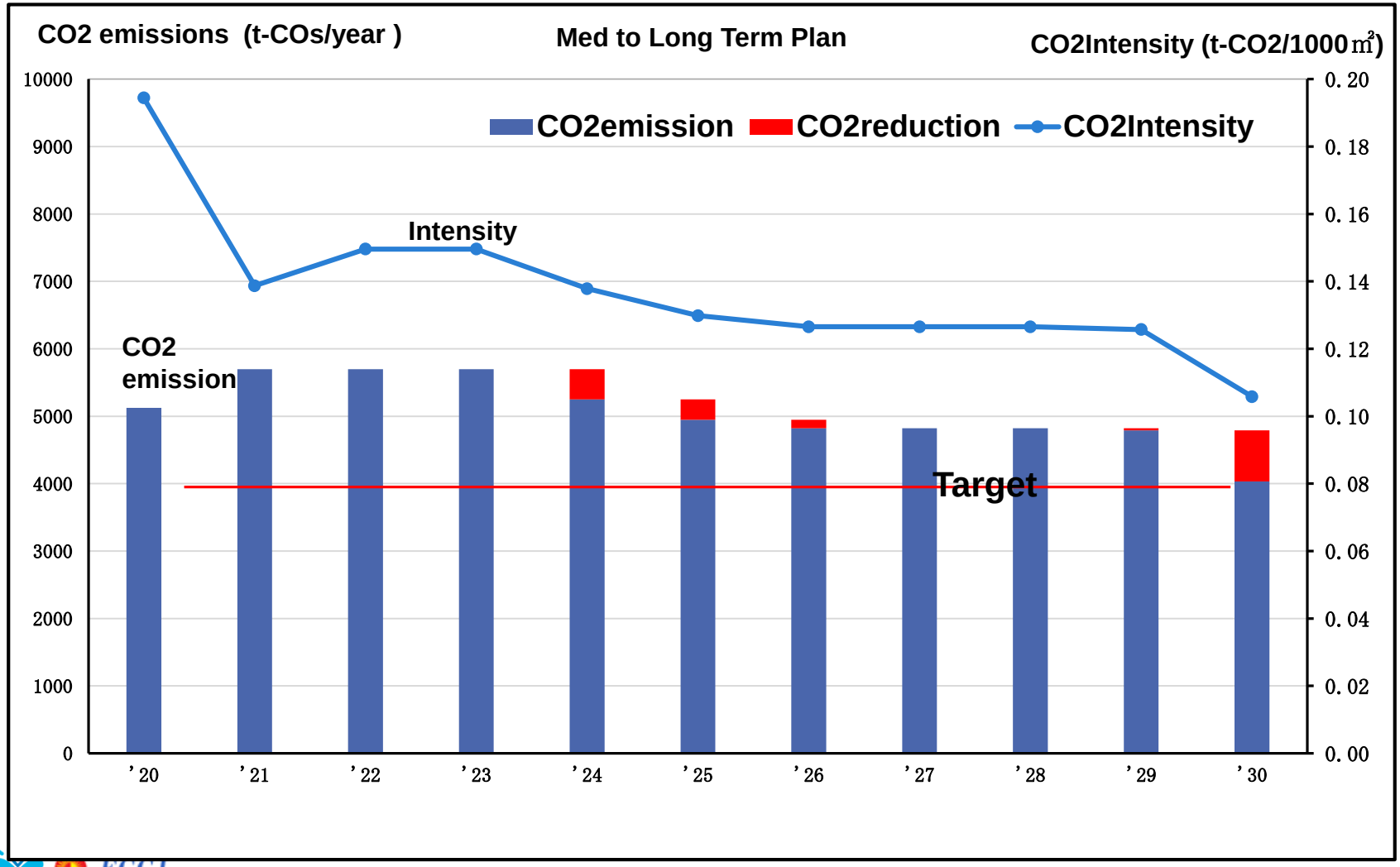
6.1 CN Diagnosis for Factory in Malaysia

	Item	content
EC Proposal	Replacement of lighting system • Replacement • Partial lighting by sensor • Lowering the lighting position	• Replacement of LED lighting device set in 2016 • Automatic lighting off by the photosensor • Lowering the lighting position at 6m high ceiling
	Compressor • Lowering the supply pressure • Replacement to the small volume	• Change compressed air pressure from 0.75 Mpa to 0.5 Mpa • Management the small volume devise of every floor
	Heat insulation of Boiler	Heat insulation of high temperature part
	Spot air-conditioning	Personal air-conditioning by the small spot air-conditioning in the mixing building
	Stratified air-conditioning	Stratified air-conditioning by the replacement of water-cooled air-conditioning
	High speed shutter to the door of the air-conditioning room	Full opening of the frontage to the shipping area Constantly released of cooled air

6. CN Diagnosis in 2023 - 2024

6.1 CN Diagnosis for Factory in Malaysia

Proposal of Med to Long Term Plan without CO2 certificate



6. CN Diagnosis in 2023 - 2024

6.2 CN Diagnosis for Building in Thailand

Objective

1. OJT by the actual CN diagnosis with Japanese Expert
2. CN Diagnosis site :Phra Nang Klao Hospital in Thailand
3. Learn how to conduct the CN diagnosis for the energy manager, AJEEP Trainer and WG members of Scheme 4

Phra Nang Klao Hospital

The main public hospital of Nonthaburi Province, Thailand
The main teaching hospital of the School of Medicine, Siam University and an affiliated teaching hospital of the Faculty of Medicine Siriraj Hospital, Mahidol University.

1957, Nonthaburi Hospital was opened.
1989 , the hospital was renamed to Phar Nang Klao Hospital in commemoration of King Nangklao (Rama Ⅲ).
～Wikipedia

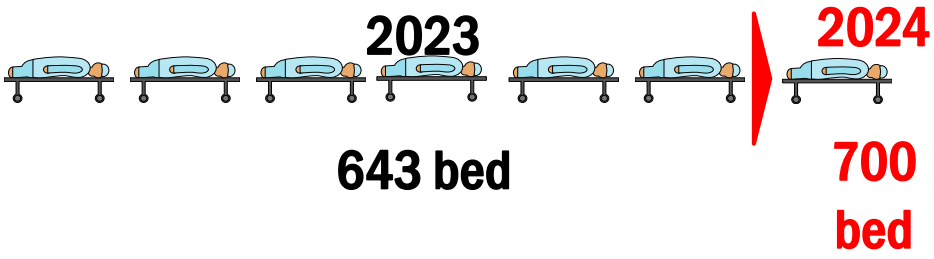
CN Diagnosis Building
Name of the Building : Maruda reimu Building 3
No. of stories : 5stories above the ground & basement
Total floor area : 6,000m2
Usage of building : hospital

6. CN Diagnosis in 2023 - 2024

6.2 CN Diagnosis for Building in Thailand

Average number of patient per day

	2022	2023
In Patient Department	589	619
Out Patient Department	2,423	2,613
Emergency	154	162



CN Diagnosis Building
Name of the Building : Maruda reimu Building 3
No. of stories : 5stories & Basement
Total floor area : 6,000m2
Usage of building : hospital

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6. CN Diagnosis in 2023 - 2024
6.2 CN Diagnosis for Building in Thailand

Considerations for Energy Conservation

- Introduction of capacity control of chiller system pumps
- Improvement of ventilation in air compressor house
- Introduction of outside air cooling at night
- Introduction of outdoor air intake control by CO2 concentration
- Improvement of elevator motor
- Optimization of transformer capacity

7. CN Diagnosis Schedule in FY2023 - FY2025

<table>
<tr><th></th><th>July</th><th>Aug.</th><th colspan="2">Sept.</th><th>Oct.</th><th>Nov.</th><th>Dec.</th><th>Jan.</th><th>Feb.</th><th>March</th></tr>
<tr><td>2023
-
2024</td><td>Inception Meeting</td><td>Online seminar for CN Diagnosis</td><td colspan="3">Diagnosis
A:Malaysia
B:Thailand
Japanese expert dispatch</td><td>ECAP for Industry</td><td>ECAP for Building
AJEEP Online Seminar for Transportation sector</td><td></td><td>Online Interim Meeting of A & B</td><td>Post Meeting</td></tr>
<tr><td>2024
-
2025</td><td>Inception Meeting</td><td>Online seminar for CN Diagnosis
Start up Meeting of A & B with Japanese expert Dispatch</td><td colspan="3">Diagnosis of
C & D
Japanese expert dispatch</td><td>ECAP for Industry</td><td>ECAP for Building
AJEEP Online Seminar for Transportation sector</td><td></td><td>Online Interim Meeting of C & D</td><td>Post Meeting</td></tr>
<tr><td>2025
-
2026</td><td>Inception Meeting</td><td>Online seminar for CN Diagnosis
Start up Meeting of C & D with Japanese expert dispatch</td><td colspan="3">Diagnosis of
E & F
Japanese expert dispatch</td><td>ECAP for Industry</td><td>ECAP for Building
AJEEP Online Seminar for Transportation sector</td><td></td><td>Interim Meeting & Start up Meeting of E&F with Japanese expert Dispatch</td><td>Post Meeting</td></tr>
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8. CN Diagnosis candidate company
List of Factory/Building Candidates for CN Diagnosis

AMS	Factory	Building	Status
Lao PDR	Lao Coca-Cola	Amari Hotel	Nominated by FP
	Toyo Pipe Industry	Lao Telecom Office	
	5 other factories	Unitel Lao Head Office	
Indonesia	Uni-charm Indonesia		Suggested by ECCJ & JETRO
Malaysia	Nitto Denko Materials		Nominated by FP
	Micro Steel		
Myanmar	Shwe Taung Cement Co. Ltd.		Nominated by FP
Singapore	Asahi Kasei Plastics Singapore		Nominated by FP
Thailand	IHI Turbo Co. Ltd.	Phra Nang Kloa Public Hospital	Nominated by FP

Yellow part : Finished in 2023-2024

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9. Conclusion

1. The AJEEP Scheme 4 & 5, “Promotion of advanced technologies for energy use toward Carbon Neutrality” , started in 2022.

2. The goal of the new scheme of AJEEP Program is the capacity building for the Carbon Neutrality Project promotion through the establishment of the ASEAN Energy Management Certification System by the scheme 4 and the Carbon Neutrality Diagnosis of the actual factory/building by the scheme 5.

3. CN Diagnosis in 2023 – 2024 was done the following two sites;
   - NITTO DENKO Materials (Malaysia) for Factory
   - Phra Nang Klao Public Hospital (Thailand) for Building

4. Twelve (12) factories and three (3) buildings are nominated for the candidate of the next year CN Diagnosis at this moment. The CN diagnosis company will be determined at the Post Meeting next March.

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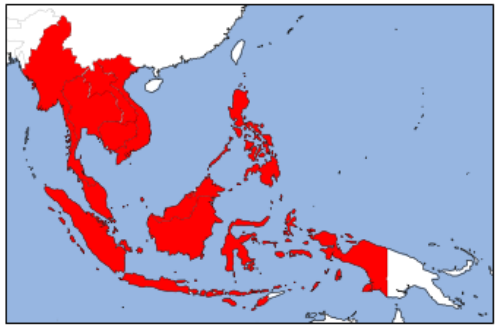
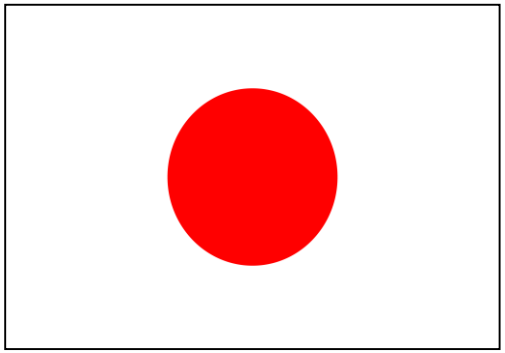
Thank you for your kind attention





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