

Electrical Safety Cooperation

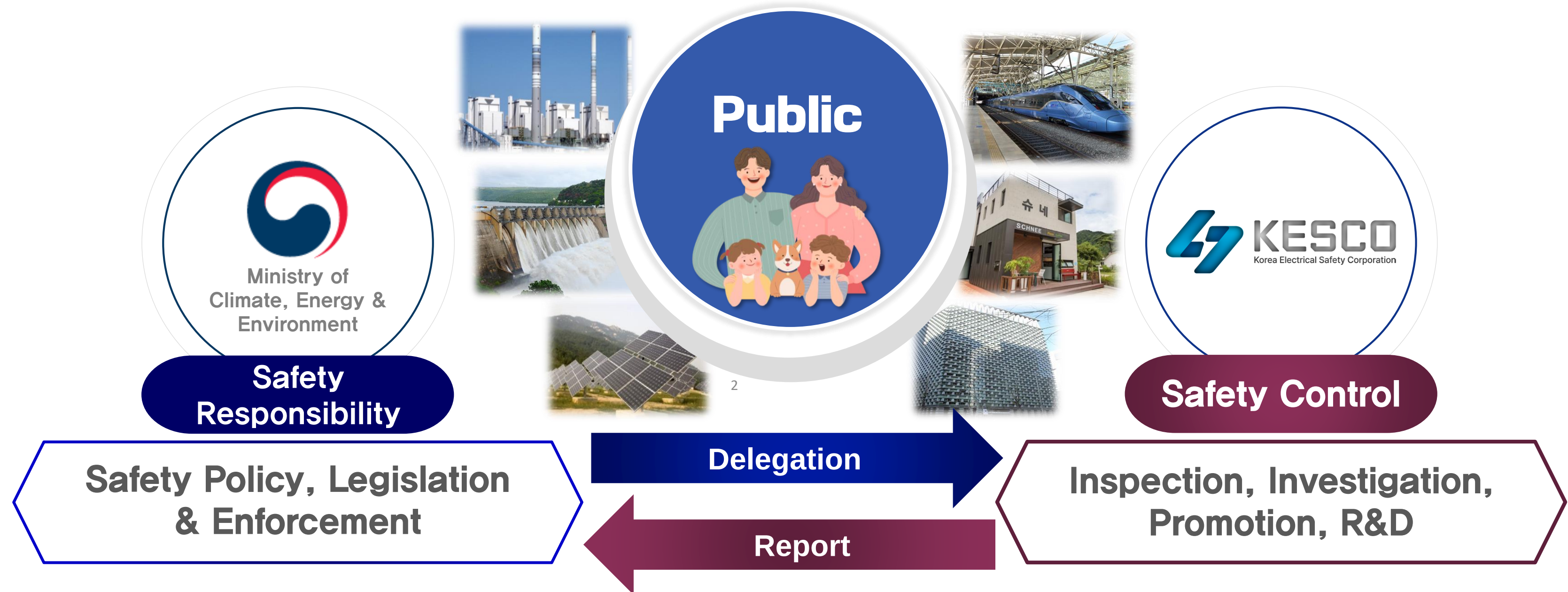
Republic of KOREA & ASEAN

OCT. 2025



Electrical Safety in Korea

Electrical Safety in Korea



MOCEE & KESCO is **Protecting People & Properties from Electrical Disasters**

Electrical Safety Cooperation Korea - ASEAN

Promotion Action



Building the Safe ASEAN Community from Electrical Disasters

Projects for Electrical Safety Cooperation

Prime Objectives & Contents

1. OBJECTIVE

1. Raising Awareness of Electrical Safety
2. Establishing the Electrical Safety Management System
3. Forming the Cooperation Network to Improve Electrical Safety



2. CONTENTS

1. Capacity Building for ASEAN Officials in field of Electrical Safety
2. Knowledge Sharing & Demonstrating the Digital-Inspection
3. International Co-R&D with ASEAN Partners & Institutes

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Capacity Building

(2024) Capacity Building for Electrical Safety of R.E Facilities

- “Invitation Program” for 13 ASEAN Officials from 8 Countries & ASEAN Centre for Energy (July, '24)

Invitation

- **Lecture**
 - Electrical Safety Mgmt. Policy
 - Electrical Safety Infrastructure
- **Excursion**
 - Electrical Safety Infrastructure
 - Local Hydrogen Fuel-Cell Factory



Raising Awareness of Electrical Safety by Capacity Building Program

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Capacity Building

(2024) Capacity Building for Electrical Safety of R.E Facilities

- “On–Site Consultation” in Indonesia and Cambodia (Dec, '24)



On–site Consultation

- **Workshop**
 - Best Practices for Safety Mgmt.
 - Q&A and Discussion
- **On-Site Consultation**
 - Diagnosing R.E Facilities
 - Providing and Sharing Knowhow

Suggesting the Best Practices to Manage Electrical Facilities Safely

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Knowledge Sharing

(2025) Demonstrating “On-line Inspection System”

- Demonstrating “Online Inspection” for High Voltage Substations in Sabah, Malaysia
 - Collaborating with KESCO, Hyosung Heavy Industry(Korea), Sabah Electricity(Malaysia)



- Digital Inspection in Korean Standards
- Providing Best Practices and Policies



- Implementing Digital Censors & Platform
- Finding Faults and Suggesting Solutions



Collaborating with Public – Civil and Local Partners to Build the Digital Mgmt. System

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Knowledge Sharing

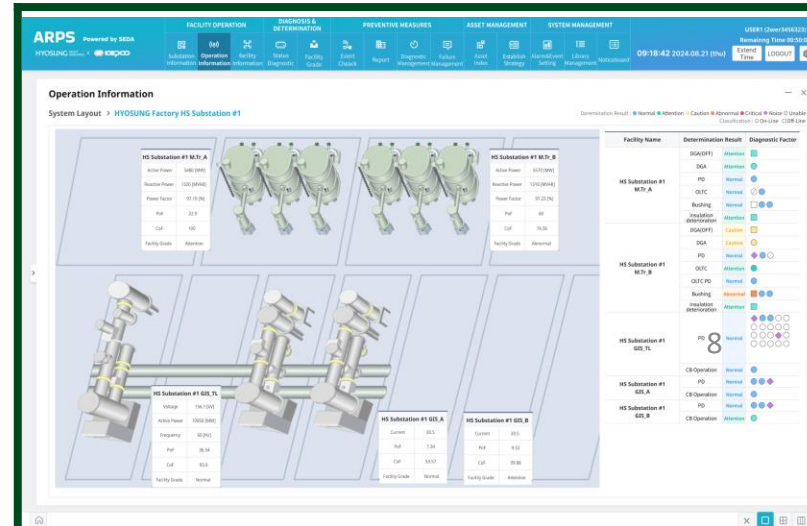
(2025) Demonstrating “On-line Inspection System”

Introduction (Feb)



- Introducing the Concepts & Contents of Project
- Pre-Site Survey

Implementation (Jul)



- Setting Digital Censors and Platform in Substations
- Analyzing & Inspection

Invitation (Sep)



- Electrical Safety Infra & Factories in Korea

Final Report (Sep.29)



- Inspection Evaluation
- Project Report

Win-Win Practice in Electrical Safety Management by Digital Transition

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International Co-R&D

(2025) BESS Safety Workshop

- “International Workshop for BESS* Safety” between KESCO Research Institute and BRIN – Sharing Research Results and BESS Industry Information of Korea and Indonesia

* BESS : Battery Energy Storage System



Need for International Co-Work to Develop New Technologies with ASEAN

Projects for Electrical Safety Cooperation

Policy Brief

(2025) Policy Brief

- ASEAN is facing More Various Electrical Disasters than before, As there are More...

① Residential Facilities

② Factories & Large-Scale Venue

③ Renewable Energy (PV, ESS...)

④ EV Charging Installations



The Electrical Safety in ASEAN is becoming **More Important**

Projects for Electrical Safety Cooperation

Policy Brief

(2025) Policy Brief

- More Needs to Resolve – Investigate – Promote **“Electrical Safety with Professionality”**

Other Related Agencies	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Certification and Inspection	ESCOM DES SHENA	ISC MME EDC	BSN PLN	MOST EDL	MITI TNB sarawak energy	DRI (MOST) DISI	dti BUREAU OF PHILIPPINE STANDARDS NPC	Enterprise Singapore SPgroup	TISI PEA EGAT MEA DEDE	MOST EVN
Disaster Management	NDMC SHENA	NCDD	BNPB	NDMO	NADMA BOMBA	MFSD	BFP	SCDF	DDPM	VDMA
Research and Development	BRC	MISTI	BRIN	MOST	SIRIM	DRI (MOST)	IIEE	IES	TISI MOI EEI	MOST

Fragmented Structure Often Leads to **Insufficient Attention to Electrical Safety**

Projects for Electrical Safety Cooperation

Policy Brief

(2025) Policy Brief

- To Address the GAP between ASEAN member states,
 - KESCO – ASEAN Centre for Energy jointly Published Policy Brief Report('25.7)

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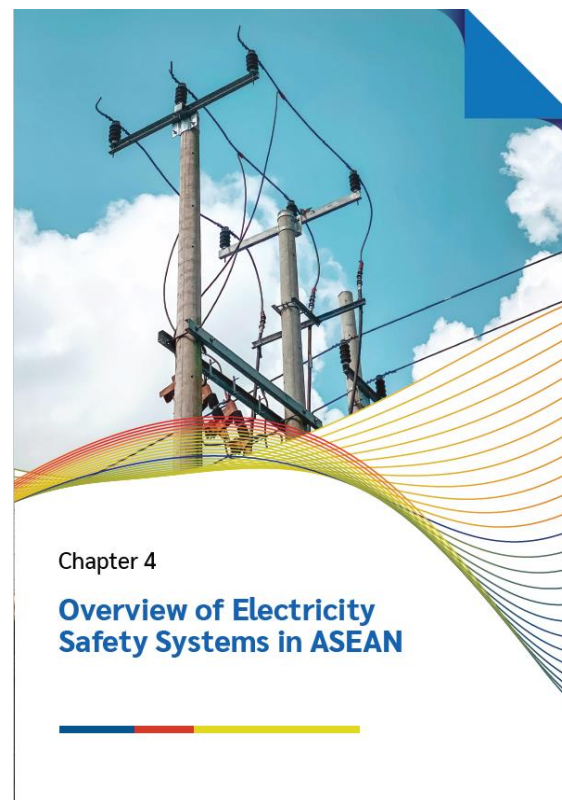
- Electrical Safety System in Korea
- Inspection & Diagnosis on NRE facilities
- Overview of Electrical Safety System in ASEAN
- Addressing Gaps in ASEAN's Electrical Safety



New and Renewable Energy Safety Management Laws and Technical Standards in the Republic of Korea and ASEAN

Part of Capacity Building in Electrical Safety Management for New and Renewable Energy Facilities (Solar, Wind, ESS, etc.) in ASEAN Region

Implemented by
Korea Electrical Safety Cooperation (KESCO)
and ASEAN Centre for Energy (ACE)
Supported by AKFTA



Economic growth across the region is a fundamental driver of increasing energy demand, necessitating diverse supply options including renewables. Enhancing national and regional energy security by diversifying energy sources and reducing reliance on volatile global fossil fuel markets remains a primary motivator. Regional cooperation frameworks, like APAEC and broader ASEAN Economic Community integration goals provide platforms for coordinated action and knowledge sharing. Facilitating technology transfer and developing a skilled workforce are recognised as vital for building and maintaining modern and safe RE infrastructure.

Grid infrastructure quality and stability differ dramatically across ASEAN. Some nations boast modern, highly reliable networks. In contrast, others and particularly archipelagic states, or less developed areas, contend with challenges like ageing infrastructure, limited connectivity, high transmission losses, and grid instability (voltage/frequency fluctuations). Integrating large shares of VRE like solar and wind into grids, especially those less robust or originally designed for predictable fossil fuel generation, introduces significant technical complexities and may heighten electrical safety risks [3].

New and Renewable Energy Safety Management Laws and Technical Standards in the Republic of Korea and ASEAN

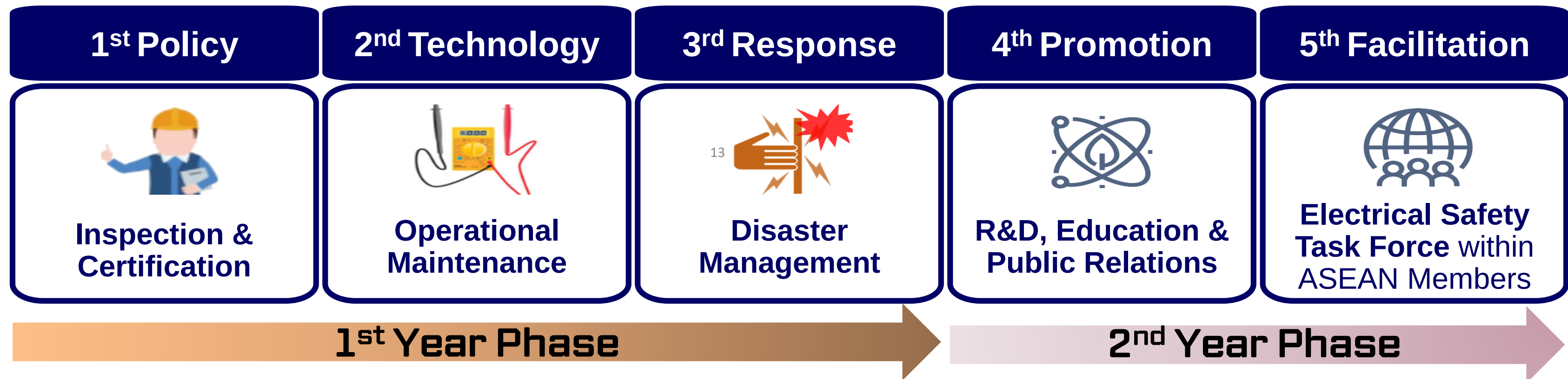
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Providing Policy Solution to Enhance Electrical Safety Management

Future Cooperation

Addressing Gaps in Electrical Safety Mgmt. System

- To Address Gaps in Electrical Safety Mgmt. in ASEAN Members,
 - Establishing **Systemic & Specialized WGs on Electrical Safety for ASEAN('26~)**



Korea – ASEAN will Approach Together **Systematically and Comprehensively**

Please Take QR code

Reports from KESCO



Please USE AI(Chat GPT, Gemini, Perplexity or etc.) to Translate into your language

Thank You