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## **First Announcement**

### **24th IERE General Meeting and PLN Indonesia Forum**

#### **Distributed Power Generation for Increasing Renewable Energy Penetration**

#### **In-Person Event**



Pura Ulun Danu Bratan, Bedugul, Bali, Indonesia

Bali, Indonesia  
November 19–22, 2024

Organized by IERE and PLN

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## Message from IERE Chair

I invite you all to the 24th IERE General Meeting and PLN Indonesia Forum which will take place from November 19 to 22, 2024 in Bali, Indonesia. This event is Co-hosted by PLN, and the theme is “Distributed Power Generation for Increasing Renewable Energy Penetration.”

Considering the worldwide temperature rise in recent years, it is crucial to accelerate our efforts to achieve the carbon neutral energy transition. The most important measure in electric power sector is to utilize renewable energy as much as possible. However, renewable energy generation has quite different characteristics compared to the conventional sources, such as intermittent power generation, connection to the grid through inverters, and decentralization into many small locations. With the rapid increase in renewable energy generation, we are facing difficulties in controlling the grid. Voltage control comes to be difficult especially in local grid. Frequency and stability control would be difficult by the lack of inertia as conventional synchronous generators decrease.

Much research and development are underway worldwide to solve these problems, and various measures have been proposed. Some of these measures are demonstrated through smart city and the smart grid projects. However, we still have many issues to resolve, not only from technical perspectives but also from economic and environmental viewpoints. In this forum, various aspects of distributed power generation will be discussed, including the technology of distributed power generation, micro smart grids, the impact on conventional energy, regulation, and financing. We will also have panel discussions featuring selected experts in the field.

The situation differs from country to country and there would be various methods and strategies to solve these problems. This is why exchanging information and insights, and cooperation among experts across the world is important. In this forum, we aim to foster discussion among attendees and provide various opportunities to discuss each other. Please attend the forum and join this worldwide discussion.

Along with the forum, you can join the 24th IERE General Meeting. Recent activities and the research projects of IERE will be presented. IERE is a unique global platform to exchange technical expertise and know-how in the electric power sector. I hope the general meeting will be a good opportunity to know IERE and encourage your participation in future activities.

Indonesia is a rapidly growing country. Stable supply of electricity to increasing demand is inevitable as well as to reduce greenhouse gas emission. Consequently, many renewable distributed generations are rapidly being installed and connected to the grid. PLN, the co-host of this event, is aggressively pursuing innovations to address this situation. Thus, Indonesia is an excellent place to hold this event. In Bali, we can enjoy beautiful nature and a relaxing atmosphere, making it a great place for frank discussions on various issues. I firmly believe that this event will be fruitful for all of you and will help promote further utilization of distributed power generations.

Finally, I would like to express my deepest gratitude and appreciation to PLN for co-hosting and organizing this IERE General Meeting and PLN Indonesia Forum.

I am looking forward to meeting and discussing with you in Bali, Indonesia.

**MINO Yoshiaki**  
**IERE Chair**  
**CRIEPI, Japan**



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## Message from PT PLN (Persero)

On behalf of PT PLN (Persero), the co-host of the 24th IERE General Meeting and PLN Indonesia Forum, it is our pleasure to welcome you to this prestigious international meeting in Bali, Indonesia.

As an archipelago country, Indonesia faces unique challenges in providing energy to all citizens. We continuously ensure that the electricity produced can be fulfilled not only in terms of quantity but also in terms of quality. Renewable Energy is one of the key solutions that PLN is utilizing to achieve Net Zero Emission targets and to supply electricity across Indonesia. However, with the utilization of renewable energy, PLN shall also consider the challenges from technology, storage, and intermittent that arise together with them.

We hope that this meeting, themed “Distributed Power Generation for Increasing Renewable Energy Penetration,” will provide valuable insights and great lessons learned from the expertise in overcoming these challenges.

Bali, the location for this event, is known as the Island of Gods and is one of Indonesia's most famous islands, celebrated for its extraordinary culture and natural beauty. I hope this will inspire insightful discussions on the latest research and developments in the field of renewable energy.

**Zainal ARIFIN**  
**Executive Vice President of Renewable Energy**  
**PT PLN (Persero), Indonesia**



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## **Distributed Power Generation for Increasing Renewable Energy Penetration**

### **About the Theme**

The theme "Distributed Power Generation for Increasing Renewable Energy Penetration" addresses the strategy and technology used to enhance the global penetration of renewable energy in the energy supply. Distributed power generation is an approach where energy production is decentralized into many small locations, contrasting with the conventional model where energy is generated from large scale centralized and distributed through transmission line.

The background of this theme encompasses the rapid growth in the utilization of renewable energy sources such as solar, wind, and hydro over the past few decades. The penetration of renewable energy offers significant benefits in reducing greenhouse gas emissions and dependence on conventional fossil fuels. However, a key challenge in adopting renewable energy is the variability and unpredictability of renewable energy source and impact the stability of the power grid.

In this context, the concept of distributed power generation becomes crucial. It involves harnessing renewable technologies at a local level, such as rooftop solar panels, small-scale wind turbines, or micro-hydro power plants. This approach not only helps reduce vulnerability to disruptions in energy supply but also enables better integration of renewable energy sources into existing energy grids.

Recent data indicates a significant increase in investment and implementation of distributed power generation technologies worldwide. According to the latest reports from the International Energy Agency (IEA) 2021, the capacity of distributed renewable energy has substantially increased in recent years, with countries like Germany, the United States, and China leading in the adoption of these technologies. Furthermore, advancements in energy storage and smart grid technologies are further enhancing the efficiency and flexibility of distributed energy systems.

### **Who Should Attend?**

The Forum is intended for experts involved in the selected themes, from IERE members and non-members, as well as all those interested in the electrical power industry and the technology development and business development opportunities associated to this evolution. IERE and PLN will invite prominent speakers for keynote speeches.

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## Schedule Outline

Tuesday,	November 19, 2024	Registration and Welcome Reception (in the evening)
Wednesday,	November 20, 2024	24th IERE GM and PLN Indonesia Forum (Day 1) Official Dinner and Culture Night
Thursday,	November 21, 2024	24th IERE GM and PLN Indonesia Forum (Day 2)
Friday,	November 22, 2024	Technical Tour (Optional)

## Program and Session Themes

Session structure and speakers may be subject to change based on the contributions submitted.

### Opening Session

Opening Address:	MINO Yoshiaki (IERE Chair)
Welcome Speech:	Zainal ARIFIN (Executive Vice President of Renewable Energy, PT PLN)
Keynote Speeches:	OGIMOTO Kazuhiko (Project Professor, Tokyo University, Japan) Iwa GARNIWA (Rector, Institut Teknologi PLN (ITPLN)) Zainal ARIFIN (Executive Vice President of Renewable Energy, PT PLN)

### IERE General Meeting

Report on IERE Activities and IERE R&D Collaboration Projects by IERE Chair and IERE Central Office

### Special Lecture

**Systemic Moments for Electricity Utilities - Building Adaptive Skills in a Complex World**  
Gregory TOSEN  
(IERE Advising Chair Emeritus, South Africa)

### Technical Session 1: Distributed Power Generation Technology

It focuses on the advancements, applications, and implications of technologies enabling decentralized energy production. It explores various distributed power generation

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technologies, their integration into existing energy systems, and their impact on energy access, sustainability, and resilience.

Potential topics include:

- Renewable Energy Technologies
- Energy Storage Solutions (e.g., type/technology, design, capacity calculation, etc.)
- Distributed Generation Control and Optimization
- Remote Monitoring and Maintenance
- Emerging Technologies and Future Trends
- Planning and Forecasting for Renewable Energy Power Generation
- .....

### **Technical Session 2: Integrated Micro Smart Grid**

Integrated micro smart grids combine renewable energy sources, energy storage systems, advanced communication and control technologies, and demand-side management to optimize energy generation, distribution, and consumption.

Potential topics include:

- Design and Optimization of Integrated Micro Smart Grids
- Communication and Control Systems
- Cybersecurity Challenges and Solutions
- Energy Management and Optimization
- Grid-Connected and Islanded Operation
- Resilience and Reliability Enhancement
- Advance Meter Infrastructure
- Demand Side Management Using Advance Meter Infrastructure
- Energy Meter Calculation Algorithm with Regard of Power Quality Phenomena (i.e., harmonic, unbalance, etc.)
- AC/DC Microgrid
- Design and Strategy of Protection System Coordination
- ....

### **Technical Session 3: Regulating and Financing Distributed Power Generation**

These topics offer insights into the regulatory and financial aspects of distributed power generation, highlighting the need for effective policy frameworks, market mechanisms, and financing instruments to accelerate the transition to a more decentralized and sustainable energy system.

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Potential topics include:

- Policy and Regulatory Frameworks for Distributed Generation
- Market Structures and Incentive Mechanisms
- Financing Models and Investment Opportunities
- Risk Assessment and Mitigation Strategies
- Community-Based and Cooperative Models
- Policy Innovation and Best Practices
- ....

#### **Technical Session 4: Impact of Distributed Power Generation Toward Conventional Energy**

These topics provide a comprehensive overview of the multifaceted impacts of distributed power generation on conventional energy, highlighting both the challenges and opportunities for transitioning to a more sustainable and resilient energy future

Potential topics include:

- Economic Implications and Market Disruption
- Technological Integration Challenges
- Environmental Benefits and Carbon Emissions Reduction
- Social and Equity Considerations
- Transition Strategies and Energy Transition Pathways
- Resilience and Reliability Enhancement
- Best Practices
- ...

#### **Technical Session 5: Hybrid Distributed Power Generation in Rural Area**

It focuses on the implementation of integrated energy solutions combining multiple distributed power generation technologies to meet the energy needs of rural communities. It explores the challenges and opportunities in deploying hybrid systems that leverage various renewable energy sources and energy storage technologies to improve energy access, reliability, and sustainability in rural areas.

Potential topics include:

- Design and Optimization of Hybrid Energy Systems
- Energy Storage Solutions for Rural Applications
- Economic Viability and Financing Models
- Case Studies and Best Practices
- Utilization of Retired Conventional Power Generation



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- Virtual Inertia Technology Evaluation of Hybrid Generation....

## **Technical Session 6: PLN Innovation**

It covers Innovation Technology conducted in PT PLN (Persero)

Potential topics include:

- Distributed Energy Resources
- Green Energy and Power System
- Energy Management Systems, Intelligent Control
- Asset Maintenance Tool
- Operation and Planning of Microgrids (DC, AC, and hybrid)
- Remote Monitoring and Operation
- .....

## **Panel Discussion 1**

**Theme: Leveraging Distributed Power Generation to Ensure a Cleaner, Futuristic and Secured Energy Supply**

Details to be announced

## **Panel Discussion 2**

**Theme: Smarter, Digitalised and Optimised Distributed Power Generation**

Details to be announced

## **Special Session**

Details to be announced

## **Exhibition**

Details to be announced

## **Closing Remarks**

Details to be announced

## **Technical Tour (Optional)**

Solar Power Plant in Nusa Penida (Tentative)

Details to be announced



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## Program (subject to change)

### **November 19, 2024**

18:30–19:00	Registration
19:00–21:00	Welcome Reception

### **November 20, 2024**

#### **24th IERE General Meeting and PLN Indonesia Forum (Day 1)**

08:00–08:30	Registration
08:30–10:00	Opening Session (including Keynote Speeches)
10:10–11:10	Panel Discussion 1
11:10–12:50	Technical Session: Session 1
12:50–14:00	Lunch, Poster Session and Exhibition
14:00–15:40	Technical Session: Session 2
15:50–17:30	Technical Session: Session 3
17:30–18:30	Poster Session and Exhibition
19:00–21:00	Official Dinner and Social Event (Culture Night)

### **November 21, 2024**

#### **24th IERE General Meeting and PLN Indonesia Forum (Day 2)**

08:30–09:30	IERE General Meeting
10:00–11:40	Technical Session: Session 4
11:40–13:00	Lunch, Poster Session and Exhibition
13:00–14:40	Technical Session: Session 5
14:50–16:30	Technical Session: Session 6
16:30–17:30	Panel Discussion 2
17:30–17:40	Closing Remarks

### **November 22, 2024**

#### **Technical Tour (Optional)**

Solar Power Plant in Nusa Penida (Tentative)

Around 09:00	Departure at Sofitel Bali Nusa Dua Beach Resort
Around 16:00	Return to Sofitel Bali Nusa Dua Beach Resort

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## Call for Presentations

~~<<Abstract Submission: No later than September 8, 2024>>~~

**<<Abstract and Speaker's Information Submission Deadline Extended to October 25, 2024>>**

You are kindly invited to submit abstracts for the Oral Session or Poster Session for the PLN Indonesia Forum by e-mail. In addition, please submit the Speaker's Information.

to: **register (at) iere.jp** [Please substitute “ (at) ” with “@”]

As for the **format of the abstract**, please refer to “Events” page on IERE website.

<https://www.iere.jp/events/forum/2024-indonesia/forspeakers.html>

- There is a possibility we ask you to change from Oral Session to Poster Session in accordance with the number of submission of abstracts.
- Abstract will be posted the IERE website and open to the public.
- The official language of the IERE Forum is English.
- If you need the invitation letter for VISA, please submit “[Invitation Letter for VISA Request Form \(Format 2\)](#)” as well.

**<< Presentation Slides Submission: No later than November 11, 2024>>**

You are kindly requested to submit presentation slides (PowerPoint) via E-mail.

- Presentation file will be uploaded to IERE website and opened to all participants before the Forum.
- The official language of the IERE Forum is English.

You are also kindly requested to submit Copyright Permission via E-mail by **November 11, 2024**.

## Call for Exhibition

The conference will also include an exhibition, providing exhibitors with the opportunity to showcase their companies and products.

Exhibitors are required to pay both the exhibition fee and the registration fee for a minimum of two participants.

To apply, please contact the IERE Central Office at **register(at)iere.jp** [Please replace (at) with @] by **October 31, 2024**.

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## Registration

**Deadline: November 11, 2024**

(a) On-line Registration (Google Forms)

URL: <https://forms.gle/fGeP7NcMcFEPqcNj8>

or

(b) Please submit a registration form (Format 1, Page 12) to IERE Central Office by e-mail.

## Registration Fee

Please make payment of the following fee **No later than November 11, 2024** by credit card payment or bank transfer.

The Registration fee will cover attendance at both conference days on November 20–21 (including lunches & refreshments at coffee breaks), welcome reception on November 19 and official dinner and social event (culture night) on November 20:

**IERE Members: USD 1,000**

**Non-IERE Members: USD 1,500**

**Academic Participants: USD 1,000**

### Recommended Options

**Technical Tour (Optional) November 22 a.m.: USD 100**

Solar Power Plant in Nusa Penida

\* The maximum number of participants is 40.

\*\* This offer is on a first-come-first-served basis.

When participation is cancelled irrespective of the reason, after October 31, 2024, Registration Fee might be charged or not be reimbursed.

Accommodation and travel costs will be borne by the participants.

## Accompanying Person

If your family accompanies you on reception/dinner, following fees are requested.

**Welcome Reception on November 19: USD 70**

**Official Dinner on November 20: USD 150**

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## Payment

On-Line Credit Card Payment and Bank Transfer are available.

**Deadline: November 11, 2024**

### (a) On-Line Credit Card Payment

If you prefer using your credit card for the payment of registration fee, please go to the following website (USD only);

URL: [https://www.iere.jp/Payment/paypal\\_24GM.html](https://www.iere.jp/Payment/paypal_24GM.html)

### (b) Bank Transfer\*

Name of the Bank:	MUFG Bank, Ltd.
Name of the Branch:	Seijo branch
Name of the account:	IERE
Account Number:	0068198
Bank address:	15-1 Seijo 6-chome, Setagaya-ku, Tokyo, 157-0066 JAPAN
SWIFT code:	B O T K J P J T

\* Remittance charge, Lifting charge, Correspondent charge and other charges should be paid by participants.

## VISA

For participants from countries needing a VISA to enter Indonesia, please check the below or consult with travel agent in your country for the details.

URL: <https://evisa.imigrasi.go.id/>

If you need an Invitation Letter\*, please send 'Invitation Letter for VISA Request Form' to IERE Central Office via E-mail by **October 25, 2024**.

- \* PLN is able to issue an invitation letter for participants who need to apply for Visa. It may take a few days to complete the procedures in PLN, so please submit the form to IERE Central Office as soon as possible.
- \* Disclaimer: PLN reserves the right to fulfil or decline, at PLN's discretion, requests for letters of invitation for visa application support purpose.

## Submission Items & Deadlines

### For Participants **[including Technical Session Speakers and Exhibitors]**

Items	Format No.	Deadline	To:
Registration Form	1	November 11, 2024	On-Line registration or <a href="mailto:register(at)iere.jp">register(at)iere.jp</a> [Please replace (at) with @]
Invitation Letter for VISA Request Form (If necessary)	2	October 25, 2024 (It takes a few days to issue)	<a href="mailto:register(at)iere.jp">register(at)iere.jp</a> [Please replace (at) with @]
Registration Fee	—	November 11, 2024	Please refer to Page 10-11.
Technical Tour Fee [Optional]	—	November 11, 2024	Ditto

The format No.1 is not required for On-line Registration.

The formats (No.1 and 2) can be downloaded from IERE website.

URL: <https://www.iere.jp/events/forum/2024-indonesia/register.html>

### For Speakers

Items	Format No.	Deadline	To:
Abstract	3	October 25, 2024	<a href="mailto:register(at)iere.jp">register(at)iere.jp</a> [Please replace (at) with @]
Speaker's Information	4	October 25, 2024	
Copyright Permission	5	November 11, 2024	
Presentation Slides (PowerPoint File)	—	November 11, 2024	

The formats (No.3 to 5) can be downloaded from

URL: <https://www.iere.jp/events/forum/2024-indonesia/forspeakers.html>

Speakers are kindly requested to submit their Abstract and Speaker's Information **by October 25, 2024.**

Also, Speakers are kindly requested to submit their Copyright Permission and their Presentation Slides (PowerPoint file) **by November 11, 2024.**



## Conference Venue & Accommodations

### Conference Venue

Sofitel Bali Nusa Dua Beach Resort, Bali, Indonesia

Location: Lot N5, ITDC Tourism Complex, Nusa Dua, Badung, Bali, 80363 NUSA DUA, INDONESIA

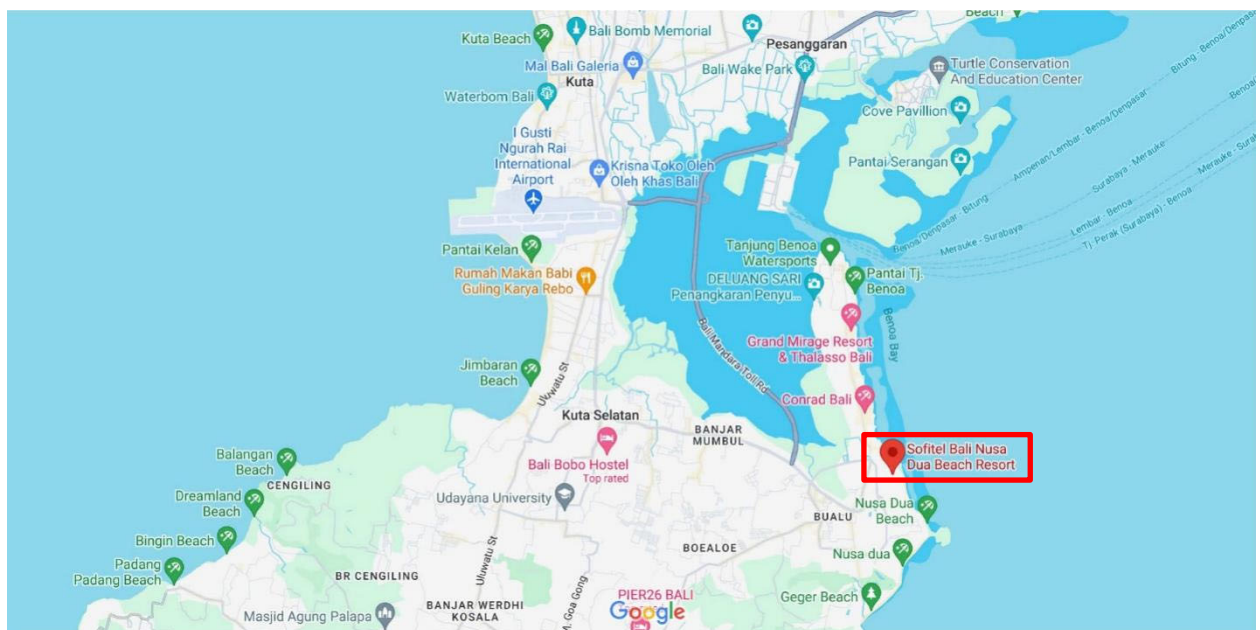
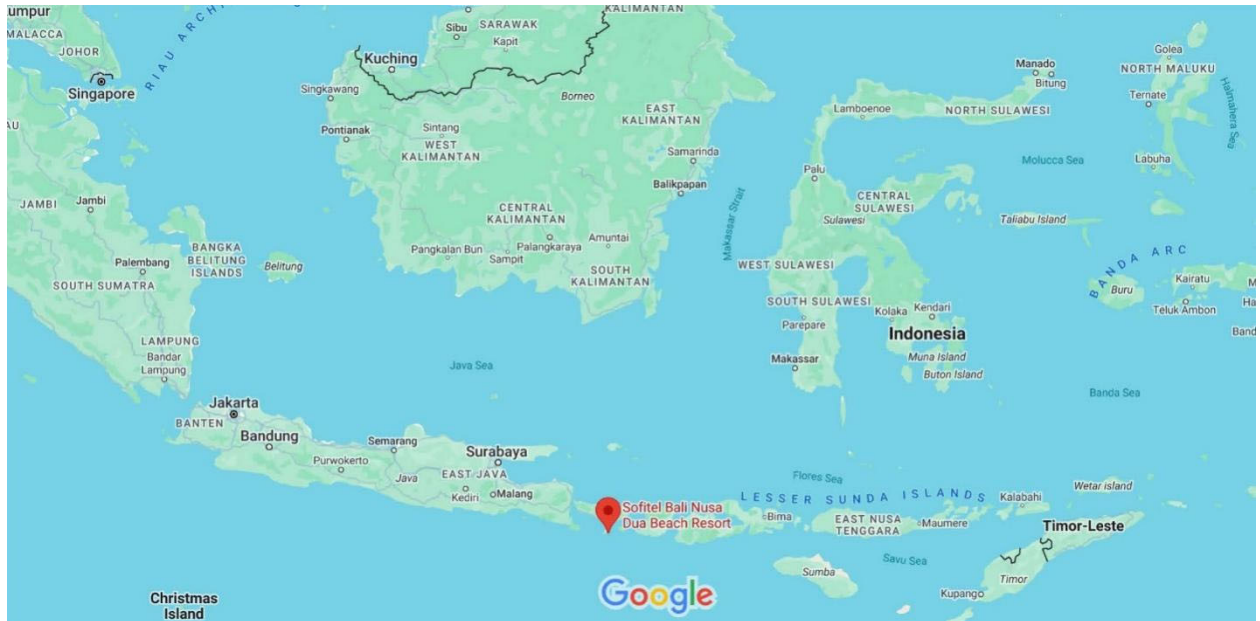
Website: <https://sofitelbalinusadua.com>





## Location of the Sofitel Bali Nusa Dua Beach Resort

<https://maps.app.goo.gl/GNEZSu1RjTndAdqu5>





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## Accommodations

Sofitel Bali Nusa Dua Beach Resort, Bali, Indonesia

Location: Lot N5, ITDC Tourism Complex, Nusa Dua, Badung, Bali, 80363 NUSA DUA, INDONESIA

Website: <https://sofitelbalinusadua.com>

NOTE: **There are no special accommodation rates arranged with the venue hotel for conference participants.** We kindly ask participants to book their accommodation using the method that best suits their needs, whether through the hotel's official website, a travel agency, or an online booking platform.



## IERE Members List (as of August 1, 2024)

Australia	CSIRO		
Canada	Hydro-Québec	Powertech Labs	
China	CEPRI	GPG	NARI
Czech	CEZ		
Finland	Vaisala		
France	Enedis	ENGIE	
Germany	E.ON	EnBW	RWE TI
Hong Kong SAR	CLP		
Indonesia	PLN		
Israel	IEC		
Japan	Chubu EPCO	Chugoku EPCO	CRIEPI
	FEPC	Fuji Electric	Hitachi
	Hokkaido EPCO	Hokuriku EPCO	IHI
	J-POWER	JAPC	Kansai EPCO
	Kyushu EPCO	MHI	Mitsubishi Electric
	NGK	Sumitomo Electric	Shikoku EPCO
	Tohoku EPCO	TEPCO	TOSHIBA
Malaysia	TNB		
Mexico	INEEL	Prolec GE	
Netherlands	TenneT		
Norway	SINTEF		
Pakistan	Karachi Electric		
Philippines	APC	MERALCO	
Singapore	SPPA		
South Africa	Eskom	PIESA	
South Korea	Hyundai Electric	KEPCO	KERI
	KOMIPO	KOWEPO	LS Electric
Spain	NATURGY		
Taiwan	TPC		
US	EPRI	SwRI	

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## About PLN

PT PLN (Persero) is a state owned company (BUMN) in generating, transmitting and distributing electricity in Indonesia. PT PLN (Persero) provides most of the public electricity and electricity infrastructure in Indonesia including power generation, transmission, distribution, construction of power plants and retail sales of electricity.

As a company with a strategic role in the Indonesian electricity industry, PT PLN (Persero) is committed to encouraging the energy transition process towards achieving the net zero emission target in 2060. Along with that, at the end of 2022, PT PLN (Persero) has completed the establishment of Holding and Sub-Holding as a joint effort to optimize all of its potential, by transforming into a lean, agile, and efficient company. PT PLN (Persero) also owns and operates 6,928 electricity generating plant and controls approximately 68,206 ckm of transmission lines which increased by 5.24% from previous year. For distribution lines, PT PLN (Persero) controls approximately 1,033,662 ckm of distribution lines, sale of electricity reach 273.76 TWh and serves approximately 84.8 million customers throughout the archipelago.

Please visit : <https://web.pln.co.id/>

## About IERE

IERE is an organization for exchanging electricity and energy related cutting-edge technologies and R&D information among its members from the electricity & energy supply industry, equipment provider businesses, academic research, government, etc. This unique platform is of great help for executives, senior managers, engineers, and researchers who are responsible for R&D and solutions. It is a worldwide, non-profit organization, established as “International Electric Research Exchange” in 1968.

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<https://www.iere.jp>

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