

The 23rd Annual Power Symposium 2025

Grid-Interactive Building: New Opportunities in the Era of Artificial Intelligence Towards Carbon Neutrality

5th Sep 2025

Cordis Hotel,
Hong Kong



Past Symposiums

No	Year	Symposium Theme	Chairman	Area
1 st	2001	Traction Development in Hong Kong	David TW Chan	N/A
2 nd	2002	Modern Building Electrical Systems Status Quo & Issues	Thomas KC Chan	Building
<i>2003 Symposium cancelled due to the outbreak of SARS</i>				
3 rd	2004	Power Supply Network in the Digital Era	TK Chiang	Power
4 th	2005	Green Energy & Utilisation – Reality or Idealism	KK Li	Energy
5 th	2006	Conquering the Height – Challenge to Electrical Technology in Skyscrapers	Albert To	Building
6 th	2007	The Ever-Changing Electricity Market – Challenges from Generation through Delivery to Utilisation	SK Ho	Power
7 th	2008	Engineering A World Class City – The Role of Leading Edge Technology	Norman Tse	Power
8 th	2009	Hong Kong in the next Decade Infrastructure and Technological Development	WS Tam	Building
9 th	2010	Energy Generation, Utilisation and Recovery – Confronting the Challenge on Climate Change	MS Kwan	Energy
10 th	2011	How Smart is Smart Grid? – Challenges and Opportunities	CN Leung	Power
11 th	2012	Road to Zero Carbon Building – How applicable in Hong Kong?	CY Chung	Building
12 th	2013	Engineering for Cable-Neutral World? – Built Environment Technology for Cosmopolitan Hong Kong	Roy Mui	Energy
13 th	2014	Dynamic & Flexible Response of Today's Power Network Operation to the Changing Environment	Keith Chan	Power
14 th	2015	A Global Pursuit for Zero Carbon Building: Challenges and Solutions – The Hong Kong Story	Peter Leung	Building
15 th	2016	Energy Saving – A Challenge? – Opportunities and Technologies	Cathen Ho	Energy
16 th	2017	What it takes to Digitize the Operations of a Power System?	Jacky Hung	Power
17 th	2018	Zero Carbon Building within a Smart Cosmopolitan City in Greater Bay Area – The Hong Kong Approach on Global Platform	Enzo Wong	Building
18 th	2019	Energy Refined in The Era of The Internet and The Renewables	Alex Chan	Energy
<i>2020 Symposium cancelled due to the outbreak of COVID-19</i>				
19 th	2021	Challenges for Future-Proof Power Systems in the Digital Era – Planning, Operation and Maintenance	Edmond Leung	Power
20 th	2022	Building the Carbon Neutral Future – Challenges and Opportunities	Alfred Lee	Building
21 st	2023	Sustainable Energy and Technology Development for Smart Liveable City	Kan Ip	Energy
22 nd	2024	Power System Operations in the Era of Power Electronics and Grid Edge Technologies	Steve Bu	Power

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***Message from Chairman of Power & Energy Section
The Institution of Engineering and Technology Hong Kong***

Welcome all fellow members, engineers, scholars and distinguished guests to the 23rd Annual Power Symposium, our flagship event organised by the Power & Energy Section (PES) of the Institution of Engineering and Technology (IET) Hong Kong.

For this year's power symposium on 'Grid-Interactive Building: New Opportunities in the Era of Artificial Intelligence Towards Carbon Neutrality', we delve into a transformative era where the convergence of grid interactivity, AI applications, and sustainability goals reshapes the building landscape. As the world gravitates towards carbon neutrality, the symposium aims to unravel the potential of grid-interactive buildings in driving energy efficiency and decarbonisation efforts. Through a lens of innovation and environmental stewardship, experts will navigate the evolving nexus of smart buildings, AI-driven energy optimisation, and carbon-neutral aspirations. Likewise with the past successful symposiums held, we will offer a professional and sustainable platform to explore cutting-edge strategies, unveil technological advancements and foster quality and insightful discussions amongst the building and energy industry stakeholders on the key and contemporary topics happening in the industry.

This year we are honoured to have Mr Francis CHENG, Managing Director of The Hongkong Electric Co.,Ltd., to deliver the opening remarks, and Mr Raymond POON, Director of Electrical & Mechanical Services, HKSAR Government, Professor Shengwei WANG, Chair Professor of Building Energy and Automation, The Hong Kong Polytechnic University, and Mr Harry LAI, Executive Director of Hong Kong Green Building Council Ltd. to deliver the keynote speeches. The full day symposium will be brimmed with a diverse array of technical paper presentations delivered by esteemed experts, scholars and engineers representing the government entities, utilities, industry sectors and academia from both local and international spheres. We encourage your active participation and dialogue with the speakers and fellow participants to exchange your perspectives and insights on these pivotal topics.

I would like to take this opportunity to express my sincere gratitude to all our distinguished guests, generous sponsors, paper authors and speakers, as well as all the symposium participants. Your unwavering support and participation make this event truly remarkable. Last but not least, my heartfelt congratulations to the Organising Committee of the 23rd Annual Power Symposium, led by Mr Henry CHAN as the OC Chairman, for organising such a successful and meaningful event. Wishing you all a stimulating, fulfilling and enjoyable day in the symposium!

Steve BU

Chairman, Power & Energy Section

The Institution of Engineering and Technology Hong Kong

***Message from Chairman of Organising Committee,
The 23rd Annual Power Symposium 2025***

On behalf of the Organising Committee, it is my pleasure to invite all distinguished guests, speakers, sponsors, and participants to the 23rd Annual Power Symposium 2025, with the theme “Grid-Interactive Building: New Opportunities in the Era of Artificial Intelligence (AI) Towards Carbon Neutrality”.

In the pursuit of reducing carbon emissions, grid-interactive buildings are increasingly vital in optimising energy consumption and enhancing sustainability. The role of AI and sustainable design practices is crucial not only in facilitating adaptation to real-time energy demands but also in offering new opportunities for integrating renewable energy sources. These advancements pave the way for a greener, more efficient future in urban development. We aim to explore the latest innovations and practical solutions in grid-interactive buildings, focusing on the new opportunities presented by emerging technologies.

The Power Symposium not only offers a platform for speakers to present their research efforts, but we also hope it will serve as a foundation for further collaboration and cooperation. We look forward to meeting you, sharing a fruitful symposium, and developing partnerships. Ultimately, every participant here can help lead our industry in embracing AI technology to enable carbon neutrality.

We sincerely express our gratitude to our distinguished guests, Mr Francis CHENG, for delivering the Opening Remark, and Mr Raymond POON, Prof Shengwei WANG, and Mr Harry LAI for presenting the keynote speeches. We also extend our heartfelt thanks to all authors and speakers of the technical papers from academia, utilities, and industry sectors. The topics of all papers highlight the opportunities to strive towards the goal of carbon neutrality through AI modelling.

Last but not least, I would like to express my heartfelt thanks to all sponsors, Organising Committee members, helpers, and participants. Your presence and unwavering support have made this flagship event fruitful and meaningful for over two decades. May I appeal for your continued participation in the future—and together, let us engineer more grid-interactive buildings!

Henry CHAN

Chairman, on behalf of the Organising Committee

The 23rd Annual Power Symposium 2025

Acknowledgements

Acknowledgements

The organising committee would like to express appreciations to the following companies for sponsoring the 23rd Annual Power Symposium

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Special Acknowledgements

The Power & Energy Section of the IET Hong Kong would also like to extend its sincere gratitude to

Construction Industry Council

for the support to the 23rd Annual Power Symposium

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Programme

08:45 – 09:05	Registration
09:05 – 09:10	Welcome Address <i>Prof Steve BU – Chairman, Power & Energy Section, IET Hong Kong</i>
09:10 – 09:20	Opening Remarks <i>Mr Francis CHENG – Managing Director, The Hongkong Electric Company, Limited</i>
09:20 – 09:30	Group Photography
09:30 – 09:40	Souvenir Presentation to Sponsors and Supporting Organisation
09:40 – 10:00	Keynote Presentation - 1 <i>Mr Raymond POON, JP – Director of Electrical & Mechanical Services, HKSAR Government</i>
10:00 – 10:20	Keynote Presentation - 2 <i>Prof Shengwei WANG – Director of Research Institute for Smart Energy (RISE), Chair Professor of Building Energy and Automation, Otto Poon Charitable Foundation Professor in Smart Building, The Hong Kong Polytechnic University</i>
10:20 – 10:50	Coffee break
10:50 – 11:15	Paper 1: Energy Flexibility in Buildings, Community and Urban Precinct <i>Prof Rebecca YANG Professor, Doreen Thomas Fellow, Department of Infrastructure Engineering, The University of Melbourne, Australia</i>
11:15 – 11:40	Paper 2: Application of Digital Energy Modelling Twin for Hong Kong's Net Zero Carbon Future <i>Mr Peter CHAN Senior Technical Director, Sustainable Building Design, AtkinsRéalis Asia Limited</i>
11:40 – 12:05	Paper 3: Decarbonising Buildings through Improving Efficiency and Integrating Renewables <i>Mr Raghavram GANESH RAM & Mr Kevin HUNG Power System Technical Expert, Energy Management Business Unit, Schneider Electric</i>
12:05 – 12:30	Q&A for Morning Session
12:30 – 14:00	Lunch Break
14:00 – 14:20	Keynote Presentation - 3 <i>Mr Harry LAI – Executive Director, Hong Kong Green Building Council Limited</i>
14:20 – 14:45	Paper 4: Data-Driven Optimisation for Energy Efficiency in Railway Operations <i>Mr Jackson WU Acting Lead Design Manager, Innovation & Technology (Operations), MTR Corporation Limited</i>
14:45 – 15:10	Paper 5: Navigating the Future of Electrical Installation Design: Challenges and Innovations <i>Ms Lily LAU Principal Engineer, MEP Property & Buildings Department, WSP (Asia) Limited</i>
15:10 – 15:40	Coffee break
15:40 – 16:05	Paper 6: Unlocking New Horizons in Home Energy Management: The Evolution from Traditional Optimisation to Next-generation Artificial Intelligence <i>Dr Andrew WU Lecturer, Department of Electrical and Electronic Engineering, The University of Hong Kong</i>
16:05 – 16:30	Paper 7: A Proactive AI-based Fault Detection and Diagnosis Framework for AHU and Chiller Systems with Automated Point Mapping and Future-Data-Driven Forecasting <i>Ms Lanzco CHENG Digital Solution Expert, Smart Infrastructure Department, Siemens Limited</i>
16:30 – 16:55	Q&A for Afternoon Session
16:55 – 17:00	Closing Address <i>Mr Henry CHAN – Chairman, Power Symposium 2025 Organising Committee, IET Hong Kong</i>