Advancing turbomachinery innovations and strategies for net-zero pathways

12th IGTC, 14-15 October 2025, Brussels, Belgium

ETN Global

Programme

https://etn.global/events/igtc-25/

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The event is sponsored by:

Sponsors

Allround company in the energy transition

NEM is an allround and committed partner in the global energy industry, supporting the transition toward a decarbonized world. NEM's contribution includes developing innovative products aligned with market trends and converting existing installations to lower-emission operations.

The growing share of renewable energy sources like wind and solar requires today's power grid to become more flexible and responsive. Open cycle gas turbines (OCGTs) play a key role in meeting these demands, but their NOx emissions present challenges. NEM's Selective Catalytic Reduction system using tempered air (T-SCR) provides a reliable solution, enabling OCGTs to deliver flexible power while meeting strict emission regulations.

NEM also offers robust, flexible, and future-ready Heat Recovery Steam Generator (HRSG) designs. With hundreds of units installed and decades of experience, NEM HRSGs meet today's needs and are the first certified for 100% hydrogen use in combined cycle plants, reflecting our commitment to innovation and the energy transition.

Visit our website for more information: www.nem-energy.com

Figure 1: Alexander Wisse, CEO, Nem Energy

"Being part of ETN Global strengthens our ability to connect with key stakeholders who are shaping the future of the energy industry. These relationships formed through ETN Global are essential — they help us align with industry needs and develop new ideas, collaborations, and partnerships. Our Heat Recovery Steam Generators (HRSGs) and exhaust systems are critical components that complement gas turbines, enhancing overall plant efficiency, reducing emissions, and supporting more flexible and reliable power generation. As part of the ETN Global community, we're proud to contribute our expertise in these areas and to help drive innovation in integrated gas turbine systems. We look forward to continuing these valuable conversations — and meeting you at IGTC2025".

Quiet and clean solutions

Aarding, Peerless, and Burgess-Manning, part of the CECO Environmental group of companies, have built a global reputation as leaders in the design, engineering, and supply of gas turbine exhaust systems.

With over six decades of experience, we deliver high-performance solutions that meet the power industry's growing demand for safe, quiet, and clean energy systems. Our portfolio covers exhaust systems for the full range of gas turbines, from standard small peaker units to the most advanced Hot SCR systems behind heavy-duty gas turbines.

Backed by strong references, our technology-driven solutions address high-temperature and cyclical operations, multiple fuel types (including hydrogen and alternative fuels), and the latest technologies in emission and noise control. Over 32,000 air pollution control systems have been delivered and commissioned, removing more than 4.4 billion pounds of pollutants annually, the equivalent of emissions from 50 million passenger cars.

We invite you to discover how we can support your current and future power projects by driving innovation for a cleaner and quieter tomorrow.

Explore our full offering on our website: www.aarding.com

Figure 2: Martin Pranger, Managing Director, Aarding

"We're proud to support IGTC as a Gold Sponsor this year. This event brings together the leading and brightest minds in the gas turbine industry. It's a great opportunity for our Aarding, Peerless, and Burges Manning brands to showcase our capabilities on gas turbine exhaust systems. Our contributions support energy transition goals focused on reducing emissions, enabling cleaner energy production, and enhancing the reliability and uptime of industrial equipment. We strongly believe that working with this global community helps us stay at the forefront of innovation and strengthens our mission to protect people, the environment, and industrial equipment."

Working together to power the future - let's connect

At Woodward, we know that meaningful progress starts with collaboration. That's why we're placing a renewed focus on engaging directly with the customers who use our solutions, so we can better understand your challenges and support you more effectively.

With over 150 years of experience in power generation, Woodward has supported asset owners and OEMs in delivering reliable and cleaner energy. In today's rapidly evolving energy landscape that is shaped by decarbonisation, alternative fuels, and the integration of renewables, we remain a trusted partner, helping customers extend the life of their assets while preparing for the future.

From upgrades and repairs to control systems designed for alternative fuel compatibility, our goal is to keep your systems running efficiently and reliably, today and tomorrow. We're here to listen, support, and respond, whether it's technical insights, operational feedback, or ideas for improvement.

Whether it's a question, a challenge, or a suggestion, we want to hear from you. We aim to build stronger relationships and trusted partnerships for the long term.

We're excited to be part of IGTC2025 in Brussels and look forward to connecting with you in person. Visit us at our booth for a conversation, we're keen to hear your insights, understand your needs, and explore how we can support your objectives.

Visit our website for more information at www.woodward.com

Figure 3: Matthijs Koreman, Manager – Aftermarket Europe, Woodward

"At IGTC2025, we are proud to bring our experience and expertise to the ETN Global community. As a long-standing partner in advancing reliable and sustainable control system solutions, we see this event as an important opportunity to share insights, exchange ideas and connect with partners across the industry. We are looking forward to welcoming you at our table, learning from your perspectives, and continuing the valuable conversations that drive innovation and shape the future of our sector."

About the International Gas Turbine Conference

The International Gas Turbine Conference (IGTC) is ETN Global's flagship biennial event, bringing together the turbomachinery and energy community.

12th IGTC *"Advancing turbomachinery innovations and strategies for net-zero pathways"* will take place on 14-15 October at Tangla Hotel Brussels, Belgium.

The objective

IGTC offers a powerful platform to position your company at the forefront of the energy transition. It brings together global energy stakeholders to showcase the latest innovations, highlight user priorities, explore global market opportunities and build new partnerships.

The conference also provides a forum to engage with policymakers on the frameworks and conditions needed to enable the required investments. From net-zero strategies to cutting-edge R&D, IGTC highlights suitable applications and global opportunities for carbon-neutral fuels, CCUS, hybrid systems, and sustainable heat solutions.

For manufacturers, suppliers and service providers it is an unmatched opportunity to connect with the global user community and policymakers, gain visibility and demonstrate leadership in delivering tomorrow's energy solutions.

Parallel technical sessions

Designed around the needs of the gas turbine user community, these sessions address key R&D priorities essential for advancing turbomachinery. Showcasing the latest technology developments and innovations, they offer a balanced view of operational, environmental, and cost-related challenges.

Keynote and panel sessions

Focused on net-zero strategies and technical pathways, these high-level discussions will address capacity gaps, flexibility needs, low-carbon solutions, energy efficiency opportunities, and product sustainability. Distinguished experts and high-level policymakers will explore how energy policy frameworks can better align with market needs.

Attendees

The turbomachinery and energy community: utilities, industrial operators, energy companies (including oil & gas, pipeline operators and LNG companies), gas turbine manufacturers, suppliers and service providers, consultancies, research centres, universities, international analysis & forecasting organisations and policymakers.

Registration

To register to the event, please visit the 12th IGTC event webpage.

Accomodation

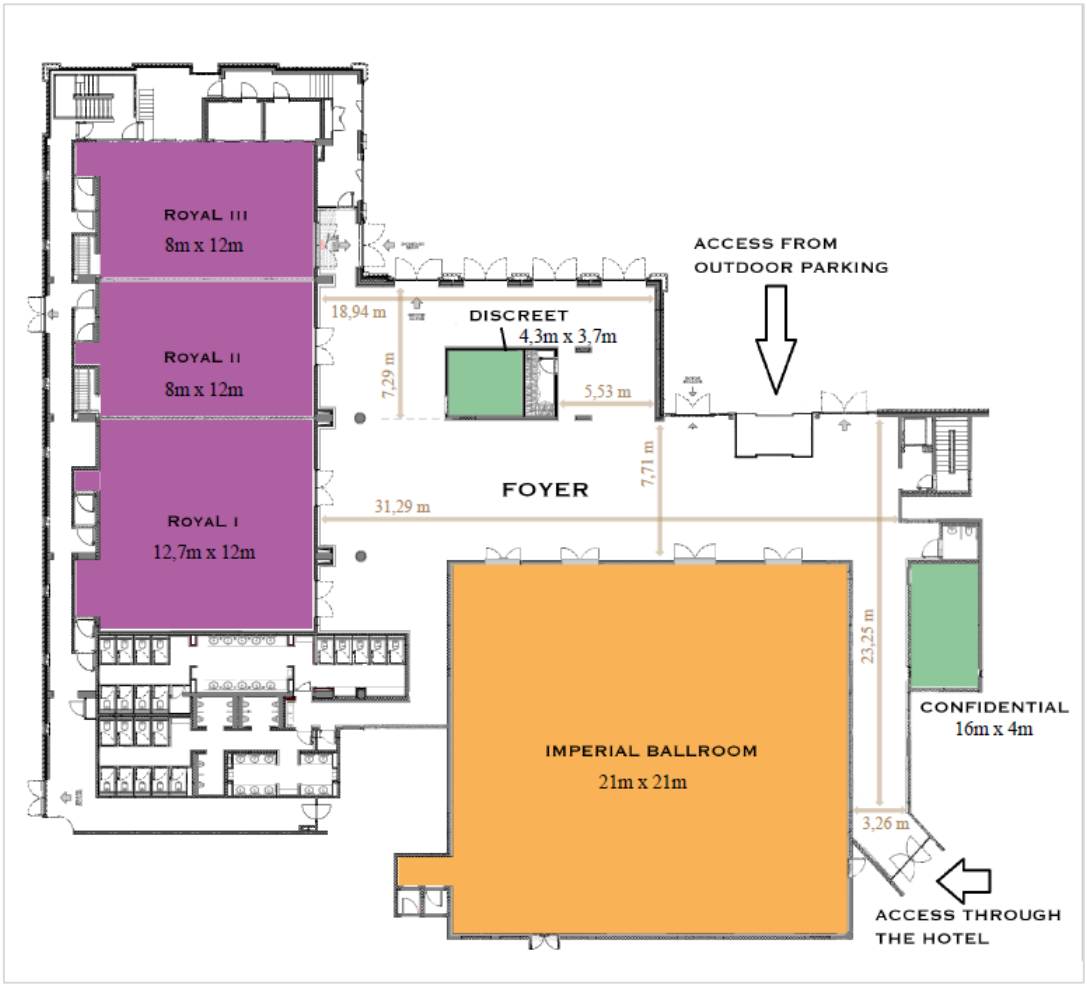
ETN Global's 12th IGTC will take place at Tangla Hotel Brussels. Special price via booking link only.

Conference venue

Tangla Hotel Brussels (address: Avenue Emmanuel Mounier 5, 1200 Woluwé-Saint-Lambert, Brussels, Belgium) is conveniently located close to the Brussels Airport (BRU) (15 minutes by taxi or 35mins by bus R59).

The entire event area will be dedicated solely to attendees of ETN Global's 12th IGTC:

- **Royal Room I** is reserved for lunch and coffee breaks.
- **Royal Rooms II-III** and the **Imperial Ballroom** will host keynote panels and technical presentations.
- **The Foyer** is reserved for sponsors' booths.



12th IGTC programme

14 October 2025

Time	Session
07:15 - 08:15	**Registration at Tangla Brussels Hotel in front of Imperial Ballroom**
08:15 - 10:15	**Keynote session 1: Realigning policy and markets to tackle the energy trilemma in a changing world** **Chair:** Christer Björkqvist, ETN Global **Moderator:** Junior Isles, TEIT **Speakers:** • Dennis Hesseling, Head of Gas, Coal & Power Markets Division, International Energy Agency • Robert Schrecengost, Director of Advanced Energy Systems Division, Department of Energy, US • Tudor Constantinescu, Principal Adviser to the Director-General, Directorate-General for Energy, European Commission • Toshinori Watanabe, Professor Emeritus, Senior Researcher, Department of Aeronautics and Astronautics, The University of Tokyo, Japan **Description**: This keynote session will explore how rising tariffs, supply chain disruptions, and changing political priorities are influencing energy market dynamics and driving a recalibration of policy frameworks across key global regions. It will also consider what changes are needed in national and international R&D programmes and investment frameworks to translate political ambitions into deployable, investable actions.
10:15 - 11:00	**Coffee break & expo**
11:00 - 12:30	**Parallel technical sessions 1 + 2**

	Technical session 1: Progressing hydrogen-readiness - international field experience	**Technical session 2: Advancing CO_2 technologies - capture and storage technologies, and power cycles**
	• *HYFLEXPOWER project: power-to-H_2-to-power demonstration with 100% green H_2 in an SGT-400 gas turbine*, Siemens Energy, Engie, Centrax Ltd., National Technical University of Athens • *Cofiring 45% H2 in F-class gas turbine: looking beyond the GT*, ENGIE • *Hydrogen gas turbine (H2GT) demonstration in South Korea at a purpose-built power plant validation*	• *Experimental impact of exhaust gas recirculation and hydrogen injection on the emissions and performances of a micro gas turbine*, UMONS, ENGIE Laborelec, DLR • *Optimisation of CO_2 capture from natural gas combined cycle with hydrogen-assisted exhaust gas recirculation*, SINTEF, University of Florence, Baker Hughes

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Time	Session	
	facility, PSM, Thomassen Energy, Hanwha Impact • *RWE Lighthouse Project case study: Moerdijk High Hydrogen Conversion*, RWE, GE Vernova	• *Commissioning and testing of the STEP 10 MWe sCO_2 power plant in simple recuperated cycle configuration and model comparisons*, GTI Energy, SWRI, GE Vernova • *Uncovering the economic tipping point between H_2-based gas turbines and CCS-enhanced gas turbines*, University of Mons
12.30 - 14:00	**Lunch & expo**	
14:00 - 14:45	**Keynote session 2: User priorities for a secure and net-zero energy future** **Description**: This session will spotlight perspectives from key user sectors: utilities, oil & gas, and industrial energy users, who are shaping the future of dispatchable energy. Based on insights from ETN Global's High-Level User Meetings in 2024–2025, speakers will outline their preferred net-zero pathways and the critical challenges that must be addressed to ensure a secure and commercially viable energy transition.	
14:45 - 15:45	**Keynote session 3: OEM roadmaps & technology development: delivering on the energy trilemma** **Speakers:** • Federico Bonzani, Chief Technology Officer, Ansaldo Energia • Christopher Pin Harry, Vice President of Technology-IET, Baker Hughes • Aad den Elzen, Vice President Power Generation & Strategic Growth, Solar Turbines • Alan Cortizo, Vice President Europe, Head of Sales, Mitsubishi Power • Tobias Wintz, Head Global Service Operations, Siemens Energy **Description:** Following the user insights shared in the previous session, this panel will bring together senior OEM representatives to respond with their strategic vision, fleet development plans, and innovation priorities. The discussion will focus on how OEMs are aligning their technology roadmaps to meet evolving user needs, support policy objectives, and deliver carbon-neutral, dispatchable solutions.	
15:45 - 16:15	**Coffee break & expo**	
16:15 - 17:45	**Parallel technical sessions 3 + 4**	
	Technical session 3: Alternative fuels-powered turbines - ready to deploy solutions for decarbonisation	**Technical session 4: Enabling next-gen turbomachinery - advanced techniques for component design** •

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Time	Session	
	• *Enabling rapid decarbonisation of gas turbine power generation with hydrotreated vegetable oil,* Uniper • *Demonstration of methanol as a sustainable fuel for gas turbines: emission reductions and performance enhancements,* Siemens Energy, Industrial Turbine Company (UK) Limited, Net Zero Technology Centre • *Use of methanol as a potential alternative fuel in a power generation gas turbine,* Cranfield University, Uniper	• *Bulk hydrogen production and the impact on turbomachinery lifing,* Cranfield Univeristy • *Gas turbines performance improvement enabled by additive manufacturing,*Siemens Energy • *AM enabled injection systems for enhanced fuel flexibility,* University of Stuttgart
18:15 - 19:15	**Guests transported by busses from Tangla hotel to dinner event**	
19:30 - 22:30	**Dinner event at Dolce la Hulpe, hotel & resort**	
22:30 - 23:00	**Guests transported back to Tangla hotel**	

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07:15 - 08:15	**Registration at Tangla Brussels Hotel in front of Imperial Ballroom**	
08:15 - 10:15	**Parallel technical sessions 5 + 6**	
	Technical session 5: Enhancing flexibility in operations - design, control and retrofit solutions • *HRSG design for flexibility – switch-over at full load from simple cycle to combined cycle operation for F-class gas turbines*, NEM Energy • *Techno-economic investigation of solutions for decarbonising the thermal management of the stand-still state of combined cycles*, University of Genoa • *Hydrogen blending and partial load control modeling: updated designs and simulations*, EPRI, Modelon	**Technical session 6: Hydrogen combustion- impact on performance, safety and emissions** • *Experimental and numerical investigation of hydrogen injection, spontaneous ignition and flashback in a lab-scale sequential combustor at high pressure*, DLR, SINTEF, Norwegian University of Science and Technology, Ansaldo Energia • *Retrofitting of an Industrial DLN gas turbine combustor for fuel-flexible hydrogen applications,* PoliTo, Ethos Energy • *Experimental investigation of minimum achievable NOx from low carbon fuels,* Georgia Institute of Technology, EPRI
10:15 - 11:00	**Coffee break & expo**	
11:00 - 12:30	**Keynote session 4: Global gas turbine markets - regional pathways, shared challenges** **Speakers:** • John M. Crane, Technology Manager, Advanced Turbines & Simulation-Based Engineering, National Energy Technology Laboratory, US • Musa Tufekci, Gas and Steam Turbine Expert & Siavash Pahlavanyali, RINA **Description**: This session will explore regional energy needs and the evolving role of gas turbines in supporting low-carbon energy transitions across various regions. While many countries share similar decarbonisation objectives, the actual pathways differ significantly due to local resource availability, policy frameworks, and energy security needs.	
12.30 - 14:00	**Lunch & expo**	
14:00 - 15:30	**Keynote session 5: Delivering the transition - integration, optimisation & risk control** **Speakers:** • Klaus Brun, Global Director, Research & Development, Ebara Elliott Energy Company • Sarah Kimpton, Vice-Presiden, DNV	

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	Description: This keynote panel will explore the critical enablers required to accelerate the transition of gas turbines and turbomachinery systems toward a decarbonised, hydrogen-ready future. From cross-sector infrastructure and integration to asset lifecycle management and digital innovation, the session will highlight how a strategic mix of technology, collaboration, and investment readiness is essential for addressing emerging energy demands.
15:30 - 16:00	**Closing ceremony**
16:00 - 16:30	**Coffee break**

Keynote sessions

Keynote session 1: Realigning policy and markets to tackle the energy trilemma in a changing world

Keynote description

The global energy landscape is being reshaped by geopolitical tensions, shifting trade policies, and growing concerns over energy security. In response, governments and industry are adapting their climate strategies and R&D agendas to reflect a more pragmatic and regionally grounded approach to decarbonisation.

This keynote session will explore how rising tariffs, supply chain disruptions, and changing political priorities are influencing energy market dynamics and driving a recalibration of policy frameworks across key global regions.

The panel will explore how diversified, technology-inclusive approaches, including carbon-neutral fuels, CCUS, and dispatchable generation, can help meet the energy trilemma while maintaining competitiveness. The recent large-scale blackout in Spain and Portugal will also be touched upon as a stark reminder of the need for grid stability and the role of flexible, dispatchable assets.

The discussion will consider what changes are needed in national and international R&D programmes and investment frameworks to translate political ambitions into deployable, investable actions.

Keynote session 2: User priorities for a secure and net-zero energy future

Keynote description

This session will spotlight perspectives from key user sectors: utilities, oil & gas, and industrial energy users, who are shaping the future of dispatchable energy. Based on insights from ETN Global's High-Level User Meetings in 2024–2025, speakers will outline their preferred net-zero pathways and the critical challenges that must be addressed to ensure a secure and commercially viable energy transition.

Keynote session 3: OEM roadmaps & technology development - delivering on the energy trilemma

Keynote description

Following the user insights shared in the previous session, this panel will bring together senior OEM representatives to respond with their strategic vision, fleet development plans, and innovation priorities. The discussion will focus on how OEMs are aligning their technology roadmaps to meet evolving user needs, support policy objectives, and deliver carbon-neutral, dispatchable solutions.

Topics include:

- Alignment of R&D roadmaps and investment timelines
- Timelines for product readiness and deployment
- Acceleration of product readiness through co-development and field demonstration
- Product and service adaptations for reliability and flexibility
- Collaborative development and demonstration approaches
- Strategy to overcome challenges in supply chains
- Collaborative models to overcome deployment barriers

Keynote session 4: Global gas turbine markets - regional pathways, shared challenges

Keynote description

This session will explore regional energy needs and the evolving role of gas turbines in supporting low-carbon energy transitions across various regions. While many countries share similar decarbonisation objectives, the actual pathways differ significantly due to local resource availability, policy frameworks, and energy security needs.

Through insights from North Africa, North America, and Southeast Asia, the speakers will highlight region-specific needs, challenges and opportunities, showcasing how flexible, dispatchable, and low-emission gas turbines can be integrated and tailored to local energy solutions.

Keynote panel session 5: Delivering the transition - integration, optimisation & risk control

Keynote description

This keynote panel will explore the critical enablers required to accelerate the transition of gas turbines and turbomachinery systems toward a decarbonised, hydrogen-ready future. From cross-sector infrastructure and integration to asset lifecycle management and digital innovation, the session will highlight how a strategic mix of technology, collaboration, and investment readiness is essential for addressing emerging energy demands.

Speakers will share insights on the development of supportive infrastructure, CCS integration, and hydrogen transport, while also discussing innovations in lifecycle extension, spare parts production (including additive manufacturing), and digitalisation.

The aim is to provide a realistic perspective on overcoming uncertainty and enhancing investor confidence in demonstration and deployment projects, ensuring that turbomachinery remains at the forefront of the energy transition.