



IGTC
International
Gas Turbine Conference



ETN's 10th International Gas Turbine Conference

11-15 October 2021

GAS TURBINES IN A CARBON-NEUTRAL SOCIETY



www.etn.global/events/igtc-21/

10th International Gas Turbine Conference
Gas turbines in a carbon-neutral society

11-15 October 2021
Preliminary programme

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Gas Turbine World

Monday 11 October

13:00-13:30 (CEST): Virtual networking – booths & lounge

13:05-13:25 (CEST): Speed networking – one-on-one meetings

13:30-14:45 (CEST): Keynote session 1: *Energy transition to a global carbon-neutral society*

- Tom Howes, Head of Energy and Environment Division, International Energy Agency
- Tudor Constantinescu, Principal Adviser to the Director General for Energy, European Commission
- Yukari Hino, Director of Hydrogen and Fuel Cells Strategy Office, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry of Japanese Government (METI)

Chair: Christer Björkqvist, Managing Director, ETN Global

Moderator: Junior Isles, Editor-in-chief, The Energy Industry Times

14:45-15:10 (CEST): Virtual networking – booths & lounge

15:10-16:40 (CEST): Technical session 1: *Hydrogen gas turbines*

- *“Development of hydrogen-fired gas turbine combustor”*, Shinichi Fukuba, Research Engineer, Mitsubishi Heavy Industries
- *“Development of innovative hydrogen combustion systems for industrial gas turbines”*, Nurettin Tekin, Hydrogen Product Manager, Kawasaki Gas Turbine Europe
- *“Hydrogen capabilities of Siemens Energy gas turbines, an OEM perspective”*, Adnan Eroglu, Principal Key Expert, Siemens Energy

Chair: Geert Laagland, Head of Engineering, Vattenfall

15:10-16:40 (CEST): Technical session 2: *Decentralised energy systems*

- *“Techno-economic analysis of small scale CCHP systems focused on emissions performance”*, Erika Rodriguez Aleman, Doctoral researcher, City, University of London
- *“An integrated energy system to decarbonise islands – gas turbine roles and requirements”*, Peter Breuhaus, Chief Scientist, NORCE
- *“sCO₂ power cycle development, modeling and demonstration at STEP”*, Scott Macadam, Institute Engineer, Gas Technology Institute

Chair: Elisabet Syverud, Associate Professor, University of South-Eastern Norway

16:40-17:00 (CEST): Virtual networking – booths & lounge

Tuesday 12 October

13:00-13:30 (CEST): Virtual networking – booths & lounge

13:05-13:25 (CEST): Speed networking – one-on-one meetings

13:30-14:45 (CEST): Keynote session 2: *Roadmap for the realisation of a carbon-neutral society*

- *“ETN roadmap, key activities and projects to accelerate a transition”*, Peter Jansohn, Co-chair of ETN Project Board / Paul Scherrer Institute
- *“The Energy System of the Future”*, Jarig J. Steringa, Strategic Advisor Energy System Integration, Gasunie
- *“Gas turbine fleet net-zero carbon strategy”*, Simon Balmer, Operations Director – Gas Turbine Fleet, Uniper
- *“The role of gas in the energy transition”*, Bernard Esselinckx, Chief Operational Performance & Greening the fleet Officer, ENGIE

Chair: Peter Jansohn, Head Energy System Integration, Paul Scherrer Institute

Moderator: Dieter Krapp, ETN Emeritus Member

14:45-15:10 (CEST): Virtual networking – booths & lounge

15:10-16:40 (CEST): Technical session 3: *Alternative fuels and efficiency increases*

- *“Suitability of liquid biofuels in Solar Turbines Incorporated DLE industrial gas turbines”*, Priyank Saxena, Consulting Engineer, Solar Turbines
- *“Ammonia blended fuels – energy solutions for a green future”*, Seif Zitouni, Post Doc Research Engineer, Université d'Orléans
- *“Ultra-light combined cycle power plants in offshore oil and gas applications”*, Travis Bowman, Integrated Systems - Bid Manager, Siemens Energy

Chair: Olaf Brekke, Advisor Rotating Equipment, Equinor

15:10-16:40 (CEST): Technical session 4: *Additive manufacturing and materials*

- *“Composite materials applied on gas turbine's inlet system”*, Bartłomiej Armański, Lead Engineer, Łukasiewicz Research Network – Institute of Aviation / Baker Hughes
- *“Rapid prototyping using digital additive manufacturing at Solar Turbines”*, Ferenc Pankotai, Manager, Additive Manufacturing and Combustion Engineering, Solar Turbines
- *“Additive manufacture and the gas turbine combustor: challenges and opportunities to enable low-carbon fuel flexibility”*, Jon Runyon, Gas Turbine Combustion Engineer, Uniper

Chair: Vladimir Navrotsky, Vice President Technology and Innovation, Siemens Energy

16:40-17:00 (CEST): Virtual networking – booths & lounge

Wednesday 13 October

13:00-13:30 (CEST): Virtual networking – booths & lounge

13:05-13:25 (CEST): Speed networking – one-on-one meetings

13:30-14:45 (CEST): Keynote session 3: *National and regional gas turbine markets: opportunities and challenges towards a hydrogen economy*

- R. K. Malhotra, Director General, Federation of Indian Petroleum Industry / President, Hydrogen Association of India
- Robert Schrecengost, Senior Program Manager at Fossil Energy Headquarters, US Department of Energy
- Hege Rognø, Head of R&T Low Carbon O&G Technologies, Equinor

Chair: Anders Stuxberg, Specialist in Power Plant Process Integration, Siemens Energy

Moderator: Chris Dagnall, General Manager, Rotating Machinery Solutions, DNV

14:45-15:10 (CEST): Virtual networking – booths & lounge

15:10-16:40 (CEST): Technical session 5: *Hydrogen gas turbine developments*

- “*The design and optimisation of a hydrogen combustor for a 100-kW micro gas turbine*”, Cedric Devriese, PhD student, Eindhoven University of Technology / University of Mons
- “*Combustion of CH₄/H₂ mixtures in gas turbines – effect of mixing on risk of flashback*”, Dominik Ebi, Research Scientist, Paul Scherrer Institute
- “*Numerical investigation of gas turbine burners operating with hydrogen and hydrogen-ammonia blends*”, Alessandro Zucca, Principal Engineer, Baker Hughes

Chair: Peter Kutne, Head of Department Gas Turbine, DLR

15:10-16:40 (CEST): Technical session 6: *Condition-based maintenance*

- “*Early experience applying process compensated resonance testing to new and repaired turbine blade quality assurance*”, John Scheibel, Gas Turbine Technical Executive, Electric Power Research Institute
- “*Gas turbine uncertainty using Bayesian statistics*”, David Munn, Group Leader – Heat and Flow, Frazer-Nash Consultancy
- “*Non-destructive evaluation for industry 4.0*”, Pete Loftus, Deputy Director, Research Centre for Non-Destructive Evaluation

Chair: Dominique Orhon, Turbomachinery Specialist, TotalEnergies

16:40-17:00 (CEST): Virtual networking – booths & lounge

Thursday 14 October

13:00-13:30 (CEST): Virtual networking – booths & lounge

13:05-13:25 (CEST): Speed networking – one-on-one meetings

13:30-14:45 (CEST): Keynote session 4: *R&D projects contributing to the energy transition*

- *“bp Bringing Low Carbon Hydrogen to End Users at Scale”*, Chris Gibson, Lead Project Engineer, BP
- *“Intermountain Power Project and the decarbonization of Los Angeles”*, Paul Schultz, Director of External Generation, LADWP
- *“Adapting existing GT assets to meet the changing market needs and prepare for a net-zero future”*, Lee Thompson, Enfield HE Project Manager

Chair Sigrid Gijbels, Deputy Manager Power & Infra Business Line, Engie

Moderator: Andy Williams, Senior Fellow, Chromalloy

14:45-15:10 (CEST): Virtual networking – booths & lounge

15:10-16:40 (CEST): Technical session 7: *System integration*

- *“Integrating high renewable share into today’s gas turbine power plant energy systems”*, Eva Verena Klapdor, Head of Gas Turbine Technology, Siemens Energy
- *“Decarbonisation of gas turbine by burning hydrogen produced locally by electrolysis”*, Camila Torres Moncayo, Engineer, EDF
- *“Combined cycle performance gain through intake conditioning”*, Alessandro Sorce, Assistant Professor, University of Genoa

Chair: Peter Breuhaus, Chief Scientist, NORCE

15:10-16:40 (CEST): Technical session 8: *Component monitoring and life extension*

- *“An approach for gas turbine life extension”*, Laurie Brooking, Consultant, Frazer-Nash Consultancy
- *“Risk-based approach to assess the techno-economic feasibility of gas turbine component life extension”*, Alfonso Pandolfi, Scholarship Holder, University of Salerno
- *“Un-buzz-wording the Digital Twin: A Practical Guide and Examples for Power Plant Operators”*, Bobby Noble, Program Manager – Combined Cycle Turbomachinery, Electric Power Research Institute

Chair: Rene Vijgen, Senior Technical Manager, ETN Global

16:40-17:00 (CEST): Virtual networking – booths & lounge

Friday 15 October

13:00-13:30 (CEST): Virtual networking – booths & lounge

13:05-13:25 (CEST): Speed networking – one-on-one meetings

13:30-14:45 (CEST): Keynote session 5: *Technology development path for a carbon-neutral society*

- “Key messages from ETN’s High-Level User Meeting”, Pedro Lopez, ETN President / Uniper
- OEM panelists
 - Onyeche Tifase, VP Strategy & Technology and Innovation, Siemens Energy
 - Paul F. Browning, President & CEO, Mitsubishi Power Americas
 - Aad den Elzen, VP Power Generation and Strategic Growth, Solar Turbines
 - Paolo Noccioni, President Nuovo Pignone - Turbomachinery & Process Solutions, Baker Hughes

Chair: Pedro Lopez, Chief Operating Officer - Asset Operations, Uniper

Moderator: Walt Steimel, Rotating Equipment Global Discipline Lead, Shell

14:45-15:00 (CEST): Virtual networking – booths & lounge

15:00-16:30 (CEST): Technical session 9: *Retrofit and optimisation solutions*

- “High hydrogen gas turbine retrofit solution to eliminate carbon emissions”, Joris Koomen, Combustion engineer, Thomassen Energy
- “The importance of torsional vibrations in the energy transition”, Frits Petit, Expert Vibrations & Mechanics, Engie
- “A Comparison of Management Approaches for Asset Optimization”, Richard Green, Manager - Condition Based Engineering, Solar Turbines

Chair: Franco Rosatelli, ETN Emeritus Member

16:30-16:45 (CEST): Virtual networking – booths & lounge
