



ETN
Global

ETN's Virtual AGM & Workshop Week

29 June - 3 July 2020

Please note that all times are in Central European Summer Time (CEST)

Monday 29 June	14:00 - 16:00	Additive manufacturing and new materials
Tuesday 30 June	11:00 - 12:45	Annual General Meeting (AGM) 2020
	14:00 - 16:00	AGM panel session "Research and innovation challenges for gas turbines in a low-carbon world"
Wednesday 1 July	14:00 - 16:00	Gas turbines operational and fuel flexibility
Thursday 2 July	14:00 - 16:00	Next generation power cycles
Friday 3 July	14:00 - 16:00	Condition monitoring and asset management for energy transition



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ETN Annual General Meeting 2020

Tuesday 30 June 2020 11:00 - 12:45

10:50 - 11:00	Connection & instructions
11:00 - 11:10	Opening and President's speech , Bernard Quoix, ETN President/TOTAL
11:10 - 11:35	Approval of the previous AGM minutes Annual report of activities and proposed strategy , Christer Björkqvist, Managing Director, ETN <ul style="list-style-type: none">• ETN Working Groups, projects and activities• Upcoming meetings and activities• Young Engineers Committee launch
11:40 - 12:00	Discussion on proposed strategy and way forward , ETN Board
12:05 - 12:15	Financial report , Andy Williams, ETN Treasurer/Chromalloy Adoption of accounts
12:20 - 12:25	Discharge of ETN Board 2018-2020
12:25 - 12:30	ETN Board election 2020-2022: Results of voting and presentation of the newly elected Board
12:30 - 12:45	AGM closing remarks



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AGM panel session

“Research and innovation challenges for gas turbines in a low-carbon world”

Tuesday 30 June 2020 14:00 - 15:40

13:50 - 14:00	Connection & instructions
14:00 - 14:10	Short introduction , Peter Jansohn, Paul Scherrer Institute, Chairperson of ETN Project Board
14:10 - 14:30	European Research & Innovation Strategy – Horizon Europe <i>Eric Lecomte, Policy Officer, Director General for Energy, European Commission</i>
14:30 - 14:45	Carbon Removal and Return – Can it help? <i>Laurent Mariac, CO₂ Capture Leader for Power Gen. and Cement, Research & Development, TOTAL</i>
14:45 - 15:00	Shell Research & Innovation Programme for a low-carbon society <i>Wilfried Maas, Shell</i>
15:00 - 15:15	Research & Innovation Programme from a Utility Perspective <i>Stefano Sigali, Enel</i>
15:15 - 15:30	Questions and answers
15:30 - 15:40	Closing remarks , Peter Jansohn, Paul Scherrer Institute, Chairperson of ETN Project Board



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Additive manufacturing and new materials

Monday 29 June 2020 14:00 - 16:00 (1h40 presentations and Q&A)

Chaired by John Oakey, Professor of Energy Technology, Cranfield University

The use of composite material in gas turbines components (15 min + 5 min Q&A)

Daniel Mack, Team Leader "High-Temperature Protective Coatings", Jülich Research Center

Perspective about the deployment and the implications potential of NEXTOWER materials for applications in high temperature CSP and CO₂-based technologies - High temperature materials resistant to liquid metal corrosion and carburising atmospheres (15 min + 5 min Q&A)

Antonio Rinaldi, Scientist, ENEA

Additive Manufacturing in Shell - 2020 Activity Update (15 min + 5 min Q&A)

Jan de Roos, Senior Rotating Equipment Engineer, Shell

Additive Manufacturing Research Roadmap for the energy sector (15 min + 5 min Q&A)

Ferenc Pankotai, Manager, Combustion Engineering and Additive Manufacturing, Solar Turbines

ETN Additive Manufacturing Equipment Evaluation Initiative - Productivity and product quality levels reached with Laser Power Bed Fusion technology, and usage of commercially available AM equipment for applications in the energy sector (15 min + 5 min Q&A)

Vladimir Navrotsky, Chief Technology Officer, Siemens, and Steve Nardone, Project Manager Metal Additive Manufacturing, ENGIE

Way forward, actions, follow-up calls



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Gas turbines operational and fuel flexibility

Wednesday 1 July 2020 14:00 - 16:00 (1h30 presentations and Q&A)

Chaired by *Peter Kutne, Head of Department Gas Turbine, DLR*

ETN Hydrogen Gas Turbines Report: Updates and feedback (10 min+ 5 min Q&A)

Peter Kutne, Head of Department Gas Turbine, DLR

Ammonia utilization to support Global Decarbonization (15 min + 5 min Q&A)

Burak Goktepe, Research Associate, Cardiff University

Roadmap to CO₂ free flexible power (15 min + 5 min Q&A)

Jeffrey Haspels, Project Manager, Vattenfall, and Peter Stuttaford, CEO, Ansaldo Thomassen

First outcomes of H2020 PUMP-HEAT Project: optimised solution for EU CC flexibility (15 min + 5 min Q&A)

Stefano Barberis, Project Manager, RINA-C

FLEXibilize combined cycle power plant through Power-to-X solutions using non-CONventional fuels –

Short Introduction to FLEXnCONFU Horizon 2020 project (10 min + 5 min Q&A)

Alessandra Cuneo, Project Technical Coordination Corporate Research & Development, RINA-C

Way forward, actions, follow-up calls



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Next generation power cycles

Thursday 2 July 2020 14:00 - 16:00 (1h40 presentations and Q&A)

Chaired by Marco Ruggiero, External Funding & Technology Development, Baker Hughes

ETN sCO₂ advisory committee (10 min + 10 min discussion)

Marco Ruggiero, External Funding & Technology Development, Baker Hughes

ETN sCO₂ deployment in the heavy industry study (15 min + 5 min Q&A)

Ambra Giovannelli, Assistant Professor of Fluid Machinery & Energy Conversion Systems, University of Roma Tre

Thermal energy harvesting (15 min + 5 min Q&A)

Piero Colonna, Professor Propulsion and Power, Delft University of Technology / KCORC Chairman

MGTs for single households (15 min + 5 min Q&A)

Eleni Agelidou, Scientist, DLR

Innovative MGTs for industrial applications (15 min + 5 min Q&A)

Matti Malkamäki, CEO, Aurelia Turbines

Way forward, actions, follow-up calls



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Condition monitoring and asset management for energy transition

Friday 3 July 2020 14:00 - 16:00 (1h35 presentations and Q&A)

Chaired by Chris Dagnall, General Manager, DNV-GL Energy

Hydrogen Injection into the UK National Transmission System (15 min + 5 min Q&A)

Peter Flanagan, Senior Rotating Machinery Engineer, DNV-GL

Safety requirements for hydrogen gas turbines (15 min + 5 min Q&A)

Stefano Rossin, Chief Engineering Office Manager, Baker Hughes

Requirements for retrofitting and for new-built, hydrogen-ready GT-power-plants (15 min + 5 min Q&A)

Konrad Meyer, R&D manager, Siemens

Safety aspects for hydrogen gas turbines (15 min + 5 min Q&A)

Ferenc Pankotai, Manager, Combustion Engineering and Additive Manufacturing, Solar Turbines

ETN study on gas turbine component life assessment (10 min + 5 min Q&A)

Alfonso Pandolfi, University of Salerno

Way forward, actions, follow-up calls