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Updates from TC1

Low Carbon Gas Turbine Operation



Mohsen Assadi, Chair of TC1



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Low carbon GT operation

❖ How critical is this topic?

Installed wind power is now larger than total installed nuclear power globally (550 GW vs. 392 GW, 2 wind turbines per day installed in China!)

Last December the total installed solar capacity passed the global installed nuclear power (400 GW, 25% of this last year!)

The merit order results in less access to the grid for fossil based power plants, with lower income and higher electricity price. This results in more installed small scale renewables, and less fossil fuel based power in the grid, higher price.....

Continuously lower cost! 2016, solar in Morocco 25\$/MW, Wind in Mexico 17.70\$/MWh, cheapest offshore wind for less than 50Euro/MWh, Mexico Feb. 2017, solar for 1.79 c/kWh (about 5c/kWh in Europe), expected 1c/kWh

Michael Rogol: predicted difficulties due to high capital costs for large power producers (loosing money!). Vattenfall, RWE, EON, etc.



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Topics discussed during last meeting

Last meeting: Thursday, 5 October 2017 (ETN Workshop 2017, Genoa)

1. Research activities and challenges overcome in the OMSoP project

Jafar Al Zaili, City, University of London

2. The role of mGT CHP in future Smart City

Stefano Barberis, RINA Consulting

3. Supercritical-CO₂ cycles for gas turbines

Frederic Siros EDF

4. Definition of standard mission profile for heavy duty gas turbines in EU

Stefano Piola Ansaldo Energia



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Actions from last meeting

Action 1:

S. Piola proposed:

Set-up of an inter-disciplinary Working group composed by ETN, Utilities and OEMs, with the aim to set the basis for the new design in the next generation of the engines.

To be followed up by ETN.

So far no answers from S. Piola



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Actions from last meeting

Action 2:

ETN members to review the R&D Recommendation Report and the TC1 position paper and send comments to ETN if they believe specific topics were missed in the documents.

No comments were submitted to ETN.



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The way forward?

- ❖ What should be discussed in TC1
 - Enabling the GT society to have a role to play
 - Innovations that make GT based power generation central for the future energy system
 - Strategic role for GT based plants
 - “Low carbon emission and high flexibility”, is this possible/ achievable?



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