



# INVITATION WORKSHOP ON TECHNOLOGIES FOR BIOFUEL HYBRID MICRO GAS TURBINES

Organized by Fit4Micro Consortium

The diagram illustrates a MicroCHP system. On the left, a stack of oil barrels is labeled "LIQUID & LIQUIFIED BIOFUELS". A blue arrow points from the barrels to a white MicroCHP unit. From the unit, a green arrow points to a solar panel and a house icon, representing energy output. Below the unit, it says "MICROCHP BASED ON GAS TURBINE" and "optionally combined with solar PV, heat pump and/or adsorption cooling". To the right, under the heading "HEATING, COOLING & POWER", there is a list of benefits: "renewable resources", "household level", "high efficiency", and "low emissions". Below this list are three warning icons: a red thermometer, a blue snowflake, and a yellow lightning bolt.

## Hybrid event

25 September 2024, 14:00 – 17:30

INNSiDE Hotel

Sandkaulstraße 20, 52062 Aachen,  
Germany

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This event will introduce and explain the main current activities performed by several partners of Fit4Micro project, which is funded by the EU's Horizon Europe research & innovation framework programme.

Fit4Micro aims to make a positive and unique contribution to the challenge of making buildings more environmentally sustainable.

The project's main objective is to develop a new generation of combined cooling, heat and power (CCHP) system based on a novel technology of microturbine, running on sustainable biofuels. The system would be suitable for multi-family residential buildings and at remote or off-grid locations, for multi-office or multi-apartment buildings, hotels, hospitals and so on.

The technology developed for the project is based on a hybrid heating system, which has several advantages compared to pure electrically-driven ones, and hence is particularly attractive in the retrofit market for existing buildings.

The system will generate electricity in an efficient way, and the heat can also be used in order to produce cooling by means of adsorption chillers.

In the first part of the event, Prof. Alessandro Parente will present particular aspects of industry decarbonisation related to combustion technologies.

At the end of each presentation, time will be properly allocated for Q&A from the audience and presenters. The format of this event will be hybrid:

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## AGENDA

Chaired by Simon Minett, Technical Advisor of COGEN Europe

14:00

**Welcome to attendees and presentation of the event**

Sangeetha Ramaswamy, OWI, Germany

14:10

**Presentation of Fit4Micro Project**

Michel Delanaye, MITIS, Belgium

14:30

**Hydrogen and ammonia for industry decarbonisation: the role of diluted combustion technologies**

Alessandro Parente, Université libre de Bruxelles, Belgium

15:30

**Coffee break**

15:45

**Biofuels from residues via fast pyrolysis and hydrotreatment**

Evert Leijenhors, BTG, The Netherlands

16:10

**Biofuels for combustion applications: Research efforts at OWI**

Dirk Möntmann, OWI, Germany

16:35

**Gas foil bearings for small scale turbomachinery**

Danish Rehman, MITIS, Belgium

17:00

**Heat pumps and chillers with natural refrigerants**

Gerrit Földner, Fraunhofer ISE, Division Thermal Systems and Buildings, Germany

17:25

**Closure of the event**



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[fit4micro.eu](http://fit4micro.eu)



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