SCO2-BASED POWER PLANT FOR WASTE HEAT RECOVERY: TURBOMACHINERY AND SYSTEM DESIGN ISSUES AND OUTLOOKS

Outline of ETC15 workshop

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SYNOPSIS:

The workshop will focus on the emerging technology for the waste heat recovery based on sCO2 Joule-Brayton cycle.

The workshop will give an overall perspective of the technology, insights on the system challenges and advantages, on the turbomachinery design and on the testing.

The first contribution will be on the system analysis and specifically the discussion will be on the system design and how to design an sCO2 cycle in general. Given the criticality in the compressor design the exact knowledge and control of the inlet condition is of paramount importance. (Contribution by **University Duisburg-Essen- Prof. D. Brillert**).

Then the turbomachinery design will be deeply discussed as, mainly in the compression phase, many critical issues may arise related to the thermodynamic inlet conditions. Lot of efforts and researches have been done on this topic in the last 5 years and some of the challenges have been faces and solved. (contribution by **Politecnico di Milano - Prof. G. Persico**).

The third contribution will be about the testing of sCO2 compressors: challenges and specific features will be discussed. The contribution will also show how the lesson learned about the compressor operation is directly and proficiently transferred in current and future projects. (contribution by **Baker & Hughes - Eng. L. Toni**).

The workshop will be lead by Politecnico di Milano who is in charge to introduce the topic, the presenters and promote the discussion. (**Prof. P. Gaetani**)