

# SUSTAINABLE MATERIALS, PROCESSES AND SYSTEMS FOR ENERGY TRANSITION

## MUR DM 118 - Utilization of oxygen generated by the electrolysis of water for hydrogen production

<b>Funded By</b>	UNIVERSITA' DEL SALENTO [P.iva/CF:00646640755] MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584]
<b>Supervisor</b>	LAMBERTIANDREA - andrea.lamberti@polito.it
<b>Contact</b>	Arturo de Risi - Università del Salento – Department of Engineering of Innovation - arturo.derisi@unisalento.it
<b>Context of the research activity</b>	<p>Oxygen is the main by-product of hydrogen production by electrolysis, with many big concerns. In this study, new technologies and methods to exploit oxygen for energy purposes will be explored. In particular, oxy-combustion will be studied under experimental and theoretical points of view. It is a combustion process that occurs between fuel and oxygen. Many studies have shown that this reaction performs better than the traditional combustion reaction with air and it yields fewer pollutants.</p> <p>RESEARCH PURPOSE: To study experimentally and theoretically the oxy-combustion process. Particular attention will be paid to the energy aspects, the thermo-physical parameters of the reaction, and the chemical and physical reactions.</p> <p>Progetto finanziato nell'ambito del PNRR – DM 118/2023 - CUP E14D23001860006</p>
<b>Objectives</b>	<p>Progetto finanziato nell'ambito del PNRR – DM 118/2023 - CUP: E14D23001860006</p> <p>Scientific Responsible: Prof. Arturo de Risi - arturo.derisi@unisalento.it</p> <p>Main seat to carry out the research activity: University of Salento- Department of Engineering of Innovation - Via per Arnesano, LECCE - ITALY</p>
<b>Skills and competencies for the</b>	Motivated and able to work in a team. Able to work on experimental equipment. Able to work on CFD codes and simulations. Strong English skills.

**development of  
the activity**

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