



NEW GENERATION OF OFFSHORE TURBINE BLADES WITH INTELLIGENT ARCHITECTURES OF HYBRID, NANO-ENABLED MULTI-MATERIALS VIA ADVANCED MANUFACTURING

Workshop on lightweight, multifunctional and digitalised materials for offshore wind and tidal turbines

Dissemination and Exploitation Open Day Workshop

Workshop Venue:	<i>Homerton College, Hills Road, Cambridge, CB2 8PH, UK-Hybrid</i>
Date & Time:	10 October 2024 – 09:00-17:00 (GMT)
Registration:	www.carbo4power.net/workshops

This workshop is dedicated to advancement on lightweight, multifunctional and digitalised materials for offshore wind and tidal turbines, and it is associated to the **Carbo4Power** project. This project is funded by the H2020-EU.2.1.3. The main objective is to develop a new generation of lightweight, high strength, multifunctional, digitalized multi-materials for offshore turbine rotor blades that will increase their operational performance and durability while reducing cost of energy production, maintenance and their environmental impact. The Carbo4Power is a 4-year project, which started in November 2020 and it is led by the National Technical University of Athens (NTUA), with the participation of a multidisciplinary team of 18 partners (8 SMEs) from 8 countries provides technological know-how and industrial leadership, with well-balanced dissemination, communication & exploitation impact.

Confirmed participants are coming from leading organisations such as: **Airbus, Avanzare, EPSRC Industrial CDT in Offshore Renewable Energy (IDCORE), FastBlade, EURECAT, Lucideon, TWI, CIDETEC, Fraunhofer IFAM, University of Birmingham, TMBK Partners, Graphenea, Nanografi Nano Technology, University of Leeds, Tecnalía, Leitat, IRES, INEGI, Sigmalex, University of Strathclyde, NOVITOM, and Simperler Consulting**, among others.

Participation is free but registration is required. If you are interested in attending, register your interest at: www.carbo4power.net/workshops or send an email to the Exploitation and Dissemination Management at: info@carbo4power.eu

www.Carbo4Power.eu

info@Carbo4Power.eu

www.windpowerexpo.net



This project is supported by the European Union under the HORIZON2020 Framework Programme Grant Agreement no. 953192.

Preliminary Programme v1.6

Topic	Presenter
<p>Welcome to the Carbo4Power Open Day & Introduction of participants</p> <p>Bojan Boskovic</p>	Cambridge Nanomaterials Technology
<p>Title: Carbo4Power Project- New generation of offshore turbine blades with intelligent architectures of hybrid, nanoenabled multi-materials via advanced manufacturing</p> <p>Costas Charitidis & Stefania Termine</p>	NTUA
<p>Title: General capabilities of AIMEN focusing on their core competence for composite manufacturing</p> <p>Alberto Fernández Vicente</p>	AIMEN
<p>Title: Last phase of the C4P project for manufacturing of wind blades prototypes (TBC)</p> <p>Lourdes Blanco Salgado</p>	AIMEN
<p>Title: Carbo4Power: Multifunctional coating approaches for blade applications</p> <p>Nadine Rehfeld</p>	Fraunhofer IFAM
<p>Title: Development and demonstration of an FE-based digital twin of a composite wind turbine blade</p> <p>Zhuocheng Zhang</p>	University of Birmingham
<p>Title: Structural health monitoring of composite wind and tidal turbine blades using acoustic emission</p> <p>Matthew Gee</p>	University of Birmingham
<p>Title: Comparison of Carbo4Power Demonstrator FE Simulations with Tests</p> <p>Peter Greaves</p>	ORE Catapult
<p>Title: IoT platform for offshore wind turbine blade structure health monitoring</p> <p>Xingguo Zhou</p>	University of Strathclyde
<p>Title: CIDETEC outcomes in the Carbo4Power Project (TBD)</p> <p>Elena Jubete</p>	CIDETEC
<p>Title: Expanding Social Impact Assessment Methodologies within SDGs</p> <p>Spyridon Damilos</p>	IRES



Guest speakers		
Title: 'IDCORE and FastBlade and their contributions to the ORE sector Ione Smith	IDCORE – FastBlade,	
Title: Novel and sustainable materials and manufacturing processes for wind blade (TBC) Tomas Flanagan	EireComposites	
Title: Embedded printed sensors: new possibilities in composites SHM Ibai Santamaría	Tecnia	
Title: Process-serving Magnetic Thermoplastics for Enhanced Composite Manufacturing: a magnetic field equipped 3D printing Hamed Yazdani Nezhad	University of Leeds	

