

ON THE MARKET OF BIOMETHANE AS A DROP-IN-MARINE-BIOFUEL: DEVELOPING A VIRTUAL GAS-GRID SOLUTION

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MISSION

Prove the use of biomethane
as a marine drop-in biofuel

Further develop novel
technological solutions for
biogas to biomethane
upgrading

Retrofitting a marine diesel
genset to combust biomethane
as a drop-in fuel

Combustion strategies and
emissions measurement and
monitoring for biomethane in a
marine genset

Develop an appropriate
business plan to prove the
feasibility of compressed
biomethane in the maritime
industry

Activities to enable market
access via a virtual distribution
network

OBJECTIVES

Progress an already
prototyped (TRL 5) mobile
biogas upgrading module to
TRL 7

Progress an already
prototyped (TRL5) mobile
BioMethane Storage and
Refuelling module to facilitate
a virtual gas grid

Re-Design a tailored dual
fuelling injection system, and
retrofit an existing marine
genset, as to allow fuel-
efficient utilisation of
BioMethane in a Drop-In-fuel
Injection strategy

Emissions monitoring including
methane slip

INNOVATION & ORIGINALITY

1) Clustering of individual
biogas plants and upgrading
biogas onsite

2) Creation of a virtual gas grid
able to bridge the supply gap
between BioMethane
production and potential
consumers. Especially to
facilitate BioMethane
distribution in countries without
CNG infrastructure

3) Compressed BioMethane
retrofit of an existing ship for
sustainable and cost-effective
measure towards compliance
with IMO's EEXI and CII
emission regulations

Who we are

Coordinator:

Partners:



Research | Technology | Development



NEWS

Project launch on: The BioCH4-to-Market officially started on 1st June 2022. The project duration is 18 months.

Kick-off meeting held on 14th July 2022, the meeting took place at the premises of Petronav Ship Management Limited. The consortium discussed the workplan of the project and planned next steps for its smooth implementation.



The team is getting familiar with the engine at Petronav premises: the CMMI team visited Petronav's premises on 14th September 2022.



Publication of Review paper entitled "Application of Biogas and Biomethane as Maritime Fuels: A Review of Research, Technology Development, Innovation Proposals, and Market Potentials" published on 20th February 2023 at Energies 2023, Volume 16, Issue 4, 2066. doi.org/10.3390/en16042066



Procurement of equipment to facilitate emissions measurements of biomethane as a drop-in fuel (on-going process)

FUTURE EVENTS

Planned emissions measurement activities at Petronav premises to install measurement equipment on engine on 2nd May 2023

Diesel only engine measurements on 8th - 9th May 2023

Biomethane as dual-fuel engine measurements on 15th - 16th June 2023

Participation at RIF European Researcher's Night 2023 on 29th September 2023

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