



PRESS RELEASE

TES and University of Liège to Complete first Joint Research on "e-NG for Closing the Carbon Loop from Morocco to Belgium"

31 October 2023, Belgium – TES, a global green energy company at the forefront of the production of e-NG, and the Smart Grids group of the University of Liège, led by Professor Damien Ernst, have successfully wrapped up their first joint research. The project, titled "Synthetic Methane for Closing the Carbon Loop: Comparative Study of Three Carbon Sources for Remote Carbon-Neutral Fuel Synthetization," began in early August. It aimed to evaluate the practicality and efficiency of creating carbon-neutral synthetic methane, also known as e-NG, in sun-rich areas of Morocco for use in Belgium.

Study Abstract: The research builds on the concept of Remote Renewable Energy Hubs (RREH), designed to be situated in remote locations rich in renewable energy for the purpose of producing carbon-neutral synthetic fuels. The study modeled the Energy Supply Chain required to deliver a steady supply of carbon-neutral synthetic methane or e-NG from Morocco to Belgium. It examined the impact of using two different methods for sourcing CO₂: Direct Air Capture (DAC) and Post-Combustion Carbon Capture (PCCC). The results indicate that PCCC is the most cost-effective method, allowing e-NG to be delivered to Belgium at a very competitive cost when utilizing existing CO₂ sources in Morocco.

e-NG is a renewable fuel created by combining green hydrogen with recycled CO₂. It is chemically indistinguishable from natural gas but comes from renewable sources. This compatibility with existing infrastructures offers an efficient path to reduce emissions in sectors that are traditionally hard to decarbonize.

Key to the study's findings was the efficacy of sourcing CO₂ through PCCC for e-NG synthesis, supporting the importance of existing infrastructure like gas networks in the context of the energy transition. It can indeed facilitate, thanks to e-NG, a smoother, more cost-effective transition to a low-carbon society.

The collaboration combines the University of Liège's expertise in theoretical modeling and optimization with TES's practical experience and ability to manage complex industrial projects. TES and the University of Liège intend to pursue this successful research partnership that will have a significant impact on accelerating the global transition to renewable, carbon-neutral energy.

Commenting on the announcement, **Professor Damien Ernst, the esteemed researcher from the University of Liège**, stated: "TES is a company that has recognized the importance of remote renewable energy hubs as a real game-changer for the energy transition. These structures represent humanity's best chance to fight climate change. This is a great honor for the University of Liège, which has been developing for years now cutting-edge technologies to optimize these hubs, to collaborate with such a visionary company."



Marco Alverà, CEO and Co-Founder of TES, said: " By collaborating with the University of Liège, we aim to accelerate global decarbonization and ensure our approach is backed by rigorous academic research. We're focused on using renewable energy to produce large volumes of cost-effective e-NG, which is gaining momentum around the world. This allows for immediate decarbonization of hard-to-abate sectors without major investments or changes to existing infrastructure."

About University of Liège:

University of Liège is one of Belgium's leading universities, founded in 1817. ULiège welcomes 28.000 students (25% international) in 11 Faculties representing the Humanities, Health Sciences, Sciences and Technology. ULiège is located in 3 Cities in Wallonia: Liège, Gembloux, Arlon. ULiège collaborates with more than 1,000 teaching and research Institutions throughout the world. It boosts its research centres in fields such as biotechnologies, life and medical sciences (human and veterinary), agro-bio tech, space and engineering sciences, environment. ULiège has a strong expertise in the exploitation of research through managing patents and creating spin-off companies. ULiège is a major employer: more than 5,600 employees, and 12,000 jobs together with the University Hospital (#CHULiège). www.uliege.be / #ULiège

About Katabata project

The University of Liège developed the Katabata project, which aimed to assess the potential of the powerful and regular katabatic winds of southern Greenland to transform the electrical energy produced into e-fuels.

https://www.katabata-project.uliege.be/cms/c_5654602/en/katabata-project

About TES:

TES is a global green energy company leading the way in the production of e-NG (electric natural gas derived from green hydrogen). Headquartered in Europe, TES is committed to making reliable and affordable green energy accessible to all by implementing giga-scale projects that harness the power of sunlight. By expanding its operations across the United States, Middle East, Asia, and Australia, the company utilizes solar and wind energy from cost-effective regions abundant in sunlight or wind. TES follows a sustainable approach by using green hydrogen, generated from solar and wind power, and combining it with CO2 to produce

e-NG. This transformation results in a renewable molecule that can be easily transported and stored using existing infrastructure. Through the supply of e-NG to various industries, TES aims to win the climate race ensuring the mass adoption of solar and wind energy across the globe.

www.tes.com

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Latest scientific publication from the ULiège/TES group: Synthetic methane for closing the carbon loop: Comparative study of three carbon sources for remote carbon-neutral fuel synthesis - <https://orbi.uliege.be/handle/2268/307481>

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