

## D2.2 Testing and performance report of heat exchangers



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This project has received funding from European Union's Horizon Europe's Research and Innovation Program under grant agreement No. 101103966. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

## Deliverable 2.2

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Actual Submission Date: **31/08/2024**

Produced by: **UT- Cosquillo, Aldo**

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# TechUPGRADE

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**HORIZON-CL5-2022-D4-01**

**Thermochemical Heat Recovery and Upgrade for Industrial Processes**

*Grant Agreement no.: 101103966*

*Start date of project: 1 May 2023 - Duration: 48 month*

**DELIVERABLE FACTSHEET**

Deliverable D2.2	
<b>Nature of the Deliverable:</b>	Testing and performance report of heat exchangers
<b>Due date of the Deliverable:</b>	M15 – 31/07-2024
<b>Actual Submission Date:</b>	M16 – 31/08-2024
<b>Produced by:</b>	Cosquillo, Aldo
<b>Contributors:</b>	Fedorov, Serhii ;
<b>Work Package Leader</b>	UT – Singh Abhishek
<b>Reviewed by:</b>	Roushenas, Ramin; Singh Abhishek

Dissemination level	
	PU = Public
	PP = Restricted to other programme participants (including the EC)
	RE = Restricted to a group of the consortium (including the EC)
<b>CO</b>	CO = Confidential, only members of the consortium (including the EC)

## 1 Summary

This deliverable focuses on the performance analysis of the TechUPGRADE heat exchanger to be used in the TechUPGRADE reactor. The innovative design presented in deliverable 2.1 has the heat exchanger integrated into the thermochemical heat upgrade reactor. Therefore, the present deliverable provides the performance of a heat exchanger integrated with the reactor. The reactor design is fabricated by TMEC and delivered to DLR for testing purposes. Strontium bromide is used as the reactive material. Several sensors are utilized for measuring the temperature, steam pressure, and HTF mass flow. A total of six thermocouples are used in the reactor assembly. One complete cycle of dehydration and hydration is carried out. The measured temperature of the material clearly shows a strong chemical effect which depicts that heat addition is effective which is one of the important parameters of a good heat exchanger. These experimental results will be used to further improve the reactor/heat exchanger design in the future.

## 2 Explore Our Findings: Contact for Detailed Insights

For further information on the research methodology or specific results, please contact the TechUPGRADE consortium by filling out the contact form on our website. Detailed project insights are available upon request to interested and qualified parties.

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