

HyCARE: HYDROGEN CARRIER PER L'ACCUMULO DI ENERGIA RINNOVABILE



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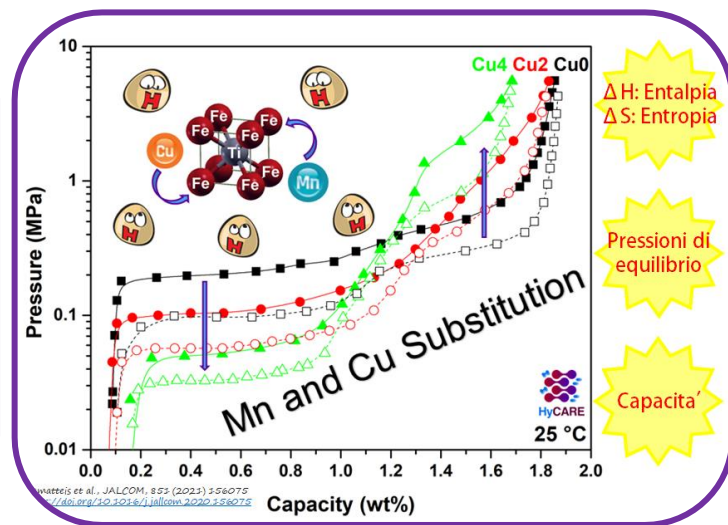
**Sostenibilità
in Lombardia**

**VERSO IL 3° FORUM
19-22 OTTOBRE 2022**

HyCARE Hydrogen Carrier for Renewable Energy Storage

Download the app
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in augmented reality

<https://hycare-project.eu>



Industrial synthesis \rightarrow **H₂ sorption properties** \neq **H₂ sorption properties** \leftarrow **Laboratory synthesis**

TiFe_{0.85}Mn_{0.05}

Matrix: TiFe_{0.85}Mn_{0.05}

Legend: β -TiFe_{0.85}Mn_{0.05}, Ti_{0.85}Fe_{0.15}Mn_{0.05}O_{0.5}, TiFe_{0.85}O

TiFe_{0.85}Mn_{0.05}
pCT 55 °C
ABS: 25 Bar
DES: 1 Bar



PCM = Phase Changing Material
MH = Metal Hydride
2M + H₂ \rightleftharpoons 2MH + Q

H₂ Absorption (Left): H₂ flow enters, heat flow is added, H₂ is absorbed into MH.

H₂ Desorption (Right): Heat flow is added, H₂ is released from MH, H₂ flow exits.

Quantità
50 kg H₂
Efficienza
Alta
Costo
Basso

In sicurezza
<30 bar
Basse pressioni
<70 °C
Basse Temperature

[Brochure](#)

[HyCARE's Video](#)