



Eco-Tech Ceram



« The high added value Heat »





Energy Cost Uncertainty: A Key EBITDA Driver

1) Industry :

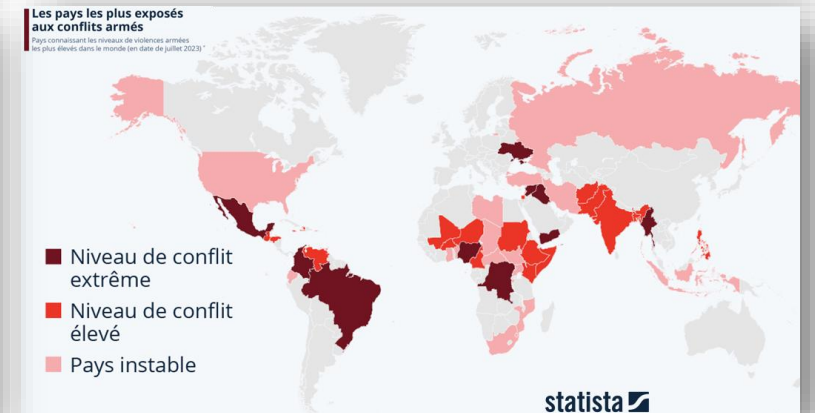
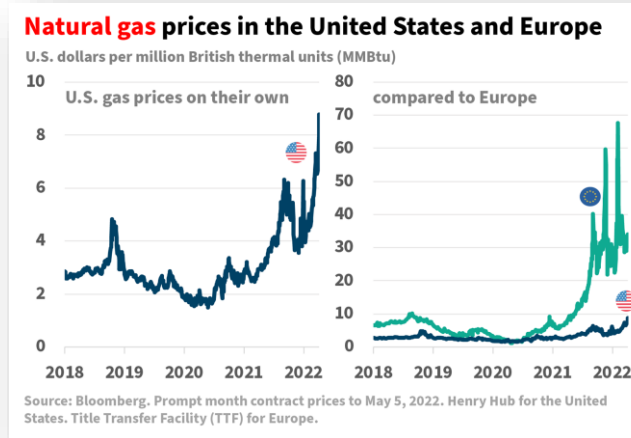
- volume industry
- tight margins
- High energy costs

2) Energy prices:

- country-dependent
- volatile
- impacting EBITDA

3) Volatility will increase:

- Geopolitical conflicts
- Climate change
- Regulation for Decarbonization





Reduce, secure and decarbonize your heating needs



Our mission: to provide industry with the most cost-effective and sustainable low-carbon heat possible

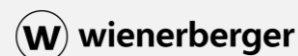
Sectors: ceramics, metallurgy, glassmaking, aggregate extraction, agri-food, paper & cardboard, etc.

Turnkey approach: from design to implementation, with a single point of contact (technical and financial).

**+35 000 h
of operation**



**+2000 tCO2
savings**

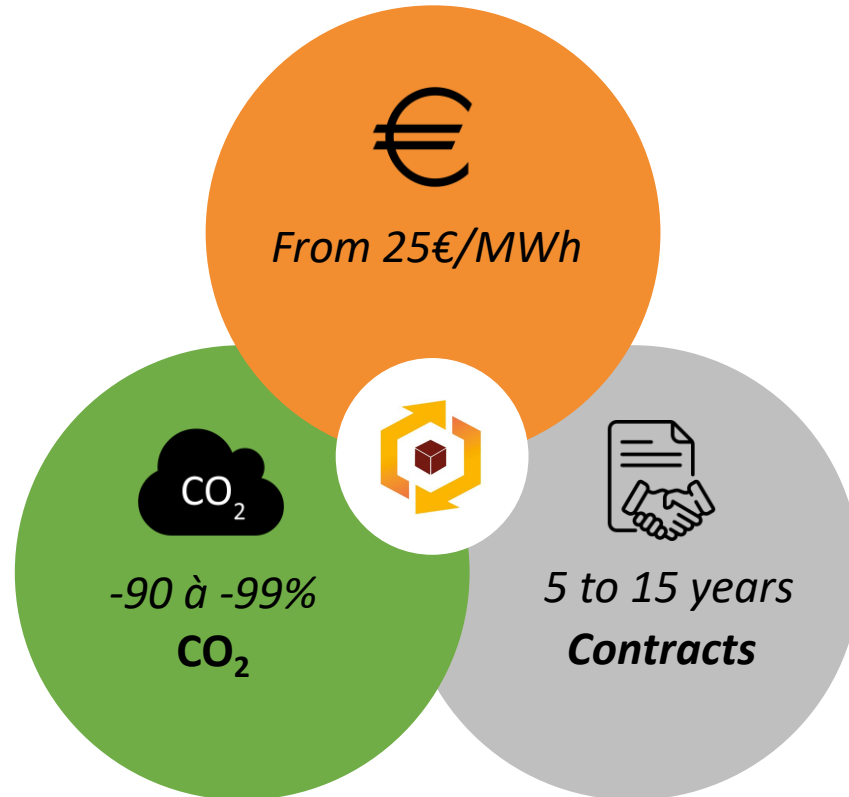


**+1000 k€
savings**





Our service : high value-added heat



OUR STRENGTHS

-  Large range of temperature
-  Innovative storage system
-  Innovative electrification system
-  0 € Investment for the clients

OUR VISION

-  World-class decarbonized, efficient & competitive industry



Competitive Heat from Waste Energy



Waste

Heat

World potential
= 20 000 TWh



Waste

Electricity



high
value
heat



Hot Air



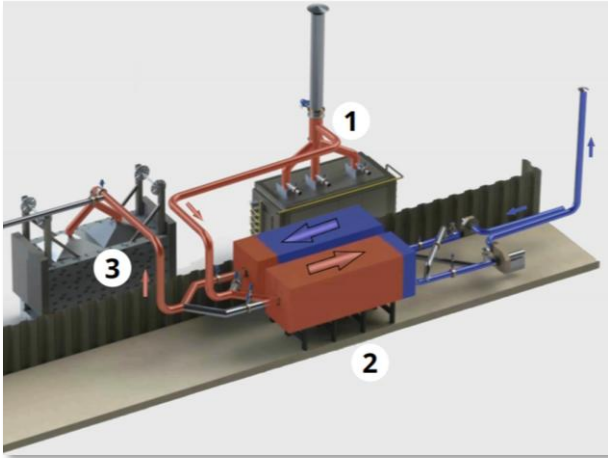
Steam



Hot Water



15 Years of Expertise in Industrial Heat Solutions



2010

- Thesis: Energy storage, Antoine Meffre, CNRS PROMES
- Design of a TRL4 thermal storage unit
- ADEME /ANR Eco-design prize

2013



2014

- **Creation of Eco-Tech Ceram**
- **TRL 5 → TRL9**
- 3 world innovation competitions
- +50 publications and 5 patents
- +7 M€ sales
- **Capital raising : 15 M€**
- **8 operational installations**



2024

- **Creation of ETC invest**
- + 100 000 h of operation
- + 2000 tCO2 saved
- **Validation of GRDF performance**
- Network of partners
- 17 employees experts in high VA heat
- **Series B financing round: €45 million**



Expert in High-Value Industrial Heat Solutions



Project management



Materials



Thermal



Process



Mechanics



Automation



Digitalization



Financing

-  **Scientific, industrial, financial and environmental skills**
-  **Proposal force, innovation, determination**
-  **Strategic and complementary partners**
-  **Single point of contact from design to heat supply**





Our Clients Today: Decarbonizing Sustainably & Profitably



« The Eco-Stock® solution not only improves the energy efficiency of the baking process but also increases our production capacity. »

**- Nicolas Ducrot, CEO,
Tegulys**



« Thanks to its Eco-Stock® solution, Eco-Tech Ceram will enable us to recover waste heat from the six furnaces at the Pontigny site and put it to good use in our dryers. This will enable us to avoid any gas consumption in the dryers and save 480 tonnes of CO2 per year.»

**- Robert Lacroix, Sustainable
Development Director, Wienerberger
France**

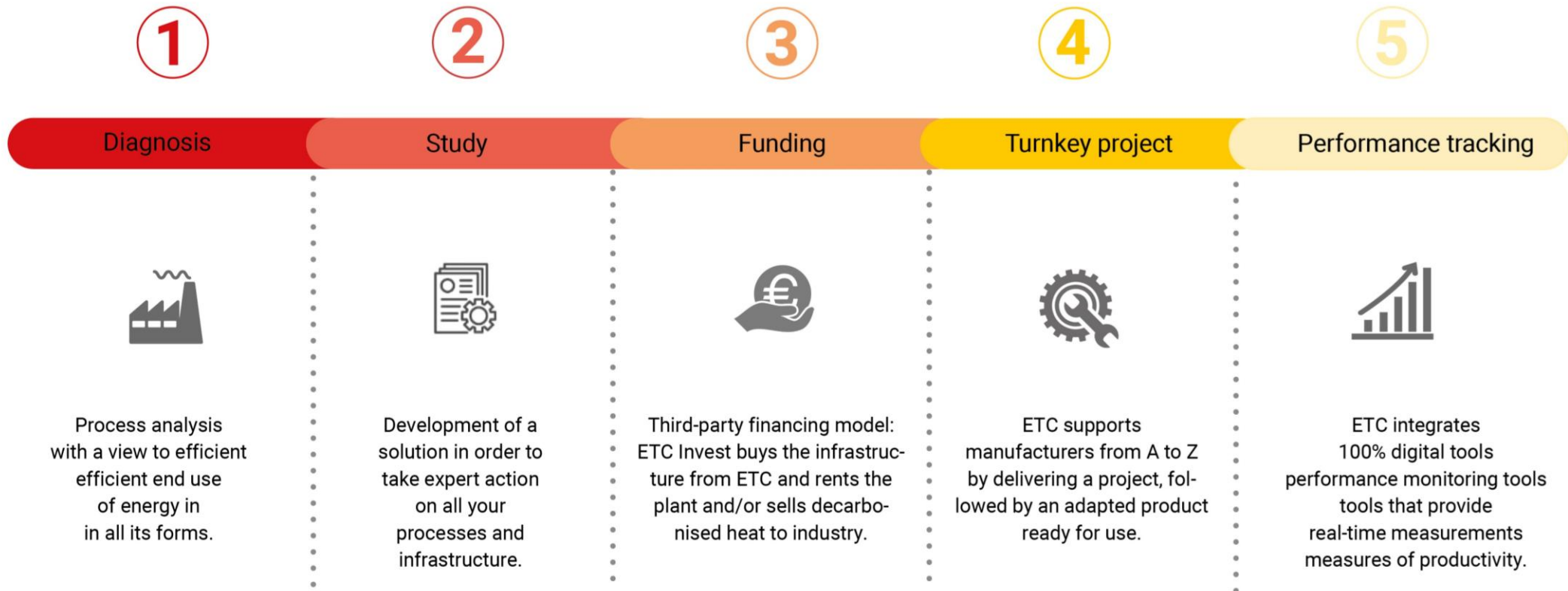


« The plant will thus reduce its gas consumption by 42% compared with 2021. Without these savings, the site would be threatened by rising gas prices.»

**- Laurent Santarelli, Plant Director
Valence d'Agen,
Villeroy & Boch France**



Our Turnkey Technical Offer



“How can you improve the robustness of your EBITDA?”



Our Methodical Solutions

1



Sobriety and energy efficiency

20 % potential savings



2



Heat recovery with or without storage

20 % potential savings



3

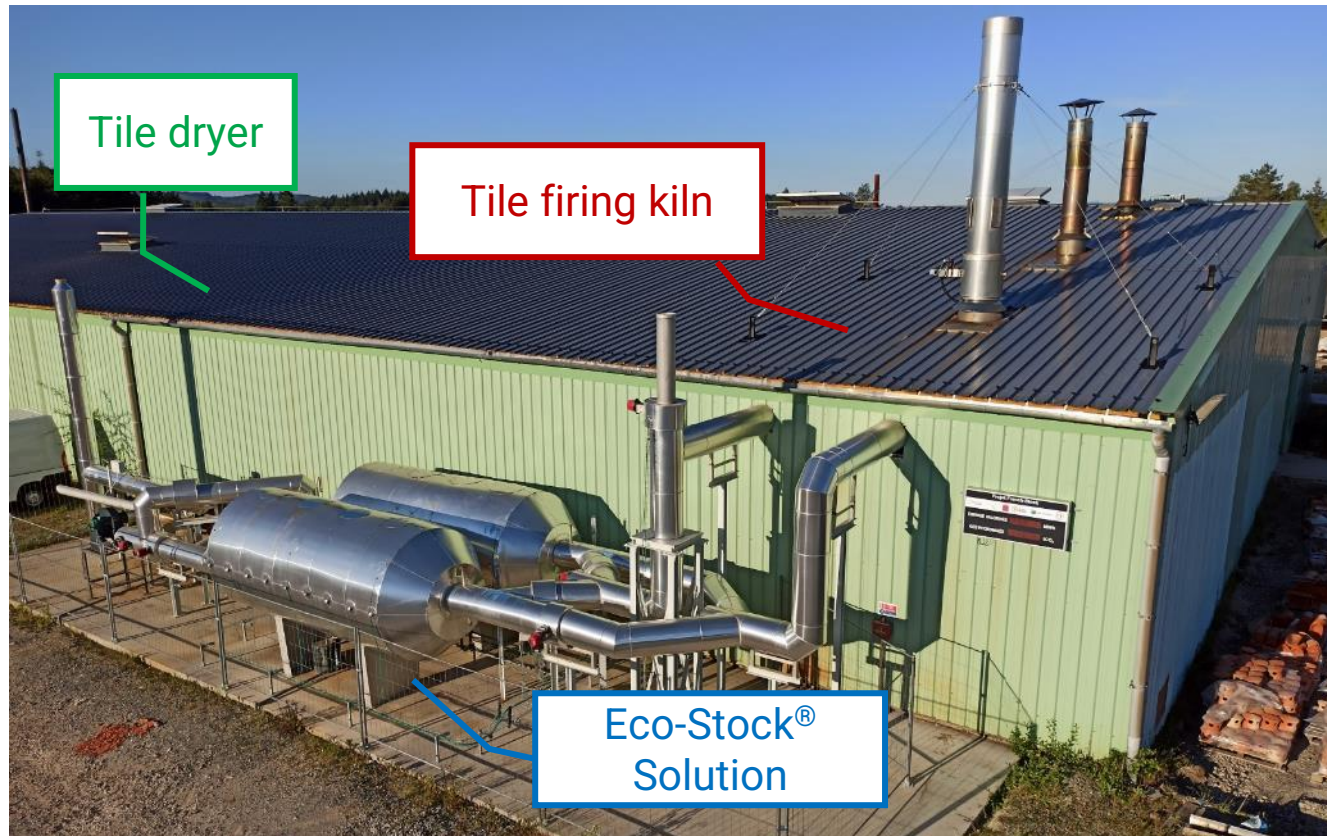


Heat electrification

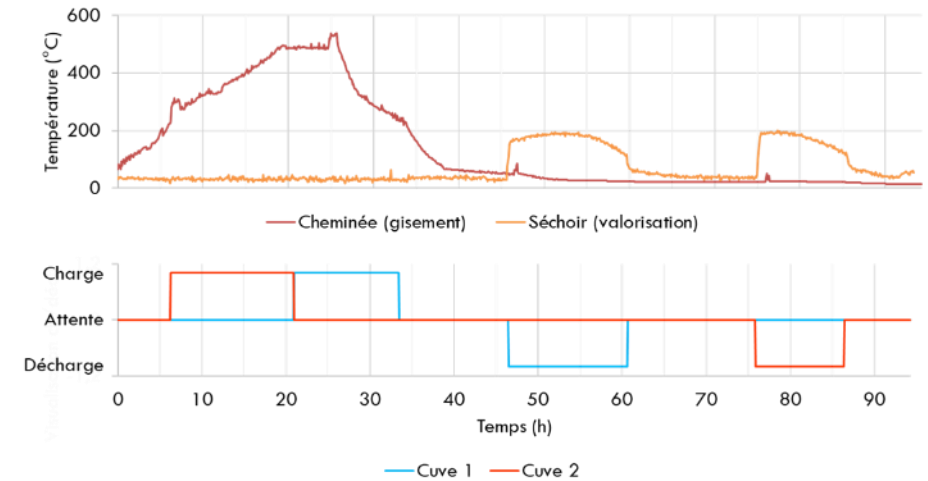
30 % potential savings



The Eco-Stock® – A proven solution



- Savings: **730 MWh/y** (150 t CO₂/y). Specific energy consumption : **-12 %**
- Productivity gains : **+5 %**
- 5 years of operation

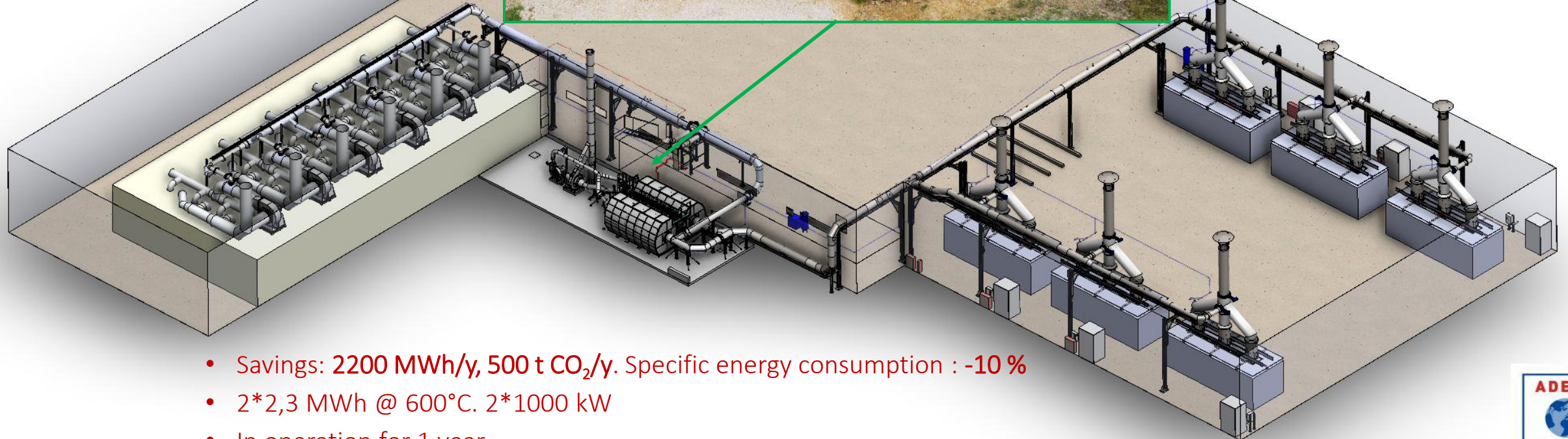


Model vs industrial results

Configuration	Theoretical	After 5 years of operation	Difference
Loaded energy (kWh/cycle)	2 520	2 440	- 3%
Unloaded energy (kWh/cycle)	2 240	2 280	+ 2 %

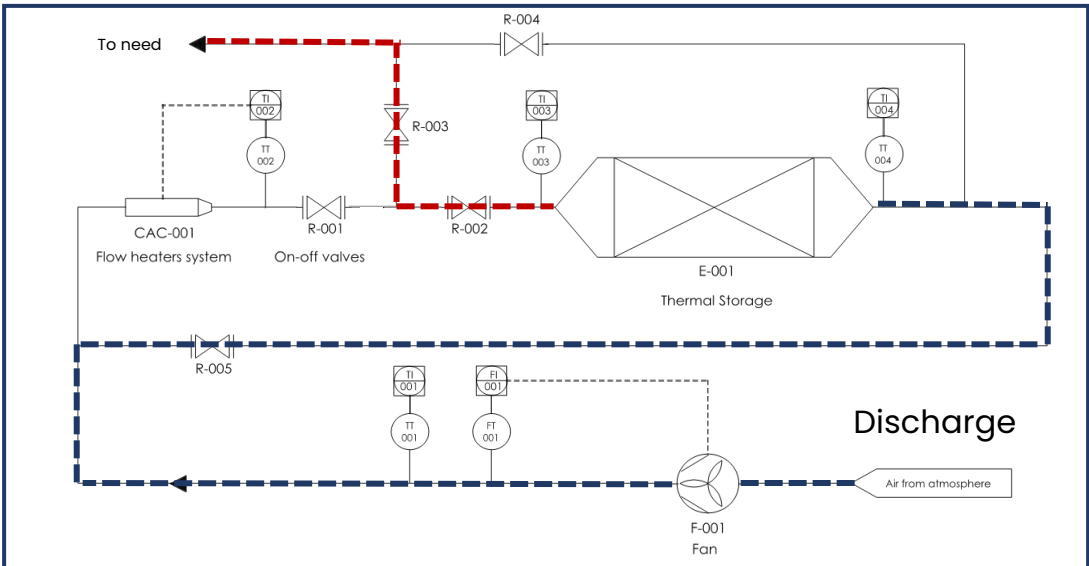
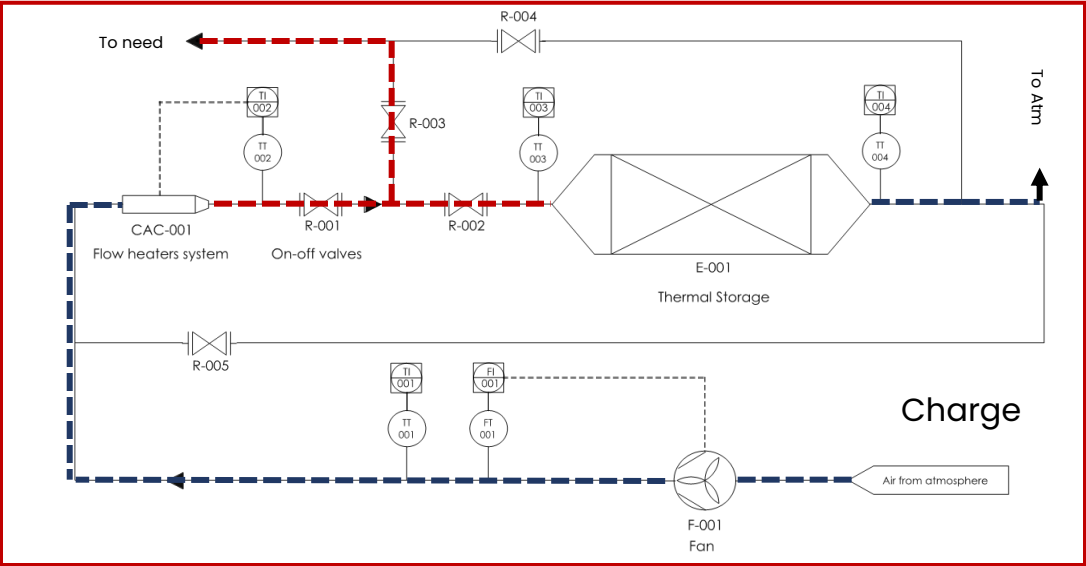
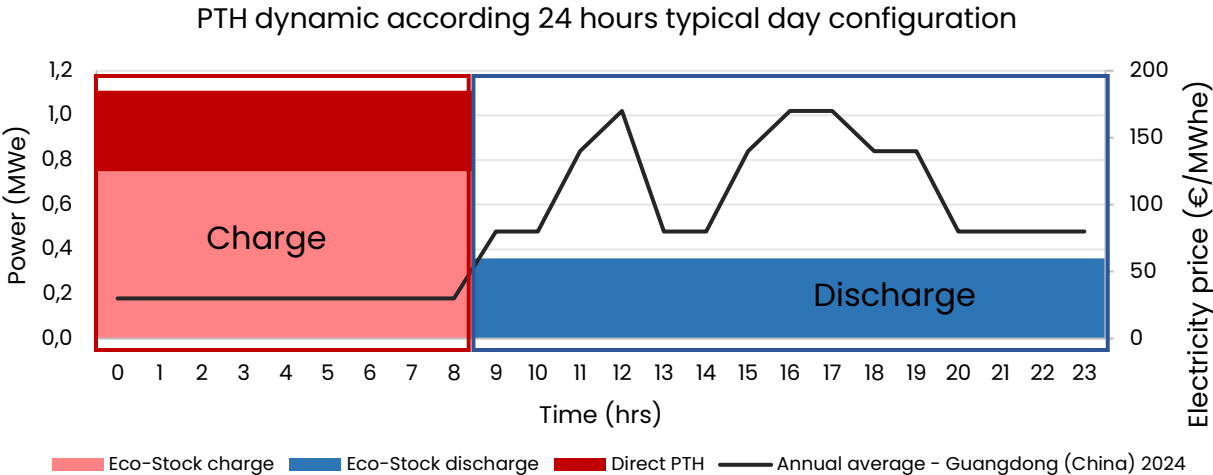
- 2*1 MWh @ 500°C. 2*750 kW
- Storage efficiency: 93%
- ROI: 5 years

Wienerberger's project

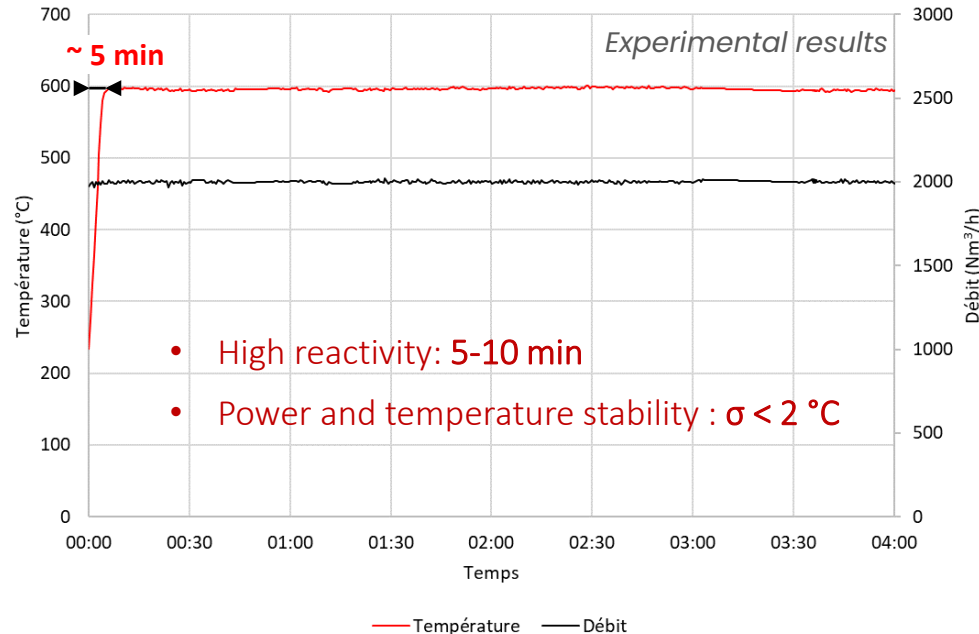
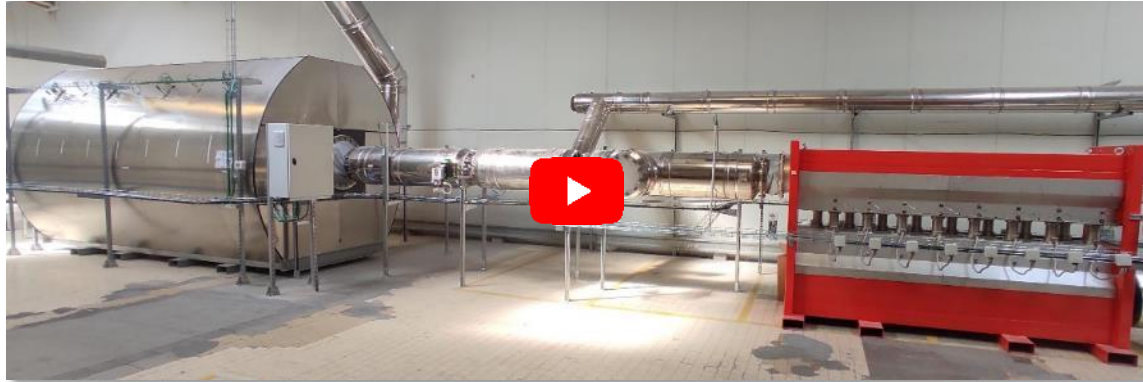


- Savings: 2200 MWh/y, 500 t CO₂/y. Specific energy consumption : -10 %
- 2*2,3 MWh @ 600°C. 2*1000 kW
- In operation for 1 year

The Power-to-Heat system – Concept



The Power-to-Heat system – A proven solution



Villeroy & Boch



3000 MWh saved / year
600 t CO₂/y



250 kWe



2.3 MWh storage capacity

• Villeroy & Boch:

- Convinced by the first PTH project
- Feasibility study ordered for an extension to the entire kiln

• Wienerberger :

- Success of the first Eco-Stock® project with energy performance contract according to IPMVP (*International Performance Measurement and Verification Protocol*)

• A new PTH project :

- 3 MW PTH, 10 MWh storage capacity
- 7 M€ budget
- 20 GWh saved



L'énergie décarbonée

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