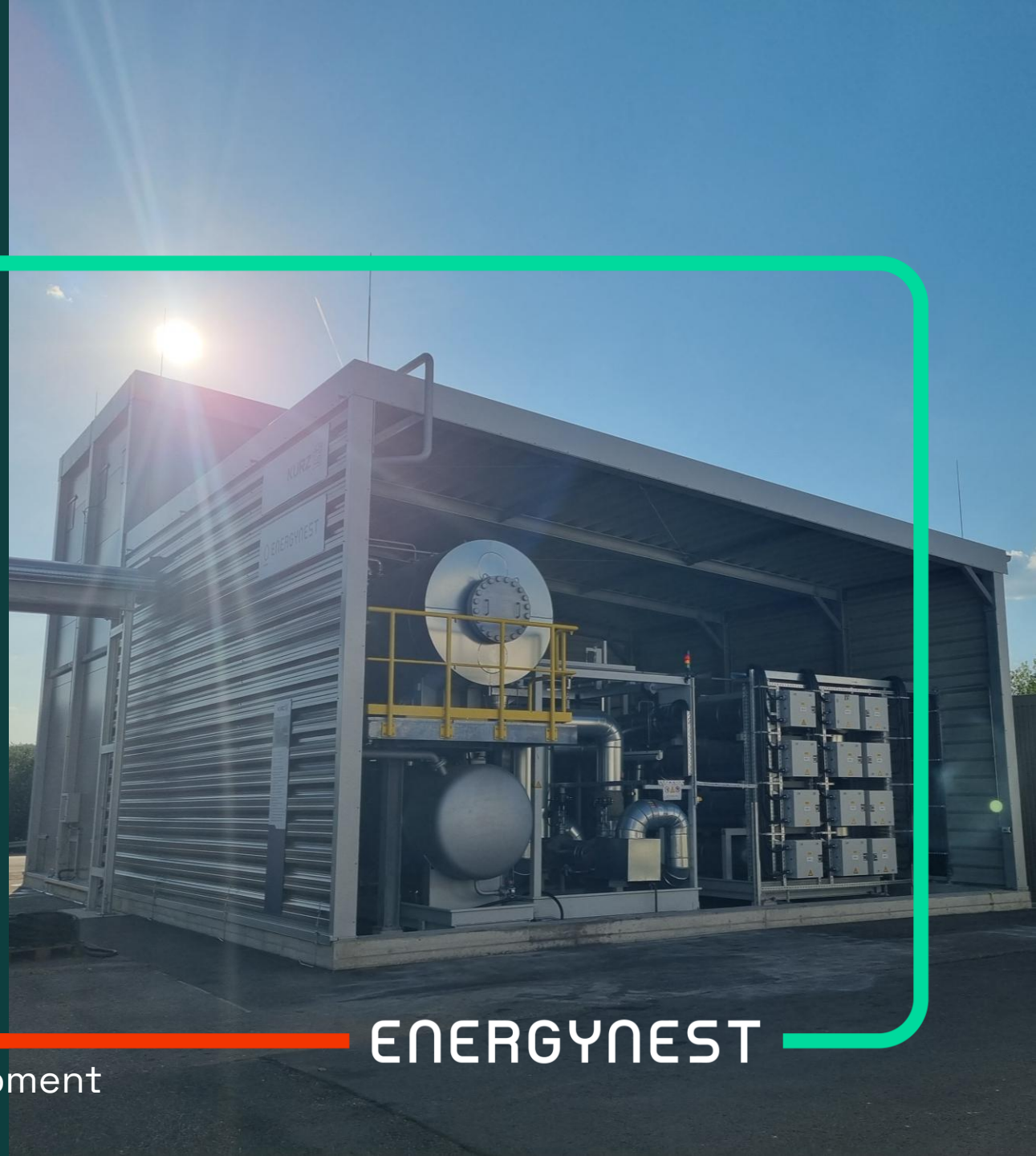
Industrial Power-to-heat + Thermal Energy Storage.

Food sector applications.

DS Bilbao, November 3, 2026

Alberto Crespo Iniesta, Director Project Development



ENERGYNEST

ENERGYNEST

Our offices & our projects

Founded in 2011
Pan-European
~40 employees



Financially well backed, with reliable partners

Infracapital

M&G

DENEFF

TSK

DNV·GL

Heidelberg Materials

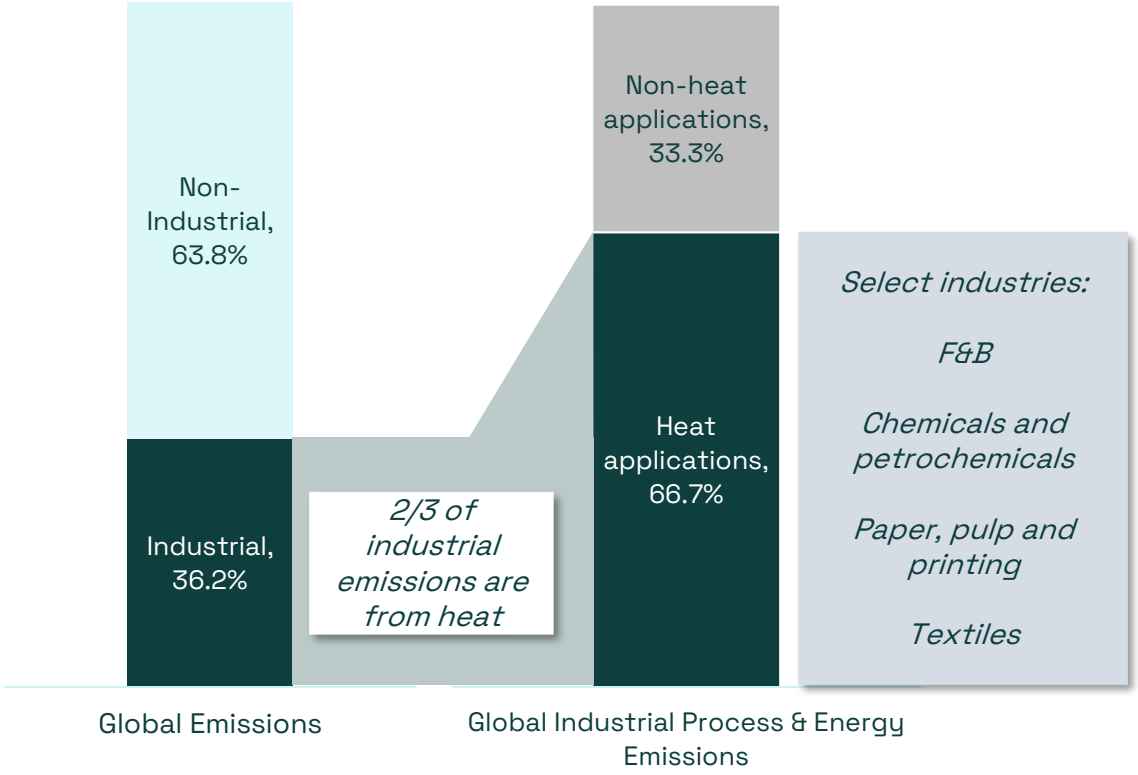
APEX

AC BOILERS

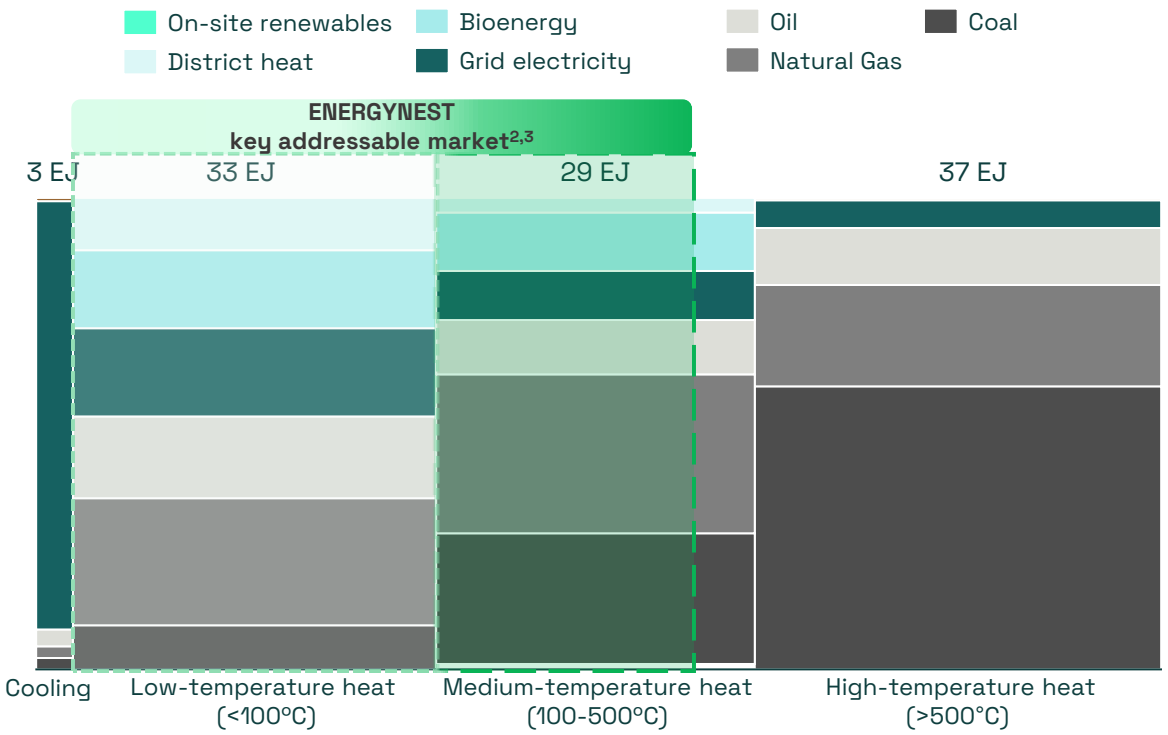
Decarbonising the industrial sector is key to reaching Net Zero…

Industrial heat is responsible for c. 24% of global emissions

Global greenhouse gas emissions by sector and industrial segment[1]



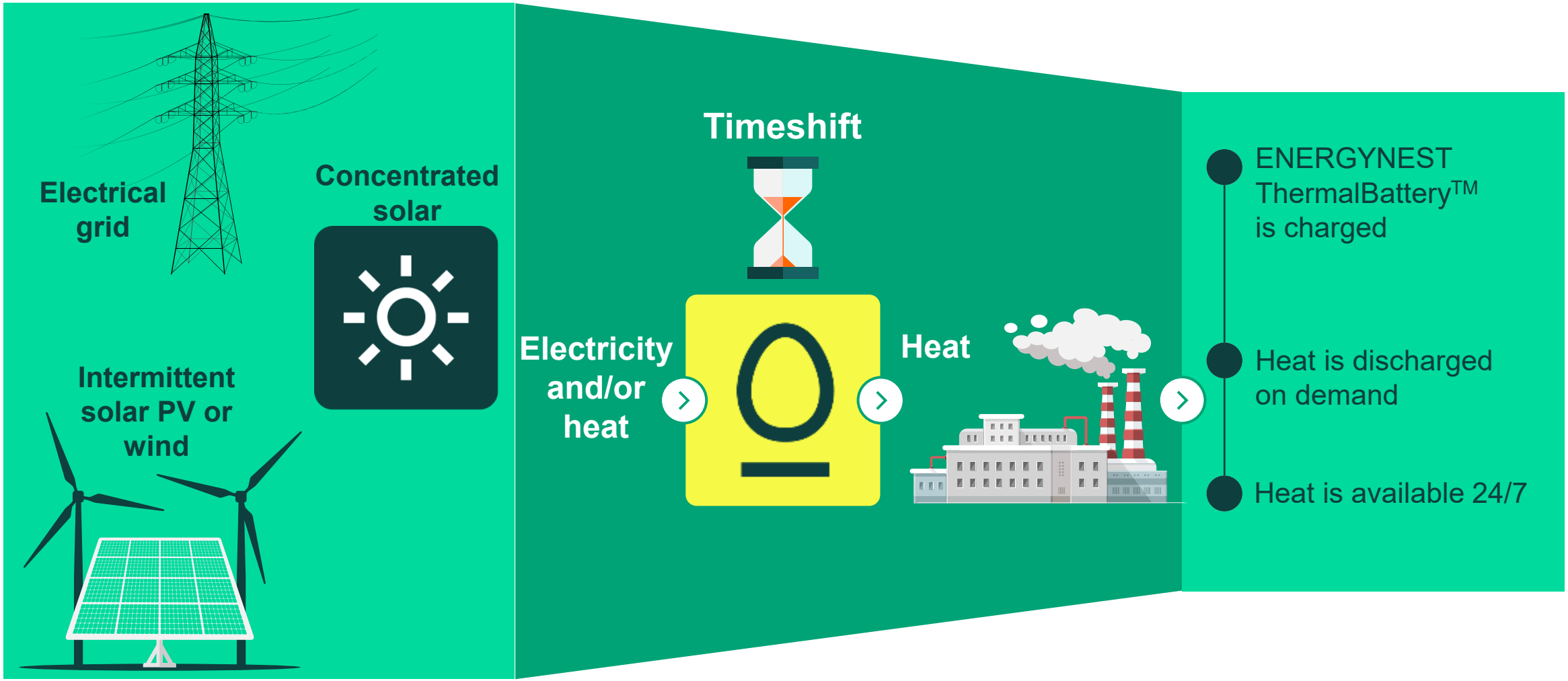
ENERGYNEST displacement opportunity of fossil fuels in industrial heat



1. Data as of 2016;
2. ENERGYNEST solution can address a proportion of the <100°C temperature market through WHR steam balancing;
3. ENERGYNEST solution can address temperatures up to 400°C;

Source: LDES Net Zero Industry Report, January 2024

Why thermal energy storage is crucial to decarbonize?



2 options for Power-to-Heat solutions to cater to the industry business needs

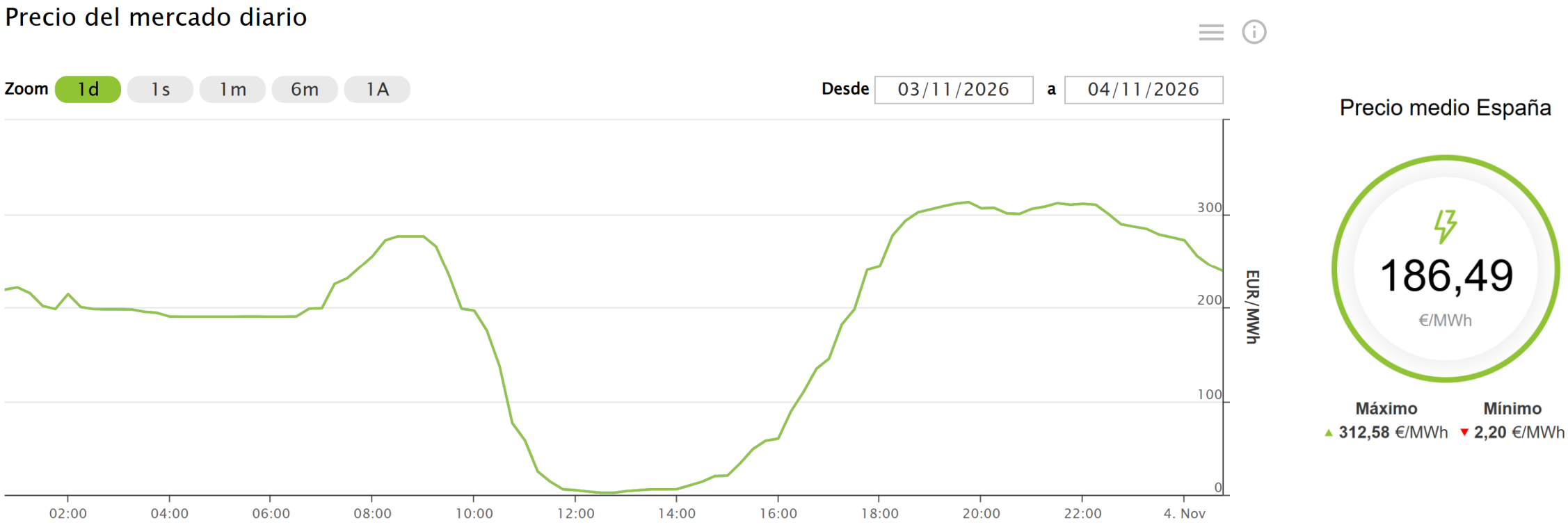
Heat as a Service

"ENERGYNEST takes care of everything."

Turnkey EPC

"You own and operate your asset."

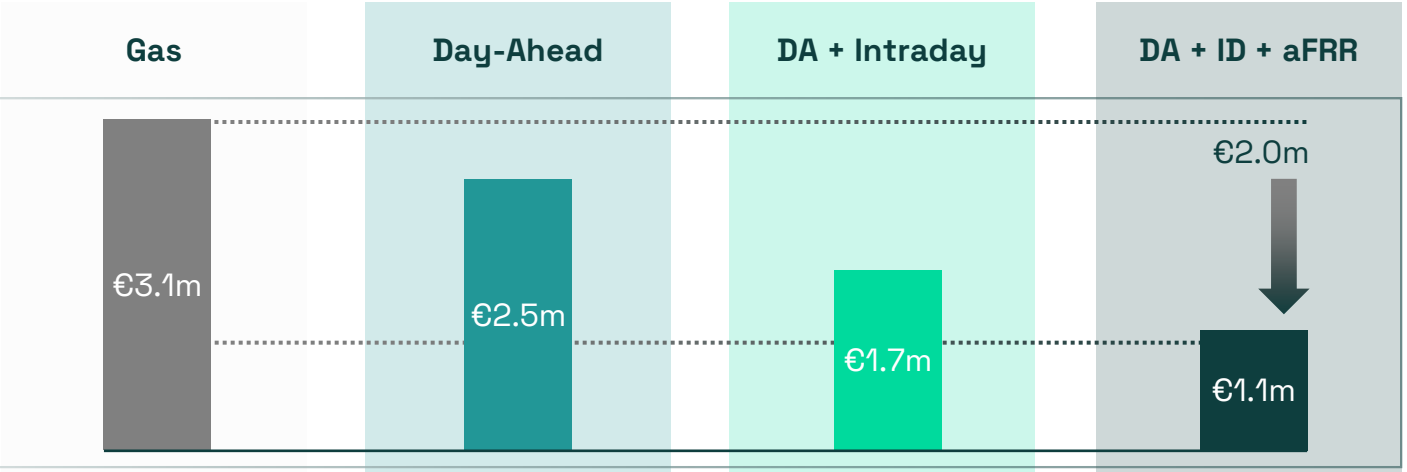
Industrials with heat demand and grid connection can decarbonize while significantly reducing its energy bill



+ Day-ahead and intraday markets
+ Flexibility markets (aFRR)
+ Grid fees optimization

Case example: savings from a 10MW hybrid system (electricity + gas + thermal storage)

Potential annual savings[1] with ENERGYNEST



	Gas	Day-Ahead	DA + Intraday	DA + ID + aFRR
Cost of heat for baseload 5MW (€)				
Cost of heat per MWh (€)	70€	58€	39€	24€
Electrification ratio (%)	0%	34%	36%	52%

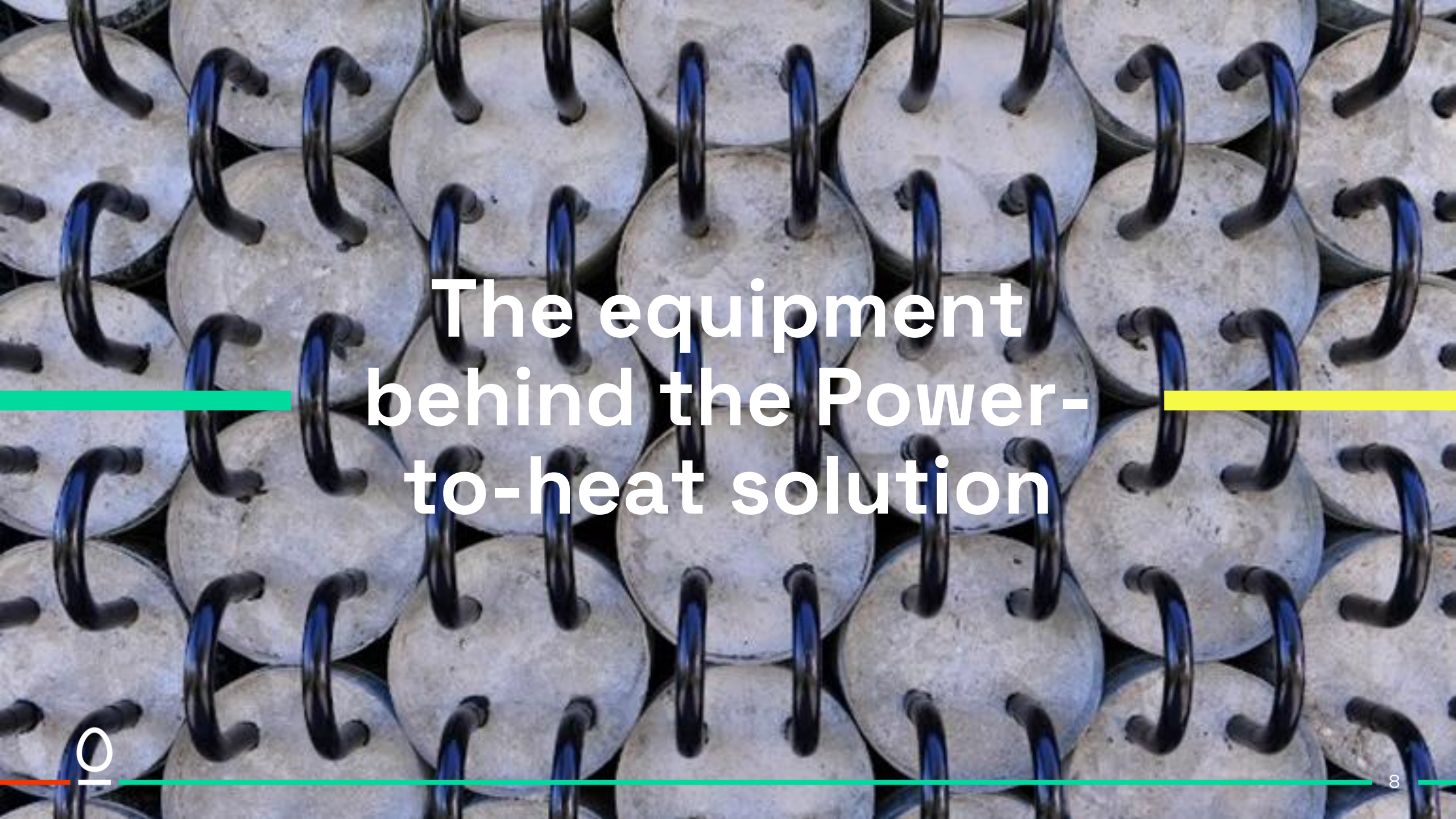
Profitability[1]

Annual savings
€2.0m €

Payback period
2.9 years
Including investment in e-heater, storage, etc. after grant[2]

Emission savings
2,700k tonnes
Electrified system vs. gas-based heat generation.

1) Actual cost savings, emissions reduction and KPIs depend on the individual system configuration and market prices. The figures illustrate an example and do not constitute a binding offer; System: 10MW and 40MWh, 60€/MWhg as reference price for gas, 15€/MWhel for grid fees and levies, 85% gas boiler efficiency, 97% e-heater efficiency and typical German HLFs 2) 25% grant



The equipment behind the Power-to-heat solution

ThermalBattery™ module – a solid-state high temperature heat storage



Materials

Solid-state thermal concrete: HEATCRETE®
Cast-in steel piping
Steel frame
Carbon payback in 2 months

Integration

Modular design for easy integration and transportation

Process

Charging: 390°C
Discharging:
~125°C to >300°C

Maintenance

No moving parts, predictable maintenance
Lifetime:
25 years+

Capacity

Up to
2 MWh_{th}
per module, depending on temperatures

Technology

Projects in operation and under execution
Reviewed by DNV and Fichtner
Market-ready

Flexibility

Provision of

- Steam
- Thermal oil
- Hot air

Efficiency

Thermal efficiency
up to 95 %

Scalability

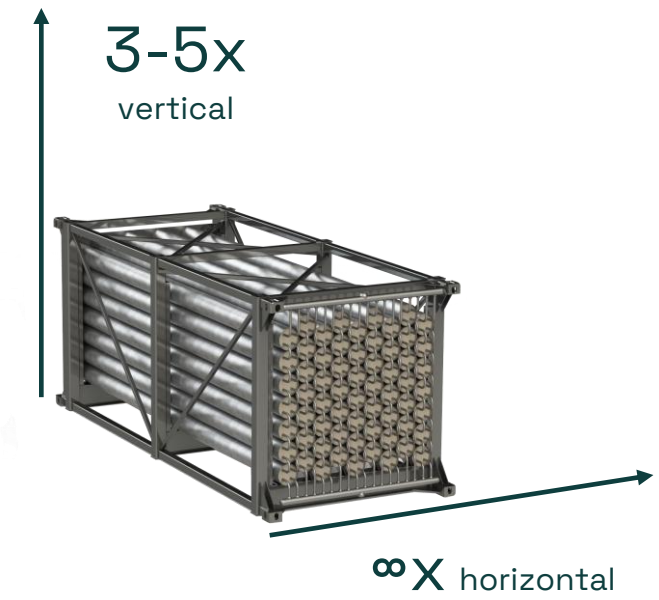
Modular system from 3 MWh to
> 1000 MWh



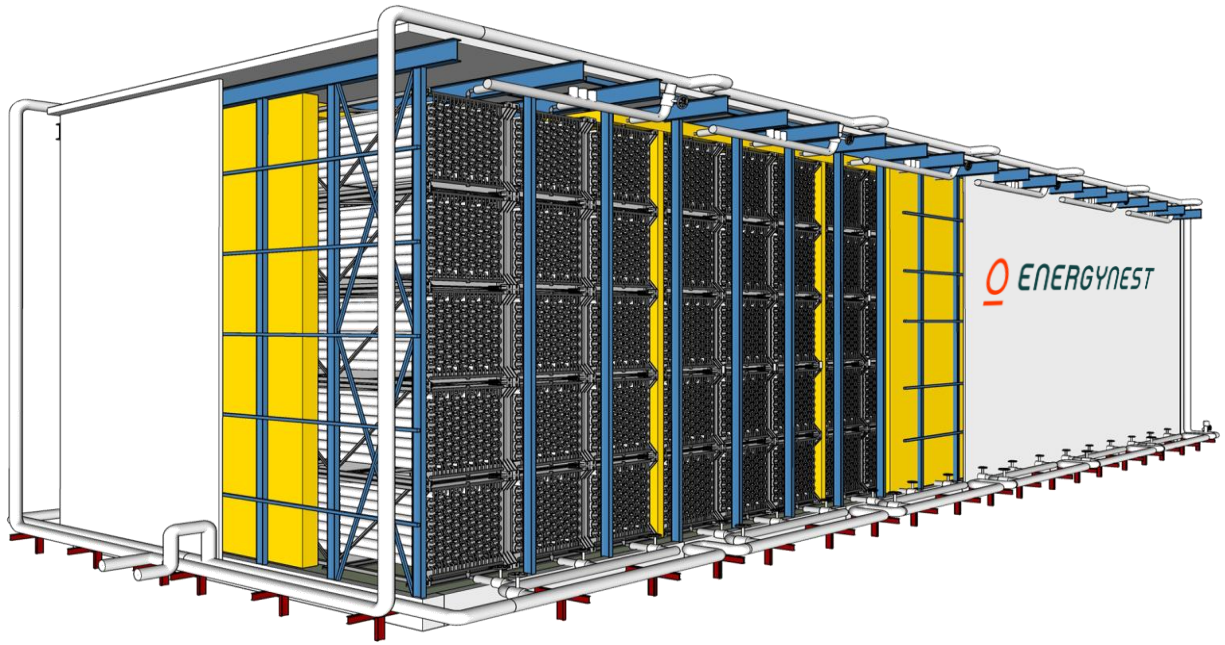

mebin
PEINEMANN

ThermalBattery™ system

ThermalBattery™ module



ThermalBattery™ system



Our scope of supply: Full EPC solutions

Main components:

ThermalBattery™, electric-heater (thermal oil circuit), process plant (pumps, control valves, etc.), steam generator, control system





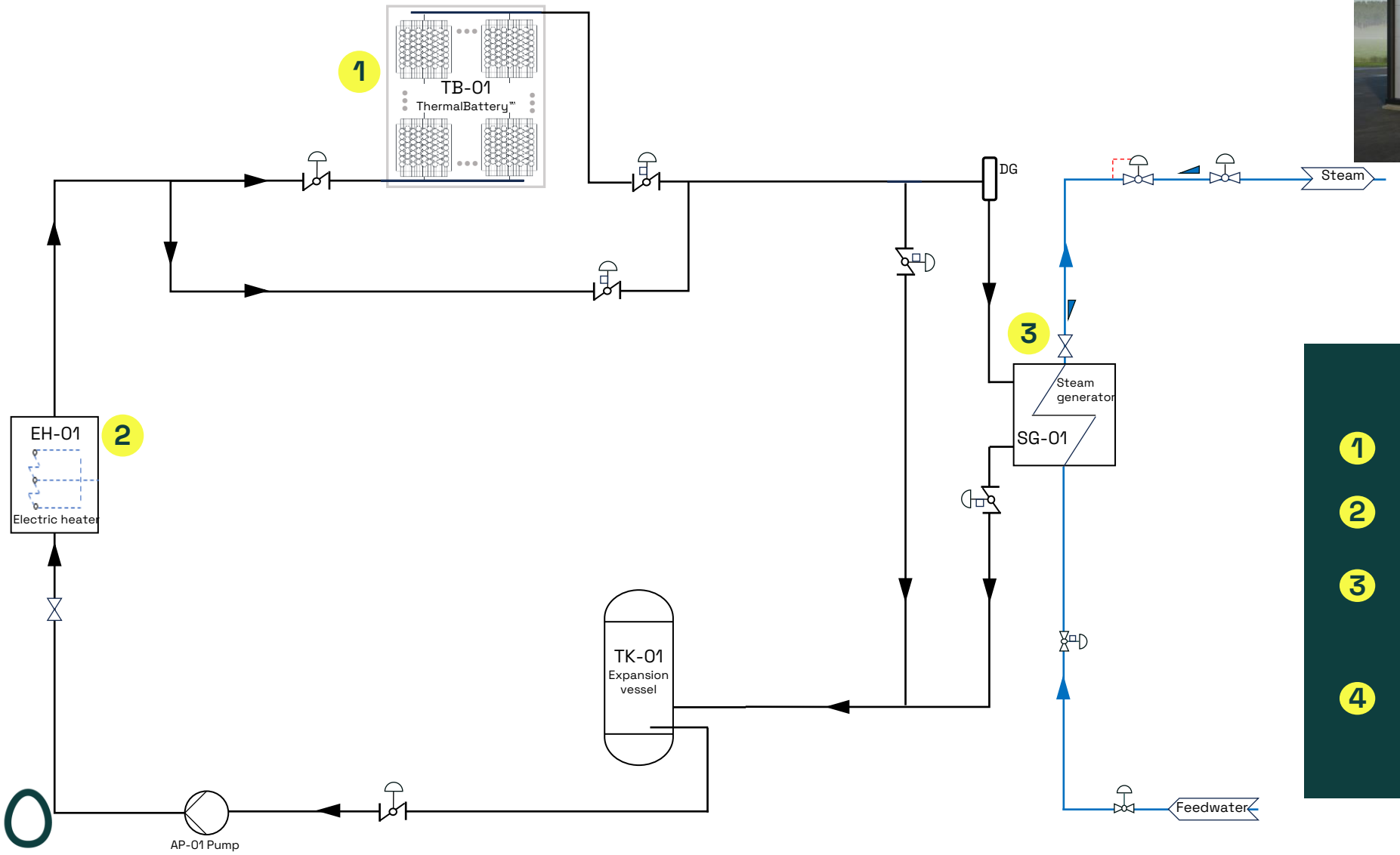






Thermal storage system process layout





1. ThermalBattery™
2. Electric heater
3. Steam generator / HEX
4. Process Plant

Assembly of Modules



Link to video:

https://energy-nest.com/wp-content/uploads/2022/08/EnergyNest-ThermalBatteryAssembly-Timelapse.mp4


ENERGYNEST
projects in
operation and
execution

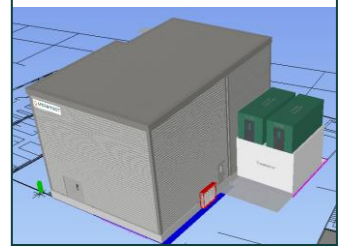
Leading industrial electrification with thermal storage

2011	2014	2021	2023	2023	2025	2026	2026	2027
ENERGYNEST founded	Construction of first pilot	Infracapital investment	Commercial operation at YARA	Commercial operation Avery Dennison	Commercial operation at Eni	Commercial operation at Kurz	Construction of 10MW Tesa project	Construction of 8MW PG project
		Infracapital M&G	4 MWh	5 MWh	1.5 MWh	3 MWe 12 MWh	10 MWe 40 MWh	8 NWe 30 MWh
Masdar, UAE Demonstrator	**Yara, NO** Fertilizer	**Avery Dennison, BE** Adhesives	**Eni, IT** Oil refinery	**Leonard Kurz, DE** Chemicals	**Tesa, DE** Chemicals	**Peter Greven, DE** Chemicals		







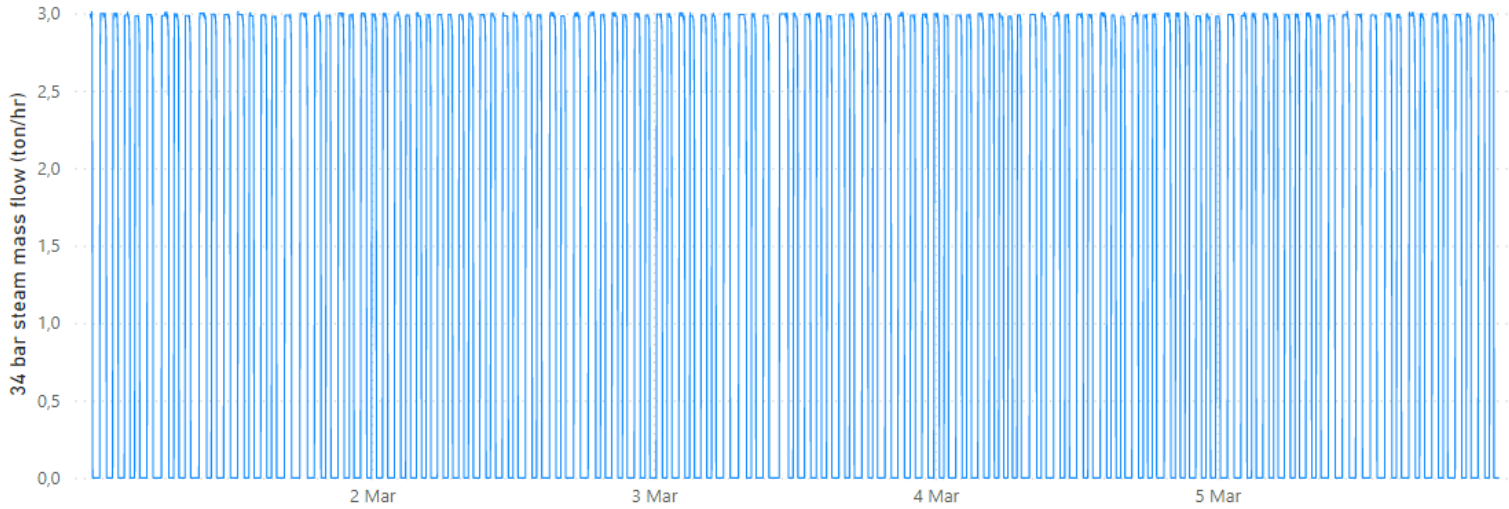



Masdar INSTITUTE · YARA · AVERY DENNISON · eni · KURZ · tesa · PETER GREVEN

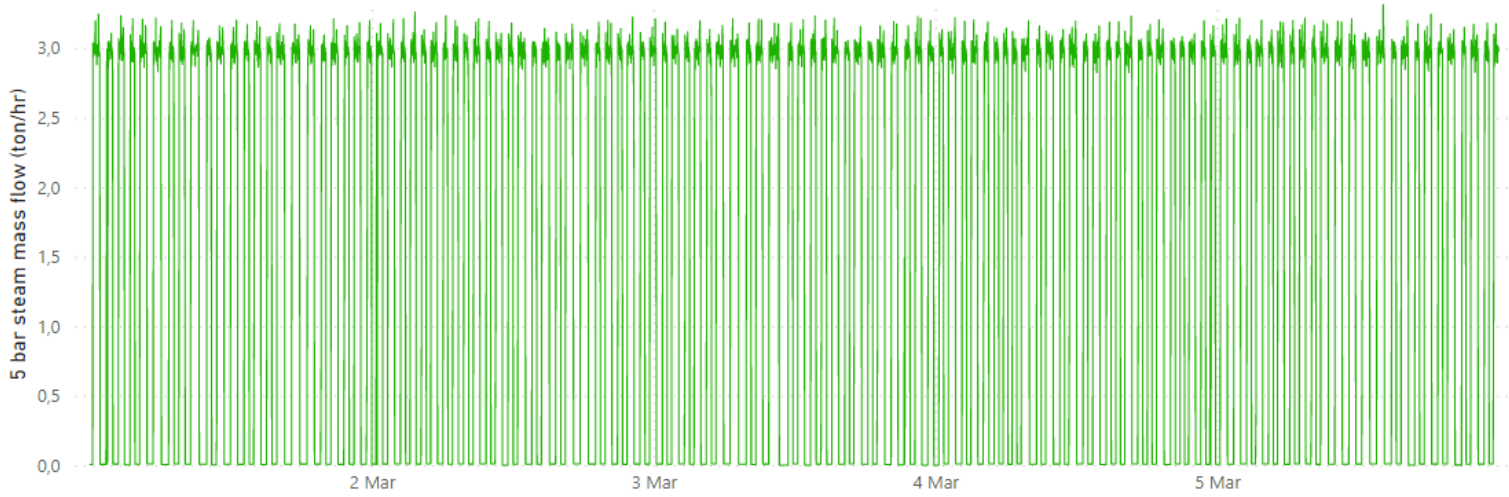
Peer reviewed article from Masdar pilot: Journal of Energy Storage

Continuous & autonomous load-following mode

- 5 bar, 189 °C steam
- Stable performance in load-following operational mode with
- 3 ton/hr mass flow rate for charge and discharge



Charging



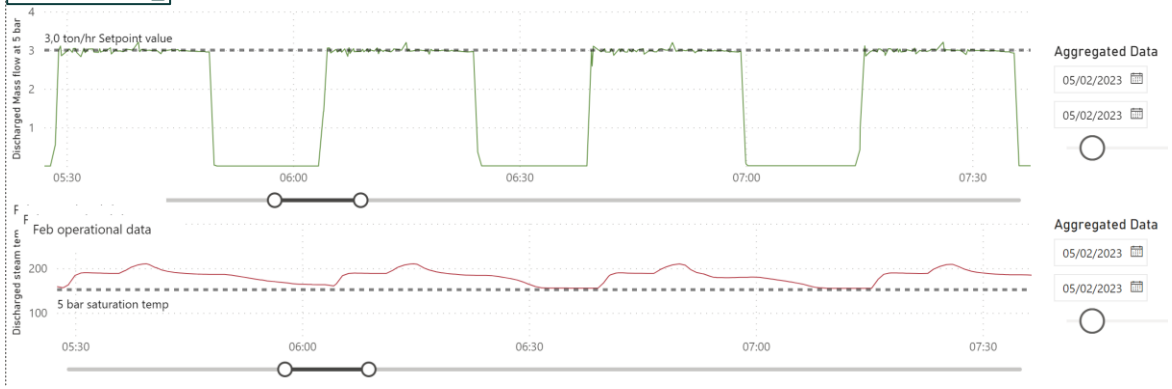
Discharging

In operation since January 2023 in Porsgrunn, Norway

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Dry steam – delivered during discharge

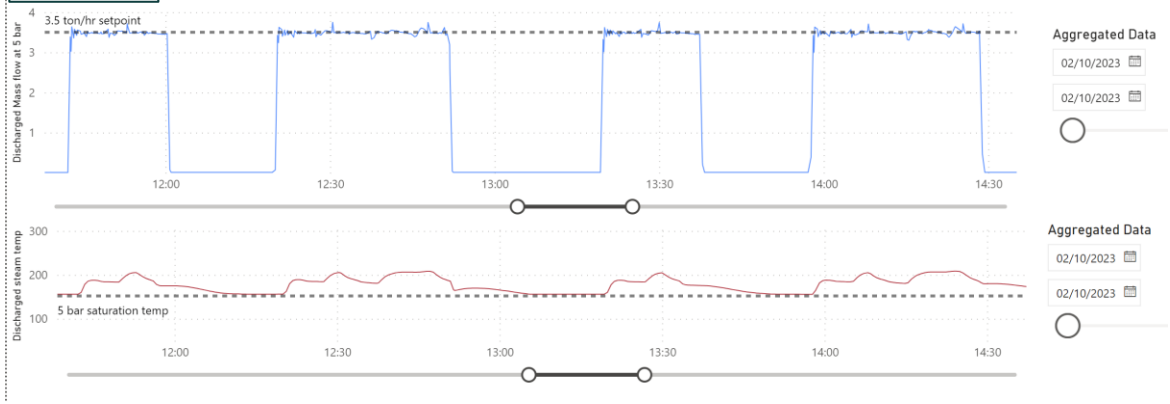
February



May



October



- **Delivered 5 bar steam always above saturation temperature**

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Response time



- Valve response programmed to respect valve specifications and limitations within balance of plant where On/Off valve are located at a distance from the flow control valves
- **Approximately 20 seconds to reach 100 % mass flow**

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Innovation Fund Heat Auction

€1,000 million budget
€600 million for medium-temperature heat (100–400 °C)

Premium for tCO_2 avoided for 5 years
Annual payment linked to verified CO_2 reduction

Ranking by price (up to 400 €/tCO_2)
Each developer asks for the premium that makes their project viable

Bonus for projects with storage
With storage, the supply competes at a 25% lower price

Sep 2026	Dec 2026	Feb 2027	Q2 2027
T&C	Opening of the call	Closing of bids	Expected results

Source: European Commission, IF26 Heat Auction (Sep 2026). Estimated earnings date.

Thank you!



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