



**BRENMILLER**  
THERMAL ENERGY STORAGE

# COMPANY OVERVIEW

September 2024

Nasdaq: BNRG +

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# ABOUT Brenmiller Energy Ltd.

Nasdaq listed: BNRG +

We are a clean-tech company that develops, manufactures and sells our Thermal Energy Storage (“TES”) solutions to decarbonize heat for industry and power plants

**2012** Founded

**\$118m** Capital investments<sup>1</sup>  
since inception

**~50** Employees  
As of September 2024

# Letter from the CEO

Dear Shareholders,

I am pleased to provide you with an update on Brenmiller's recent financial and operational achievements as of September 2024. Our progress is a testament to our commitment to financial sustainability and long-term growth, and we are excited to share several key milestones that underscore our continued momentum.

First, our project opportunity pipeline remains strong, with a potential value of up to \$440 million. This pipeline is crucial to the growth of our bGen™ thermal energy storage solutions market, and we are confident in our ability to successfully mature and execute these opportunities.

Recent agreements highlight the strides we are making in recurring revenue projects, including:

- **Partner in Pet Food (PPF), Hungary:** A 30 MWh bGen™ system designed to reduce gas usage by 25-30%, while also providing low-carbon steam and grid balancing services.
- **Tempo Beverages, Israel:** A 32 MWh installation projected to save \$7.5 million over 15 years, while reducing carbon emissions by 6,200 tons annually.
- **Wolfson Hospital, Israel:** A \$3.55 million project, supported by a \$450,000 grant, expected to generate \$1.3 million in annual savings and reduce emissions by 3,900 tons.

On the financial front, we secured a \$1.05 million private placement on August 2, 2024, at a 52% premium, with the potential for an additional \$1 million investment if our shares reach \$2.50 within the next 12 months. Additionally, on August 30, 2024, we raised approximately \$2.0 million in gross proceeds through our At-the-Market (ATM) equity offering facility, selling 914,000 ordinary shares at an average price of \$2.19 per share. As a result, Brenmiller now has 7,094,791 ordinary shares issued and outstanding.

Since the start of 2024, the Company has raised approximately \$10.8 million in gross proceeds, which could reach \$11.8 million subject to the closure of the private placement. We are also investing significant resources into investor relations campaigns to increase visibility within the investor community. The marked increase in daily trading volume is evidence that these efforts are gaining traction, and we remain optimistic that this progress will be reflected in our share price as we continue to pursue new business opportunities.

We are also excited to announce a groundbreaking development in AI data center cooling with our bGen™ Cool solution. This innovation targets the rising demand for Cold Thermal Energy Storage (CTES) and positions Brenmiller to capitalize on the decarbonization goals and financial opportunities within the rapidly expanding AI sector.

From a financial perspective, our balance are improving. As of June 30, 2024, cash and equivalents have grown to \$6.99 million. Additionally, we have reduced total liabilities by 4% and increased shareholders' equity by 127%. Our efforts to streamline operations have paid off, with our net loss narrowing by 70% to \$1.58 million compared to the same period last year, largely due to increased financial income.

Looking ahead, we are on track to have our gigafactory fully operational by the end of 2024, with an annual production capacity of up to 4 GWh of bGen™ systems. This will significantly enhance our ability to meet growing market demand and drive future growth.

Thank you for your continued support as we strive to build long-term value through innovation and execution.

Sincerely,

Avi Brenmiller  
Chairman & CEO



# From Rocks to Thermal Energy Storage

Rocks are crushed to small bits



Thin metal cells ("bCells") are filled with the crushed rocks



bCells are stacked into 12 meter modules



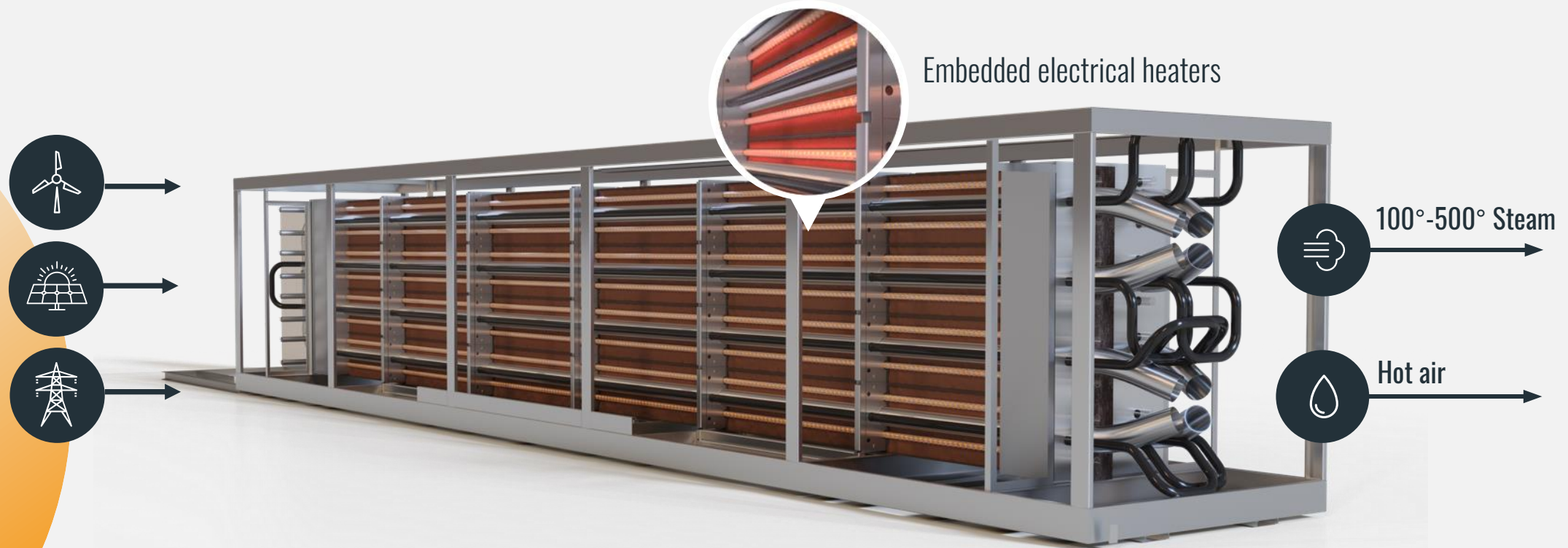
Modules are assembled on-site to a structure

Electrical heaters are embedded

Structure is insulated and connected to plant



# Introducing bGen™ Zero



ZERO EMISSIONS



UNLIMITED CYCLES FOR 30+ YEARS



MODULAR 10MWH - 1000 MWH



COST EFFECTIVE NATURAL MATERIALS

Decarbonizing heat through **tested thermal energy storage**

Source : Company materials

# Brenmiller Overview



**7**  
Global projects



**~\$440m**  
Commercial opportunities



**550°C**  
Steam capability



**\$118m+**  
Capital invested to date



**103 MWh**  
Cumulative projects to date



**4 GWh**  
Manufacturing capacity (at full scale)



**~97%**  
Round trip efficiency<sup>1</sup>



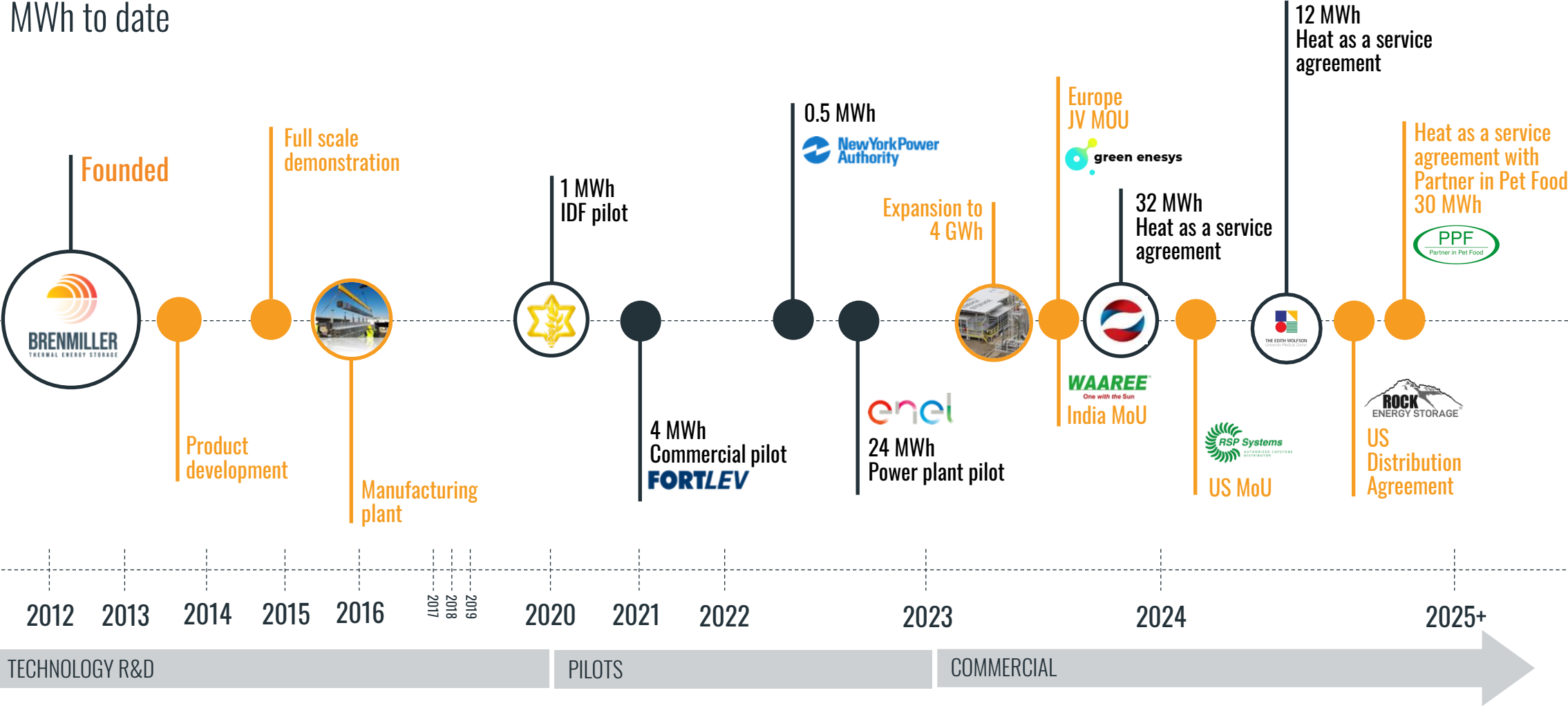
**3,100 TWh**  
Serviceable available market 2030<sup>2</sup>

# Milestones

103 MWh to date

● Development  
Validated & ready to scale

● Commercialization  
103 MWh





# Key Points

## Industry is the largest emitter of GHG

- 11 GT CO<sub>2</sub> annually from industrial heat<sup>1</sup>
- 25% of total global GHG emissions from heat<sup>2</sup>

## “Everything is going electric”<sup>3</sup>

- Renewable electricity now cheaper than fossil fuels
- Power to heat efficiency ~97%

## Thermal Energy Storage (“TES”) = flexibility for grid

- TES charges when convenient for wind & solar
- Minimize curtailment & provide reliable heat

## Brenmiller is a leader in deployed TES

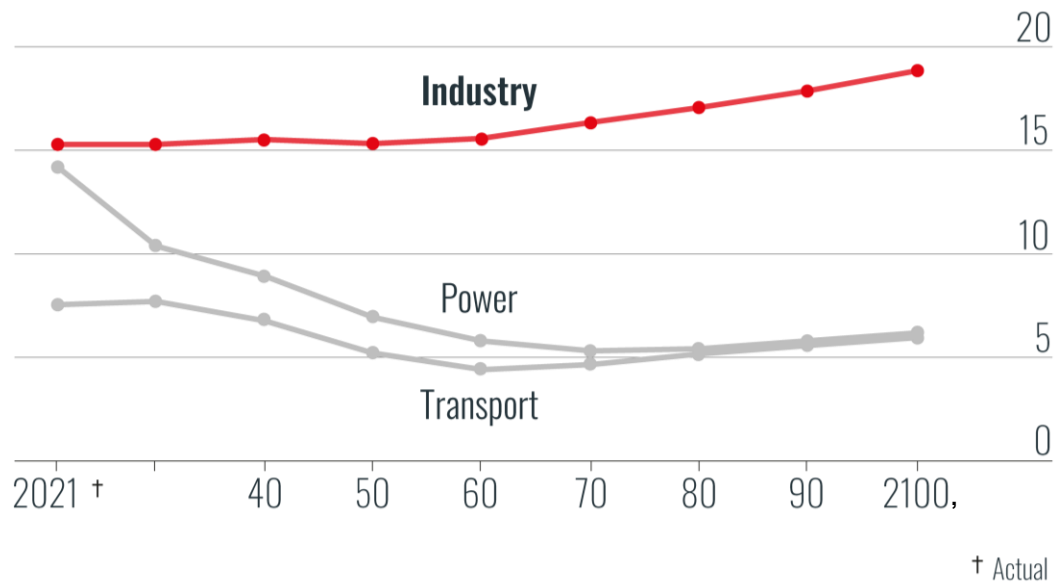
- 103 MWh in operation & construction
- Unique steam-to-steam ability for power plants

Source: Company materials. Industry as defined by the International Energy Agency (IEA).

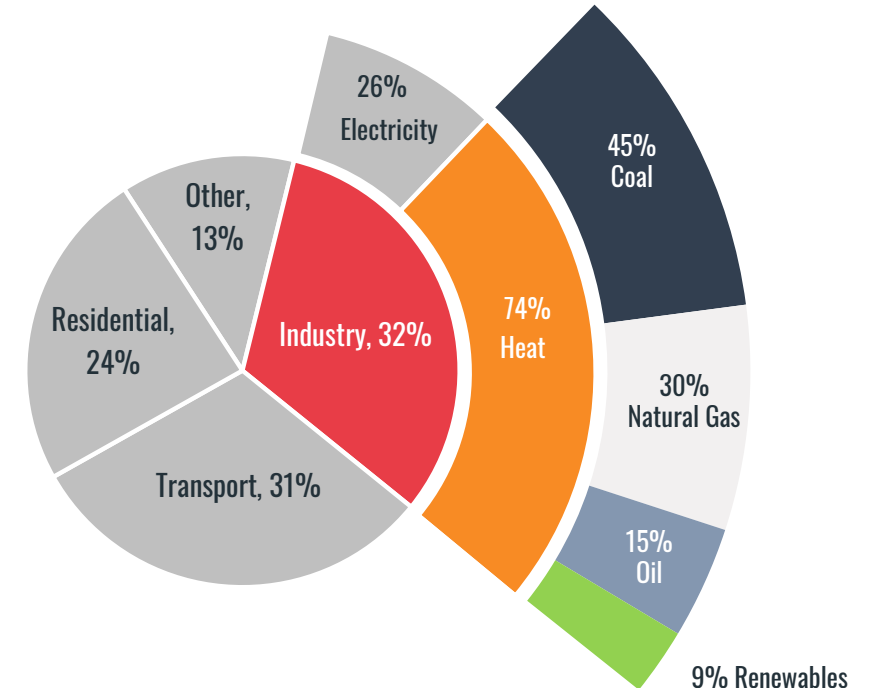
<sup>1</sup>Rhodium Group & IEA. <sup>2</sup>International Energy Agency, Renewable energy for industry, 2017. <sup>3</sup>IEA, Electrification across the industry sector October 2021.

# Renewable Heat Essential for Net Zero

Annual average global emissions forecasts<sup>1</sup>  
Selected sectors gigatonnes of CO<sub>2</sub> equivalent



Global energy consumption

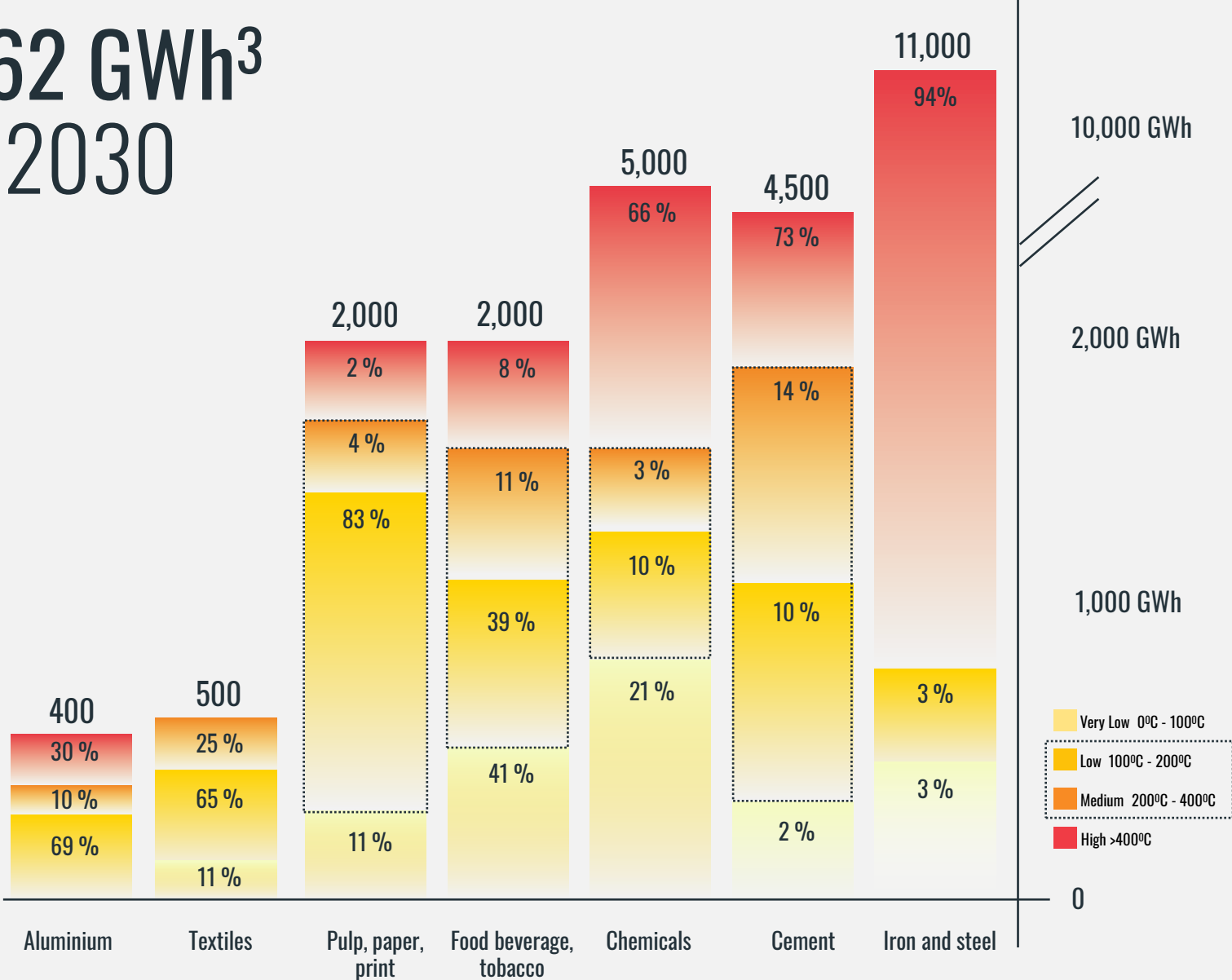


Industrial heat accounts for  $\frac{1}{4}$  of global energy consumption<sup>2</sup>

# Brenmiller Targeting 62 GWh<sup>3</sup> Obtainable Market by 2030



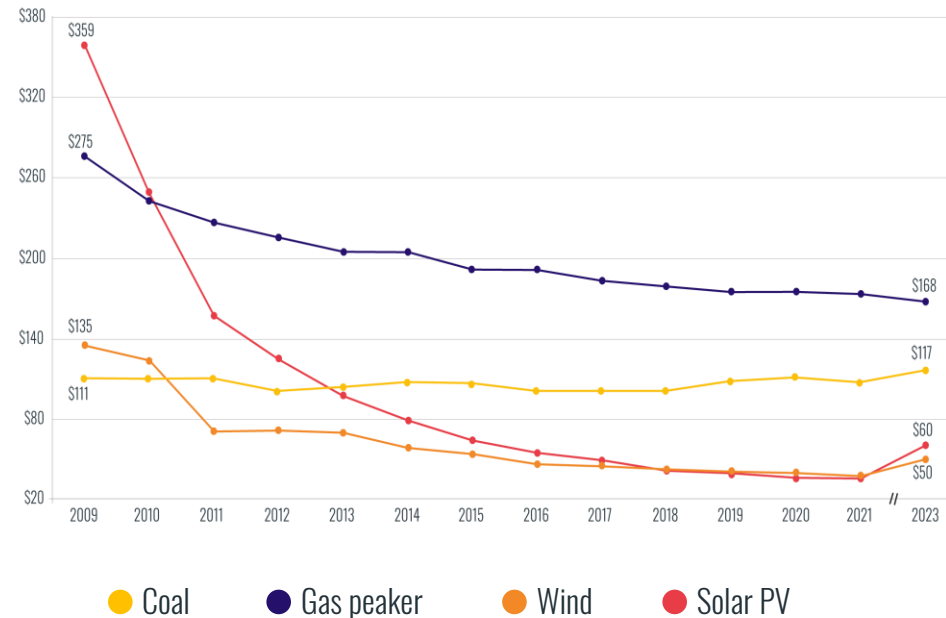
Source: SystemIQ – Global ETES Opportunity, Market sizing boxes are illustrative, not to scale; <sup>1</sup>Based on total TWh heat demand in 2030; <sup>2</sup>Based on first wave retrofit applications between 200-400C according to SystemIQ; <sup>3</sup>Assumes 6,000 operating hours, 4:1 discharge capacity ratio, and 3% market share.



# Industrial Heat from Renewables is Viable

## Cost of power for heat<sup>1</sup>

Mean LCOE  
(\$/MWh)



## Transition from fossil fuels to renewables



- Fossil fuels provide 90% of industrial heat today<sup>2</sup>
- Power to heat TES is proven & able to scale to industrial level<sup>3</sup>
- Renewable Energy costs are more predictable and provide energy security<sup>4</sup>
- Industrial users looking for more cost-effective solutions<sup>3</sup>
- Less expensive, on demand & grid friendly<sup>1</sup>
- EU considering transitioning to 100% green electricity from grid<sup>5</sup>

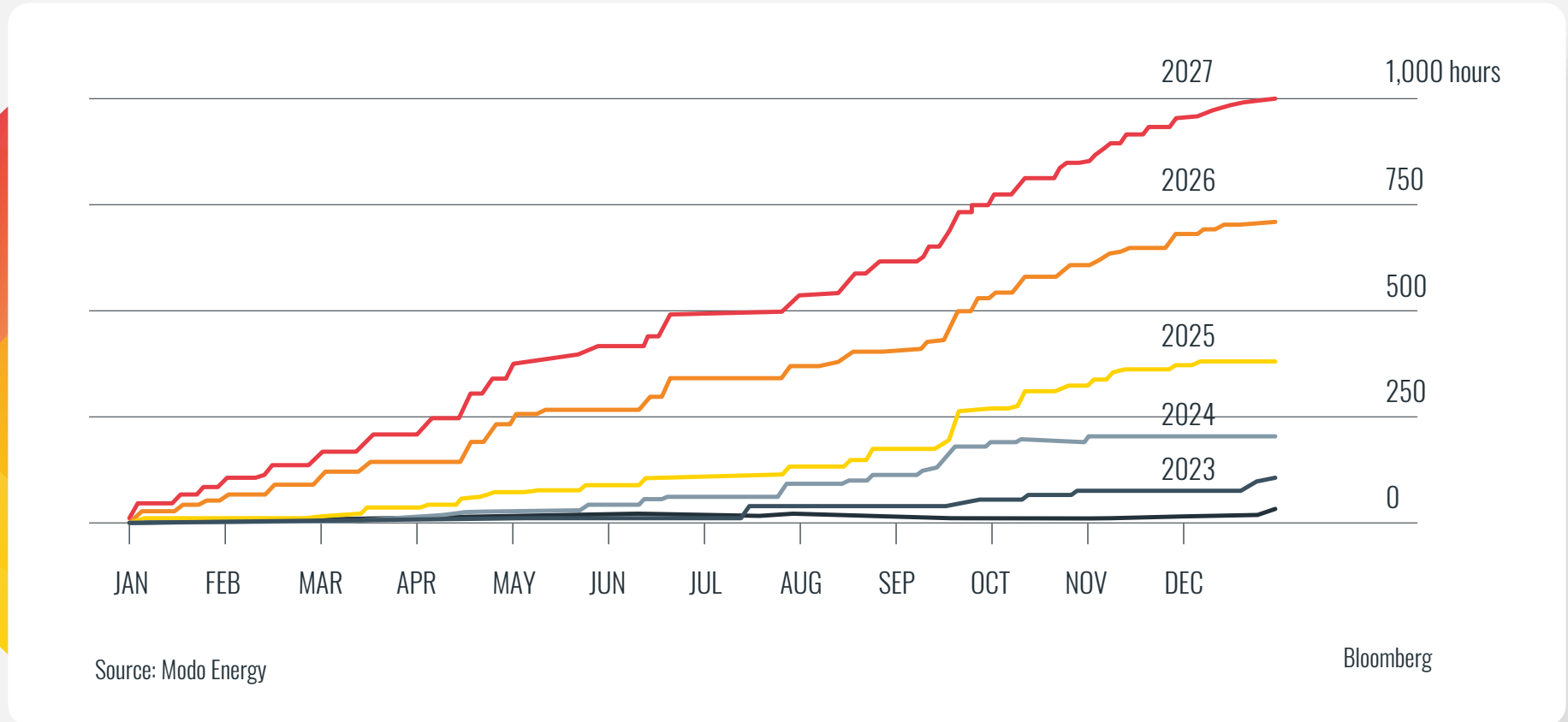
**Burning fossil fuels for electricity & heat is becoming more & more economically and environmentally unfeasible**

Sources: <sup>1</sup>Lazard Levelized Cost of Energy Analysis, Version 16.0; <sup>2</sup>International Energy Agency, Renewable energy for industry, 2017; <sup>3</sup>Based on global announced projects and membership of Renewable Thermal Collaborative & LDES Council, <sup>4</sup>WattCrop, <sup>5</sup>Innovation Fund program.

# Charging at Cumulative Negative Prices is Becoming More Feasible

## Cumulative Negative Electricity Prices Will Increase Tenfold in the Years to Come

Cumulative hours of negative wholesale power prices, forecasts for UK



Source: Modo Energy

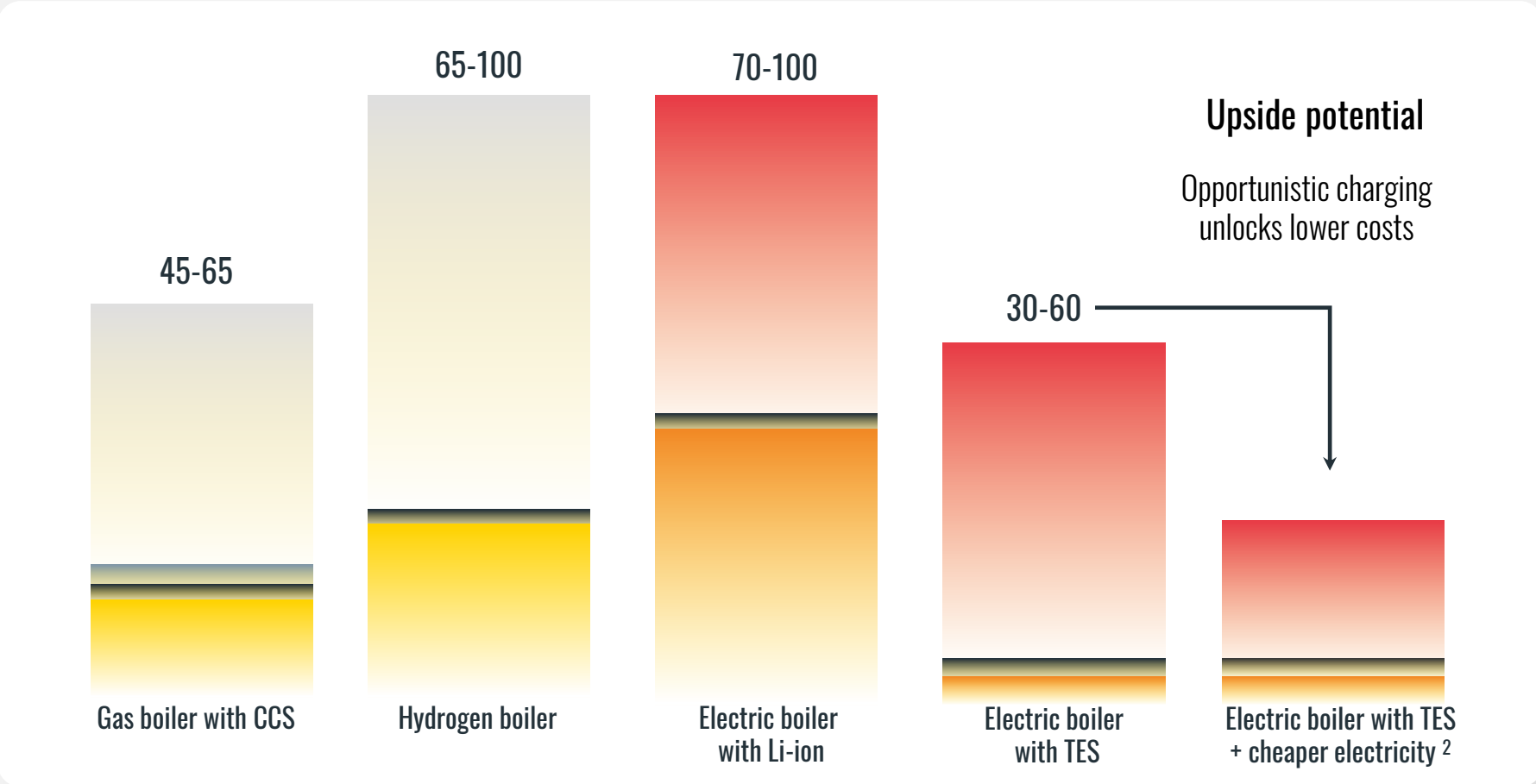
Bloomberg

Source : Company materials



# Renewables + TES is Competitive Now

Levelized cost of heat for selected technologies, \$/MWh <sup>1</sup>



<sup>1</sup> Source: McKinsey & Company Global Energy Perspective 2022.  
<sup>2</sup> Company estimate based on off-peak electricity charging.

# Business Models

Diversified income stream from multiple services,  
tailored to customer



**Equipment Sales**  
One-off sale with O&M contract



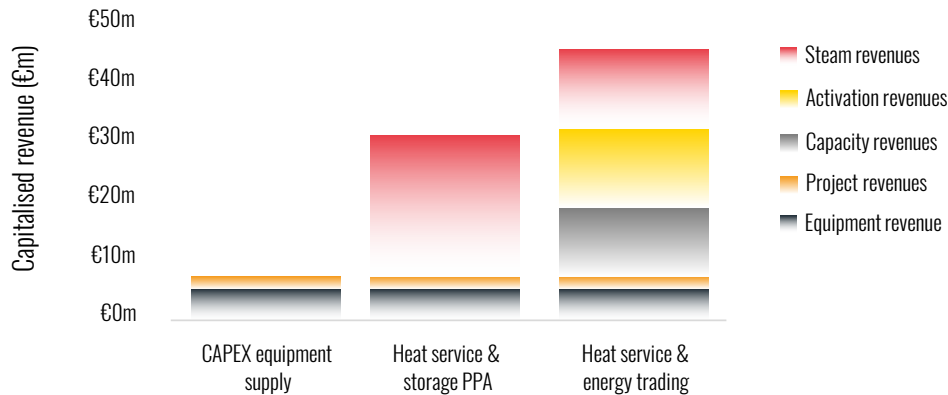
**Heat-as-a-service (“HaaS”)**  
Supply clean heat at agreed price



**Grid Services & Capacity Payments**  
Take excess electricity from grid  
Frequency and Load Shifting Support



## Illustrative 75 MWh project economics<sup>1</sup> Initial investment unlocks diverse capitalized revenue streams



Example in a European Country: 75MWh Project  
Capitalized recurring revenue stream for 15-year PPA

Source : <sup>1</sup> Company Materials for an EU country in 2024.

# Tested Manufacturing Approach

Market leader in live production capacity, operational capability edge attracting clients

## World's first TES gigafactory

4 GWh manufacturing capacity at full scale, supported by EIB funding



Tested approach creates template to launch localized manufacturing in key geographies



# Go-to-Market Strategy



## Country selection

- Cost advantage over incumbent
- Grid service revenue streams
- Emission targets & carbon taxes

### Channel partners opening key markets



## Industry selection

- 100-600°C temperature need
- Economically viable today
- Short sales cycles

### Flexible approach unlocks multiple sectors



## Client selection

- ESG alignment drives demand today
- Significant expansion potential
- Small pilots unlock global scale

### Ongoing dialogue with global brands



# Collaborations



Collaborator	Geography	Collaboration scope	Traction	
 Global gas & electricity distributor		Decarbonize industrial heat across Enel client base	24 MWh project	
 Distributor of photovoltaic products		Brazil & Colombia	1 MWh biomass to steam project	
 Green energy project developers		Spanish JV to explore EU opportunities	In discussions for 2.5 GWh opportunities	
 Leading solar panel manufacturer		Signed MoU to explore Indian opportunities	In discussions for 200 MWh opportunities	

**Brenmiller is focusing on product-led approach, channel partners to handle project integration & operation**



# Commercial Projects

Under Development



30 MWh

TES for Pet Food Factory



32 MWh

TES for beverage factory



THE EDITH WOLFSON  
University Medical Center

12 MWh

Off-peak electricity TES  
for hospital



24 MWh

Thermal power plant TES



1 MWh

Hybrid charging TES

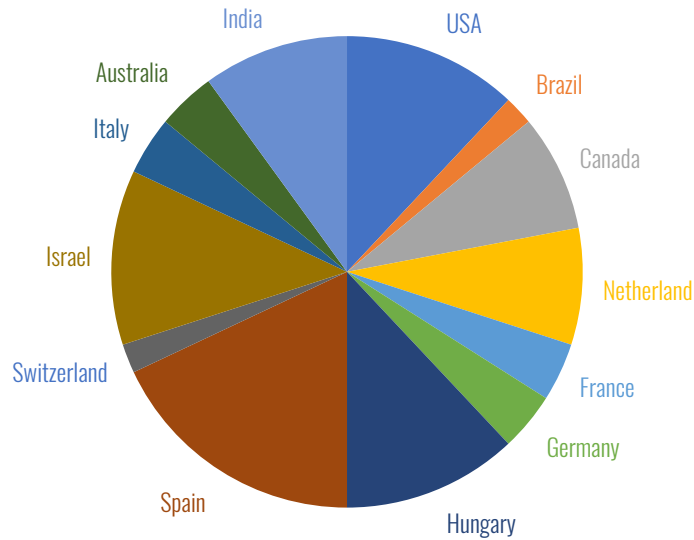
# Commercial Opportunities of ~6 GWh

Attracted extensive commercial opportunity interest, diversified across geographies and services

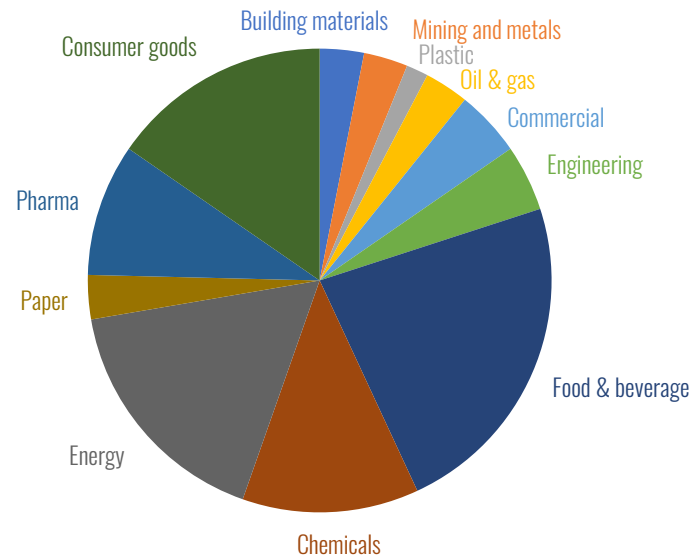
Commercial Opportunities for 49 Projects Representing ~ \$440 Million in Potential Value in 12 Industries Across 13 Countries



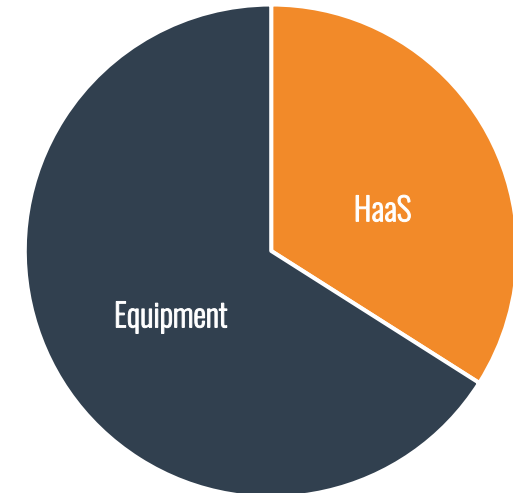
## By Country



## By Industry



## By Service Offering



Source : Company materials

# Pursuing Attractive Heat-as-a-Service European Opportunities

## Focusing on Industrial Segments

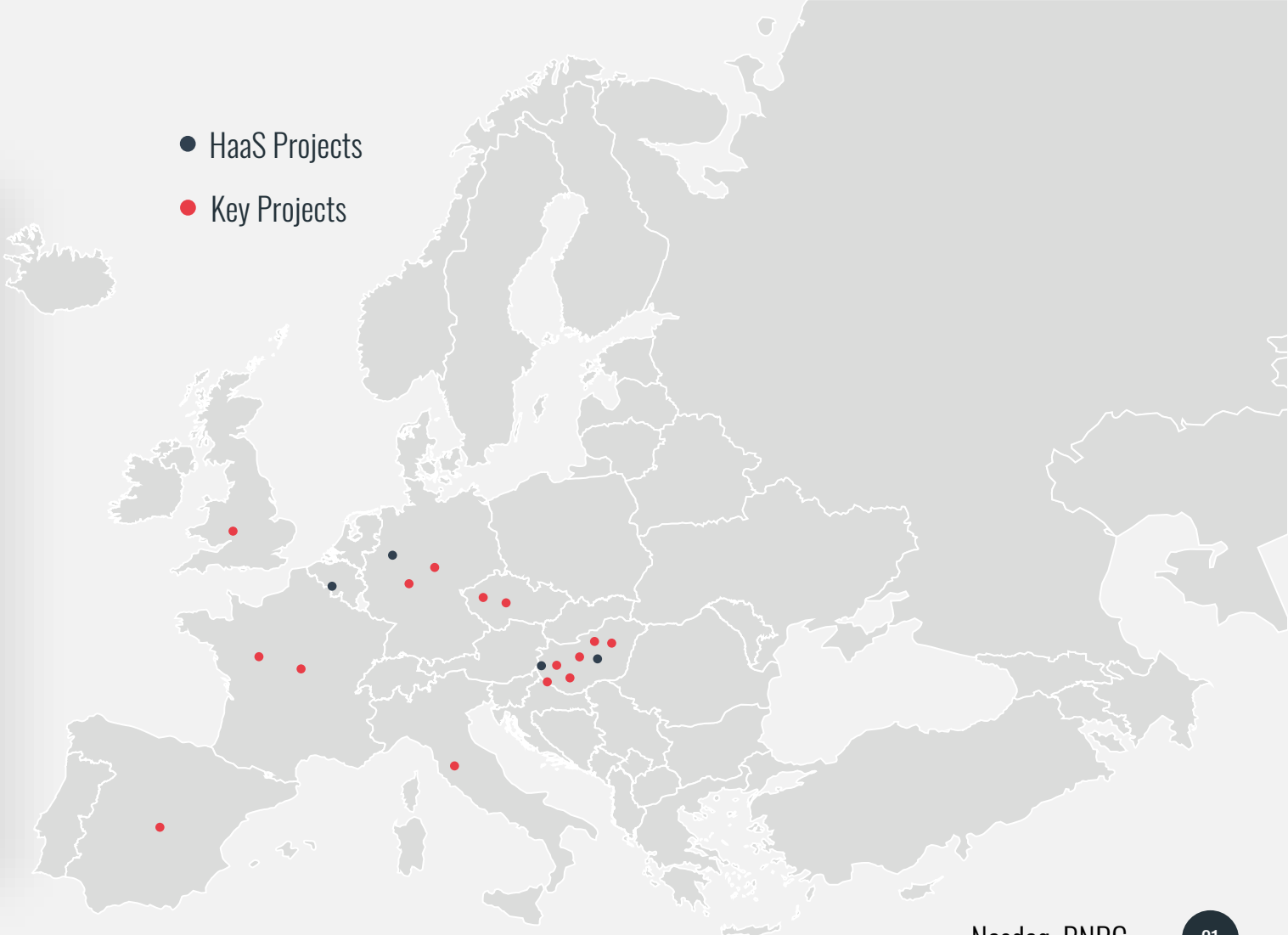


Food Industry

Juices & Beverages

Building Materials

Consumer Goods



# Company Catalysts

1

**\$63B addressable market**<sup>1</sup> - Patented technology addresses tremendous demand for efficient, clean energy storage

2

As renewable energy generation increases, the **need for a reliable method to store clean energy is a major challenge** facing industry and regulators

3

**BNRG is an industry leader** with 103MWh in operation and construction with well established award-winning tech — Contracts with customers including New York Power Authority and Enel

4

**Ready for revenue ramp** - Production capacity of manufacturing plant to potentially support sales of up to \$200M per year for ~\$440M commercial opportunities

5

Revenue models include direct equipment sales and Heat as a Service **recurring revenues**

# Brenmiller Expands bGen™ Capabilities for AI Data Center Cooling Applications

Proposed new line of business

## Introducing bGen™ Cool

### ➤ New Opportunity in AI Data Center Cooling

- Brenmiller targets significant decarbonization and financial potential in the data center value chain, driven by the rapid growth of AI computing.
- Estimates project a 160% increase in data center power demand by 2030.

### ➤ bGen™ Technology Adaptation

- Brenmiller anticipates minimal investment to modify its existing bGen™ thermal battery technology to meet data center cooling needs.
- Development of Cold Thermal Energy Storage (CTES) solution, named bGen™ Cool, aimed at providing cost-efficient, energy-saving cooling.

### ➤ Data Center Decarbonization

- The modular, prefabricated design of bGen™ aligns with industry trends, offering fast-charging, 24/7 operational reliability, and the ability to alleviate grid strain.
- Major tech companies like Apple, Google, and Meta are key potential beneficiaries.

### ➤ Market Potential

- Ongoing bGen™ production for power-to-heat applications presents commercial opportunities valued up to \$500 million.



# Leading team



**Avi Brenmiller**  
Chairman & CEO

## Board of Directors



**Zvi Joseph**  
Independent director



**Chen Franco-Yehuda**  
Independent director



**Nava Swersky Sofer**  
Independent director



**Miki Korner**  
Independent director

## Operational team



**Doron Brenmiller**  
Director & CBO



**Nir Brenmiller**  
Director & COO



**Ofir Zimmerman**  
CFO



**Gilad Walker**  
VP Projects



**Eli Lipman**  
VP R&D



**Orin Shefler**  
General Counsel &  
Corporate Secretary



**Merav Gilad**  
Head of Engineering



**Ronit Sade**  
Head of EHS



**Rami Ezer**  
VP Engineering



**Avi Sasson**  
VP Operations



Thank You