



Greendur' driven mission is decarbonization of industrial process heat through innovative thermal energy storage solutions. We aim to **transform industrial heat generation** by significantly increasing renewable energy integration, not just for electricity but also for heat supply. By charging our **latent heat TES batteries** with surplus local renewable energy, off-peak grid power, and waste heat, Greendur **offers flexible and adaptable solutions tailored to customers' needs**. This approach helps high-energy-demand industries boost energy efficiency, reduce consumption, and prevent renewable energy curtailment. The result is **substantial energy cost savings, significant reductions in industrial CO₂ emissions, and enhanced energy independence**.

Problem:

- The industrial sector heavily relies on fossil fuels, contributing to 25% of global CO₂ emissions.
- High-energy demand industries grapple with volatile energy prices, impacting profitability and competitiveness.

Solution:

Our thermal battery technology offers up to 350°C clean heat with 90% efficiency. Our solution offer substantially higher energy storage density than benchmark (sensible heat storage) with competitive cost and high lifetime. What sets our technology apart is its combination of high efficiency, flexibility, and ease of integration.

Business model:

B2B. Our business model targets large corporations with multiple production facilities. Sales channels strategy balanced between third parties and direct sales. Option of pay-per-use model

Facts:

Funded in 2020; Team size: 5; TRL Level 7; Location: Pamplona (Navarra, Spain)

Key team members:



Jesús Castillo, CEO

MBA holder; Led multinational teams; > 20 years market experience; Founded 2 companies; Ex -Gamesa



Dra Alba Jiménez, CTO

Expertise in industrial chemical engineering and renewables; > 7 years experience in R&D projects



Dámaris Rodríguez, Product owner

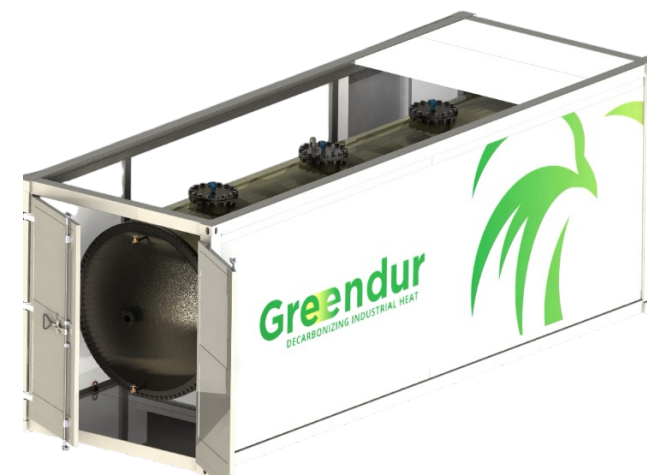
Over 7 years of experience designing custom-made machinery

How:

- **High-efficiency power-to-heat system** to use electricity as energy input
- **High thermal energy storage density** thanks to the use of phase change materials
- **Advanced heat exchanger technology** to supply hot oil/hot air/steam

Value proposition:

- ✓ Clean and sustainable heat without use of critical raw materials
- ✓ Energy cost savings
- ✓ Boosted energy efficiency
- ✓ Resilient and secure energy
- ✓ Independence from fossil fuels
- ✓ High efficiency and lifespan
- ✓ Plug & play solution



Market & Customers

- **Main target markets:** industrial drying ovens, food, paper and chemical industries with high demand of heat in the mid-range.
- Letter of interest from **four potential clients** (Comansa, Rovalma, Virto Group, Gonvarri), **two potential distributors** (SolarFarm, Ezma), **one potential manufacturer** (NTV Solutions) and **one Venture Capital** (Enion).
- Commercial activities starting in **Q4 2024** are **projected to generate €8M in revenue by 2028, with a gross margin nearing €4M**.
- **Market size 2027:**
 - TAM (global latent heat thermal energy storage) = 8575 M€
 - SAM (latent heat target countries) = 1053M€
 - SOM(considering expected market share) = 11,5M€ (154 MWh)

Funding to date:

- Public (899.585 €): NEOTEC, R&D projects, Capitalizable loan, Accelerator programs,...
- Private (165.000 €): founders and business angels

Market classification: Pre-Commercial

Next step: Growth & Market Expansion

Raising 0,5M€

Highlights:

- **Validation of pilot plant prototype** of 160kWh and 20kW at real-world operation conditions in a paint curing oven of a crane's manufacturing leader company;
- **Programs:** EIT Innoenergy Cleantech camp, Acciona Innovation, Lanzadera, Clean Energy Program (DeepTech Alliance), SynergistEIC;
- **Industrial prototype design 2MWh 500kW modelled and ready to be built** (Solar Impulse Foundation label);
- "Modular Thermal Energy Storage System And Associated Method"(EP4239272) **patent submitted**
- Greendur's **multidisciplinary, gender-balanced team** brings together decades of expertise in commercial, engineering, and renewable energy sectors, with a strong focus on research, custom machinery design, and financial management. The **Team is complemented by a Scientific Advisor (Harald Mehling)** with strong technical and R&D background in thermal energy storage.

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