



2021 EARNINGS
14 April 2022

THERMAL COMPRESSION FOR THE ENERGY TRANSITION



THERMAL COMPRESSION
FOR THE ENERGY TRANSITION

OUR HISTORY

THERMAL COMPRESSION

7 PATENT
FAMILIES



Heat from combustion is only used to activate the compression cycle without mechanical power transmission



CO2 Thermal compressor

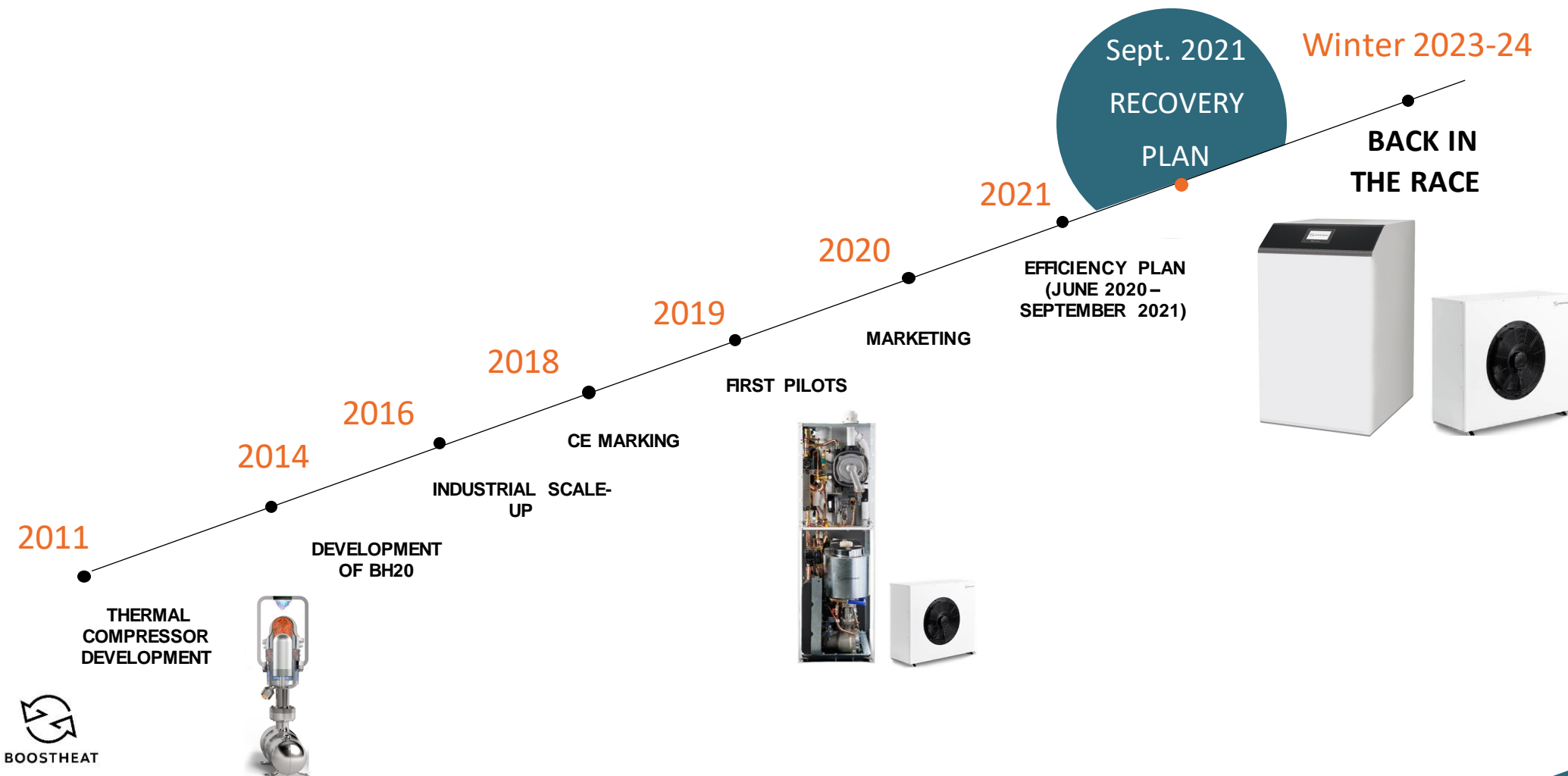
Choice of CO₂


- Very low environmental impact
- Natural and widely available fluid
- Non-flammable, non-toxic, non-explosive
- Allows for low-power compressors
- Can go as low as -54°C

Constraints:

- High operating pressure

HISTORY





SEPTEMBER 2021:
STRATEGIC SHIFT,
FOCUS ON THE THERMAL COMPRESSOR

OPTIMIZATION,
VALIDATION OF
PERFORMANCE
AND EXPLORATION OF NEW
APPLICATIONS

A background image showing a business meeting. In the foreground, two people are shaking hands. One person is wearing a light blue shirt and a watch, and the other is wearing a white shirt. In the background, another person is visible, and there are papers and a keyboard on a table.

THERMAL COMPRESSION

FOR THE ENERGY TRANSITION

INCOME STATEMENT

French GAAP (€000) – audited	2020	2021
Revenues	488	(303)
Product inventory	(57)	819
Capitalized production	,1184	2,004
Reversal of provisions/transfer of expenses	36	1,547
Other income	108	-
Total operating income	1,759	4,067
Purchases of raw materials and other supplies	(1,319)	(695)
Change in inventory	390	(315)
Other purchases and external expenses	(6,109)	(5,969)
Payroll expenses	(5,510)	(3,037)
Taxes and duties	(227)	(439)
Other operating income and expenses	(193)	25
Depreciation, amortization and provisions	(9,697)	(5,291)
EBIT before non-recurring items	(20,906)	(11,654)
Net financial expense	(2,637)	(964)
Exceptional income/(expenses)	(127)	413
Taxes	(591)	(525)
Net income/(loss)	(23,081)	(11,680)
EBITDA*	(11,245)	(7,910)

● Cancellation of current orders and recovery of installed products

● €2 million in capitalized production for 2021 development costs and €0.8 million in product inventory

● 3% reduction in external expenses

● Continued reduction in the headcount. At December 31, 2021, BOOSTHEAT had 29 employees (vs. 42 at end-2020)

● Including impairment of €2.1 million in respect of development costs and €1.8 million in respect of inventories of spare parts

IMPROVEMENT IN EBITDA THANKS ABOVE ALL TO GOOD COST CONTROL

In 2021, BOOSTHEAT changed its listing venue from the Euronext regulated market to Euronext Growth.

As such, the Company now presents its accounts under French GAAP.

€2.6 million reduction in operating expenses

* EBITDA = EBIT before non-recurring items and net depreciation, a amortization and provision charges/reversals

BALANCE SHEET (ASSETS)

French GAAP (€000)	2020	2021
Non-current assets	4,103	3,417
Intangible assets	2,193	2,086
Property, plant and equipment	1,634	1,062
Current assets	14,504	6,650
Inventories	2,065	170
Trade receivables	-	266
Other receivables	1,766	2,611
Cash and cash equivalents	10,556	3,562
Prepaid expenses	112	41
Total assets	18,606	10,067

- Impairment of inventories of finished products (see above)
- Mainly VAT and research tax credit
- The company also has an equity line with IRIS Capital in an available amount of €8 million to date

Since the close of 2021,
 + €3 million bond issue subscribed for by Holdigaz
 + €1 million third drawdown on the equity line with IRIS

FINANCING
 REQUIREMENTS
 COVERED FOR
 THE NEXT 12
 MONTHS

BALANCE SHEET (LIABILITIES)

French GAAP (€000)	2020	2021
Shareholders' equity	897	(10,349)
Provisions for contingencies and charges	1,610	620
Total debt	16,099	19,796
Convertible bonds	-	6,172
Bank borrowings/financial liabilities	12,836	11,076
Trade payables	1,322	934
Tax and social security liabilities	1,500	1,006
Other debts	189	356
Deferred income	252	252
TOTAL LIABILITIES AND EQUITY	18,606	10,067

€17.1 million in financial debt, breaking down as:

- €5 million in government-guaranteed loans repayable over 5 years, 4 of which have been deferred for one year
- €5.9 million in other borrowings (including BPI)
- €6.2 million in bond financing (€5 million from core shareholders in July 2021 and €1.2 million from Iris Capital)

87% of
financial debt
maturing in 2-5
years

A man with short dark hair, wearing a dark blue button-down shirt over a light blue polo shirt, is looking down at a tablet computer. He has a slight smile. The background is a blurred technical environment with pipes, valves, and electrical panels. A diagonal orange and black graphic element runs across the bottom right of the image.

THERMAL COMPRESSION FOR THE ENERGY TRANSITION

RESULTS OF THE
21-22 RECOVERY PLAN



BOOSTHEAT

PERFORMANCE CONFIRMED BY AN INDEPENDENT LABORATORY



3 MEASUREMENT
CAMPAIGNS SINCE
SEPTEMBER 21

FOR HEATING,
GUE* OF 168%¹

FOR DOMESTIC HOT WATER,
GUE* OF 171%²

¹ A7W35 conditions

² A25W15-65 conditions

*Gas Utilisation Efficiency

**CONFIRMATION OF THE PERFORMANCE OF THE THERMAL HEAT PUMP
IN HEATING AND DOMESTIC HOT WATER (DHW) PRODUCTION**

12 IN SITU DEMONSTRATOR INSTALLATIONS



12 INSTALLATIONS IN INDIVIDUAL AND
COLLECTIVE RESIDENTIAL RENOVATION
IN FRANCE, GERMANY AND SWITZERLAND

REMOTE AND REAL-TIME MONITORING FOR
ANALYSIS OF THE
BEHAVIOR AND PERFORMANCE OF THE HEAT
PUMP

ENGIE LAB CRIGEN CONFIRMS BOOSTHEAT'S PROGRESS IN TERMS OF RELIABILITY AND PERFORMANCE



“ENGIE has been working with BOOSTHEAT for more than four years on the development of the first high-performance thermal compression gas heat pump for the single-family home market.

...

*In 2021, BOOSTHEAT was able to take the necessary action to resolve technical issues. **Progress to date has been remarkable** in terms of both reliability and performance.*

...

*Comfort has been ensured in terms of heating and domestic hot water, and **we are currently seeing an average performance of over 130% (LHV).***

*This progress confirms the **relevance of thermal compression within the TDHP offer** for the energy transition.”*



David Dupuis
Project Manager/Key Account Manager

FROM RESIDENTIAL HEATING TO DOMESTIC HOT WATER



EXTENSION OF THE HISTORICAL PARTNERSHIP

Development of a high-temperature heat pump dedicated to the production of domestic hot water for “small-scale collective housing”

TECHNOLOGICAL SYNERGIES

SOLAR

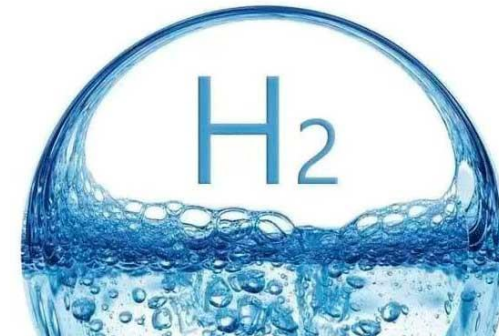
TWO INAUGURAL FACILITIES IN LATVIA



EUROPEAN PROJECT AIMED AT COUPLING
A HEAT PUMP
WITH SOLAR PANELS



HYDROGEN



A BOOSTHEAT THERMALLY DRIVEN HEAT PUMP
COMBINED WITH A SOURCE OF HYDROGEN TO HEAT
BUILDINGS



CONCLUSION

OVERALL PERFORMANCE VALIDATED
IN LABORATORY TESTING AND IN THE FIELD

TECHNOLOGY COMPATIBLE WITH HEATING AND DOMESTIC HOT WATER

NEW TECHNICAL PERSPECTIVES

INDUSTRIAL TOOL DEDICATED TO DEVELOPING OUR PRODUCTS

A VISIBLE RETURN ON THE RESIDENTIAL MARKET

A PRODUCT THE BOOSTHEAT HEAT PUMP

CO₂ THERMAL
COMPRESSOR



HIGH PERFORMANCE

SILENT

CLEAN

SUSTAINABLE

SCALABLE



BOOSTHEAT HEAT PUMP
WITH THERMAL
COMPRESSOR



DUAL-SERVICE

RESIDENTIAL

CONNECTED

EASY TO MAINTAIN

CASCADE

ACCESSIBLE

THERMAL COMPRESSION

FOR THE ENERGY TRANSITION



THE ADDRESSABLE MARKET

CRITICAL ENERGY TRANSITION CHALLENGES

55%

reduction in CO₂
emissions in 2030 in
Europe compared
with 1990

x2

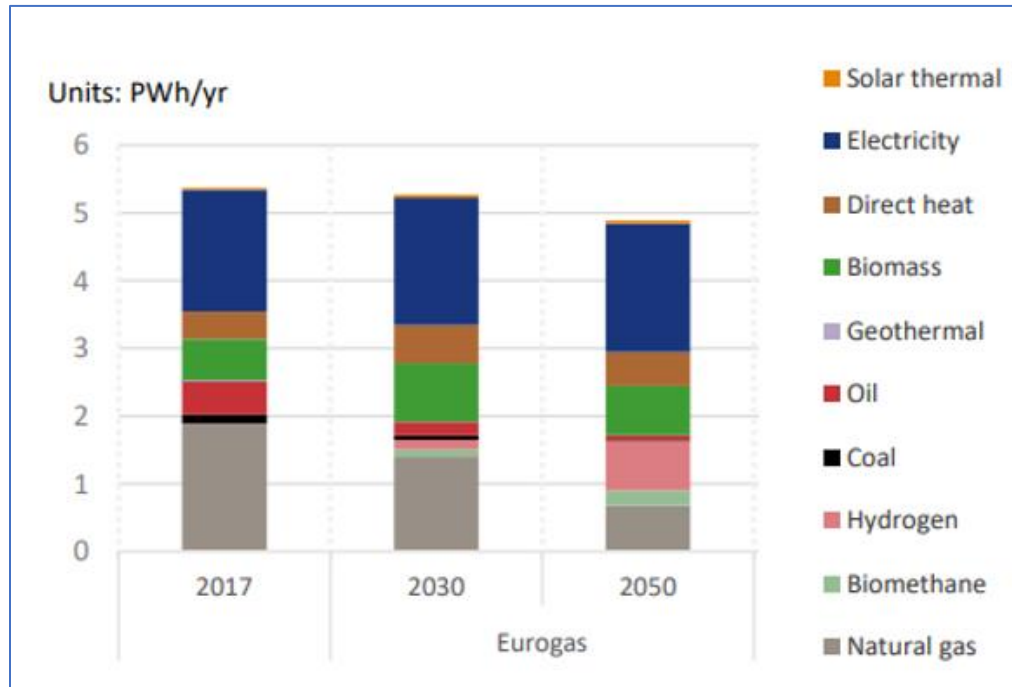
share of renewable
energy

14%

reduction in the
final consumption of
buildings by
doubling the pace of
renovation

SHARE OF GAS IN THE ENERGY MIX OF BUILDINGS

Eurogas scenario
European energy mix in buildings (residential & commercial)
in 2030 & 2050



Study for Eurogas: European Carbon Neutrality: The Importance of Gas, June 2020

20% to
30%
is the estimated share
of gas in residential
buildings
(Eurogas, European Commission,
etc.)

REPowerEU, AN ENERGY TRANSITION ACCELERATOR

x2

biomethane production
targets

High levels of biomethane in gas networks associated with the production of Renewable Energy

x4

carbon-free hydrogen
consumption

Thermally driven heat pumps (TDHP) are already fuel agnostic, allowing hydrogen to emerge as a new energy carrier

TDHP: THERMALLY DRIVEN HEAT PUMPS

A CATEGORY OF HEAT PUMPS COMPLEMENTING ELECTRIC ONES

✓ *3 recognized technologies*

- Gas engine heat pumps
- Absorption/adsorption heat pumps
- **Thermal compression heat pumps**

✓ Efficient for renovation applications

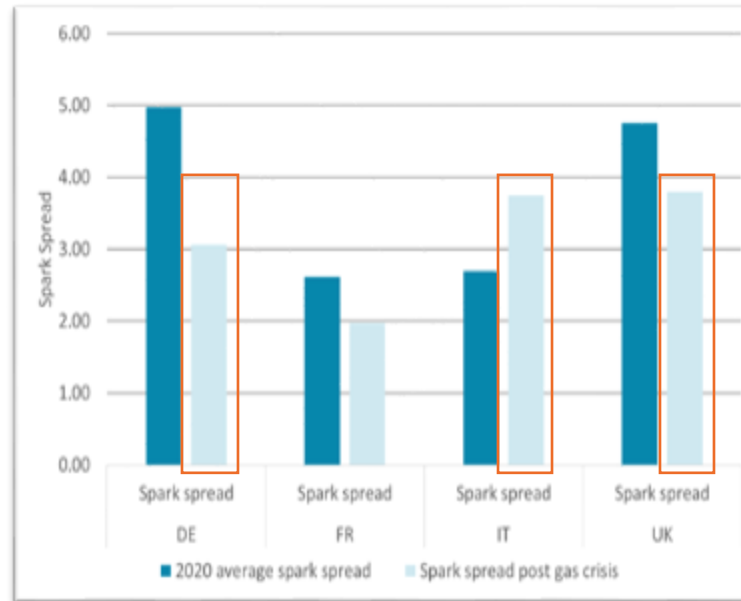
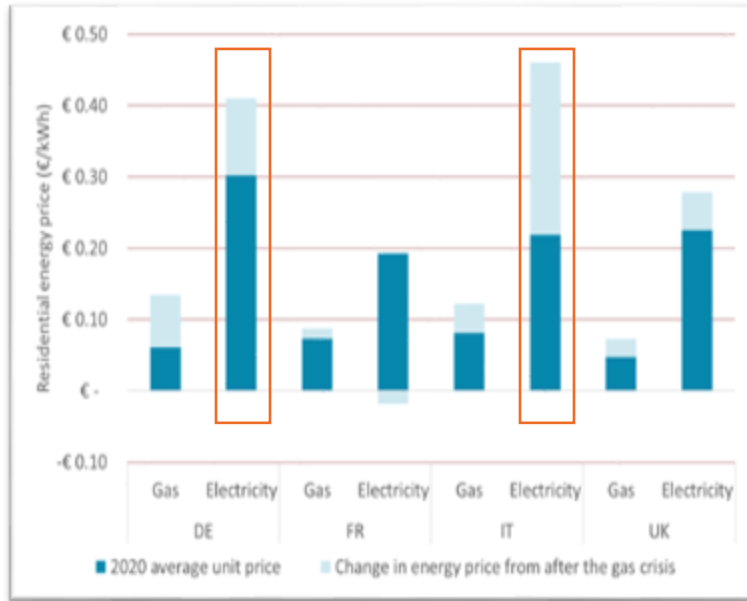
✓ Recognized by European regulations and non-profits

✓ Supported by national policies

✓ Supported by the gas installer sector

AN ESSENTIAL ALTERNATIVE SUPPORTED BY INDUSTRIAL COMPANIES AND POLITICIANS

STRONG MARKET OPPORTUNITIES IN EUROPE



Renovation of housing with high thermal demand, connected to gas or propane

Markets with a spark spread (electricity vs. gas) > 2.5 or with a high electricity price

Markets that support TDHP technologies through subsidies and discourage non-renewable heating solutions

Source: DELTA-EE, TDHP prospective study for BOOSTHEAT

THE WIDER THE SPARK SPREAD,
THE MORE GAS HEATING IS POPULAR

GERMANY, PRIORITY TARGET

RENOVATION
INDIVIDUAL HOUSING
MULTI-FAMILY HOUSING & SMALL COMMERCIAL

ADDRESSABLE MARKET SIZE
> 250,000 RENOVATIONS/YEAR

SUBSTANTIAL SUBSIDIES TO SUPPORT
RENOVATION

FAVORABLE SPARK SPREAD

A close-up photograph of a man with short dark hair, wearing a dark blue button-down shirt over a light blue polo shirt. He is looking down at a tablet computer he is holding with his hands. The background is slightly out of focus, showing what appears to be a technical or industrial environment with some equipment and pipes. The overall tone is professional and focused.

THERMAL COMPRESSION FOR THE ENERGY TRANSITION



OUR AMBITIONS

A RETURN TO THE MARKET IN WINTER 2023-2024

THE BOOSTHEAT DUAL SERVICE HEAT
PUMP

IN INDIVIDUAL AND SMALL-SCALE
COLLECTIVE HOUSING RENOVATION

IN A PRIORITY MARKET
GERMANY

VIA
BOILER AND REFRIGERATION INSTALLER
NETWORKS

THERMAL COMPRESSION

FOR THE ENERGY TRANSITION

CONTRIBUTE SIGNIFICANTLY TO THE ECOLOGICAL TRANSITION BY OFFERING OUR TECHNOLOGICAL INNOVATION, GENERATING RENEWABLE ENERGY AND ALLOWING FOR ENERGY SAVINGS FOR GAS HEATING OF ALL BUILDINGS CONCERNED AS QUICKLY AS POSSIBLE.

THE NEEDS ARE CONSIDERABLE, AND WE WILL RESPOND MORE STRONGLY IF WE SUCCEED IN JOINING FORCES WITH INDUSTRIAL AND COMMERCIAL PARTNERS.



LET'S GO FURTHER...