

newHeat

Company & Projects presentation

Solar heat and recovered heat for industrial processes and district heating

Supported by :



NewHeat, an integrated renewable and recovered heat producer

Decarbonizing industrial sites and district heating networks

Our solution : we combine different technologies to maximize the renewable heat share and minimize the consumption of fuels

Waste heat recovery



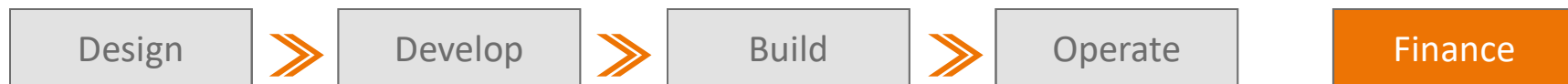
Solar thermal



Daily & seasonal heat storage



- › newHeat develops, designs, finances and operates **large installations for renewable heat production**



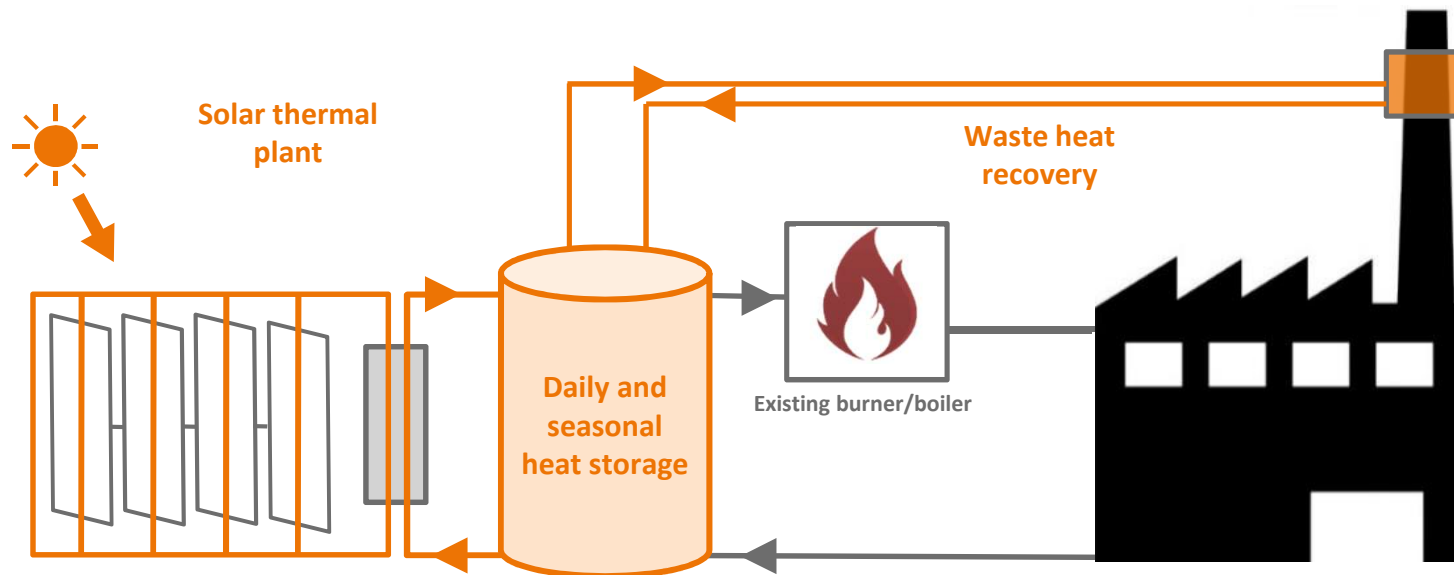
- › We offer renewable heat « **as a service** » (« **pay at the energy meter** » model)
- › newHeat is an independant renewable heat producer, **accompanying his clients during the whole lifetime of the projects**

Our technical know-how

Design and control of tailor-made renewable heat plants optimized for our customer's needs



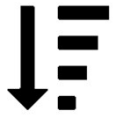
Our know-how: designing tailor made solutions to ensure a **competitive heat price** with a **secured** and **metered** energy delivery



- › Define the most **robust and efficient integration** to industrial processes or heat networks
- › Select the most **appropriate technologies** and **optimize the sizing of the production units**
- › Design and execute an **optimized control strategy** for complex heat systems

Key benefits for our customers

Renewable heat “paid at the meter” (third party finance)



Reduce the energy bill



Decrease CO₂ emissions

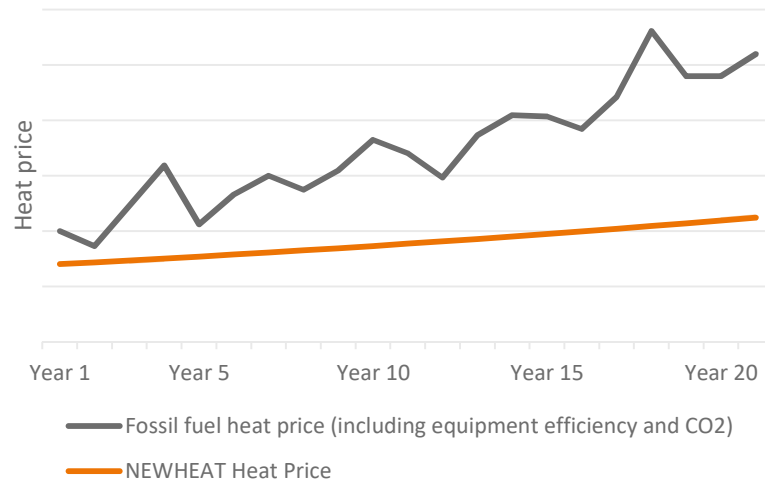


Stabilize energy costs



Without any investment

A competitive heat supply



Renewable Heat “paid at the meter”

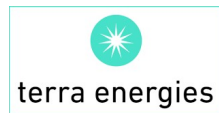
- › The current boiler is conserved as back up when needed, **but his fuel consumption is reduced**
- › newHeat is the project’s investor and delivers heat under a **Heat Purchase Agreement : 100%** of study, investment and operating costs are **borne by newHeat**
- › Terms of commitment between 15 to 20 years (solar thermal)
- › Land lease contract managed by newHeat (solar thermal)

Recent news

Bank fundraising of a first pool of 5 projects with renewable and recovered heat assets

An important step demonstrating the competitiveness and robustness of newHeat's approach and projects:

NEWHEAT closes a bank fundraising for 5 solar thermal and recovered heat assets for 28 MW_{thc} and a 15 M€ of total investment



Triodos Bank



- › **A bank financing** with Triodos Bank and Crédit Coopératif – two well established actors of renewable project funding in Europe
- › **A transaction combined with a minority participation of 3 regional funds of the energy transition** (2M€) : Terra Energies (Nouvelle Aquitaine), AREC Occitanie (Occitanie) et OSER ENR (Auvergne Rhône-Alpes) outlining the positive local impact of the projects

Our references : industrial sites and district heating networks

A portfolio of 6 solar thermal plants and heat recovery units



Condat Papermill – LECTA Group
Condat-sur-Vézère, Dordogne
Peak power : 3,4 MWth
Commissioning date : Jan 2019

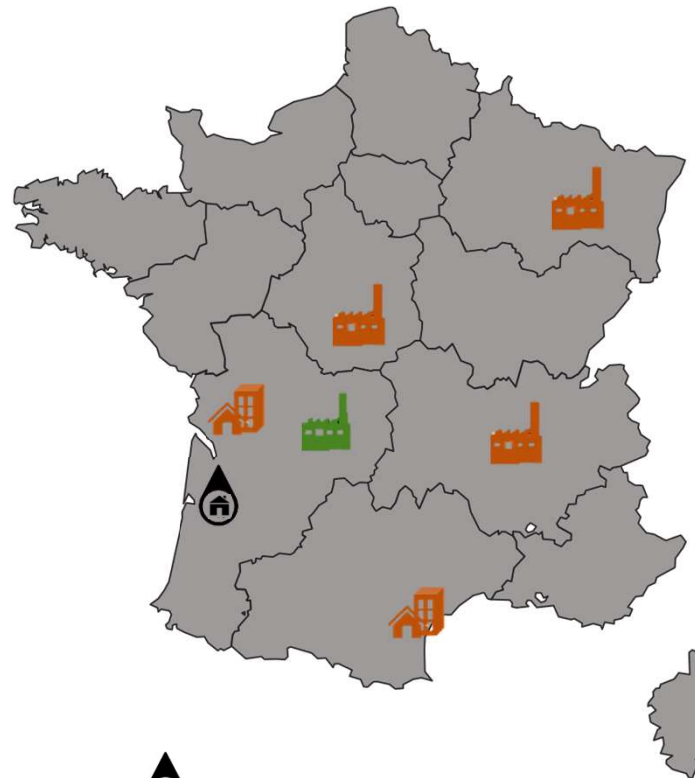





Malteries Franco-Suisses – Boortmalt Group
Issoudun, Indre
Peak power : 12,7 MWth
Start of construction : Oct 2019



District heating – City of Pons (DALKIA)
Pons, Charente-Maritime
Peak power : 1,4 MWth
Start of construction : Jun 2020

40 MWth in operation or in construction



-  NewHeat's headquarter
-  Project in construction or ready to build
-  Project in operation



Spray drying site for dairy ingredients
Grand Est region
Peak power : 13,1 MWth
Start of construction : Summer 2021



Terracotta brick production site (dryer and ovens)
Auvergne Rhône Alpes region
Peak power : 7,8 MWth
Start of construction : Summer 2021



District heating network – city of Narbonne (DALKIA)
Narbonne, Aude
Peak power: 2,3 MWth
Start of construction : Jun 2020

Project 1: Solar thermal plant

Lecta group – Condat paper mill

The world's first large solar thermal plant using FPC with tracking systems

Site information and technical integration

- › Existing gas boiler and turbines of > **110 MWth**
- › Annual gas consumption > **500 GWh**
- › **Pre-heating of the make-up water of the steam gas boilers (from 20 to 90°C)**



Solar thermal plant scenario

- › Peak solar power : **3,4 MWth**
- › Surface area of sun panels : **4 210 m²**
- › Total floor space: **1,4 ha**
- › Heat storage tank capacity: **500m³**
- › Annual energy delivered : **~3900 MWh/year**



Start of production in **January 2019**

Project 2: Solar thermal plant

Les Malteries Franco-Suisses – malting plant in Issoudun



General contractor **by NewHeat** + Operations and maintenance for 10 years (Performance contract)

Site information and technical integration

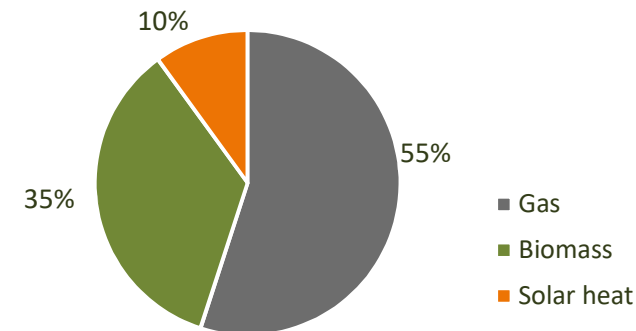
- › Malting plant transforming 200 000 tons of barley and wheat into 160 000 tons of malt per year
- › Hot water network fuelled by 2 gas boilers and 1 biomass boiler (total **18 MW**), 2 existing **recovery systems**
- › **Pre-heating of the dryers' air up to 67°C**

Solar thermal plant scenario

- › Peak solar Power : **12,7 MW_{th}**
- › Surface area of sun panels : 15 668 m²
- › Total floor space: **3,2 ha**
- › Heat storage tank capacity : **3 000 m³**
- › Annual energy delivered : **~8 600 MWh/year**



Heat energy supply on site per source



Currently in this end of the **commissioning phase**

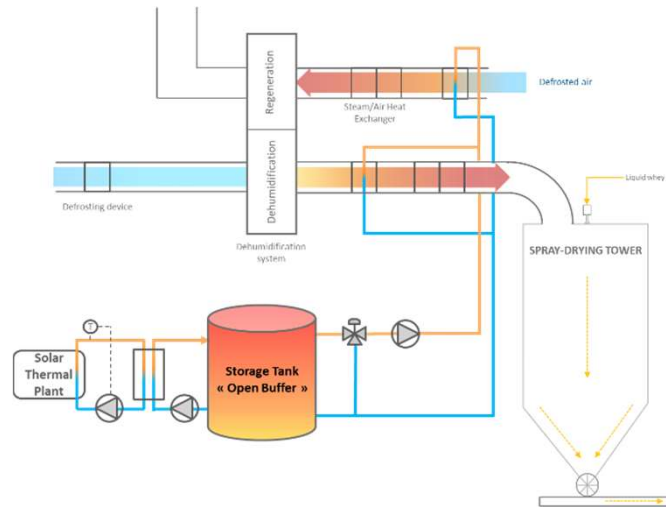
Project 3: Solar thermal plant

Lacto Serum France (Lactalis) – dairy factory

Design, development, finance, construction and operation by NewHeat

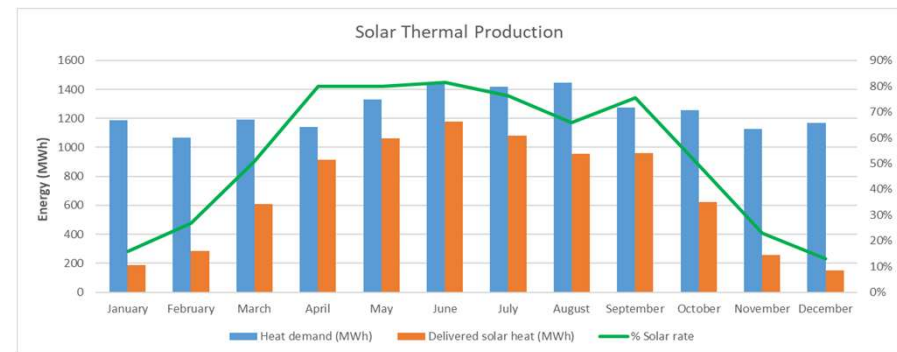
Site information and technical integration

- › 2 integrations (Air/Water heat exchangers) to preheat:
 - The **main** « fresh air » flow : 120 000 kg/h
 - The **regeneration** air flow that feeds the dehumidification system located upstream the drying tower : between 35 000 and 70 000 kg/h



Solar thermal plant scenario

- › Peak solar Power : ~ 15 MW_{th}
- › Surface area of sun panels : ~ 18 300 m²
- › Total floor space: 4,5 ha
- › Heat storage tank capacity : 4 000 m³
- › Annual energy delivered : ~ 8 000 MWh/year



Start of production expected in 2021

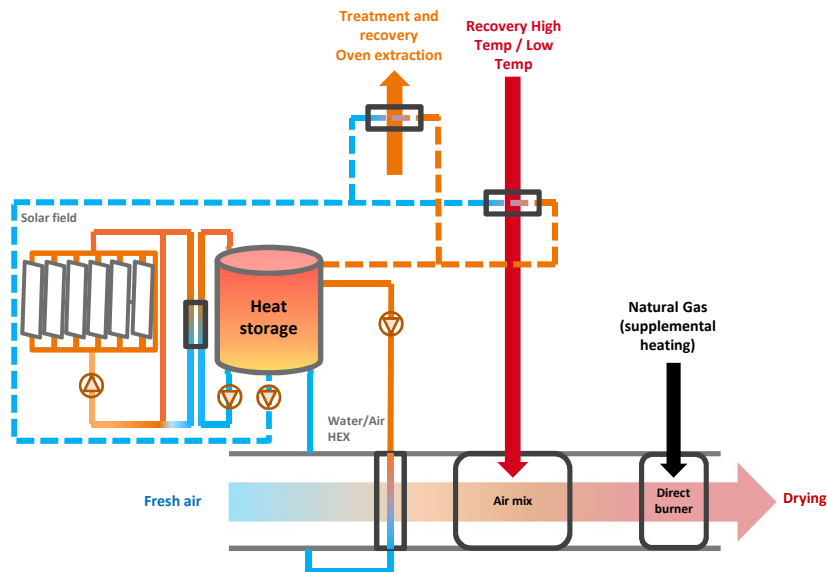
Project 4: Waste heat recovery and solar thermal

Sector: roof tiles and bricks (*Customer to be announced*)

Design, development, finance, construction and operation by NewHeat

Site information and technical integration

- › Energy management : gas and biogas, CHP and burner, heat recovery on ovens
- › Pre-heating of the dryers' air



Solar thermal plant scenario

- › Total floor space: **1,5 ha**
- › Heat storage tank capacity : **2 000 m³**
- › Annual energy delivered : **~3 000 MWh/year**

Heat recovery at oven extraction

- › Power of recovery **1 MWth**
- › Annual energy delivered : **~4 000 MWh/year**



Renewable and recovered heat coverage for the dryer > 75%

Commissioning date expected in **Dec 2021**

Wastewater management powered by solar thermal energy

The Remine water project

newHeat is involved in the R&D project Remine water

“Solar powered water reuse and resource recovery in mining industry”

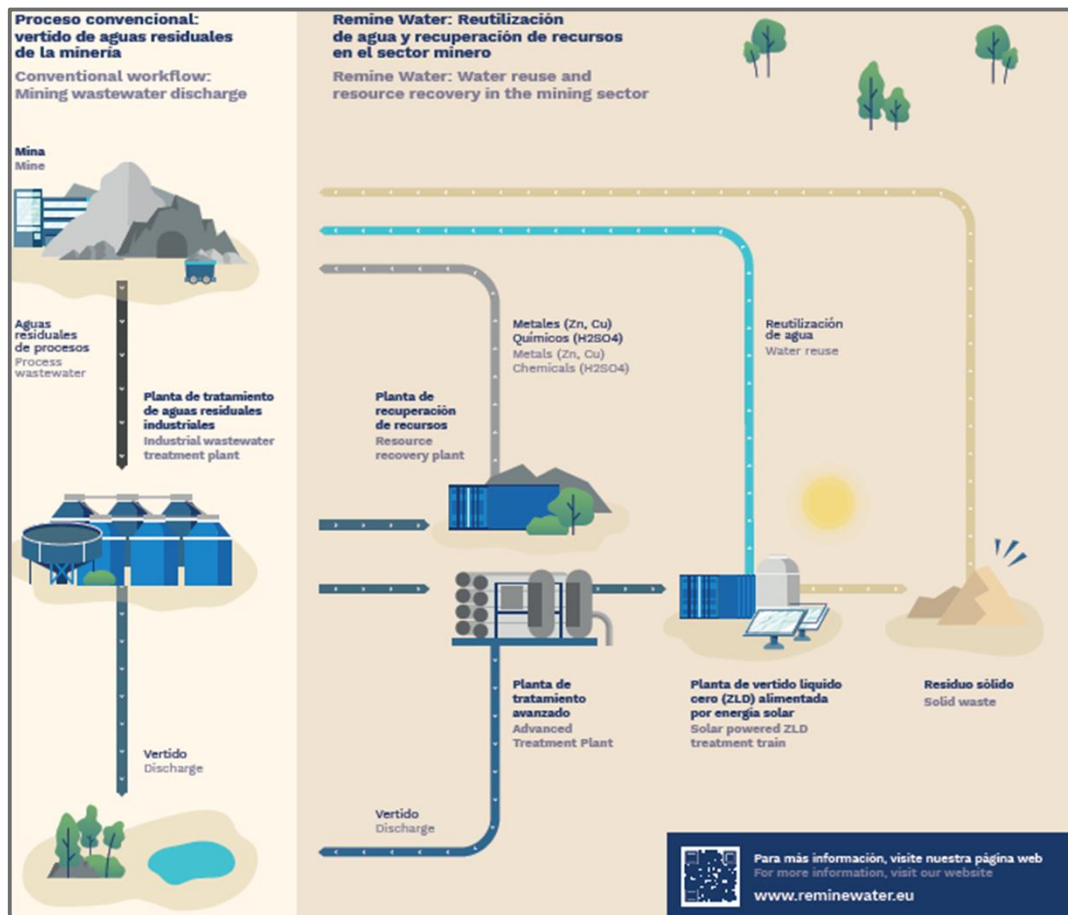
<https://www.reminewater.eu/>

- › **Funding** : European Union’s funding instrument LIFE Programme
- › **Budget** : 1.812.708,00 €
- › **Duration** : 48 months from October 2019
- › **Partners** :
 - › Cetaqua Water Technology Centre (coordinator), Spain
 - › newHeat, France
 - › The Institute of Non-Ferrous Metals (IMN), Poland
 - › MATSA, Spanish mining company

Wastewater management powered by solar thermal energy

The Remine water project

› From linear to circular:



› Objectives of the project:

› Develop, study and validate a **Zero Liquid Discharge (ZLD) treatment train** for mining industries

→ **Solar thermal will be used in association with a low temperature evaporation technology** that is a brick of the treatment train

› Develop, study and validate a **Resource Recovery treatment train** for minerals, acid and transition metals recovery

› Develop new competitive offers for advanced water treatment for the mining industry that include:

- Water reuse on site
- Resource recovery contained in the wastewater

› Current phase of the project:

› Construction of the treatment trains

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