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 independent 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 MWthc and a 15 M€ of total investment

- **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

40 MWth in operation or in construction

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

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

Terracota 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

NewHeat’s headquarter
Project in construction or ready to build
Project in operation
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\textsubscript{th}
› Surface area of sun panels : 15 668 m\textsuperscript{2}
› Total floor space: 3,2 ha
› Heat storage tank capacity : 3 000 m\textsuperscript{3}
› Annual energy delivered : \(\sim 8 600\) MWh/year

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 MWth
› 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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