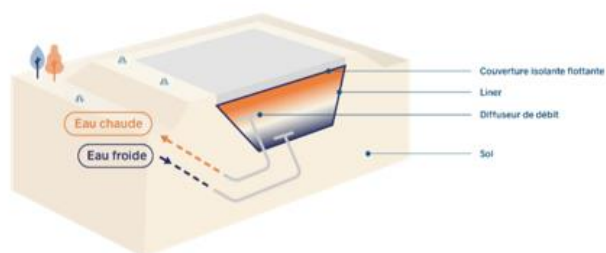

Newheat, Pau Béarn Pyrénées Urban Community, and ENGIE Solutions selected by Europe to study the feasibility of an innovative renewable heat storage solution

June 27, 2024 – Newheat, Pau Béarn Pyrénées Urban Community, and ENGIE Solutions announce their joint participation in a European Research & Development program named **TREASURE**, focusing on studying a high-capacity thermal energy storage system connected to the Pau urban heating network. The study of the Pau storage is the only French initiative selected and represents a first in France.



Pit Thermal Energy Storage, credit: Newheat

The aim is to store surplus renewable energy available during the summer to supply the network during the winter extension, thereby maximizing the share of renewable and recovered energies. Pit Thermal Energy Storage (PTES) is a system that involves accumulating and discharging heat within a pit containing water or a mineral material (sand or gravel) combined with a heat transfer fluid. Indeed, if during certain periods of the year renewable heat is produced in excess, natural gas often

takes over in the heart of winter. To reduce this share of gas, it is possible to store the excess heat produced during the summer for several months to use it in winter and meet peak consumption. This is known as interseasonal heat storage. The study of the Pau storage is the only French initiative selected for the project and represents a first in France. It paves the way for the innovative technology of pit heat storage, which is particularly effective in reducing dependence on fossil fuels and accelerating the decarbonization of urban heating networks. If successful, this innovation could be replicated for other urban heating networks to evolve their decarbonization levers.

The European Program TREASURE aims to accelerate the implementation of 100% renewable Urban Heating Networks

This study is part of the European project TREASURE, supported by the European Union with a funding of €9,894,688.40. The project's goal is to demonstrate large pit thermal energy storage systems and improve their



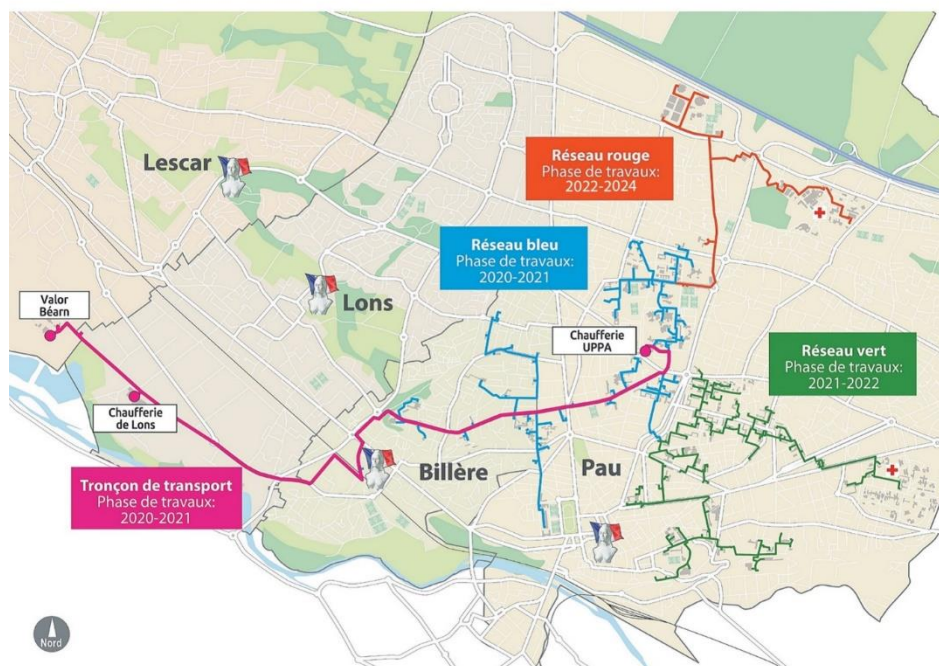
design, development procedures, and operation to massively decarbonize urban heating networks and accelerate the implementation of 100% renewable networks. The ambition is to bridge the gap between research and practice to gradually eliminate the dependence of urban heating networks on fossil fuels, in line with the European Green Deal objectives. Several similar PTES already exist, notably in Denmark. Europe aims to enhance its knowledge of these solutions and facilitate their deployment in other territorial contexts. Supported by 15 initiatives across 5 European countries and involving 24 partners, the TREASURE consortium will provide at least 3 large operational and controlled demonstrators and 4 additional demonstrators at an earlier stage of development by December 2027. The first phase of the

French project, which involves detailed technical, economic, and environmental studies and is expected to last 1 year, is about to start to determine the feasibility of a demonstrator.

Committed and complementary actors:

Keen to actively contribute to the decarbonization of the energy sector and advance research at the European level, the three French actors joined a consortium of 15 European companies and public institutions (universities and local authorities) whose application was selected in January 2024. Following a favorable deliberation by the Pau Béarn Pyrénées Urban Community on March 28, the three partners are proud to officially announce their participation in this demonstrator as committed and complementary actors:

- **Pau Béarn Pyrénées Urban Community** inaugurated the Pau heating network on December 8, 2023, which includes 44 kilometers of network and 169 substations. It supplies heat to 208 subscribers, equivalent to 11,000 housing units, providing heating and hot water for 775 MW subscribed and 132 GWh of energy consumed.
- Operated by **Pau Béarn Pyrénées Energies Services** (a joint subsidiary of **ENGIE Solutions** and the Banque des Territoires), this network is powered by 50% from the Lescar energy recovery plant, 25% by the biomass plant in Lons, and 25% by the gas plant at the University of Pau and Pays de l'Adour.
- **Newheat** develops renewable heat production and storage solutions across Europe, including Pit Thermal Energy Storage (PTES).



Pau District Heating Network

Hugues DEFREVILLE, CEO and co-founder of Newheat, said: "We are delighted to participate in this ambitious European project! Heat storage solutions exist and are mature; we have been deploying them for several years, often alongside new renewable heat production plants. This innovative and competitive pit storage system, which feasibility we are studying for the Pau urban network, could replace a significant portion of the fossil fuels used by it for part of the year. The potential of pit storage technology, which operates in a closed loop on an existing heating network, represents a tremendous opportunity to increase the share of renewable heat use by providing a solution to their intermittence and seasonal variations. We will study all the parameters to propose a robust, safe, profitable, and sustainable large-scale thermal storage solution to Europe."

François BAYROU, President of the Pau Béarn Pyrénées Urban Community, said: *"We have chosen to develop an ambitious heating network that leverages the waste energy from our incinerator and the combustion of biomass available in large quantities in our territory. As the work nears completion, we already see opportunities for extension and connection of new clients up to 25%. It is logical to meet these new needs while aiming to improve the renewable energy coverage rate beyond the current 75%. Our local authority has always been a pioneer in the field of energy innovation, and embarking on this study of in-pit heat storage is an unavoidable commitment for us, and should help us to make collective progress towards a sustainable energy transition."*

Cédric MAISONNEUVE, Director of the South Territory Study Office at ENGIE Solutions, said: *"As a key player in heating networks in France, ENGIE Solutions is exploring all the technologies that can contribute to the greening and extension of heating networks. It was therefore only logical for us to take part in this European project to study a storage project that is as innovative as it is ambitious. The aim is to define the key parameters for a virtuous storage project that will provide tariff stability for subscribers to the Pau heating network."*

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About Newheat: Created in 2015, Newheat is a renewable heat supplier and the leader in solar heat in France. The company offers innovative decarbonization solutions for large heat consumers, major industrial sites, and urban heating networks. Its activity includes developing, designing, building, financing, and operating projects that can combine waste heat recovery, solar thermal, short and long-term thermal storage systems, industrial heat pumps, and, if necessary, the combustion of renewable resources. Based in Bordeaux, the company currently has 5 sites in operation, totaling 40 MW. Newheat today has 50 employees and aims to have an installed capacity representing €1 billion in cumulative investment by 2030 for an annual volume of renewable heat delivered of 15 TWh, avoiding nearly 300,000 tons of CO2 emissions per year. www.newheat.com

Media kit : [Find the press kit, visuals, and the latest press releases from Newheat on this link.](#)

About Pau Béarn Pyrénées Urban Communit: The Pau Béarn Pyrénées Urban Community (CAPBP) aims to achieve carbon neutrality by 2040 and reduce its carbon dioxide emissions from 775,000 T/year to 50,000 T/year (a 90% reduction). It is currently working on a new generation of climate plans and aligning all its public policies with the carbon neutrality ambition (biodiversity plan, local housing program, inter-municipal urban planning plan, ScoT...). Notable actions already undertaken include the Fébus hydrogen high-service level bus (2019 -663.5 T CO2 eq/year), the methanation unit at the Lescar wastewater treatment plant (2024 -550 T CO2 eq/year), and primarily the Urban Heating Network (2023 -24,000 T CO2 eq/year). CAPBP has adopted a master plan to densify and extend the heating network. The TREASURE research project aligns entirely with this plan.

About ENGIE Solutions: ENGIE Solutions is the sustainable ally of cities, industries, and tertiary companies on the path to decarbonization. To accelerate their energy transition and better combine economic and energy performance, every day at the heart of the territories, our 16,000 employees design energy mixes and installations to meet our clients' needs according to their resources, thanks to a range of complementary solutions such as local energy networks, decarbonized energy production on their sites, or our energy performance services. ENGIE Solutions is a brand of the ENGIE group, a global reference in low-carbon energy and services, whose purpose is to act to accelerate the transition to a carbon-neutral world. ENGIE Solutions achieved a turnover of €58 billion in 2023. For more information: <http://www.engie-solutions.com>