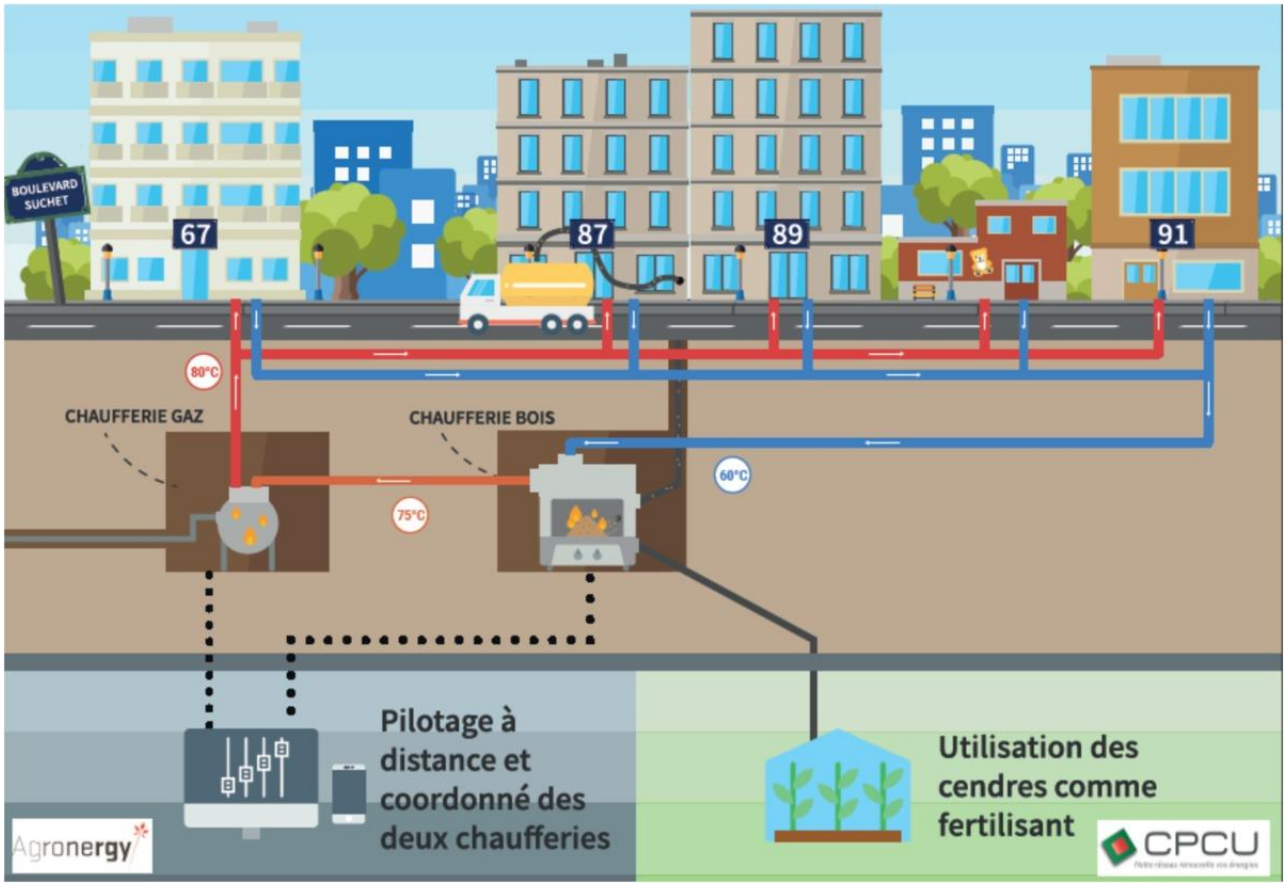
Autonomous heat network in the district of Suchet Boulevard

by Agronergy Fournisseur de chaleur renouvelable / 2019-06-04 17:07:28 / Francia / 6670 / FR



Year of commitment : 2017
CO2 Impact : <50g/KWh

Green energies : Biomass, Wood, Energy Efficiency, Heat, Heat
Circular economy and waste management : Reuse, Optimization of ressources, Bio-based materials, Organic recycling

Builder
Agronergy

Manager / Dealer
CPCU

GENERAL INFORMATION

Development of an autonomous and tailor-made heating network to heat the Suchet district of the 16th arrondissement of Paris.

The biomass boiler installed in the basement of a building on Boulevard Suchet is in operation. 4 residential buildings and a nursery are now heated thanks to a tailor-made installation of the City's heating network: an independent hot water loop, supplied with 50% renewable energy produced locally.

The construction and operation of the boiler, consisting of 6 boilers of 135 KW, has been entrusted by CPCU to Agronergy, a specialist in renewable heat solutions for compact installations of small and medium power.

Wood pellets used as fuel are delivered once a week via a duct blowing from the Suchet boulevard into the old fuel room of the building. Once the combustion is complete, their ashes are reused as fertilizer by nearby Auteuil greenhouses.

The boiler furnishes half of the energy of the network, while a gas boiler of 2MW, also installed in the basement of a building of the boulevard, provides the complement. The two fully automated boilers are remotely controlled synchronously with a priority for biomass heat production.

Powered by these 2 boiler rooms totally invisible from the outside, a loop of underground hot water 300 meters long provides heat to the nursery of the neighborhood and 500 homes spread over 4 residential buildings including 2 private homes of the boulevard Suchet which host the boiler rooms. The other 2 buildings are a Paris Habitat rental property and a newly built private condominium near the former Auteuil train station.

https://www.youtube.com/watch?v=DEUmGU_8lEo

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Private

Website Enterprise / Infrastructure

http://agronergy.fr
https://www.cpcu.fr

Sustainable Development

Attractiveness :

The zone concerned by the autonomous heat network includes many actors whose needs are not the same. Indeed, the neighborhood is composed of residential buildings but also a nursery, the proposed technical solution had to meet the needs of all. The demand of the inhabitants of Boulevard Suchet has therefore been the basis of any reflection for this project. In order to **secure the** heat **supply** , the biomass boiler network was coupled to a gas boiler powered heating network.

Well Being :

Not subject to fluctuations in the oil market, granule offer a **financially advantageous solution** for users. Its price is not only stable but also cheaper than natural gas or fuel oil.

In addition, the use of granule is very simple for the inhabitants of the district, since the delivery of fuel is supported by the Agronergy operating department. Boiler rooms are supplied on a regular basis, guaranteeing a **turnkey service** for all stakeholders.

Social Cohesion :

By taking into account the needs of all, this **dual energy** solution allows everyone to enjoy a more environmentally friendly heat, without causing the change of use.

Preservation / Environmental Improvement :

The preservation and improvement of the environment are at the **heart of the project,** whether in the choice of fuel, at the time of combustion or in the reuse of waste boiler. The boiler room is located in place of an oil boiler, which replaces in part.

Indeed, the ecological balance of the granules are very positive on many points. Produced and consumed locally the environmental impact of the granule is very low. Regarding the **carbon footprint** , it is **zero** because the CO2 released during combustion offsets the CO2 that the wood naturally absorbed during its lifetime.

Biomass boilers also ensure environmentally friendly combustion thanks to a CO2 rejection rate well below Île-de-France standards.

Ashes rejected by the boiler are reintegrated into a recovery cycle.

All this process is ultimately involved in the **reduction of air pollution.**

Resilience :

This bi-energy solution draws its resilience in the particularity that its supply is not related to a single source of fuel (Wood and Gas).

Moreover, the installed biomass boilers are **multi-fuel** and can be used with another type of biomass (agrogranules, ...)

Responsible use of resources :

To supply the boiler with fuel, a **local** wood **supply** network has been set up. Coming from the compression of sawdust and wood chips (no glue or additive is used), the granulate is perfectly adapted to this kind of dense urban environment.

This technology makes it possible to **upgrade** wood residues and therefore does not involve specific tree cutting. The available resources are then used responsibly since wood is an inexhaustible resource if it is the object of good management.

In addition, the granule is a biomass fuel with **high energy performance** . Its very high density and very low humidity (less than 10%) give it a level of performance included in 85 and 105%.

Testimony / Feedback

See video testimonial

Governance

CPCU

Holder Type : Public Local Firm

Agronergy

Builder Type : Power producer

CPCU

Owner: CPCU

Realization Biomass boiler: AGRONERGY

Biomass operation: AGRONERGY

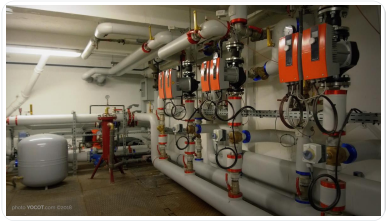
Business Model :

Funding of the project by the CPCU, for an initial investment of the user of 0 € then setting up a monthly subscription.

Agronergy sells the heat produced by the biomass boiler, this heat is injected on the local network for distribution by the CPCU to the various users.

Sustainable Solutions

Biomass boiler



Description :

The autonomous heat network solution is innovative in many ways.

On the one hand, because of the very limited space available to carry out this project, since it was to reuse the space previously occupied by a fuel boiler. The 810KW of biomass boilers were therefore installed in 40m2 and a substation dedicated to the building was also installed in 40m2. A storage silo of 50 m3 replaces the old fuel tank.

The boiler is also composed of 6 boilers DKWB, 135KW, more cascading management of these boilers ensures optimal performance regardless of the power requirements of the inhabitants (summer / winter).
The boilers are additionally equipped with WIT supervision systems, which allows access to all the parameters of the boiler, remotely and act accordingly on the main systems.

- Energy/climate :
- Circular economy
- Infrastructure
- Climate adaptation
- Renewable energies

Company (es) Website :

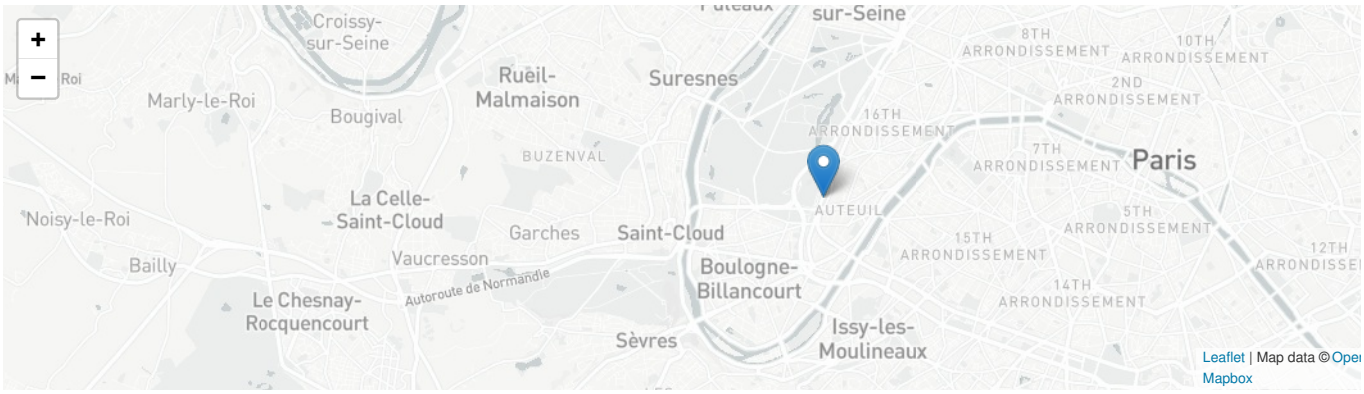
Company (es) Website :

Contest

Building candidate in the category

Grand Prix Infrastructure Durable

Prix du public



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