France

Hybrid systems, the best solution to reduce the Electric Peak Load.

Why?

For the last 40 years oil and gas have ensured a safe and cost effective energy and heating supply. For the last 10 years, electric heat pump installations have increased. Whilst heat pumps could be efficient in a mild climate, they often do not perform in an optimal way when temperatures are less than 5 °C. This leads to a coefficient of performance of less than 2 which requires an additional electricity supply to boost the heating. The implications of this are:

- Higher CO_2 emissions
- Additional electricity demand leading to emissions of up to 700 g CO_2/kWh.
- Even if the nuclear share is a significant portion of energetic mix, the use of extra electricity in winter period obliges means the use of more carbon based power stations.
- Additional risk of "security of supply" during the winter.
- Lower efficiency in primary energy when compared to using oil boilers.
- Increase of the peak load and thermo-sensibility (in France figures up to 2.300 MW/°C will be reached).

Hybrid oil heating systems provide an effective and an efficient solution. Alliance Solutions Fioul has been involved in the development and promotion of hybrid systems since 2009.

Outcome

- Labelling of oil boilers of A+ to A++,
- 2.000 systems installed in 2014 and a market share of 20.000 per year in 2020,
- An efficient and cost effective solution,
- Positive impact on the electric grid.

What?

Alliance Solutions Fioul launched in 2009, in partnership with the heat pump manufacturer TECHNIBEL, the "smart" heat pump. This concept finds its strength in hybrid systems.

In this hybrid system the heat pump is used only when temperatures are not too low. The heat pump doesn't operate when the outside temperature is less than 3 °C. This functionality guarantees a high coefficient of performance for the heat pump (better than 2.58 – the French electric primary energy factor).

The system creates no additional demand from the electrical grid during peak periods. This solution is therefore more efficient than a high temperature heat pump. It's an appropriate solution for new and existing buildings and a better solution for when renovating a home.

Furthermore, hybrid systems meet European energy ambitions such as: energy efficiency, GHG emission reduction and the increased use of renewable energy. The multi-energy systems uses hybrid technologies to adjust the consumption of easily stored energies as heating oil, according to the availability of renewable energy.

With this development the customer will get the best compromise between the design, cost, performance and environmental benefit of their central heating system. In future the installation of oil hybrid systems are expected to grow significantly in new and renovated buildings throughout France.

Contact

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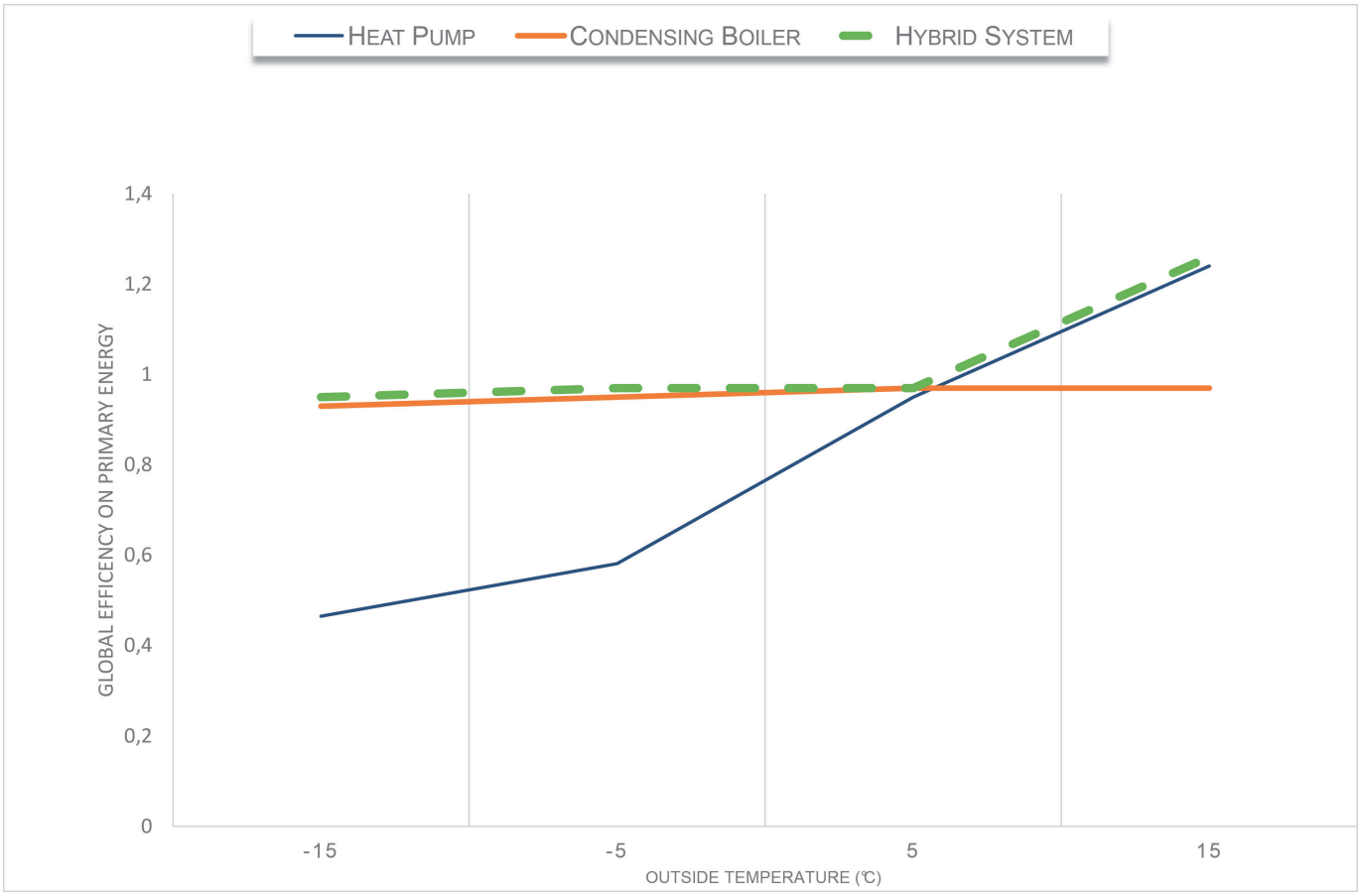
Efficiency of condensing boiler, heat pump and hybrid system according to the outside temperatures.



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