Energy piles

- *The climate friendly precast concrete pile for cooling and heating*
Preface

In a time where the transition to green resources are the top priority of the global agenda, we find ourselves in a situation where the demand for new, sustainable alternatives to traditional ways of acquiring and utilizing energy is ever increasing.

Most importantly, those alternatives must contribute to combat and halt the climate changes which are occurring in these very years.

Furthermore, the alternatives must be economically sound – if not lucrative – and in the best case scenario contribute to continued prosperity and growth.

At last but not least it the dream is that the alternatives can be implemented in way that allows us to make use of the knowledge and experience accumulated over many years to ensure that the quality of the solution is as good and dependable as possible.

A direct transition between accumulated knowledge and future technologies are seen in many areas already. For example in the automotive industry, where the combined effort of state-of-the-art aerodynamics, safety and the latest battery technology come together to create energy efficient and green quality alternatives to using fossil fuels in cars.

It is this exact parallel that we allow ourselves to draw to the energy pile.

As a proud, quality oriented precast pile supplier, we at Centrum Pile have honed our skills within the foundation industry for generations and it is this experience we draw upon in the development and improvement of the energy pile.

Through actual research studies we have proved that energy piles are a climate friendly, economically beneficial and safe choice for supplying new buildings with energy and bearing capacity.

In other words – we consider energy piles the double sustainable choice.

Happy reading.

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Background

Ground source heat exchangers (GSHE) with heat pumps make up a sustainable and cost efficient energy supply solution, which utilizes the ground itself for heating and cooling.

GSHE systems have, in combination with other sustainable energy sources, a considerable potential in the transition towards sustainability.

The energy pile is a traditional precast concrete pile with tubes inside it, wherein circulation of fluids absorb or exude heat from/to the pile and the ground. With an energy pile, the very foundation of the building satisfy two tasks at once - the task of mechanically supporting the building and the task of supplying the building with heating and cooling.

Centrum Pile has a vision that the energy piles will not only supply one building at a time, but in turn will be part of a complete grid of buildings founded on energy piles which can exchange energy between them as one, decentral solution.
At Centrum Pile we precast our energy piles in concrete. This means that the piles are produced based on the specific needs of the customer and the demands for the specific project. In turn, this ensures that the optimal conditions for using energy piles as a heat source can be met.

When the energy piles are produced they are transported directly from the factory to the building site, where they will be hammered into the ground. The energy piles come with PR100 PE tubes which are pressure tested from the factory to make sure they are 100% airtight. Furthermore, the tubes are electrically welded, which are extremely durable welds that rarely, if ever, break or tear. Once the piles are set in place, the tubes are connected to a heat pump through manifolds.

Energy piles provide the foundations for effective climate solutions in sustainable construction through the utilization of the Earth’s renewable resources.
Accompanying material

For a quick and informative overview of how energy piles work in practice, please refer to our energy piles animated video.

For more information regarding the scientific background of energy piles, please refer to:

“Design and performance of energy pile foundations” - Ph.D. study by Maria Alberdi-Pagola
Contact information

Wish to know more?

Then do not hesitate to contact us for an in-depth presentation about energy piles and how they can provide a **double sustainable** foundation for new buildings.

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