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Aarhus Municipality and A.P. Moller Holding are extracting green heat from the Earth

A new collaboration between Aarhus Municipality and A.P. Moller Holding could change the heating supply in Denmark. The ambition is to transfer heating from the subsurface to the radiators of 100.000 Aarhus citizens. As such, Denmark's second-largest city is taking a huge step towards combustion-free district heating.

Energy from the Earth's core can, in the future, supply Denmark's second-largest city with green heating. Aarhus Municipality and A.P. Moller Holding have joined forces to clear the way for the largest Danish bet on geothermal district heating to date.

Geothermal studies have shown that the subsurface below Aarhus is well-suited for using geothermal energy for district heating. Geothermal energy is renewable and available all day, all year, also when it is cloudy or windless and other renewable energy sources fail. Aarhus would like to take advantage of this potential as part of developing the district heating of the future, says Bünyamin Simsek, the Alderman responsible for the Department of Technical Services & Environment in Aarhus Municipality.

"We have already said goodbye to coal and oil in Aarhus' heating supply, but we want to go a step further. We want an energy system, which to a lesser extent is based on the combustion of biomass and to a greater extent is built on fuel-free and renewable energy. We can get this with geothermal energy. I am therefore pleased that A.P. Moller Holding will use its expertise and resources to develop geothermal district heating on such a large scale," he says.

The parties have made a Letter of Intent, which confirms that Aarhus Municipality and A.P. Moller Holding will now start exclusive negotiations about a heat delivery contract, where A.P. Moller Holding is responsible for delivering geothermal heat for use in Aarhus' district heating.

"It is important to me that we secure competitive prices, a competent partner and that we shield the heat customers from the economic risk that of course arises when you have to develop, construct and, eventually, operate a geothermal plant for 30 years. It is therefore essential for Aarhus that A.P. Moller Holding owns that risk from beginning to end," says Bünyamin Simsek.

According to the project's current timeline, the first exploratory wells will be drilled in 2019-2020. Depending on the results of the exploration, the first geothermal plants should be built in 2021-2024.

The model implies that A.P. Moller Holding takes on the exploration risks, establishment risks and operational risks for the 30 years that the plant delivers heat to the district heating grid. The municipality's heat supplier, AffaldVarme Aarhus, receives the heat at a fixed indexed price that can be adjusted down if synergies or improvements, which can reduce the costs, arise. This will ultimately benefit the heat customers in Aarhus.

"Geothermal energy can play a key role in the green transition of the heating sector across Denmark. To take advantage of this potential, the price must be right so heat customers in Aarhus will not have to pay extra for green heating. At the same time it is important that the responsibility and the risk is placed correctly. We have extensive experience with these types of projects and the extraction of energy from the subsurface. As such, we know the risk elements and we know how important it is that a single contributor takes responsibility for the exploration, construction and operation i.e. handles everything from cradle to grave. In this way heat customers in Aarhus will not risk having to pay if something does not go as expected," says Samir Abboud, CEO of Geothermal in A.P. Moller Holding.

The project is based on extensive geological investigations, but it is not until A.P. Moller Holding drills the first exploratory wells that one can be completely sure that the conditions are as

expected and support geothermal energy for district heating. If the conditions are not as expected, A.P. Moller Holding will close the exploratory wells at no expense to the heat customers in Aarhus.

The Minister and the Danish Parliament see potential in geothermal energy

Geothermal energy is renewable and has the advantage that it can be produced and consumed locally. The project in Aarhus could become the first large-scale project in Denmark.

“It is very positive that A.P. Moller Holding is now engaging in utilizing geothermal energy on a large scale. The government backs geothermal in the energy agreement and sees great potential both in terms of the Danish heat supply and in future export possibilities,” says the Energy, Utilities and Climate Minister Lars Chr. Lilleholt.

The new political energy agreement, which was reached in Denmark before the summer holidays, is supported by all the parties in the Danish Parliament. The social democratic spokesperson on energy and climate, Jens Joel, is just as excited as the minister:

“Geothermal Energy on a large scale will open new possibilities. We should embrace these, and I am proud and happy that Aarhus municipality will pave the way towards combustion free district heating”, says Jens Joel.

The dialogue between AffaldVarme Aarhus and A.P. Moller Holding is expected to continue. The rest of 2018 will be spent on finalizing the framework conditions and negotiating a final agreement on heat delivery.

For more information:

Bünyamin Simsek, Alderman for Technical Services & Environment, Aarhus Kommune 2194 7257

Bjarne Munk Jensen, CEO of AffaldVarme, Aarhus Kommune 2920 9274

Mika Bildsøe Lassen, Head of Communication, A.P. Moller Holding Mika.lassen@apmoller.com, 2055 2655

Minister for Energy, Utilities and Climate Lars Christian Lilleholt, Media relation Michael Korsgaard Nielsen, 2463 5487

Member of Parliament and social democratic spokesperson on energy and climate Jens Joel, 6162 5181

AffaldVarme Aarhus

AffaldVarme Aarhus is a utility under the Department of Technical Services & Environment in Aarhus Municipality. It has a total annual turnover of approximately DKK 3.0 billion. AffaldVarme Aarhus supplies district heating to 350,000 citizens in the Aarhus-area. Denmark’s second-largest city said goodbye to using coal as a fuel in 2016 and primarily receives district heating from biomass. AffaldVarme is also responsible for the total waste handling in Aarhus Municipality.

A.P. Moller Holding

A.P. Moller Holding is a privately held investment company based in Denmark with approximately USD 20 billion under management. The purpose of A. P. Moller Holding is to exercise the A. P. Moller Foundation’s role as an engaged owner in A. P. Moller – Maersk and Danske Bank, and to ensure that the Foundation can continue to contribute to society, in the form of donations, for generations to come. A. P. Moller Holding fulfils this purpose by safeguarding the long-term viability of our portfolio companies, and by investing in and building new businesses, that have a positive impact on society.