COMMERCIAL HEAT PUMP IN SWEDEN PROVIDES LOCAL FLEXIBILITY

The heat pump at the demo site in Malmö is installed to increase the energy efficiency at a local energy center in an industrial park. Low temperature waste energy, i.e. heat removed from the data center, is upgraded to a temperature useful for comfort heating in a couple of commercial buildings, while simultaneously producing cool water that is used to cool off the stacks of a data center. Although electricity is used for the heat pump, the overall efficiency of the energy solution improves as it enables a decrease in the size of the cooling machine and to turn off a cooling tower.

The heat pump is utilized to deliver two necessities at the same time, both heating and cooling. If there is a constraint in the electricity grid, or an excess of district heating energy in the thermal grid, the heat pump will be turned off and the system will run in a mode, providing:

- Cooling to the data center by using a cooling machine and a conventional cooling tower
- Heating to the commercial buildings by the district heating grid.

The system is up and running connected to a control system, Ectocloud, that can be set in a "power control" mode if there is a need of change of energy carriers. A series of test runs are being developed and will be carried out during the cold heating season.

Heat pump at demo site in Malmö