Dutch Innovation Award by Eneco

Reference project Clarissenhof:

“Exchanging Surplus Heat and Cold by means of a Thermal Loop and Heat Pumps.”

Presentation by:
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Project plan:

Block G – 53 Apartments
Block E – 53 Apartments
Block D – 53 Apartments
Block C – 53 Apartments
Block A – 53 Apartments

Combined:
Block B1 -12 Apartments
Block B2 -12 Apartments
Block P - 16 Apartments

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Total: 305 Apartments
Aquifer Thermal Energy Storage (ATES):

Cold aquifer
Capacity: 60m³/h

Warm aquifer
Capacity: 60m³/h

Central pump station:
From out the central pump station runs a thermal loop to the buildings and back.

Per building a technical room is connected.

This loop abeles to reuse the surplus of heat and cold.
Each Technical room is the same for this project.

Existing out of:
- 1x 56 kW Heat pump
- Bivalent
- 2x 100kW Boiler
- Distribution and collector including mix groups
- Indirect domestic hot water boiler
- BACnet based monitoring
From the technical room in each building runs a 3-pipe system to the Comfort Distribution Sets in the apartments.

3-Pipe distribution:
- Heating supply
- Cooling supply
- Combined return
Environmental benefits:

The combination of:
- Six ONE heat pump installations
- Thermal loop
- Comfort Distribution Sets

Result in a different concept.

The direct reuse of surplus heat and cold will have a positive effect on the environmental performance and energy efficiency of this project.
Let us see how…