

Project title

The development and construction of TES (thermal energy storage systems). Groundwater in the deeper-lying soil is used for energy storage, together with a TEO system for the thermal energy from surface water.

Customer

WarmteStad | www.warmtestad.nl
De Suikerzijde | www.desuikerzijde.nl

Sector

Energy Industry

Empowered Solution

- Thermal Energy Storage system (TES)
- Thermal Energy Surface water (TEO)
- PRINCE2

Period of Execution

- Start: Jan. 2023
- Finish: 2026 and beyond

Methods, Techniques, Tools

- Project Management (PRINCE2)
- Feasibility studies
- Permits
- Geohydrology studies
- Well Designs
- Mechanical Engineering
- Electrical and Instrumentation Designs
- Civil Engineering
- Control Technologies

Value added elements

- BRL SIKB 11000
- BRL SIKB 6000-21
- BAL (Besluit activiteiten leefomgeving)
- BRL SIKB 2100, Protocol 2101
- ISO9001
- VCA

Overview

On the site of the old, demolished SuikerUnie factory (on the Hoendiep near the Suikerlaan, 9743 DA Groningen), houses are currently being developed in separate building fields. The total area will include approximately 5,000 homes, along with various commercial and social facilities. Approximately 2,500 homes, a park, a station, a square, schools, offices and shops are expected to be built in the Suikerzijde "Noord area". The total surface area of homes is approximately 240,000 m², and the total area of non-residential functions is approximately 55,000 m². For WarmteStad as a cold and heat supplier, an integral system must be realised that can be operated efficiently in the next 30 years. The buildings on these plots are supplied with heat, cold, and hot water for tap water preparation via a so-called 4-pipe change-over system.

Technology

The source of these heat and cold supplies lies in the underground thermal energy storage system, together with a civil ring network laid across the site along the construction fields. Spread over the site, 14 well positions are licensed (7 thermal well doublets). These wells feed into the ring network. From this ring network, the technical rooms (BECs) receive heat or cold transferred to the heat pump circuit via this thermal energy storage system. In the BECs, the heat is upgraded to the desired temperature level using heat pumps. In the final situation, approximately 2500 homes will be connected across 16 building fields, 8 BECs with 6 well doublets (1 in a reserve set), and a TEO system for regeneration.

Why Scheper.Co?

Scheper.Co has brought structure to these technically complex projects for Warmtestad. Both within guided processes and technical content. This involved organising structures between management, technical specialists and external stakeholders. The applied project management structure (PRINCE2) and tooling have now become a standard for Warmtestad and its suppliers, for the development and construction of TES (thermal energy storage systems) "groundwater in the deeper-lying soil is used for energy storage", and TEO systems "thermal energy from surface water". The applied quality standards and expertise for these projects range from BRL SIKB 11000, BRL 6000-21, ISO9001, VCA, BAL (Besluit activiteiten leefomgeving) and BRL SIKB 2100, Protocol 2101 Mechanical drills.

How Scheper.Co helped?

Our in-depth knowledge and expertise date back to mechanical drilling applications. In these multidisciplinary projects with associated installations, we support our customers and empower their future by developing feasibility studies, permits, geohydrology studies, well designs, mechanical engineering, electrical and instrumentation designs, civil engineering and control technology. Together with various partners, we design projects to the highest possible quality and efficiency standards, from the very beginning through to realisation.

