

Decarbonizing construction projects

Government initiatives to reduce emissions are gathering momentum, especially with many countries aiming for net carbon zero by 2030 or 2050. The building and construction sector is a particular focus, as it accounts for a significant amount of global energy- and process-related CO₂ emissions, approximately 37% in 2021¹. In Norway, the construction of Klosterenga Park in Oslo is believed to be one of the first projects of its kind to achieve zero emissions and it included the delivery and installation of a Sulzer pumping station, which will supply one of the main water features.



“The build of Klosterenga Park has been funded by public spending and Oslo wants all municipal construction sites to be zero emissions by 2025. We have managed to support this valuable recreational area with equipment and a delivery process that matched the sustainability criteria.”

Charles Humlekjaer Berg, Field Sales Engineer for Sulzer

Klosterenga Park was designed around the vision of artist Bård Breivik, who passed away in 2016, and includes a number of his sculptures connected with water. The Hovinbekken used to flow in a culvert under the park and has now been opened up and become an important feature of the grounds. One of the main works in the park is the Grotto, where water forms a natural curtain over the cave entrance.

Peace and quiet

A quiet construction site would usually mean the working day had finished, but in Oslo building work continues apace using electrically powered excavators and wheeled loaders. In fact, every vehicle used in the project to construct Klosterenga Park had to be electric, which not only benefited the environment, but the surrounding houses and kindergartens as well.

When the procurement team contacted Sulzer looking for a water pump and controls, they asked if the equipment could be delivered by electric vehicle; without this assurance, the contact could not go any further. Being able to comply with the preferred delivery method, Sulzer used the ABSEL online pump configuration tool to select the most appropriate pump for this application. The online solution uses all the available information to select the optimum pump, which in this case was the XFP, because it offers excellent reliability, high efficiency and is perfectly suited to 24-hour operation.

Sulzer was contracted to deliver the pump, pipework and controls for the pumping station responsible for the Grotto waterfall. Using water from the Hovinbekken, the waterfall is set to operate around-the-clock from Spring until Autumn. All of the pipework for the pumping station was fabricated at the local service center and assembled on site by Sulzer.



Sulzer's pump package operates around the clock from spring until autumn.



Environmental benefits

Charles Humlekjaer Berg, Field Sales Engineer for Sulzer comments: “The XFP pump is equipped with an IE3 Premium Efficiency motor and managed by Sulzer’s EC531 pump controller, and this combination offers excellent energy efficiency. In addition, the customer was pleased to see that we included the environmental product declaration (EPD) because this supported the ecological credentials of the construction and park.”

In addition to the efficiency of the pumping system, the selection of the XFP also means the project received a certificate of involvement with the XFP forest. This is a partnership with Treedom that will see 500 trees planted where they are needed the most to help combat soil erosion and enrich biodiversity as well as absorb CO₂.

Charles concludes: “The build of Klosterenga Park has been funded by public spending and Oslo wants all municipal construction sites to be zero emissions by 2025. We have managed to support this valuable recreational area with equipment and a delivery process that matched the sustainability criteria.”

This project is being watched by many construction firms across Europe to see how a zero emissions site operates. The change to electrically powered construction equipment saved NKR 150’000 in fuel alone. As more projects take this route and more companies such as Sulzer are able to meet the project requirements, so the industry will get closer to its environmental targets.

¹ <https://globalabc.org/our-work/tracking-progress-global-status-report>

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