

Energy performance and maintenance contracts

MUNICIPALITY OF ROTTERDAM, NETHERLANDS

Procurement objectives

The Municipality of Rotterdam identified the need to make cost, resource and energy savings in its €2 billion worth of real estate. It also has high CO₂ reduction targets. Public swimming pools were identified as key facilities for potential improvement. Rotterdam had the additional objective of improving the swimming conditions for users.

Due to the uncertainty regarding potential energy savings, an Energy Performance Contract (EPC) was awarded using the competitive dialogue procedure.

Background

In 2010, as a pilot initiative, the City tendered for a 10-year EPC covering 9 pools, with payments based on actual energy savings delivered. This approach was taken due to austerity measures and the ambitious commitment to reduce 50% CO₂ emissions (compared to 1990 levels) by the year 2025 as part of the Rotterdam Climate Initiative.



Criteria used

The tender required guaranteed energy savings, quality of the swimming pools and comfort for users in terms of water and air temperature, humidity and chemical concentrations.

Subject matter of the contract: An EPC for the renovation and maintenance of 9 government-owned pools.

Selection criteria: Contract partners had to be able to guarantee performance and had to have experience delivering the City's requirements. This could be obtained from separate completed projects as it was seldom the case for projects to have all of these outputs combined.

Technical specifications: The initial technical specifications prescribed requirements for comfort and maintenance. During the competitive dialogue stage however, amendments took place resulting in an increase of the maintenance scope to the entire building and in the requirement for energy reduction.

Award criteria: The award of the contract was based on the energy savings offered by the bidders and the maintenance costs.

Contract performance clauses: The contract involved guaranteed energy savings, building condition and comfort, all subject to penalties. The winning contractor guaranteed annual savings of 34%. The contractor receives a financial bonus for energy savings of over 34% each year or cumulative penalties if they fall short.

Results

The competitive dialogue started with three competitors, with one dropping out before the end. The two remaining competitors both made a valid bid. The energy savings and reduction of maintenance costs were within the expected range (the former in the upper part of that range), with the winning contractor guaranteeing 34% energy savings. Work started within a month of awarding the contract, the first phases of which included maintenance and an improvement in user comfort. In 2011 installations for saving energy were prepared, as energy savings must be guaranteed in 2012 and subsequent years.

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Environmental impacts

Energy efficient heating, lighting and ventilation systems in swimming pools can help save a significant amount of energy. As demonstrated, using appropriate procurement procedures and energy performance criteria can reduce energy use by more than a third, which in turn lowers GHG emissions such as CO₂.

Buildings and equipment must be effectively maintained in order to optimise efficiency. The inclusion of maintenance responsibility and energy saving bonuses within this contract means that the contractor has a clear incentive for ensuring newly installed equipment is performing correctly and achieving energy savings.

Chemical treatment of water can cause environmental health issues. Swimmer wellbeing was a contract requirement in this case, which has resulted in lower concentrations of chlorine in the water and air. More people with respiratory complaints, who previously avoided swimming, are now using the facilities.

Lessons learned

The renovation of existing real estate requires a detailed assessment of the initial state of the buildings, their respective installations, energy usage and use of the facility by the public. It took almost a year to get mutual agreement on these assessments, so this should be started well in advance of works in future and should be kept up-to-date. Overall this project to pilot such an EPC was a success and it will now be rolled out across the City.