wte
EVN Group

Larnaca
Cyprus

To meet the high requirements of a modern wastewater treatment plant the city authorities initiated plans in 2007 for the construction of a new, modern plant based on MBR technology. Another strong argument for modernisation were the long dry weather periods which led to an increasing demand for hygienic service water for agricultural purposes.

WTE has been responsible for the basic design of the facility, the process engineering aspect, supply and installation of the mechanical and electrical equipment, supervision of construction, commissioning, training of the operating staff as well as for the 12-month operation term.

Technical details

The concept of the plant includes a membrane bioreactor, a new mechanical treatment stage and sludge drying with solar energy. A daily rate of 18,000 m^3/d has been determined for phase B (2027 scenario) and 22,000 m^3/d for phase C (2047 scenario).

Project key figures	
Commissioning	estimated 2016
Operation WTE	1 year
WWTP key figures	
PE	100,000
Max. m^3/d	18,000
Average m^3/h	750

Chemical and biological parameters		
	Influent	Effluent
BOD_5	6.000 kg/d	≤ 5 mg/l
SS	6.000 kg/d	≤ 5 mg/l
TN	1.300 kg/d	≤ 5 mg/l
TP	350 kg/d	≤ 1 mg/l

The project for expansion and modernisation of the WWTP Larnaca pursues the following goals:

- → increase of plant capacity
- → more efficient nutrient elimination and sludge stabilisation
- → maximize effluent quality with the objective to using the high-quality effluent produced for irrigation
- → reduction of the volume of sludge to be disposed of

On an island such as Cyprus with more than 300 sunny days in a year the solar sewage sludge drying is particularly economically and ecologically sustainable due to low energy consumption and low maintenance required. The granulate storage area is dimensioned thusly to guarantee that the residual sludge would only need to be transported by truck twice a year to final disposal.