



CASE STUDY



GLP

GLP is a leading global investment manager and business builder in logistics, real estate, infrastructure, finance and related technologies. Our combined investing and operating expertise allows us to create value for our customers and investors. We operate across Brazil, China, Europe, India, Japan, and the U.S. and have US\$89 billion in assets under management in real estate and private equity funds.

We have industry-leading capabilities across the whole value chain including Investment, Development, Asset management and Leasing. We have a proven track record of delivering 9 million sq m of warehouse space to a broad range of customers.

LOCATION

Zevenaar is situated in the Arnhem / Nijmegen region in the east of The Netherlands.

DELIVERY TIMEFRAME

It is part of a greater logistical area which is called 'Logistics Valley'. It connects the two most important Dutch ports (Port of Rotterdam and Amsterdam Airport Schiphol) with the German Rhine-Ruhr area. Over the last few years this area has been named one of the top 15 logistical hotspots in The Netherlands (ranked by logistical platform Logistiek.nl). This platform consists of 27 independent experts, including logistics real estate developers, estate agents, location consultants, logistics service providers, who work together to compare the various regions using several criteria. The main advantage of the region is its proximity to the German Ruhr area, the main connecting roads of Rotterdam and Amsterdam, and its accessibility to the European hinterland

G-Park Zevenaar
52,949 m² / 569,938 SF



INFORMATION BUILDING

- **Client:** GLP
- **Contractor:** Goldbeck Nederland B.V.
- **Mechanical installation:** TOP Installatiegroep B.V.
- **Electrotechnical installation:** TOP Installatiegroep B.V.
- **Completion year:** 2020
- **Architect:** Palazzo
- **Constructor:** Croes
- **Building physics / fire safety:** DVL D
- **Commissioning manager:** M3E
- **Functions:** Industrial and office function
- **Building type:** [concrete-steel framework construction]



KEY FACTS

WAREHOUSE

- Office area : $2 \times 1.262 \text{ m}^2 = 2.524 \text{ m}^2$
- Industrial area : $2 \times 25.636 \text{ m}^2 = 51.272 \text{ m}^2$
- Construction period : October 2019 / June 2020

BREEAM

- BREEAM advisor : Adamasgroep Arnhem
- BREEAM assessor : Lois Advies
- BREEAM expert : M3E
- BREEAM-score : >70% Category "Excellent"

The new construction of the distribution center has the following noteworthy sustainable design features:

- presence detection for lighting of office, wash and changing rooms and sanitary;
- presence detection for lighting in warehouse per rack path;
- energy efficient LED lighting ;
- water-saving toilets, equipped with flush selector buttons and flush interrupters;
- metering of individual energy flows;
- leak detection on coolants;
- good insulation values of roof and facades to ensure minimal energy loss;
- all-electric-installation: bivalent heat pump installation combined with cold and heat storage net and air-to-water heat pump as peak load facility;
- Underfloor heating as main heating in the hall and comfort heating in the offices;
- Approx. 4597 m² PV-cells*;

Rc-values: 3,5 m²K/W (floor), 4,5 m²K/W en 6.35 (facade), 6,45 m²K/W (roof)

Cooling/heating: Heat pump underfloor heating

Ventilation: WTW via VRF-system (office)

Lighting: LED-lighting in offices and hall with presence detection

**These measures lead to the following energetic building performance:
EPG score of building: A++++**



EXCEPTED ENERGY NEED	YEARLY	YEARLY /m ² BVO
Building-related installations*	828.260 kWh (2.981.736 MJ)	15,39 kWh/m ²
SUTAINABLE ENERGY		
Generated by PV-panels, of which:	785.449 kWh (2.827.616 MJ)	14,60 kWh/m ²
Part building related use:	785.449 kWh (2.827.616 MJ)	14,60 kWh/m ²
OTHER FUEL		
Building-related installons (remaining energy need)	42.811 kWh (154.119 MJ)	0,80 kWh/m ²
DRINKING WATER		
Excepted use**	9,8 liter/pers./day.	

Based on EPC calculation. Calculations have been made with non-primary energy consumption, like the actual energy requirement of the building, not what is needed to meet this energy requirement (depending on energy generation return).

** Based on average toilet usage per person per day: 1.3 times normal toilet and 2 times urinal per person.

EXAMPLE :

The new construction will be realized in precast concrete and steel construction. Next to building efficiently and with low waste volumes due to working with precast construction parts, there is waste separation with at least seven waste streams.

Waste separation and reduction are part of a Smart Waste Management Plan, which was setup by the construction team.

In addition, a work plan has been drawn up to further limit the environmental impact of the construction site. The work plan consists of various measures to limit the environmental impact. Examples are: limiting CO₂ emissions as result of transport to construction site, limiting water usage, and minimizing air and soil pollution. Separately, there's an environmental policy plan in effect and the contractor works in accordance with a certified environmental management system (ISO14001).

During planning, special care was taken to limit the project's impact on the ecology of the area. Measures will be taken to facilitate the shared use of Tables 2 and / or 3 of the AMvB of the Flora and Fauna Act, and provisions will be made for special natural values such as vascular plants, breeding birds and bats.

BREEAM-NL aspects

By taking measures as set out in 9 chapters within the BREEAM-NL system, the aim is to achieve a BREEAM rating of "Excellent". This score is achieved by obtaining points within the 9 sections of BREEAM.

The total score must therefore be at least 70%. This approach was taken as a guideline during the design phase with all stakeholders involved, which resulted in a sustainable design and a PRE-Assessment score of approximately 74%.

In order to obtain a BREEAM certification, the Adamasgroep was called in to manage and guide the process. Gazeley has engaged M3E in the role of BREEAM expert. Via the assessment tool Lois Advies was approached to test the project.

The Adamasgroep directs and coordinates the realization of the final evidence, based on proof provided by all parties involved.

Goldbeck and the Adamasgroep now have the necessary experience to jointly assess BREEAM-certified projects. As a result, usefulness and necessity can be separated faster with the customer.

Extensive experience with quick scans provides very reliable insights. The cost and benefit analysis of both internal and external costs is being deployed earlier in the process and its accuracy is increasing. Increasing sustainability by obtaining the 'Excellent' BREEAM certificate, we have contributed to a higher market value for the realized property.

Of course the knowledge about BREEAM also has distinctive value for Goldbeck as a builder of industrial housing.

SPECIFIC CREDITS

The project is characterized by an integrated approach. Structural and installation engineering measures are therefore not aimed at one credit, but at a combination of credits, as shown in the table on the next page.

The overview lists the main measures and score for relevant credits. In addition, an indication has been given for investment costs and benefits as a result of savings.





	measure	Heat pump	PV-panels	Sustainability measure + site layout	Water-saving sanitary no relevant additional costs	LED lighting, presence detection, including user control no relevant additional costs	LT-heating+cooling no relevant additional costs	Inkoop duurzame materialen + hergebruik geen relevante meerkosten
credit								
HEALTH								
HEA1 daylighting								
HEA2 view								
HEA4 HF-lighting						1		
HEA5 lighting NEN 12464				1		1		
HEA6 light control						1		
HEA9 volatile organic compounds								1
HEA10 thermic comfort							2	
HEA11 temperature regulation							1	
ENERGY								
ENE1 CO2 emission reduction	12	12				12	12	
ENE4 energy efficient outdoor lighting				1				
ENE5 renewable energy	3 + EP	3 + EP						
ENE26 quality building envelope								
TRANSPORT								
TRA3 alternative transport				2 + EP				
TRA4 safety cyclists + pedestrians				2				
TRA8 supply and maneuvering				1				
WATER								
WAT1 waterverbruik					2			
WAT6 irrigatie				1				
MATERIAL								
MAT1 construction materials(MPG)								3
MAT5 substantiated provenance of materials								2
WASTE								
WST2 reuse aggregated material								1
ECOLOGY								
LE4 plants and animals as co-users				2				
LE6 long-term sustainable shared use				1				
POLLUTION								
POL4 NOx-emission spacial heating	3 + EP	3 + EP				3 + EP	3 + EP	
POL6 runoff rainwater				1-2				
POL7 light pollution				1				

Tips for the next project :

Based on experiences from previous projects, which have been implemented here, we find the following points of interest relevant for a perfect BREEAM process:

- Include BREEAM in the process as soon as possible;
- Moment for choosing whether or not to implement BREEAM even earlier in the SO and VO phase process;
- Quick scan and selection list with costs and benefits must become leading in both the VO and DO phases;
- Collaboration with accountant and subsidy advisor and assessor with regard to MIA, EIA, and SDE +
- Experiences with BREEAM make process easier; experience gives a head start.

