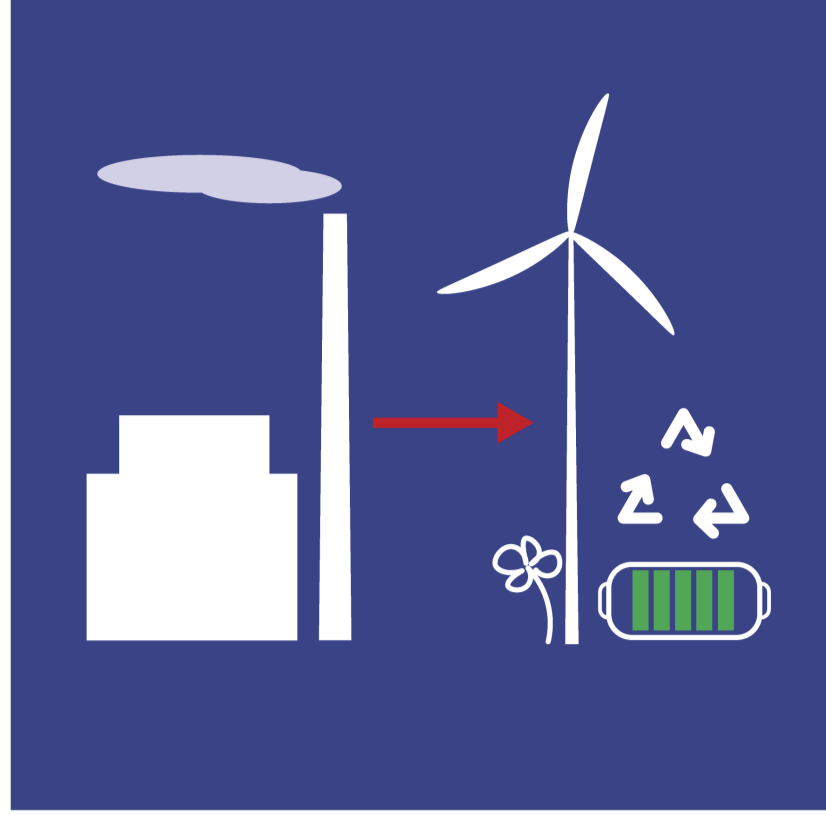


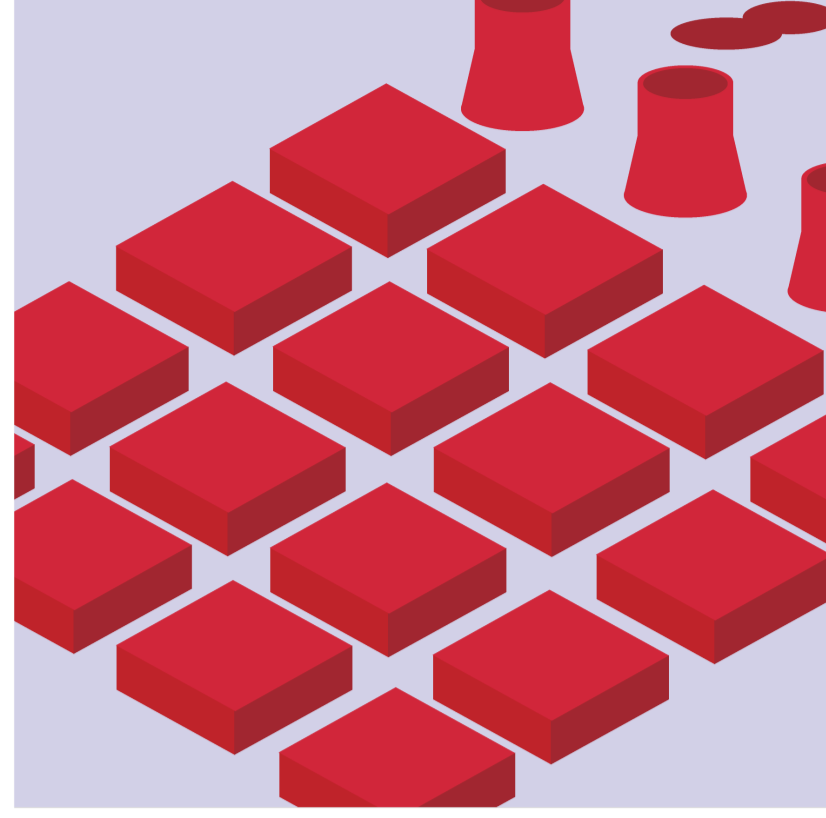
CONCEPT



Soften the boundary between city and port.



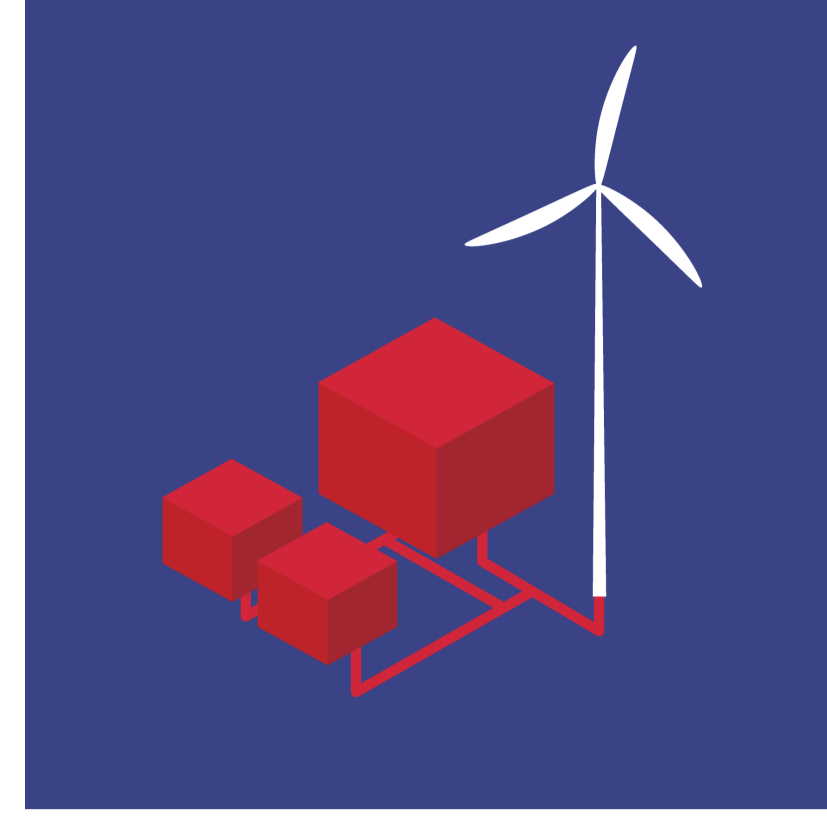
Change the (identity of the) industry.



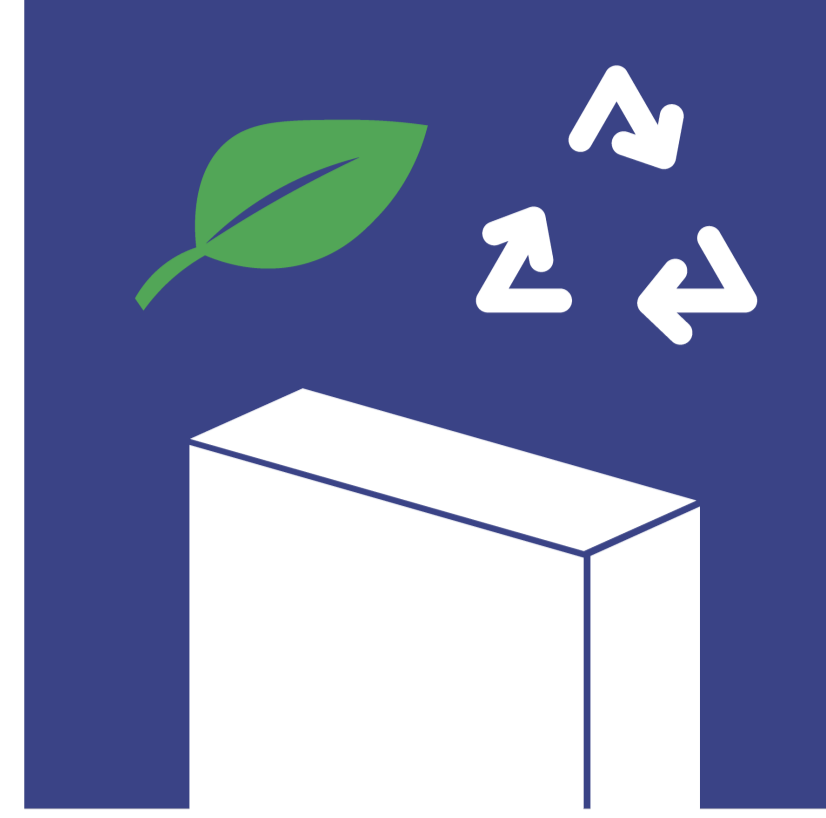
Change the (identity of the) industry.



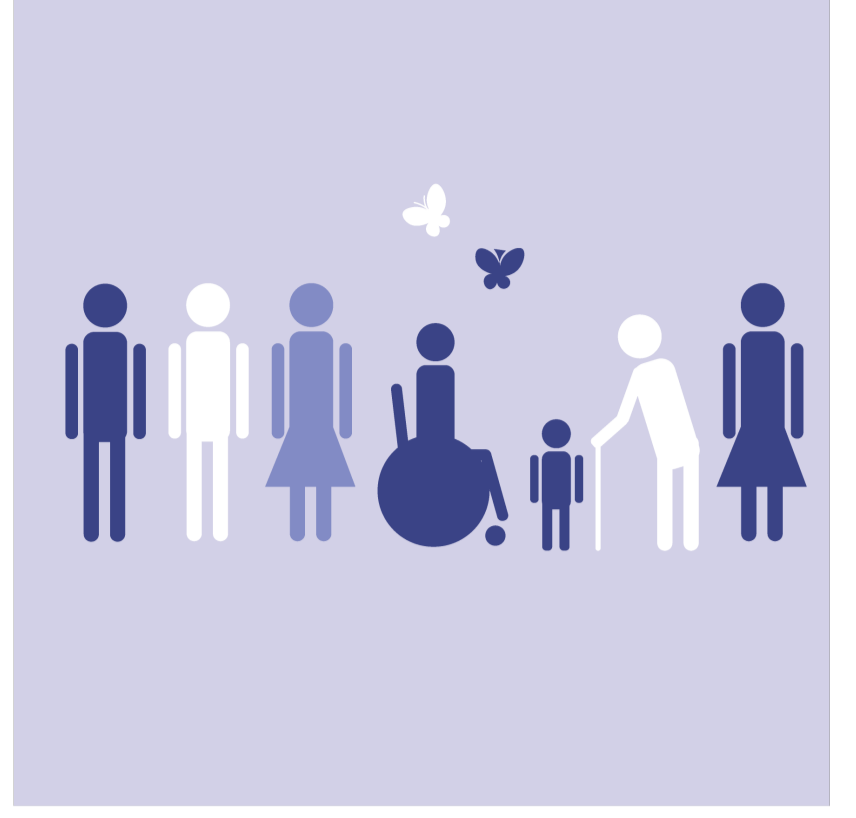
Open the sustainable industry to the public (educate).



Make smart use of producer and consumer in microgrids.

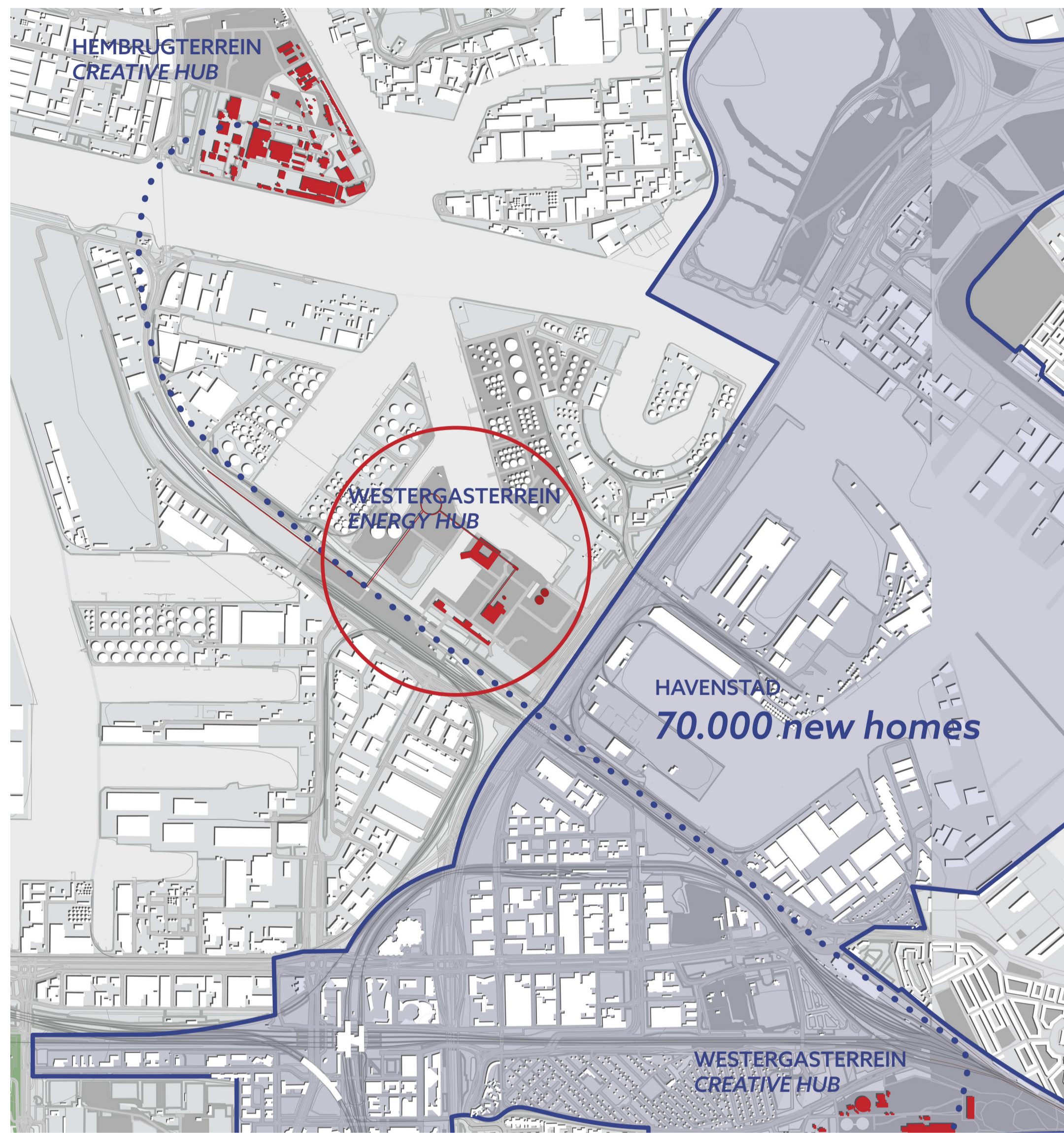


Ecological and sustainable material use.



Inclusive design.

CONTEXT



The Hemwegterrain is located next to the development project Havenstad. Between now and 2050, 70.000 new homes will be build here.

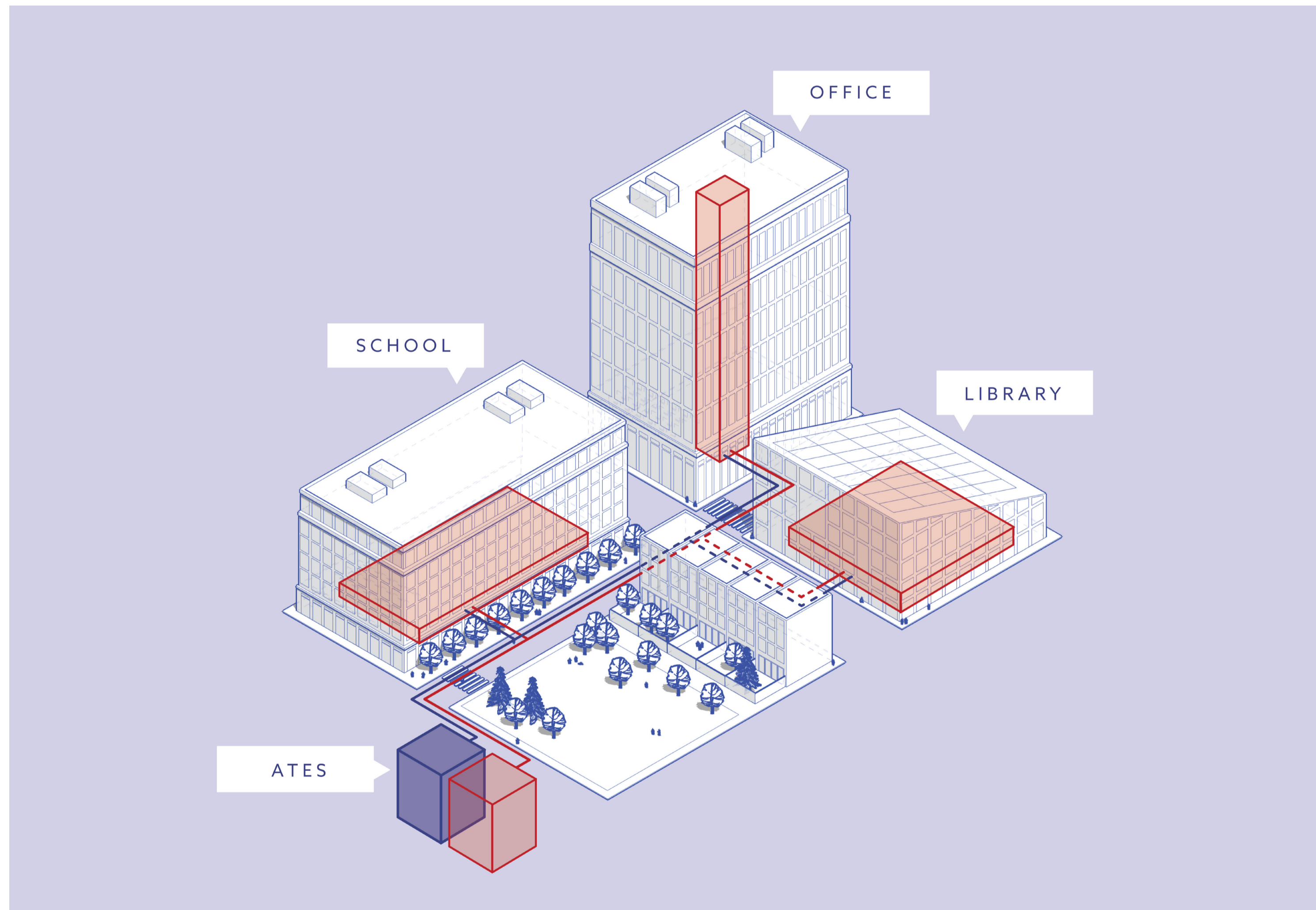
Due to this city expansion, the Hemwegterrain together with the rest of Westhaven and Petroleumhaven, is under great pressure. The Port wants to develop into a sustainable energy hub based on bio-fuels, hydrogen electrolysis and datacentres. To what degree do these industrial activities conflict with the new (high density) residential area that will develop next to it? And how will Havenstad reach their ambition to be energyneutral and gas-free?

SWOT

STRENGTH Close to the city A lot of space Easy transport Water connection Many material and energy flows Rising circular economy Little regulations for companies Energy infrastructure	WEAKNESS Lack of spatial and architectural quality Lack of pedestrian scale and facilities Harmfull and hazardous industries Lack of species (monoculture)	STRATEGY Mixing public program with sustainable industry and create an Energy Hub . This hub makes use of the accessibility, space and infrastructure of the port but also adds (program) to the nearby city development Havenstad. It is located strategically on the route from the city centre, through Havenstad to Zaandam and connects two nearby creative hubs; Westergasterrein and Hembrugterrein. It adopts the Hemwegcentrale, the old coal plant, as part of the hub. This way the industrial heritage is remained as a memory to the energy hub from the past. A new contrasting architecture and landscape design bring new life into the place and represent change. The new sustainable industrial function legitimizes the port industry and establishes itself as a benefit to the growing city.

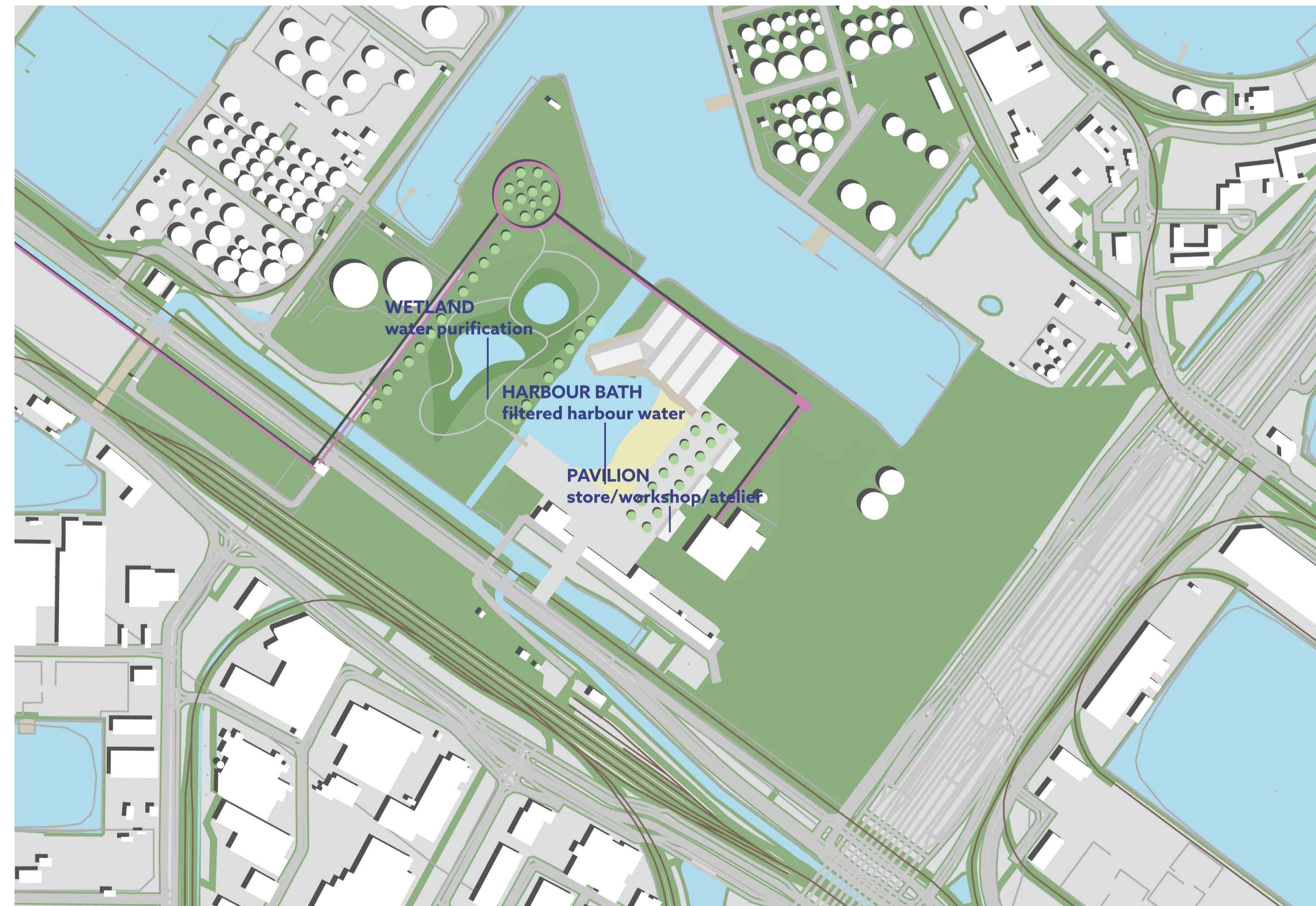
The challenge of this location is to increase the user value of the port for the city of Amsterdam, without overlooking the potentials the port area has to offer. Pushing the industry away might not necessarily be the best option.

MICROGRIDS

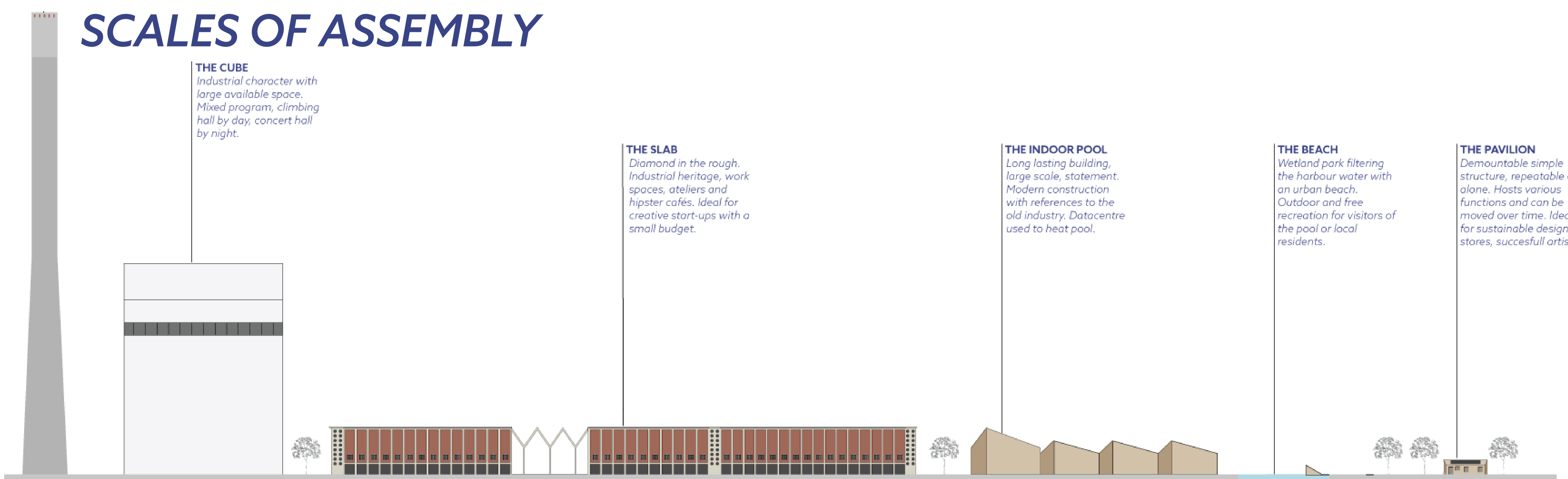


Part of the research outcome was to develop decentralized datacentres as part of microgrids for city development in Havenstad (and potentially existing and future areas). This would be a solution to the oversized datacentres that are currently being developed as well as recover most of the heat produced.

SITE

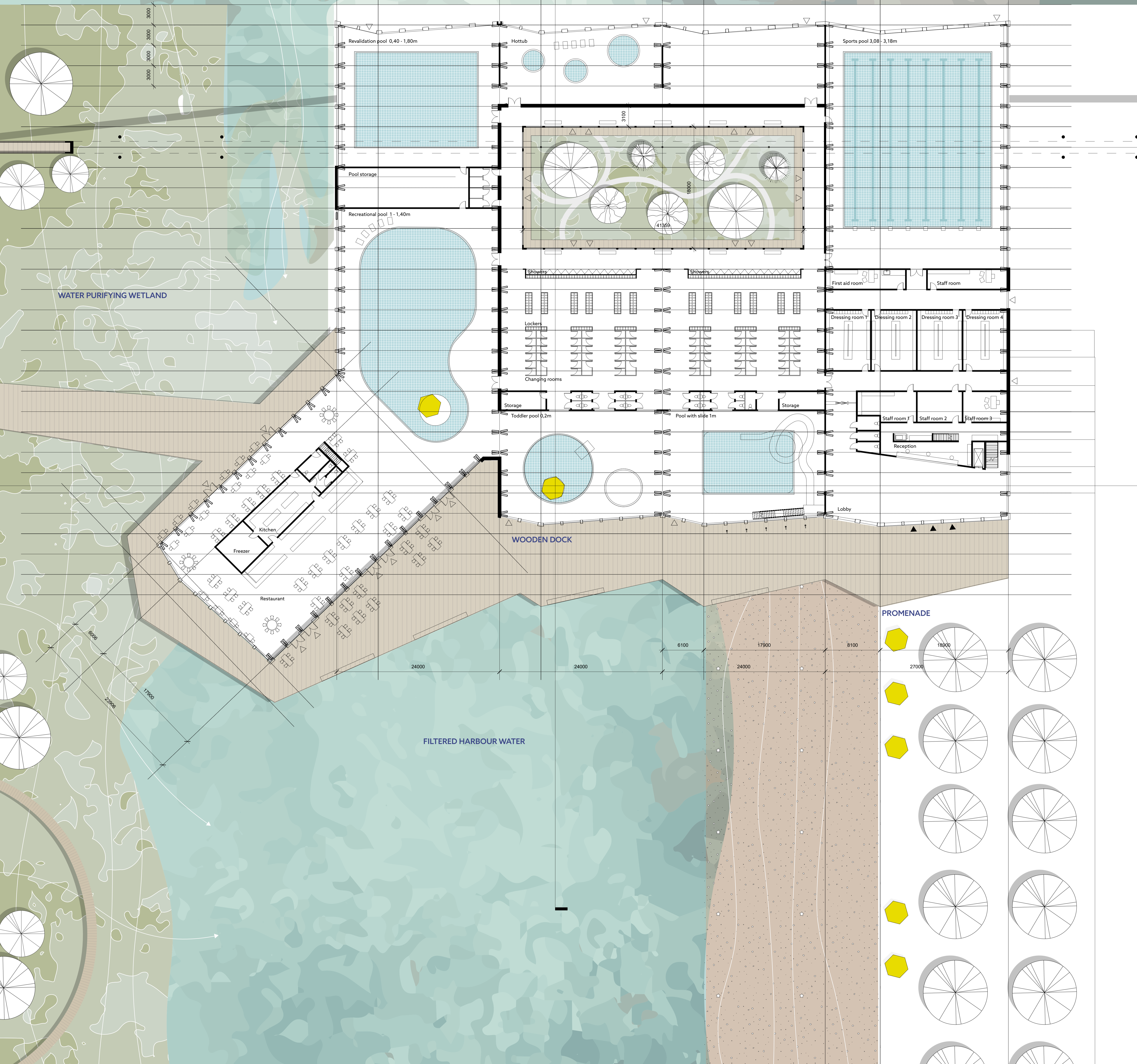
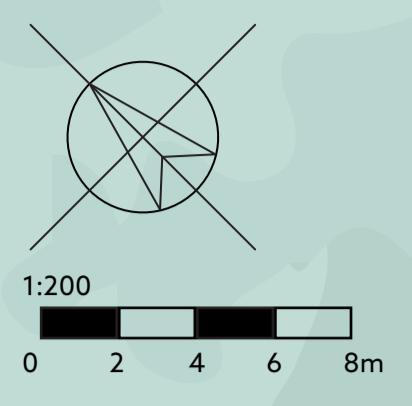


SCALES OF ASSEMBLY

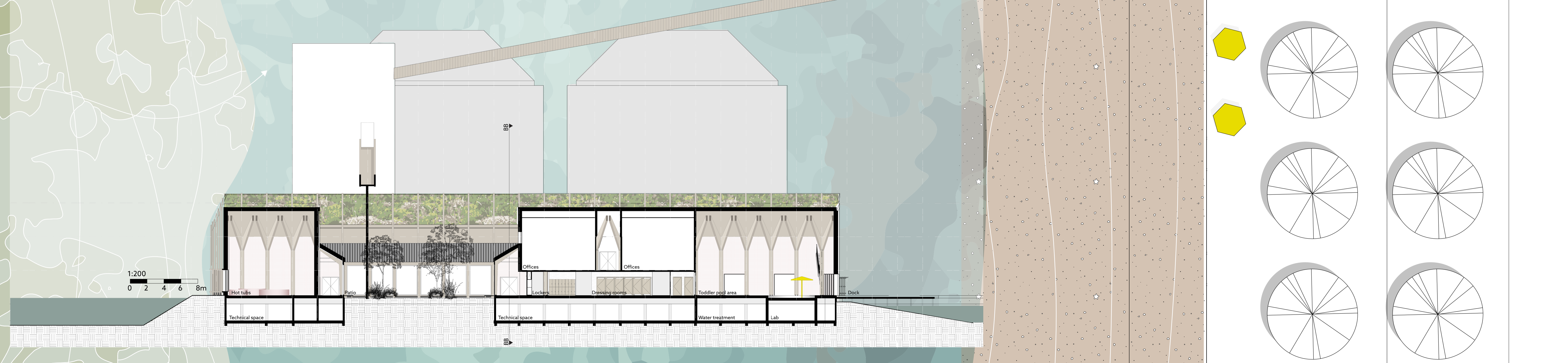


DE CENTRALE

FLOORPLAN GROUND FLOOR

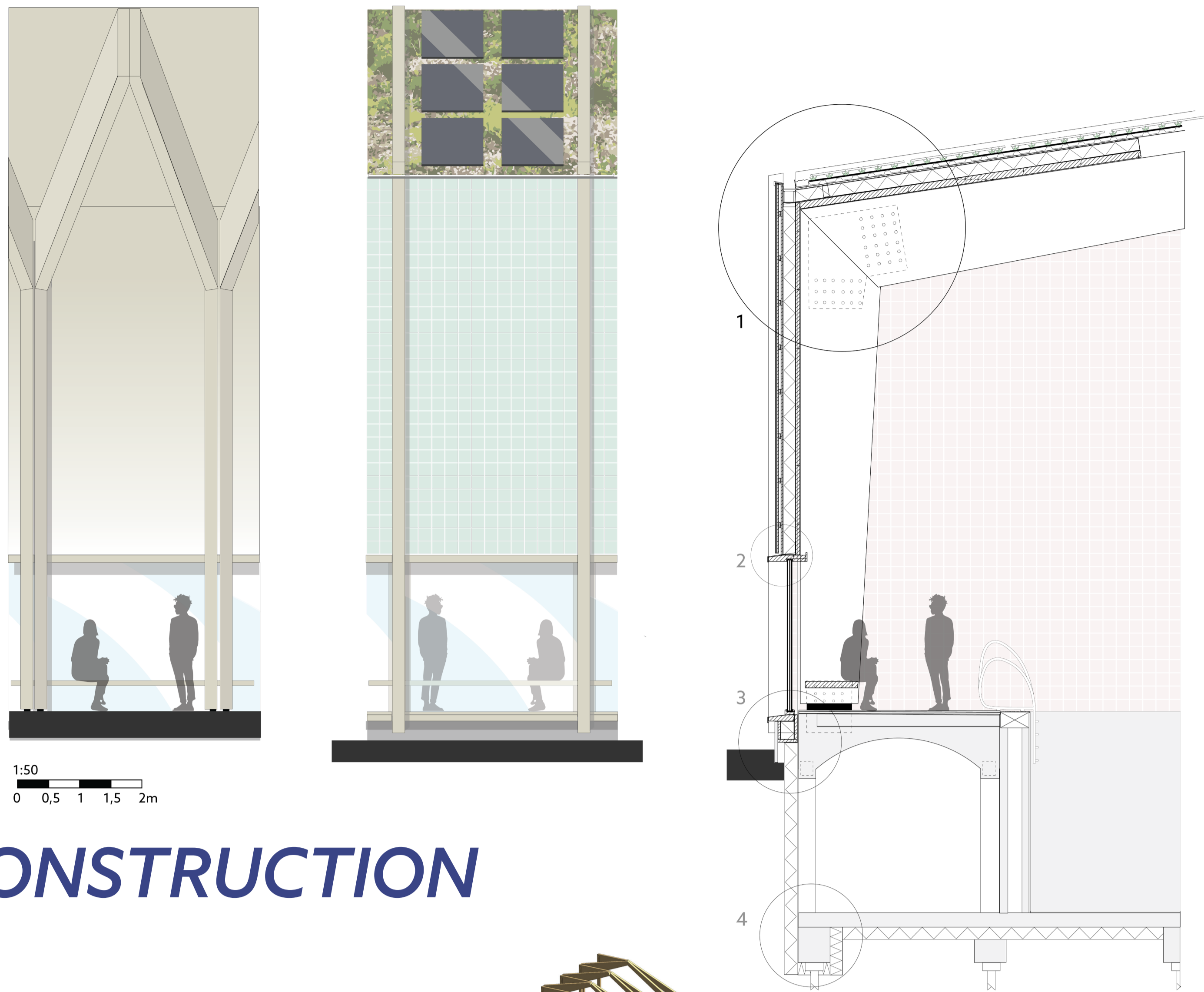


SECTION



DE CENTRALE

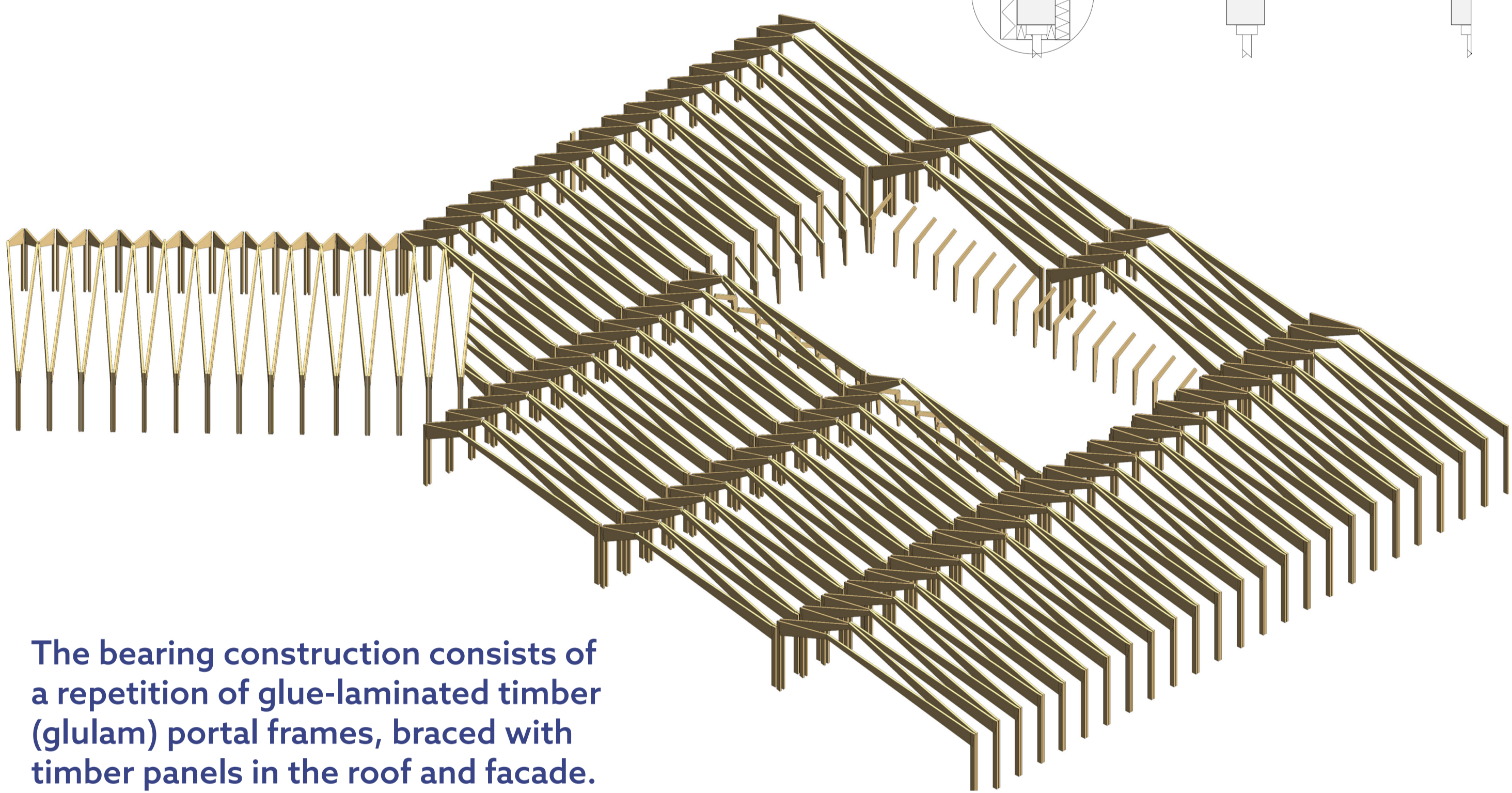
FACADE FRAGMENTS



Facade finishes are demountable. After approximately 20 years they can be changed easily.

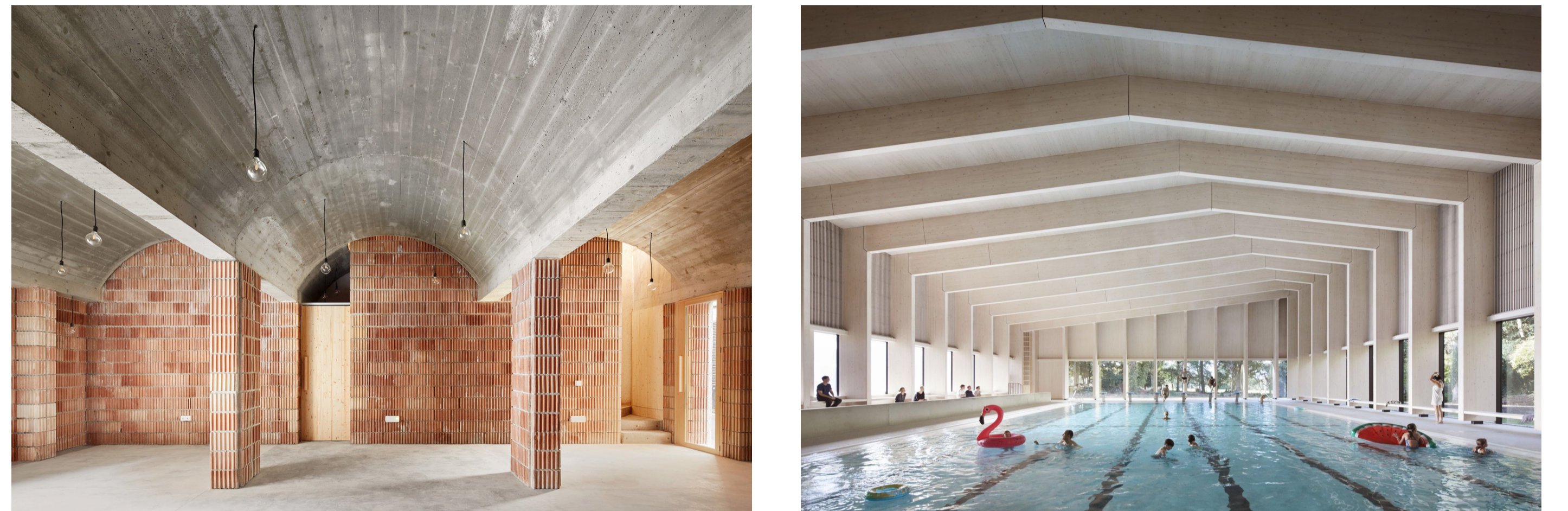


CONSTRUCTION



The bearing construction consists of a repetition of glue-laminated timber (glulam) portal frames, braced with timber panels in the roof and facade. The repetition refers to the industrial architecture from the 50's and can be prefabricated.

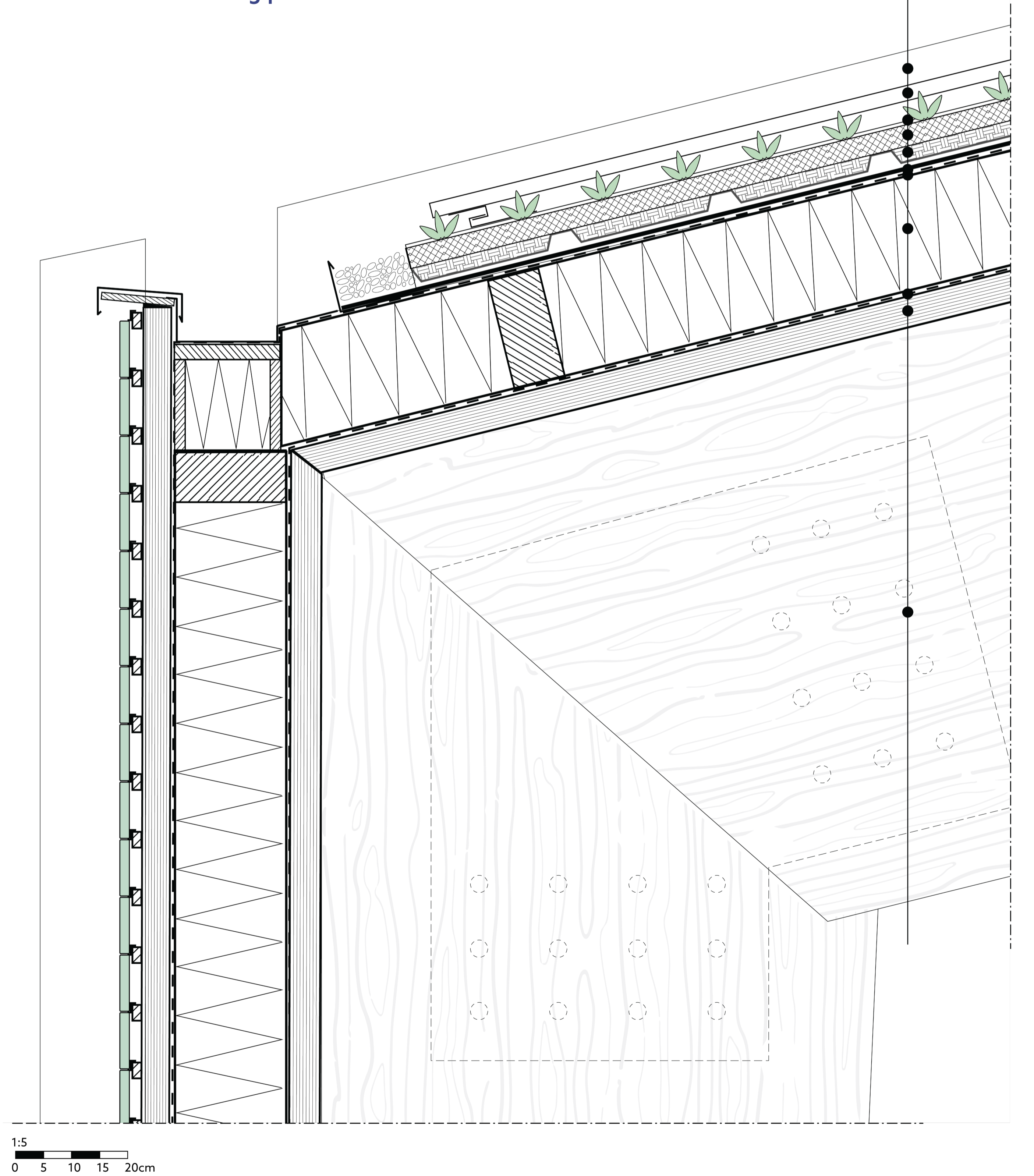
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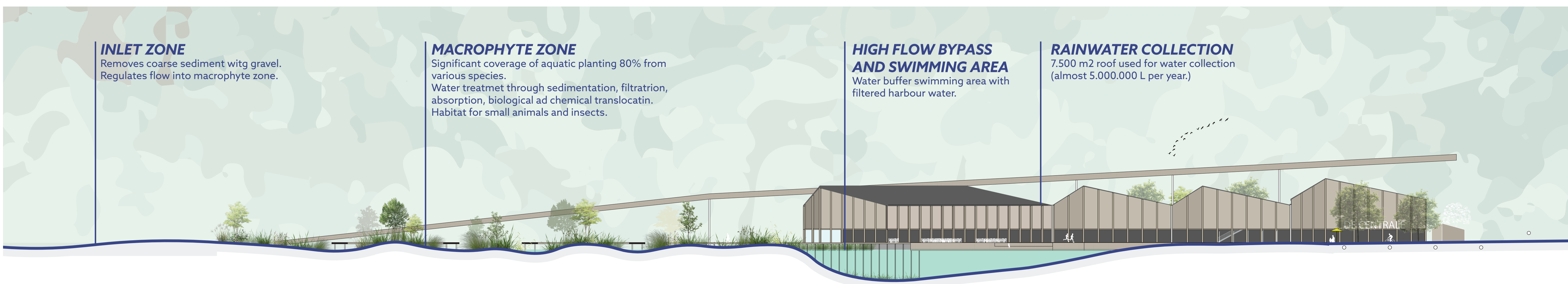
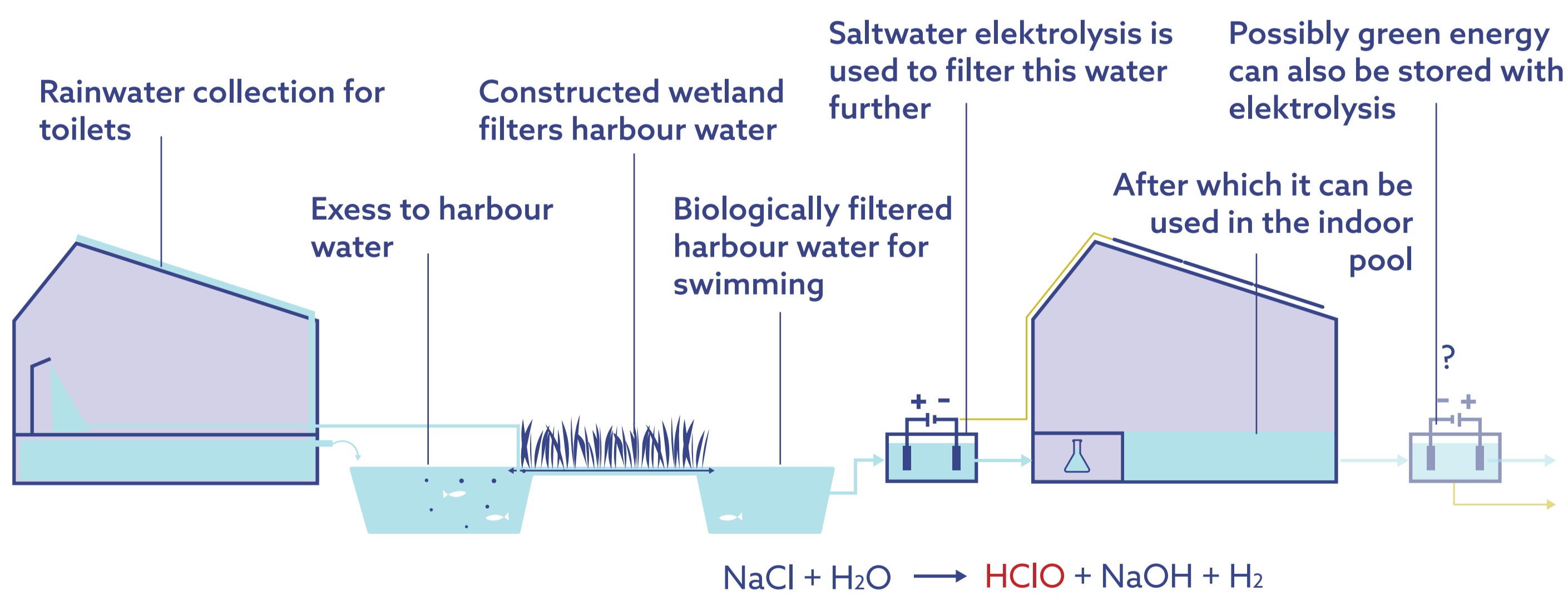
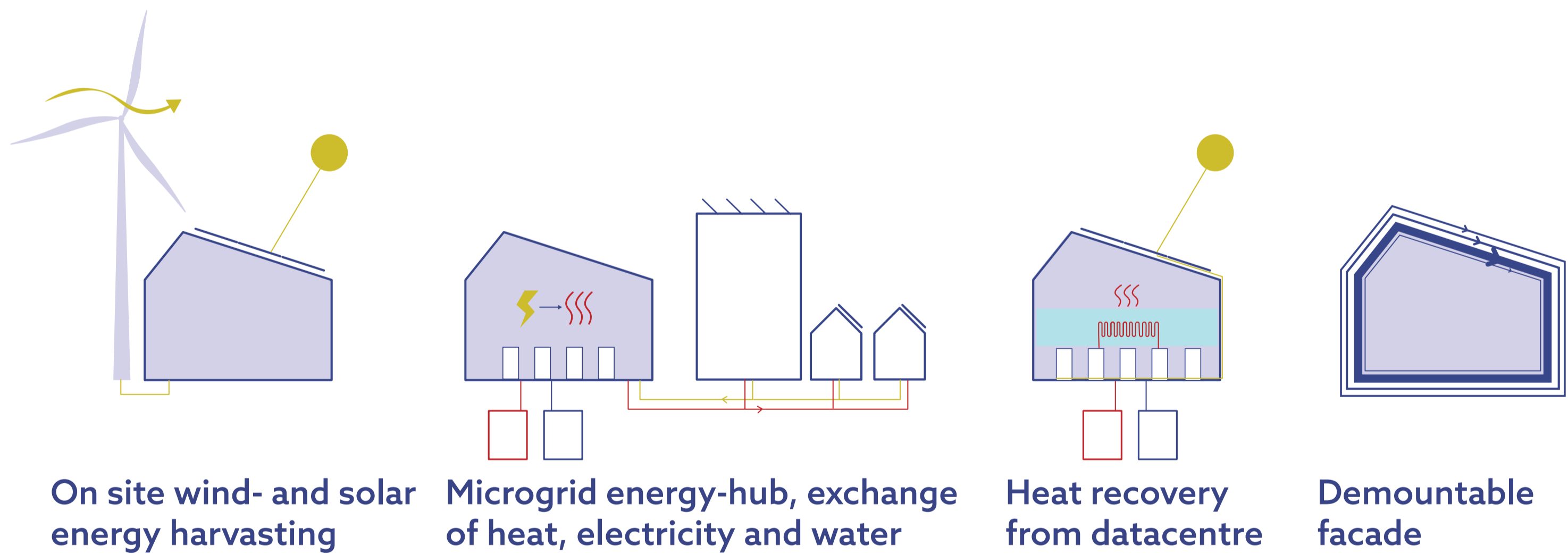
DETAIL

The potential of the roof has to be further investigated. Potentially it could become part of the water filtering process.

- Roof beams continuing facade rhythm
- Solar panels
- Sedum
- Growing medium
- Root barrier
- Moisture and protection mat
- Root resistant water proofing
- 200mm Hemp Insulation
- Damp proofing
- Clt panel
- Glulam bearing construction (hidden joint)

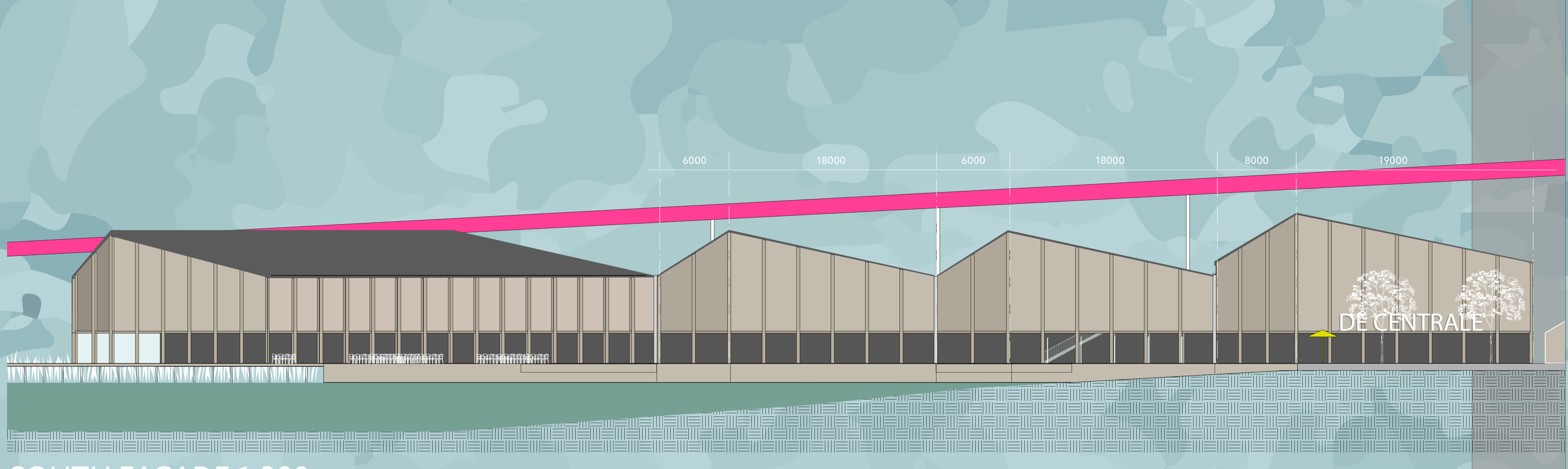
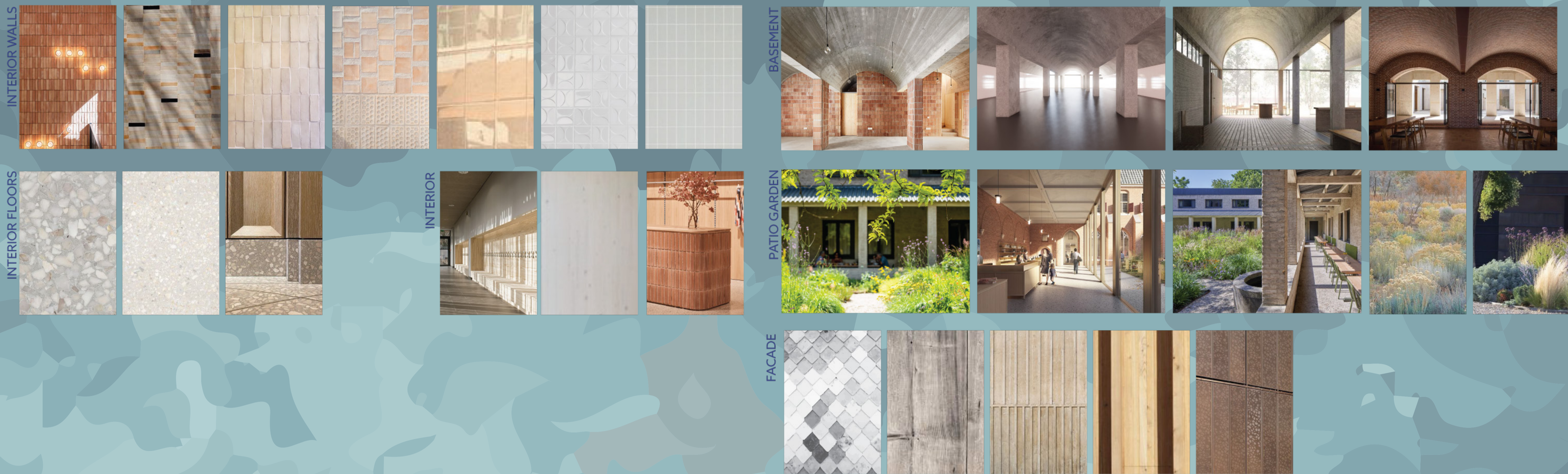


CLIMATE

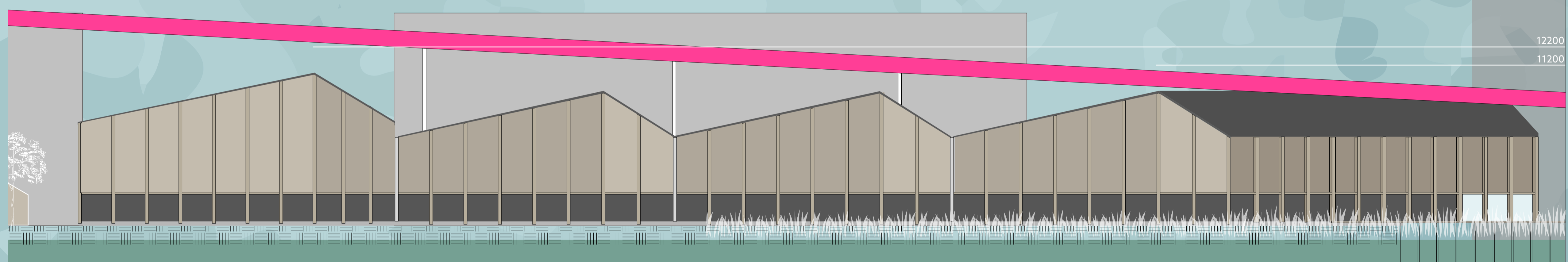


DE CENTRALE

MATERIALITY



SOUTH FACADE 1:200



NORTH FACADE 1:200



EAST FACADE 1:200

PEDESTRIAN BRIDGE

Public pedestrian bridge created on the old coal conveyor belt. It offers an attraction as well as a new route from Ketelhuis all the way to the Hempont.

DOCK

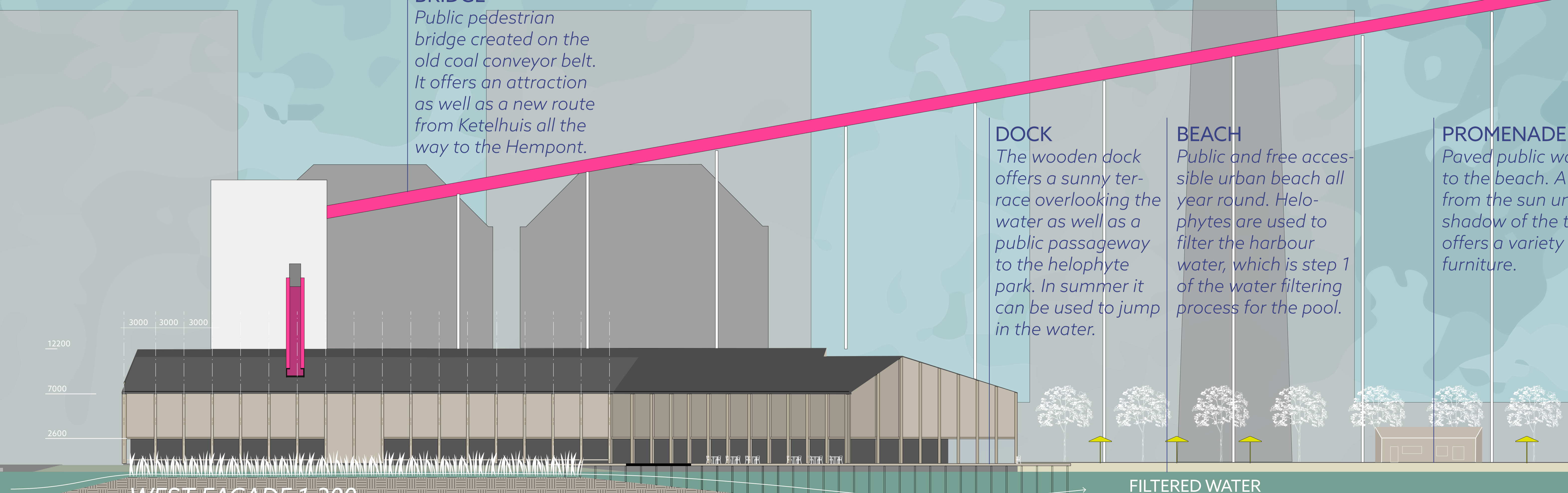
The wooden dock offers a sunny terrace overlooking the water as well as a public passageway to the helophyte park. In summer it can be used to jump in the water.

BEACH

Public and free accessible urban beach all year round. Helophytes are used to filter the harbour water, which is step 1 of the water filtering process for the pool.

PROMENADE

Paved public way to the beach. A row of trees from the sun offers a variety of furniture.



WEST FACADE 1:200

FILTERED WATER