

# TOGETHER BORKUM

## AREA GROUYNE 20

Borkum is one of the seven East Frisian Islands on the German North Sea coast, located within the Wadden Sea National Park. Since 2009, the Wadden Sea has been recognised as a UNESCO World Natural Heritage site.

The East Frisian Islands is known as a spa and tourist destination and are competing with each other. Borkum, covering an area of 31 km<sup>2</sup>, is the largest among the seven islands and due to its location, it is the only one with a high-sea climate besides Helgoland. The air is low in pollen and rich in iodine, making it particularly suitable for people with allergies.

Norderney stands out in comparison to the other islands. Although it is smaller than Borkum, it likely attracts more annual visitors due to its high number of hotels/beds. Norderney also has slightly more residents. Among all the islands, only Borkum and Norderney allow motorised vehicles. However, the numbers from the other islands show that a car-free can work. Langeoog, in particular, stands out with a similar number of beds and annual visitors as Borkum, despite being 10 km<sup>2</sup> smaller.

Borkum officially belongs to the district of Leer and is connected to the German and Dutch mainland, as well as neighboring islands through various ferry connections. The most frequently used connection is from Emden Outer Harbour via Eemshaven to Reede, where the port and ferry terminal of Borkum are located. Reede was originally a naval base but has since been decommissioned. Extensive development measures are planned for this area. The Riffgat offshore wind farm is located approximately 15 km northwest of Borkum and supplies electricity to around 120,000 households. A residential quarter in the northern harbour area, specifically designed by Delugan Meissl Associated Architects for offshore industry employees, has already been implemented.

From Reede, an old-fashioned island railway leads to the namesake and largest district of Borkum. However, it only operates during ferry times. There is also a bus connection from Reede, through Borkum, to the smaller district of Ostland. Motorised traffic is allowed on the island.

Borkum thrives on spa and tourism operations. The entire island has around 5,300 residents with an annual visitor count of over 280,000. This highlights the importance of the tourism industry for the island. Almost all employees work in this sector. While this can be advantageous, it also poses challenges as the island is not only a tourist destination but also a home for its residents. During peak season, the tourism industry heavily influences the island's character. Additionally, during the high season, approximately 2,000 seasonal workers join the permanent residents.

### Analysis

Borkum is almost entirely surrounded by dune landscapes, resulting in noticeable changes in elevation. The main beach lies at around 1 meter above sea level, the lower promenade at approximately 4-6 meters, and the upper promenade at about 10 meters. The highest dune in the North Dunes of Borkum reaches around 18 meters.

It is noticeable that there is very little tree cover around the area, and what exist is located further inland, likely due to the coastal location and the potential for storm surges and strong winds, as well as the sandy ground. The Kurpark (spa park) behind the swimming pool is a wild-grown area that is under-utilised due to a lack of pedestrian pathways. The streets are very wide and have little to no planting.

From the analysis, it shows that there are a significant number of vacation rental homes (33%) compared to residential homes. Approximately 43% are permanent residences, and 23% are second homes. There are a few hotels, but compared to neighbouring islands, the number is relatively low. The demand for hotel rooms is rising due to the importance of short get aways. Constructing new hotels would significantly increase the number of overnight stays and create more job opportunities compared to holiday rentals.

Gastronomy establishments are primarily concentrated on Bismarckstraße and the promenade. Hotel restaurants on the upper promenade do not offer outdoor seating. Only two locations in the Wandelhalle, at the lower promenade, have outdoor seating. Additionally, there are "Milchbuden," wooden structures that house small restaurants/bars with a sea view. However, these are only present during the peak season and are dismantled for the off-season.

Motorised vehicles are allowed on the island. However, there are specific traffic zones during the peak season. In the yellow zone, driving is prohibited, and cars can only be parked +/- 2 hours from the ferry time for drop-off or pickup. Cars can only be parked in designated spots intended for long-term parking. In the blue zone, driving and parking are prohibited from 21:00 to 7:00. There is a small island railway operating during regular ferry times, and a bus line connects the harbour with the main district.

#### Problem Statement/Goals:

The three components of employees, housing, and tourism are directly interconnected! Tourism dominates the island and provides jobs for Borkum residents, seasonal workers and newcomers. Borkum covers an area of 31 km<sup>2</sup>. Due to its island location and environmental protection, the available residential space is limited. However, due to the abundance of vacation rentals, affordable housing options are scarce for employees/residents. When affordable housing is not available, employees seek housing on the mainland and move away from the island. As a result, Borkum loses crucial employees who support the tourism industry. A decline in the population affects the tourism sector, the island's largest employer, as there might not be enough employees for gastronomy, public institutions, or hotels, leading to business closures. When businesses close, additional individuals lose their jobs and may be compelled to leave the island. There is a significant need for affordable housing for Borkum residents.

Hence, the four main ideas for the project emerged. Enhance the quality of life for Borkum residents, thus improving housing and job opportunities on the island. Increase tourist attraction, but in a sustainable and manageable manner. Above all, integrate Borkum residents and guests in new developments instead of segregating them. Additionally, design public spaces to evoke the island's feeling throughout.

### Spatial Concept:

At Borkum's main beach, there are structures called "groynes" that serve as barriers against storm surges. Some of these align with the axes of streets. To strengthen this local character, all new streets and paths will follow these axes, bringing the water and beach theme into the area.

Streets follow the groin axes, enhancing the structure and providing better orientation.

Extending two groyne will create a new promenade conclusion and complete the spatial edges.

Unused or convertible areas, like a long-term parking lot in the north of the area, will be used for densification. The goal is to make Borkum mostly car-free for residents, rendering the parking lot unnecessary.

One of the groyne will be extended into a pier towards the seal sandbank, creating an experience around the Wadden Sea and its history. Additionally, it will visually signal that new developments are occurring at the lower edge, piquing people's curiosity to explore it. Path networks will connect the new areas with the spa district and the rest of the locality, along with key activity areas. The dune landscape will be integrated into the spa district, converting underused open spaces into natural areas.

### Concept for Quarter groyne 20:

#### Measures:

The demolition of an unused tennis hall and associated tennis courts. The existing block's structure will be adopted. The standalone L-shaped building will be completed accordingly. The small-scale point development at the eastern edge will be backed by new construction. A connection will be established with the standalone swimming pool building. The new construction will be oriented according to the groyne 20 to create a path to the swimming pool and a new connection to the spa garden. A point development will complement the space and landscape design. The groyne will be extended into a pier with a view of the seal sandbank. The eastern development will reference the existing buildings and be set back. The block edge will be divided to create spaces for recreation, such as vertical gardens in the gaps. The dune landscape will be integrated into the area, denaturalising a large part of the sealed surface.

#### Uses:

Various uses will be distributed throughout the quarter, offering a range of activities for inclement weather, such as a climbing hall, pottery workshop, etc., or the "culture house," which will feature multifunctional rooms, a small adult education centre, and a library. The spaces can be used for yoga classes as well as conferences. The adjacent hotel complements these facilities.

The tourist information will have larger spaces at the existing building next to the lighthouse, forming a triangle with the existing train station and the new quarter.

Various gastronomic uses will be accommodated, including the existing Italian restaurant from the tennis hall, a café, or a distillery where locally harvested sea buckthorn can be processed into liqueur and sold. Most importantly, the quarter will have a large number of new apartments in various sizes. Additionally, co-living areas with communal spaces will be provided.

### Open Spaces:

The open spaces will be redesigned, with beach feeling permeating throughout. The typical beach grass ("beach grass"), which requires little maintenance, will be planted. Local plants like sea buckthorn, which can be harvested, will also be included. Planned topographic shifts will create small dunes and retention basins to collect and slowly absorb water during heavy rain events. The spa park will be revitalised with a "whale hunter" path and a larger area for the climbing park, along with additional pathways and new furniture. The new buildings will have rooftop gardens for communal use and photovoltaic panels. Rainwater from the roofs will be collected and reused for watering plants or flushing toilets.

### Mobility:

Newly expanded bicycle routes will lead from the upper promenade down to the lower one along the waterfront to the aquarium, or through the spa park, directly to the bus terminal, or through the residential area, connecting to existing bike paths.

Cars will be banned from the island for tourists. As a result, long-term parking lots will no longer be necessary, freeing up additional space in the north for densification.

The island railway will run on a regular schedule, connecting the harbour with the main town. The existing bus service will have smaller buses and a more frequent schedule. Additionally, a mini-shuttle will connect the spa district with the rest of Borkum, which will be of interest not only to tourists but also to Borkum residents. For instance, the route includes the primary school, hospital, doctor's offices, the bus terminal, and other facilities. Tourist attractions such as the "Whale hunter Museum," the "Whale hunter House," and the general spa district with the main beach and Wandelhalle are also included.