

Regional Analysis of Coastal Zone Management of the
Free and Hanseatic City of Hamburg

- Draft version -

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Executive Summary

Hamburg Climate Plan

In 2015 the Senate of the Free and Hanseatic City of Hamburg released the Hamburg Climate Plan (HCP). Aim of the HCP was to further develop the “Climate Action Masterplan” and the “Adaptation of Climate Change Action Plan” in terms of methods and content.

One of the main reasons to develop the HCP has also been to tackle the challenges Hamburg is facing as a city where the river Elb passes right through the city. Hamburg is at risk of severe storm floods due to the connection of the Elb to the North Sea. Sensitized through severe storm floods which already hit the city, especially the one in 1962, one of the major aims of the Senate is flood protection of the urban area and the city’s inhabitants.

With this experience in the past, flood protection is a constant issue in Hamburg until today and will be for the near future. To keep the citizens and the city protected, the Senate decided in response to the expected climate change and the forecasts for the rising sea-level which can have a direct impact on Hamburg to introduce a “climate allowance” of 50 cm for measuring the public flood defences.

In further response to the upcoming challenges in relation to the climate change Hamburg has set itself some aims for actions of the long-term perspective 2050 as e.g.:

- Using the instruments of urban development and cross-sectoral measures at all levels of municipal policy and involving private urban stakeholders, Hamburg will have developed into a renewable city adapted to climate change.
- The measures needed for storm surge protection as well as flood protection on inland waters have been put in place in order to avoid damage from effects of climate change to the greatest degree possible.

The HCP reflects the opinion that Hamburg will be adapted to the climate change in 2050, so that damages to the city will be avoided as far as possible. To reach this goal in time, there are diverse topics that need to be taken into account. One of the major tasks is to keep the private sector and the stakeholders interested in the topic and to outline why they are in need to participate and act. Furthermore, it is an urgent task to keep the initiated process running, even if the government might change.

First actions have been undertaken since 2013. The goal is to create a climate allowance of 20 cm by 2050 and 50 cm by 2100. With these measures it is intended to keep the city safe for the near future and beyond.

“The remit of coastal flood protection is to reduce the flood risk for Hamburg and to protect the municipal area of Hamburg from storm surges in the long term. Strategically the aim is to link technical flood protection with area-related and behavioural precautions.” (HCP, 2015 p. 79)



To achieve this goal one of the key projects is the before mentioned reinforcement of the public protection structures. This is to be combined with an adaptation in the field of private flood protection, especially in the harbor area which is permanently at risk at the event of a storm flood.

Two measures to increase the flood protection in the harbor area are implemented by the Hamburg Port Authority (HPA) with the development and implementation of forecasting and flood warn systems for informing the public and businesses in the area, called WADI and FLUTWARN.

The WADI-system is constantly evaluating the water levels and weather datas to produce an accurate weather forecast for the affected area. The FLUTWARN-System is a warning system. The responsible authority, the HPA, is using it to contact those who might be affected when a storm surge is at risk via SMS and e-mail.

The HPA is the harbor administration of Hamburg. They are responsible for a wide range of duties related to the harbor, e.g. maintaining of the waterways, pilot services and dock railway.

With the reported actions, mentioned above, the city of Hamburg is actively working on the challenges which will occur in the near future. As a water bound city Hamburg is in need to constantly work and improve the storm water protection measures due to the displayed reasons. With the HCP, which is also taking care of many other climate related topics, the tracks are laid to keep the municipality and public safe in the upcoming years.

Storm flood defence

Hamburg is geographically located in an area of constant flood danger. As Hamburg has suffered from a severe storm flood in 1962 storm flood defence is one of the major responsibilities for the Hamburg Senate. So most of all dykes for storm flood protection are in public property and maintained from public authorities.

Responsible for the direct storm flood defence in Hamburg is the “Landesbetrieb Straßen Brücken Gewässer” (LSBG) accountable for maintaining roads, bridges and water related structures. The city owned company is responsible for structures like e.g. dykes and flood protection buildings in the public space. Over the last decades the Senate spend around 1.7 Billiards for measures related to flood protection.

The flood protection for Hamburg consists mainly of three parts: Mostly there are dykes with a length in total of 78 kilometers. But there are also polder and flood protection walls of around 25 kilometers in use.

But also private flood protection has become a topic over the recent years. Not just in relation to the companies located in the harbor area, but also for private housing as the city is growing in areas formerly used as harbor areas, e.g. the HafenCity. Both, companies and residential area are built in front of the cities flood protection constructions. Therefore, new ways of flood defence had to be developed and to be included in the planning of new buildings. In an area with around 5.800 flats, 12.000 inhabitants and 45.000 jobs this is an urgent need.

Especially in the HafenCity there has been a new approach for buildings in the city. Buildings have been placed on dwelling mound to keep them protected, even in the event of severe floods.



Included in the considerations on flood protection the Senate is following an additional approach. Flood protection buildings in the center of the public attention should not only be designed as pure protection building but also designed to fit in the public space and work as public space where the inhabitants and tourists have access. An example for such a kind of construction is the flood protection building at the harbor which has been new designed and reconstructed over the last years and is widely accepted by the public as public space.

Actions implemented

Outlook