

# Factsheet Business Case Soft Sand Engine Frisian IJsselmeer coast

## About Soft Sand Engine Frisian IJsselmeer coast

The soft sand engine at the Frisian IJsselmeer (Netherlands) coast consists of two test locations and a model study for sand nourishment. The main question of the project is whether a sand motor can lead to a more sustainable, cheaper and ecologically more robust coastal protection of the Frisian IJsselmeer coast. This is based on the use of natural processes in the defense of the coast in relation to future water level increases and level fluctuations.

## Business case approach

What type of business case was used to compare BwN to alternative solutions, and what role did it play in realizing funding for the project?

The province Friesland wanted something different than a traditional coastal protection solution for the rising water level in the IJsselmeer. The province Friesland wanted a Building with Nature solution, in the form of an experimental pilot with a soft sand engine. For the pilot no business case was made. If the pilot would eventually be successful and used as float defense than a business case would be made.

The pilot itself played a very important role in attracting funding for the project and more importantly to accelerate attention for Building with Nature approaches for the Friese IJsselmeer coast.

Although the BwN project concluded that the pilots were too small and the morphological system behaved differently, the project succeeded in putting BwN on the agenda. BwN became one of the guiding principles for an upscaling plan for the Frisian coast.

## Reason for investors to select BwN approach

There was a coalition of parties (province Friesland, Foundation het Blauwe Hart, It Fryske Gea, WUR, Ecoshape, Deltares and Water board Wetterskip Fryslan) that were willing to investigate in the feasibility of BwN approaches for a long term coastal protection of the Friese IJsselmeer coast.

## Coping with uncertainty in the business case

The goals of the pilot were to monitor the natural dynamics, so uncertainties where expected. The budget was quite tight, so no money was reserved for uncertainties, because it was an experimental pilot it was good to understand the uncertainties.

## Barriers in BC approach

Soon, it became clear that without local support it is difficult to implement a project in the local's area. The construction along the beach of Oudemirdum had a long full negotiation process, and local entrepreneurs of the city of Hindeloopen prevented a sand engine on their beach. Involvement of

local stakeholders in planning and design fase of a project is essential. Local stakeholders could also provide useful local knowledge on historic and morphological behavior of the coast <sup>1</sup>.

Another barrier for the Business Case is the lack of understanding Building with Nature solutions in comparison to conventional solutions about the construction and maintenance costs.

### Opportunities in BC approach

The attention and visits from policy makers to the soft sand engine increased the interest of BwN with the local authorities. The interest in the BwN project was more enhanced, because people could visit the soft sand engine<sup>1</sup>.

## Finance

### Who funded the project and how was the financing arranged?

Most of the partners (the Province of Friesland, water board Wetterskip Fryslan, Ecoshape and through the Research and Development agreement from the Ministry of Agriculture, Nature and Food Quality the University of Wageningen as well) financed part of the pilot. Furthermore, a large part (40%) was financed by Rijkswaterstaat for the High Water Protection Program (HWBP). The pilot also applied for the Climate buffer project from Ministry of Infrastructure and Water Management, which got granted (600.00 euro).

### What are the motives to invest in BwN?

The motives to invest in a BwN approach were to identify whether an innovative BwN approach is an effective alternative and understanding the ecological and morphological system.

### Barriers in financing BwN

A limited budget was a barrier for the project. Because of that the soft sand engines were too small to contribute to a positive effect on coastal protection. There was also not enough money to do a proper monitoring of the sand engines

### Enablers in financing BwN

All the partners were interested to study an eco-engineering approach as an alternative for conventional grey engineering. This was a real enabler to ensure the finance.

## Procurement, how is it arranged and does it affect the BwN approach?

It was arranged between the different partners and financial partners, for example the University of Wageningen had a Research and Development contract with the Ministry of Ministry of Agriculture, Nature and Food Quality.

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<sup>1</sup> <https://publicwiki.deltares.nl/pages/viewpage.action?pageId=132454111>