

A photograph of a flooded residential area. In the foreground, a child wearing a blue jacket and a white patterned hat leans against a large, pink, inflatable water barrier. The barrier runs along the edge of the water, which is murky and rippling. In the background, there is a small, dark-colored building with a white door, and several bare trees under a clear sky. The overall scene suggests a flood protection measure in a neighborhood.

# WORLD WIDE PROTECTION

REAL CASES, REAL SOLUTIONS



ENVIRONMENT  
SOLUTIONS

# THE NEW GENERATION OF FLOODPROTECTION

The NoFloods Barrier Solutions are based on innovative technology developed and tested in Denmark and can be used for multiple purposes.

We have selected some real cases that demonstrate how, and where NoFloods Barriers have been deployed in real flooding situations. They have been successful in preventing serious damage to people, critical infrastructure and the environment.





# NoFloods

By Environment Solutions

- Complete confidence
- Unmatched protection
- Unparalleled technology

# CASEBOOK

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## NoFloods Barrier saves Gas Plant from flooding

The Hungarian gas company KEG Gaz, 80 km north of Budapest, has a major underground gas reservoir. In June 2013 its operations were threatened by floodwater from the River Danube. Local authorities in Dunaalmas summoned Environment Solutions to save the gas plant.

Within six hours after their arrival a team of 3 people had fully deployed the mobile barrier and surrounded the plant completely.

Utilising the floodwater to fill the tubes, the 1300- ft barrier was deployed from June 6 to June 12. Despite a recommended maximum flood retention height of 31 cm, the NoFloods Barrier TwinTube 125 held back the rising floodwater, which rose to a height of 36 cm.





# Vive la France, Vive NoFloods!

*Pontivy, France*

The NoFloods Mobile Barrier was called into action for the first time in the Brittany region in France to protect 3 towns during the January 2014 floods.

When extensive rain caused the water to rise in the Oust and Blavet rivers, the towns of Josselin, Pontivy and Redon deployed the NoFloods Twin Tube 125 Barrier to protect their residents from potential damage. Fortunately, the situation only became serious in the rue des Moulins in Pontivy, where the NoFloods Barrier successfully held back the water that rose to a level that threatened people and infrastructures.

Since 2005, the NoFloods Barrier has played a major role in the Department of Civil Defence and Emergency Preparedness, Sécurité Civiles' emergency preparedness plans. It has been deployed several times to protect both private and public assets. This was also the case in 2013, when the barrier was deployed in Troyes and prevented flood damage to homes on the banks of the River Seine.





# NoFloods Mobile Barrier makes French national TV news

*Mont de Marsan, France*

In early 2014, the cities of Dax and Mont de Marsan in the French region of Les Landes were facing serious floodings.

The rising water from the River Bidouze flooded about 40 roads in both cities. After a dyke alongside the train tracks in Mont de Marsan broke, the floodwater threatened to paralyse the train traffic in and around the city. However, Sécurité Civile managed to deploy 1312 ft of the NoFloods Mobile Barrier in less than two hours, which successfully held back the floodwater. The water that had already reached the train tracks was simply pumped back out, thereby allowing trains to continue running without interruption.

The deployment of the NoFloods Barrier in Mont de Marsan was covered by French national TV news, on which it was praised for its simple and very quick deployment.







## Realisation of an effective flood management plan

*Jyllinge, Denmark*

The people of Jyllinge, on Roskilde Fjord, suffered badly when the winter storm Bodil raged in December 2013. Houses in the low-lying areas were flooded, and many families had to live with the aftermath for a long time afterwards. However, by the time the storm Egon announced its arrival in January 2015, the plan was clear, and Environment Solutions' mobile flood barriers – WaterTubes – were essential for its implementation.

Inhabitants of the lowest lying houses at the southern end of Roskilde Fjord met the storm warnings at the beginning of January 2015 with fear. Thirteen months earlier, the Jyllinge Nordmark area had been badly hit by the storm Bodil, which forced huge volumes of water into the narrow fjord. By January 2015, some of the damage had still not been repaired. The prospect of a new flood was unbearable.

However, the storm in January 2015 had a different and much happier outcome than was the case in December 2013. The emergency planning department had made a plan, and the NoFloods Barriers played a major role. In plenty of time before the climax of the storm, Environment Solutions had laid out approximately 3280 feet of NoFloods barriers, successfully protecting the lowest lying areas against the fjord waters and against the elevated water level in the watercourses.





# NoFloods Barriers prevent another disaster

*Roskilde, Denmark*

To prevent potential damage to public and private properties located very close to the water, the Municipality implemented a series of interventions. These included the deployment of hundreds of metres of NoFloods Barriers. The storm was a little less powerful than expected and the water reached a maximum height of 5 foot. The NoFloods barriers could contain water for the necessary time in order to prevent damage.

The people in Roskilde Municipality still remember the dramatic consequences of a similar storm that hit the town in 2013. Today all the citizens are deeply thankful for the presence of the barriers, which on this occasion prevented a dramatic disaster.







## Highest water increase in 100 years

*Køge, Denmark*

In the end of December 2016, the storm Urd hit Denmark, causing an increase in water level in many locations. One of those locations was Køge Municipality, where the water was expected to rise up to 5 feet above its usual level. Such a significant increase had not been witnessed in the last 100 years. Immediate action was required.

In Køge Municipality the NoFloods water tubes were deployed in two strategic locations to maximise their protective effect. While private citizens made extensive use of sandbags to protect their basements or the entrances of their houses, the NoFloods barriers were clearly the perfect solution for the rapid protection of a big area, requiring only a few men.

The barriers were deployed for two whole days and successfully protected the local infrastructures, the people and the environment.





## A great succes - for the second time!

*Jyllinge, Denmark*

In December 2016, many kilometres of NoFloods Barriers were deployed in different places in Denmark to avoid economic, physical and personal damage from the storm. In Jyllinge approximately three kilometres of NoFloods Barriers were deployed.

The same area was flooded during a heavy winter storm in 2013. However, during the following storm in 2015, the NoFloods Barriers were successfully used for the first time. In December 2016, the barriers proved their effectiveness for a second time. On this occasion, the barriers could once again substantially limit the consequences of the storm.







## 'Christmas present' for Frederikssund municipality

*Frederikssund, Denmark*

In Frederikssund Municipality the water was expected to reach a height of 5.6 foot on the night of 26 December 2016.

In preparation for the arrival of the water, which was expected the following day, the Emergency Office started to deploy the water barriers in selected locations during the afternoon of Christmas Day.

In 8 hours, volunteers in different vulnerable locations in the Municipality deployed a total of 4,600 feet of water tubes. The barriers were deployed until 28 December and their presence prevented a huge amount of damage.







## NoFloods Barriers save historical building

*Dragør, Denmark*

In Dragør Municipality the floodwater was expected to rise to 4.2 foot above its usual level during the storm. Among the different vulnerable areas and buildings, great attention was given to Dragør Museum: a 264-year-old historical building of great cultural value. The Museum is located very close to the water, and the weather forecast expected such an increase in the water level that it would have caused serious damage to the building. Approximately 100 metres of NoFloods Barriers were deployed to surround the museum, protecting it from the approaching water. That night was evidence of how this intervention could guarantee the protection of the Museum, while Environment Solutions is immensely proud of having provided equipment for the defence of national cultural heritage.





## An icy morning

*Jyllinge & Køge, Denmark*

In December 2016 and January 2017, when the winter storm Urd and the subsequent flood hit Denmark, Environment Solutions was asked to provide assistance in the protection of different municipalities from upcoming flooding. 5.3 miles of barriers were deployed in 16 different locations and remained deployed for several days.

During those days, the temperatures were low and one morning well below freezing point, causing the water in and around the barrier to freeze. However, the efficiency of the NoFloods barriers was in no way compromised by the ice.

When the ice melted, the barriers were emptied and re-collected by the use of a hydraulic winch.





**18 years**  
of experience

**+200 MILLION \$**  
of assets protected

**6 MILLION SANDBAGS**  
replaced

**135,000 FEET**  
of barriers deployed

**+300**  
deployments



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**We protect people,  
critical infrastructure  
and the environment**

*Anders Phillipsen, CEO*





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