



THE GREAT BUBBLE BARRIER

A smart solution to plastic pollution

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First screen of air bubbles stops plastic from Amsterdam's canals

AMSTERDAM, NOVEMBER 7, 2019 - Today, the first Bubble Barrier was launched in the Westerdok in Amsterdam. The Bubble Barrier is a bubble screen and removes plastic from the water of the Amsterdam canals. This prevents canal plastic from flowing into the North Sea. This makes the city of Amsterdam a global pioneer in the fight against plastic pollution.

The Bubble Barrier was placed by The Great Bubble Barrier and commissioned by the water management board of 'Amstel, Gooi and Vecht' and the municipality of Amsterdam. The water management board and the municipality previously worked together in the "Amsterdam Clean Water" coalition, which strives for clean water without plastic in Amsterdam and aims to prevent outflow of Amsterdam plastic towards the open sea. The Westerdok in the Westelijk Havengebied is one end of the monumental canals of Amsterdam and an exit to the river IJ.

HOW DOES THE BUBBLE BARRIER WORK?

The Bubble Barrier is a curtain of air bubbles which is created by pumping compressed air through a perforated tube which is placed on the bottom of the canal. The Bubble Barrier does not only stop floating plastic but also brings plastic in suspension to the surface. The natural flow of the water in the Westerdok and the diagonal placement of the Bubble Barrier guides plastic into the catchment system on the side of the canal. The Bubble Barrier works 24 hours a day, 7 days a week, does not interfere with shipping and the passing of wildlife and can be deployed across the entire width of rivers or canals.

LOTS OF PLASTIC WASTE IN THE CANALS

Plastic particles are found everywhere in nature, including in fish and drinking water. This is harmful to animals and the environment and possibly to people too. Waternet, the organization that manages all water affairs within the city of Amsterdam, operates 5 garbage boats which daily collect 3,500 kg of waste from Amsterdam's water during working hours, including large amounts of plastic. Annually, they remove around 42,000 kg of plastic from their waterways. This plastic predominantly floats on or directly below the water surface. Next to this plastic, there is also a lot of other plastic; including waste lower in the water column and plastic waste flowing out of the city.

NEW APPROACH TO PLASTIC WASTE

With the Bubble Barrier as a new measure, the Amstel, Gooi and Vecht Water Board is looking for a solution for the plastic in suspension and smaller plastic waste (1-20 mm) which remains in the canal water despite the garbage boats. "Plastic in our water is becoming an increasing problem, also for the work of the water management board. It has profound effects on the quality of our water and therefore on everything that lives in or near the water. This is precisely why it is important for the water management board to collaborate intensively with others to make a stand against this socially urgent problem. The innovative Bubble Barrier in Amsterdam is a good and important example for this," says Sander Mager, director of the Amstel, Gooi and Vecht Water Management Board.

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The municipality of Amsterdam is also committed to stop the pollution of the canals and the outflow to rivers and the open sea. For example, at events in the city from 2020 and on, only reusable plastic cups and environmentally friendly biodegradable confetti may be used. The municipality itself also no longer purchases single-use plastic. Despite these measures, waste still ends up in the canals. Although we want to prevent plastic waste as much as possible through new measures and the installation of enough waste bins, a lot of plastic still ends up in the canals with or without intent. I am therefore delighted to enter into a partnership with the water management board to do something about canal plastic," says Marieke van Doorninck, Municipal Councillor for Sustainability.

The collected waste will be investigated by the Plastic Soup Foundation. It will be monitored how much plastic is caught, where it comes from and how dangerous it is.

INNOVATIVE TECHNOLOGY TO REMOVE PLASTIC

The Bubble Barrier has been extensively tested in recent years and has demonstrated in various previous pilots that plastic from 1 mm and larger can be collected from flowing waterways. The previous pilots also demonstrated that the Bubble Barrier intercepts 86% of floating test material in inland water. The effect on the smaller microplastics of 0.02 mm to 0.5 mm is currently being investigated in a study with purified wastewater at the wastewater treatment plant of Wervershoof in the Netherlands.

The Bubble Barrier in Amsterdam is being executed by The Great Bubble Barrier and Waternet, commissioned by the Amstel, Gooi and Vecht Water Board and the municipality of Amsterdam, in collaboration with van den Herik Slidrecht, STOP! Micro Waste, Canadianpond and the Plastic Soup Foundation.

7-11-2019 | THE GREAT BUBBLE BARRIER | 2019

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