

# Renaturalisation of the river Oiartzun in an urban section covered by the motorway in Errenteria

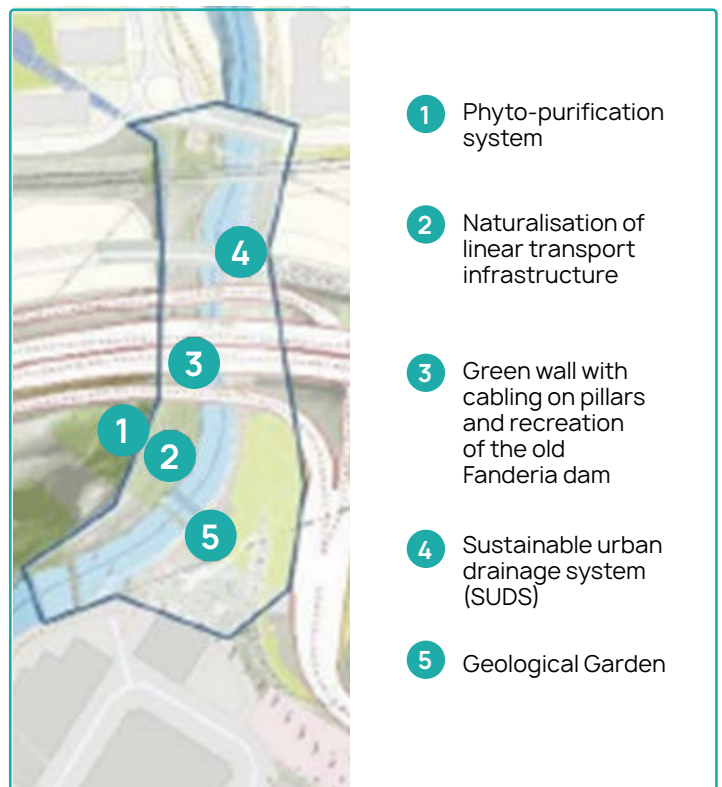
Errenteria Town Council identified the need to intervene on the Oiartzun River as it passes through the municipality as one of its priorities in the Strategic Plan 2025.

The degraded space was located under a complex network of transport roads (the A8 viaduct, its entry and exit lanes, and the Euskotren tracks); however, this space has significant natural value due to the presence of emblematic species such as the Atlantic salmon, heritage value due to the Fanderia mill canal, and recreational and communication value due to the important Arditurri Green path that runs through it.

A surface area of 23,500 m<sup>2</sup> of urban river environment has been renaturalised along 330 metres of the course of the river through this intervention.

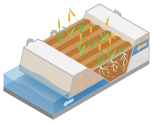


Viaduct where some of the interventions are located.



Location of the different interventions along the course of the river.

## Type of NBS implemented in the intervention



### Phyto-purification system

Runoff water from the A8 motorway is collected by a side ditch that descends to the underside of the viaduct and is directed to the purification basins.

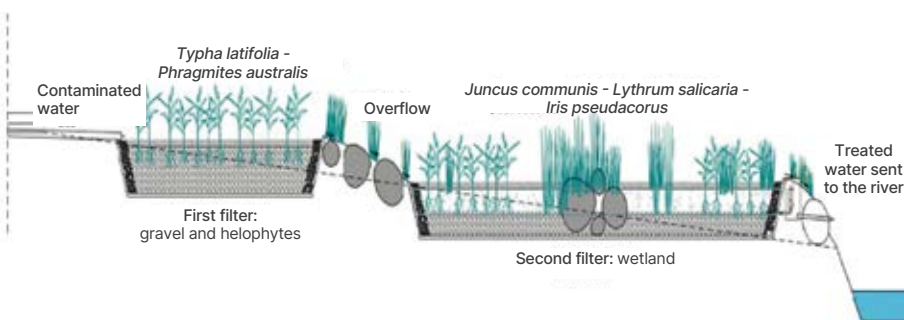


Side ditch to collect runoff water from the A8 motorway.

The phyto-purification system consists of two interconnected basins that discharge into the Oiartzun river. The first basin has a gravel filter with helophytes which treat the water. The second basin receives the treated water and acts a wetland that serves as a habitat for amphibians. Both basins have an approximate surface area **110 m<sup>2</sup>**, with maximum design depths of **80 and 50 cm**, respectively.

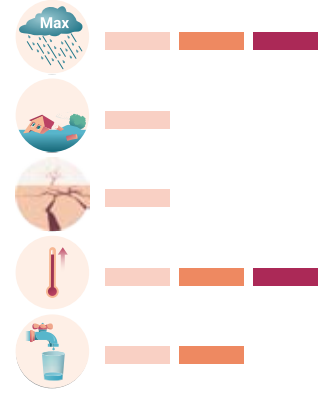


Connected phyto-purification basins (gravel and helophyte filter basin on the left, wetland basin on the right).

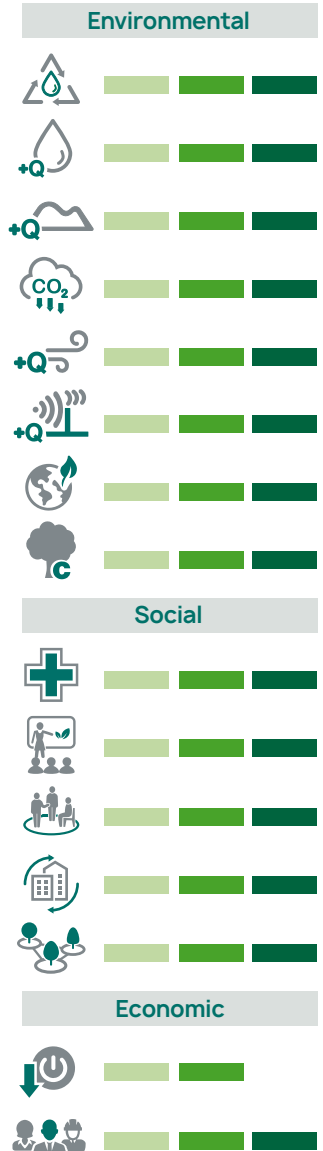


Schematic diagram of the connected phyto-purification basins.

### CLIMATE THREATS

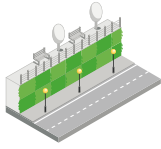


### CO-BENEFITS



### SDG

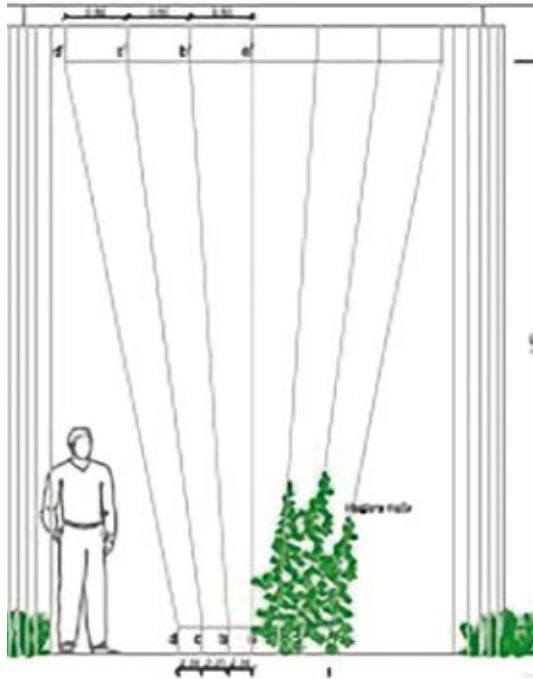




## Green wall with cabling on pillars

7 fan-shaped steel cables were placed longitudinally along the viaduct pillars so that vegetation could be developed. The cables are anchored to the pillar with sufficient clearance so as not to interfere with maintenance work.

A drainage system with gravel and geotextile has been installed on the ground to direct rainwater runoff from the viaduct onto the vegetation on the pillars, thus ensuring the viability of the vegetation. This is the only water supply for the vegetation.



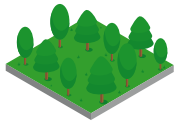
Design layout of the cabling system.



Cables anchored to the pillars, providing separation.



Gravel and pipe drainage system that directs rainwater to the vegetation.



## Naturalisation of linear transport infrastructures

Tree species were planted in the area adjacent to the space under the A8 roadbed. **75 trees** have been planted to regenerate the native riverside vegetation typical of the Atlantic alder grove, which features alders, ash, and hazelnut trees.



Riverside vegetation planted in the intervention area.



## Sustainable Urban Drainage System (SUDS)

Drainage ditches that allow water from the motorway viaduct to drain, creating a wetland and vegetation under the viaduct.



Runoff from the motorway viaduct is sent to the naturalised ditch below.

## Other interventions that contribute to enhancing the surrounding heritage

### Recreation of the old Fanderia dam

Upstream of the intervention area, the structure of the old Fanderia dam has been recreated using the original wooden framework, taking advantage of the protection offered by the viaduct. The dam was demolished in 2011 following a flood and was completely dismantled in 2014 and replaced by a permeable ramp for wildlife.



Recreation of the old Fanderia dam.

### Geological Garden

A recreational area located among the trees where the rocks of the Oiartzun river basin can be appreciated, characterised by having 8 Places of Geological Interest.



Arrangement of the rocks from the Oiartzun river basin in the Geological Garden.

“ The disappearance of the Oiartzun river dam and the renaturalisation of the Fanderia area have allowed Atlantic salmon to be connected with the Natura 2000 Network in Aiako Harria, while improving the quality of urban life and comfort. ”

Environmental technician of Erreterria Town Council.



### Agents involved

- Erreterria Town Hall
- Basque Government Department of Tourism, Trade and Consumer Affairs
- Bidegi



### Economic data

**Approximate cost of the intervention:**  
€ 360,000

**Funding:**  
€ 290,000  
(Berpiztu Programme 2022)

€ 15,000  
(Berringurumena Programme 2019)

€ 10,095  
(Local Agendas 2021, Gipuzkoa Provincial Council)

€ 25,000  
(Grants to develop Landscape Action Plans 2014)



### Lessons learnt

- The longitudinal vegetation on the viaduct pillars that receive more water is more developed and in a better condition. The irrigation therefore needs to be reinforced or the viaduct drainage increased so that the pillars receive more water.
- An upstream screen may need to be built to reduce clogging in the basins and to help to remove solids.



### Success factors

**Political interest in regenerating** the intervention area.

**Actions were defined in a staggered, participatory, and consensual way, and they were planned by integrating different sectors.** This helped resolve common difficulties in this type of spaces where different administrative competencies coincide.

**The intervention was divided into small projects,** making it possible to obtain different lines of funding.

**Support from the proposals set out** in the landscape determinations of the Partial Territorial Plan of Donostialdea, approved in September 2020.