

Business Case Factsheet

Wemeldinge Noordzijde is a climate proof revitalization of a neighbourhood



Kapelle

Netherlands

Project area

26,430 sq m

Landscape

town/suburb



In Wemeldinge Noordzijde the sewerage system needs renovation. Due to the outdated system and large paved surfaces, lower streets around the neighbourhood experienced regular pluvial flooding.

Participation in Nature Smart Cities will enable the Municipality of Kapelle to incorporate a range of water management measures, increase the urban green in the area and update the sewerage system all in one go. Water-permeable pavement will be installed in four streets with parking spaces, while wadi's and additional vegetation will slow the water runoff to lower areas.

Scenario Comparison

BASELINE SCENARIO

Renewing the sewage system with wide pipes for draining stormwater, adding a large pipe which carries the water from rainstorm peaks to a lower lying area. Improving the road quality using asphalt only.

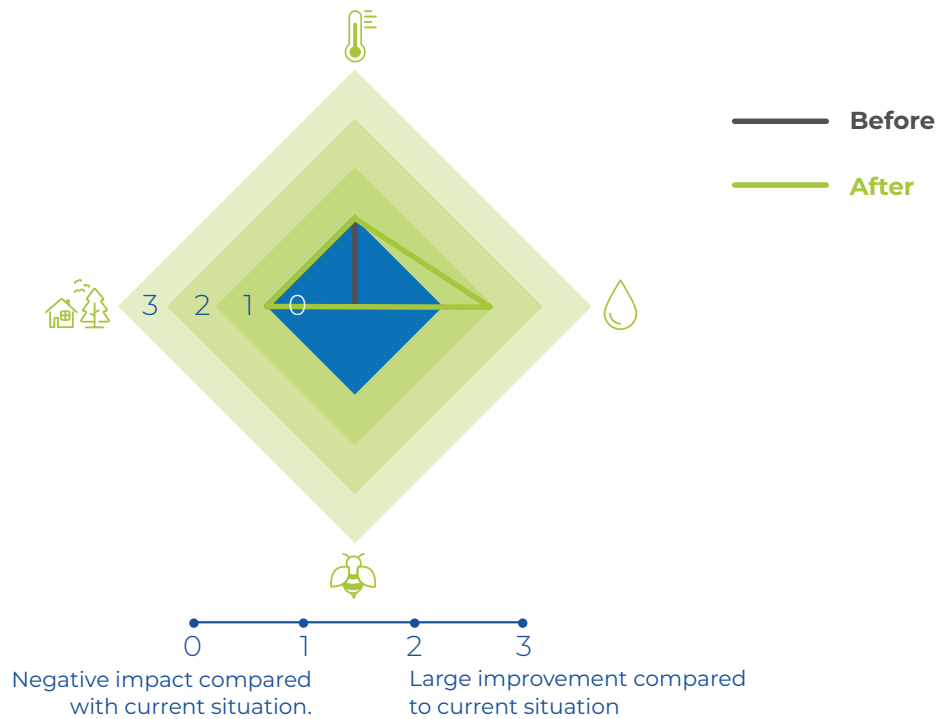
REVITALIZATION

Increasing green area with at least 0,6 ha. Construct permeable green streets, parking places and wadis. Complement with new, grey sewage system, such as the wide pipe which is also part of the grey scenario.




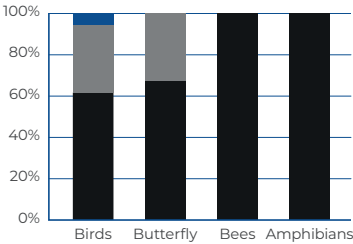
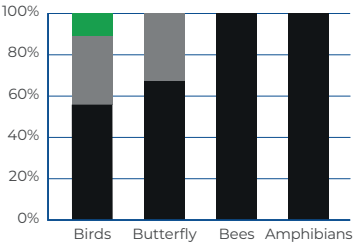
Ecosystem Services

- Food
- Physical and mental health
- Micro climate regulation
- Materials
- Noise pollution
- Recreation, and Tourism by external visitors
- Education and raising awareness
- Aesthetic appreciation
- Social cohesion
- Habitat for biodiversity
- Attractor for companies and investments
- Real estate prices
- Carbon sequestration
- Air filtering
- Water retention and infiltration


Selected Parameters



Scenario Comparison

	BASELINE SCENARIO	REVITALIZATION
 Water retention	7573.38 m ³ /yr	10953.56 m ³ /yr
 Micro-climate Regulation	Outdoor: 0.63°C red	Outdoor: 0.71°C red
 Habitat for Biodiversity		
	SW - Index 1.70	SW - Index 3.21

■ Habitat with potential ■ Habitat with moderate potential
■ Habitat with little potential ■ Not a suitable habitat

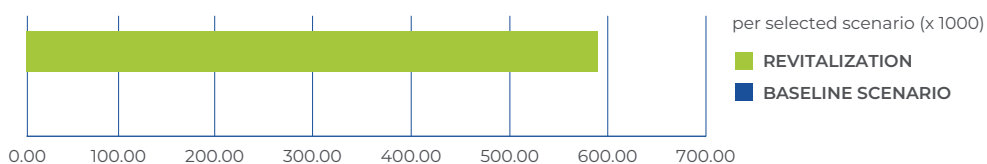
	BASELINE SCENARIO	REVITALIZATION
Aesthetic appreciation		
Does this scenario provide an aesthetically attractive place to live or work in?	Not at all	To some extent
 Does this scenario include an attractive mix of different landscape elements?	To a limited extent	To a limited extent
Does this scenario promote people's engagement with the natural world?	Not at all	To a limited extent
Does this scenario create, or add to, a sense of place and visual identity?	Not at all	To a great extent

Financial Information

Initial Investment

€ 0.00

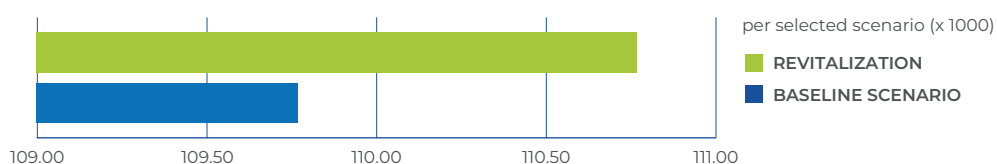
€ 587,888.00



Maintenance Costs (currency/yr)

€ 109,773.37

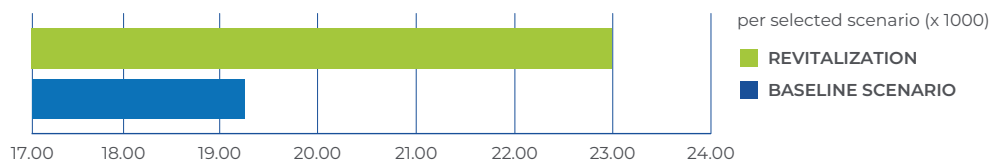
€ 110,772.85



Monetary Benefits (currency/yr)

€ 19,235.25

€ 22,998.70



Conclusion

In the old scenario Wemeldinge Noordzijde was a neighbourhood with mainly grey infrastructure. With this project Wemeldinge Noordzijde, the municipality of Kapelle implements a green scenario with more green, swales, permeable pavers, and a diversity of trees to create a climate proof neighbourhood. It decreases the temperature, improves water retention capacity. It even gives some improvements on biodiversity.

This factsheet presents the Business case and data generated for the green infrastructure scenarios using the Nature Smart Cities Business Model. The factsheet design has been adapted for external promotion.

For more information and to access the Business Model visit: <https://www.uantwerpen.be/en/centres/environment-sustainable-development/research/projects/nature-smart-cities/>

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