

Holistic water management and climate adaptation

Carsten Fjorback,
Development Director – Climate adaptation, COWI




Musicon - skate park as flood mitigation

Featured in **Mitigating the water related effects of climate change**

COWI

About Author

COWI is a leading International consulting group. We provide state-of-the-art services within the fields of engineering, environmental science and economics with due consideration for the environment and social



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Storm water solutions with multiple purposes are implemented in this new developed area in Roskilde. The area was former used for a huge concrete factory. When the factory moved out of the city the area was transformed to an area used for many activities as living, exhibitions, sport, art, music and other cultural and

Project - NYE

- 200 ha
- 15.000 people

Phase 1

- 17 ha
- 600 homes
- 1500 people



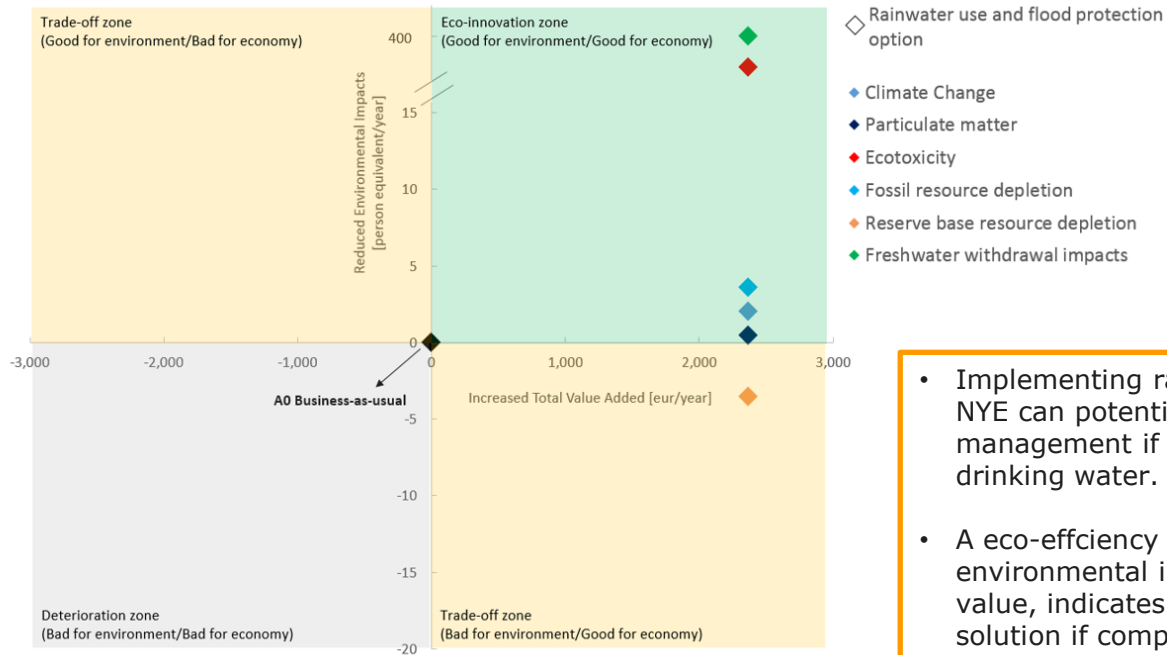


WWW.NYE.DK

Visions / ambitions	Realising
Rainwater adds value	Water in open channels, drains, dams and lakes – a system that creates value for recreational purposes
Holistic water management	Water, roads, open areas and buildings are planned in close cooperation between stakeholders
Climate adaption	A 100 year cloudburst can be handled without damaging floods
Environment and sustainability	Water quality and quantity that meets demands for the water cycle - ground water, streams and lakes
Rainwater is a resource	Collection and reuse of rainwater for toilets and laundry (save 40% of groundwater resources)



Eco-efficiency evaluation (Faragò et al., 2018-in preparation)



11 SUSTAINABLE CITIES AND COMMUNITIES



- Implementing rainwater use and flood protection measures in NYE can potentially improve the overall sustainability of water management if compared to conventional ground-water-based drinking water.
- A eco-efficiency evaluation, which provides quantitative environmental impact assessment and total economic added value, indicates that NYE can be considered an eco-innovative solution if compared to conventional groundwater-based drinking water.

References

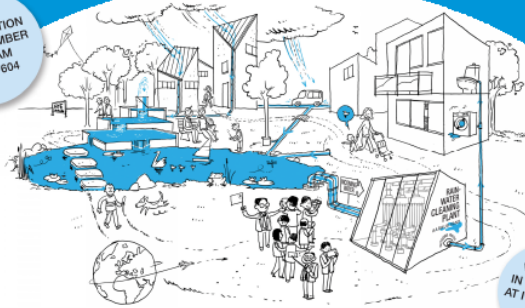
- Faragò, M., Brudler, S., Godskesen, B., Rygaard, M., 2018 in preparation. Eco-efficiency evaluation of community scale rainwater harvesting in Aarhus, Denmark. Urban Water Systems, Department of Environmental Engineering, Technical University of Denmark.



WATERWISE SUBURB

A NEW, RADICAL APPROACH TO URBAN DEVELOPMENT

ORAL PRESENTATION
20. SEPTEMBER
10-45 AM
ROOM 604



VISIT NYE
IN DENMARK
AT IWA WWCE
2020

LIVEABILITY AND SUSTAINABILITY

NYE (nye³), a new suburb in Aarhus, Denmark, is a large-scale urban development project focusing on liveability, environmental sustainability and a holistic approach to water resource management.

NYE will be divided into seven districts and be home to 15,000-20,000 people.

The private developer Tækker Group and firm of consultants COWI A/S have worked in close

cooperation with the City of Aarhus and Aarhus Vand (local water utility) for a number of years.

This has resulted in a new, radical approach to urban development and the preparation of a master plan for a new suburb that harvests and reuses rainwater on a scale never seen in Denmark/Scandinavia. The first citizens moved into NYE in August 2016, and when you come to Denmark for the next

IWA WWCE 2020, you can visit and see how visionary urban development can be realized.

Even though this project began before the UN SDGs were discussed and implemented, the sustainability of the various solutions was evaluated using similar goals and visions, and afterwards, it was easy to relate the essence of this development project and process to the SDGs.

See also www.nye.dk.

In Denmark, drinking water is supplied from groundwater. Thanks to a good quality of the groundwater, water treatment at the reference scale (city and rural) is not needed. The high quality of the groundwater and a subsequent high degree of infiltration result in recycling of water resources, as the project in NYE.



THE PROJECT MEETS 7 SUSTAINABLE DEVELOPMENT GOALS

<p>3 GOOD HEALTH AND WELL-BEING</p> <p>By creating a suburban development with an abundance of green spaces and a variety of sports and leisure facilities, social and environmental conditions are improved, and the quality of life is enhanced.</p>	<p>6 CLEAN WATER AND SANITATION</p> <p>Groundwater is used as a source of drinking water, and rainwater is collected and used for irrigation and other purposes. This reduces the need for drinking water from groundwater.</p>	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> <p>NYE is a test area for urban projects, where new urban development is implemented. This includes the use of rainwater for irrigation and other purposes.</p>	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> <p>NYE is a test area for urban projects, where new urban development is implemented. This includes the use of rainwater for irrigation and other purposes.</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> <p>NYE is a test area for urban projects, where new urban development is implemented. This includes the use of rainwater for irrigation and other purposes.</p>	<p>13 CLIMATE ACTION</p> <p>NYE is a test area for urban projects, where new urban development is implemented. This includes the use of rainwater for irrigation and other purposes.</p>	<p>15 LIFE ON LAND</p> <p>NYE is a test area for urban projects, where new urban development is implemented. This includes the use of rainwater for irrigation and other purposes.</p>
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Søren Østergaard
Senior Project Manager
s.ostergaard@tackker.dk



17 PARTNERSHIPS FOR THE GOALS



An aerial photograph of Capacity Park in Copenhagen at dusk. The park features a large, shallow water feature with several small fountains. Children are seen playing in the water, splashing and running. The sky is filled with soft, golden light from the setting sun, and the surrounding trees and buildings are silhouetted against the light. The overall atmosphere is peaceful and family-friendly.

CAPACITY PARK

ENGHAVE CLIMATE PARK
CITY OF COPENHAGEN

TREDJE NATUR
COWI
PLATANT

THIRD NATURE

capacity

24.000 M3

THIRD NATURE

reservoir



THIRD NATURE

perimeter



THIRD NATURE

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Carsten Fjorback

Development Director – Climate adaptation

mail: cafk@cowi.dk

phone +45 4176 4266

