

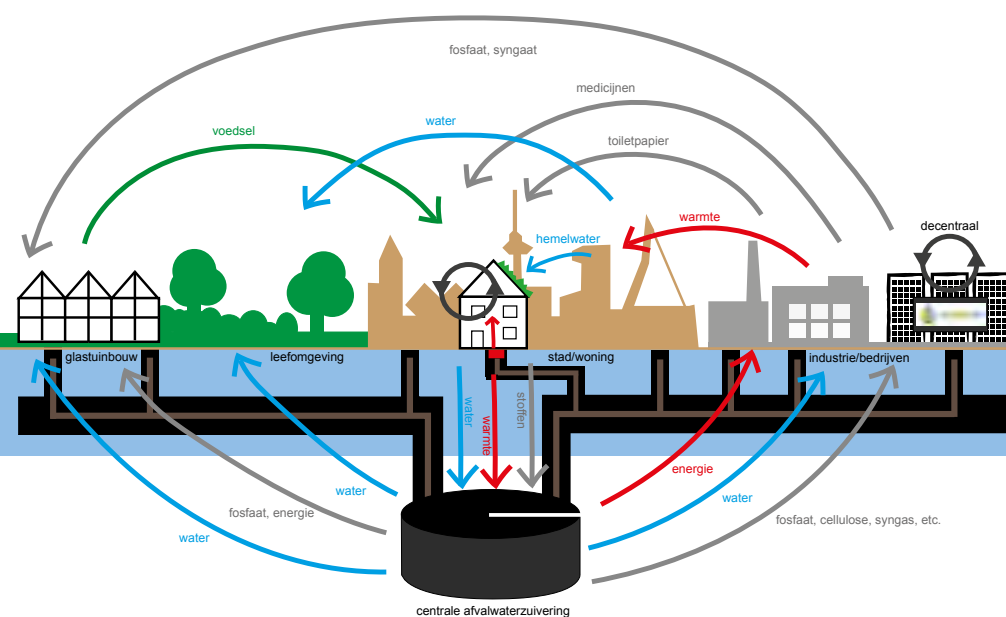
SHORT SUMMARY

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Circular road map Municipality of Rotterdam

Rotterdam sluit (afval)waterkringloop



*How can we use
wastewater
as raw material or energy
source?*

The Municipality of Rotterdam has developed a road map to enable it to become the European centre of the circular economy by 2030. The road map offers companies and organisations a practical helping hand to enable the most efficient handling of raw materials.

Project description

With over 600,000 residents and the most important port in Europe, Rotterdam is extremely dependent on the import of raw materials. The municipality has developed a road map in order to handle this carefully and make the shift from a linear to a circular low-CO₂ economy. This 'Circular Economy Rotterdam Road Map' includes the ambition that Rotterdam will be the European centre of the circular economy by 2030. The road map offers companies and organisations a practical helping hand to enable the most efficient handling of raw materials.

Approach

The road map comprises two phases. Phase 1 focuses on 'learning by doing' (2016-2019). An example of this is the separation of waste. The municipality is expanding this to the upcycling of all household waste. Another example is the Rotterdam Cooperation in the Wastewater Chain (Rosa project), which aims to use wastewater as raw material or energy source. Raw materials from the sewer system are used for example in the Merwe-Vierhavens as trial for all kinds of innovations, including circular economy innovations. Phase 2 (until 2030) focuses on embedding the circular economy principles in Rotterdam's municipality, companies, knowledge centres and households.



FACTS & FIGURES

- > Number of residents: 600,000
- > Concrete tiles: purchase of 3 million tiles per year
- > Tender for concrete tiles: started in 2014, framework contract signed in 2016 with a 4-year term

Results

The road map is ready. The next step is to make this concrete in pilots and projects. Chains and processes are also examined and designed differently. The municipality has investigated which tenders are promising. A successful concrete tile project has already been concluded. This did not involve circular procurement, but did involve sustainability. The Municipality of Rotterdam purchases an average three million concrete tiles a year, making it the biggest buyer in the market.

“A life cycle analysis makes environmental benefits in the chain transparent”

Léon Dijk, Sustainability Adviser
Municipality of Rotterdam

However, the production of concrete does have significant environmental impact. That is why the municipality is using a four-year framework contract on sustainability. Producers of concrete

needed to devise innovative solutions and use the life cycle analysis (LCA) to map out the concrete chain so that the hidden environmental effects also become visible. The result has really surprised both the municipality as well as producers of concrete: a halving of the environmental costs per tile.

Lessons learned

- Working with a life cycle analysis (LCA) clarifies immediately where a producer is regarding sustainability, without requiring certificates.
- An LCA gives insight into the chain of a product and gives producers the freedom to innovate according to their own insights. Producers already do this a lot, but have not previously been assessed on this.
- A sustainable tender demands more preparation time. Normally, this takes half a year, but for the concrete tile project for example, this was almost a year-and-a-half.
- The municipality allowed the LCA to be weighted heavily compared to price. This could have resulted in the tender being more expensive. However, this did not happen because of the extremely competitive market.

About REBus and the Green Deal on Circular Procurement

The Green Deal on Circular Procurement (GDCP) is an initiative of MVO Nederland (CSR Netherlands), NEVI, Central government, Duurzame Leverancier, PIANOo, Kirkman Company and Circle Economy. Various pilots originating from GDCP are partly financed by the European REBus project, implemented in the Netherlands by Rijkswaterstaat (Directorate-General for Public Works and Water Management). They are working together to support businesses and government organisations in their circular procurement ambitions.

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Partners: Port of Rotterdam Authority | DCMR (Rijnmond Environmental Protection Agency) | Rijkswaterstaat | Central Government | Municipalities and parties that have signed the City Deal | Market parties that provide circularity solutions

Relevant links & documents: [Circular Economy Road Map](#)

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