

# MACRO – MAt i Cirkulära RObusta system

## PLANNING AND IMPLEMENTATION OF SOURCE-SEPARATING WASTEWATER SYSTEMS - The Importance of Policies and People



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### HYPOTHESIS

The initial hypothesis that has been investigated is whether the role of the principal entity managing the process has a critical impact on the implementation process of an innovative sanitation technology (collection of greywater, blackwater and food waste in three separate pipes) in urban areas in Sweden.

Issues that have been studied are the policies and mandates of stakeholders, the ownership of the assignment, organizational culture and possible contradictions with other assignments.

### METHOD

Data collection is based on case study methodology (Yin, 2003) to gain in-depth understanding of how stakeholder dynamics, decision-making frameworks and external factors can affect the outcomes. Two new development areas, where source separate collection systems has been considered, have been studied: Royal Seaport in Stockholm and H+ in Helsingborg. Data-collection has been done through semi-structured interviews and documents studies.

The analysis of the case studies uses a transition management framework based on (Storbjörk and Söderberg, 2003 and McConville et al., 2017) to identify key activities that may affect the development paths in each of the two cases. Use of this framework allows for identification of critical activities/factors shaping change within the cities.

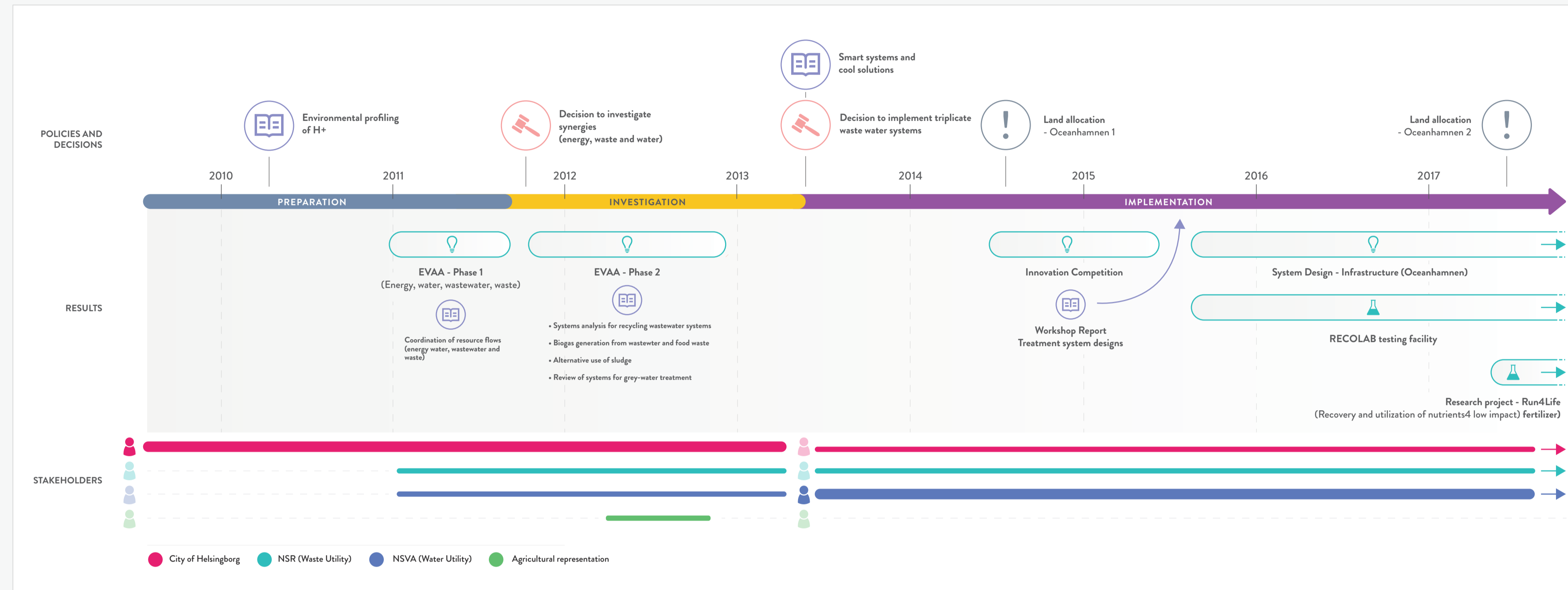
### RESULTS

Both cities have a politically anchored decision to test source separating wastewater systems in their environmentally profiled areas Stockholm Royal Seaport (SRS) and H+ in Helsingborg. Policies and goals for SRS, were formulated already in 2010, whereas for H+, an investigation process was performed to formulate more specific goals that were set in 2013.

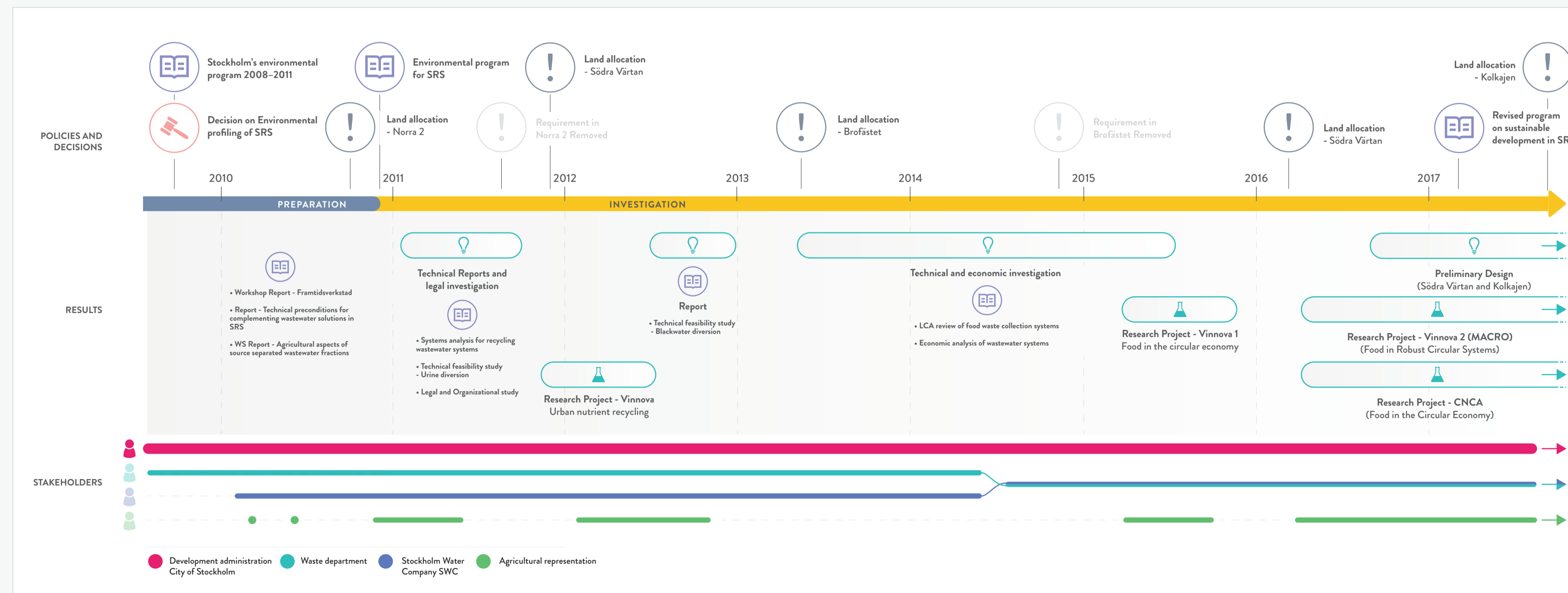
The initial preparatory and investigative phases were managed by the City administration in both cities. In the case of Helsingborg the H+ Project office, with human resources from different city administrations, was in charge and in Stockholm by the City's Development Administration.

In May 2017, Stockholm had not yet taken a decision to go to implementation, while in the H+ the implementation decision was taken in 2013. The responsibility to manage the process of implementation was assigned to NSVA – the water utility in Helsingborg.

The H+ project has had an ambition to be innovative and has established a clear and common vision through a cross-sectoral collaboration. The involvement of key-stakeholders and the support from top-management, as well as, a team driven by curiosity and with the willingness to think out of the box have been instrumental in the process.



The implementation process in H+, Helsingborg. Note that the investigation process was short and an implementation decision was taken before having solved all technical issues. Knowledge generation has taken place during the implementation phase. The thickness of the stakeholder lines indicates the strength of their involvement

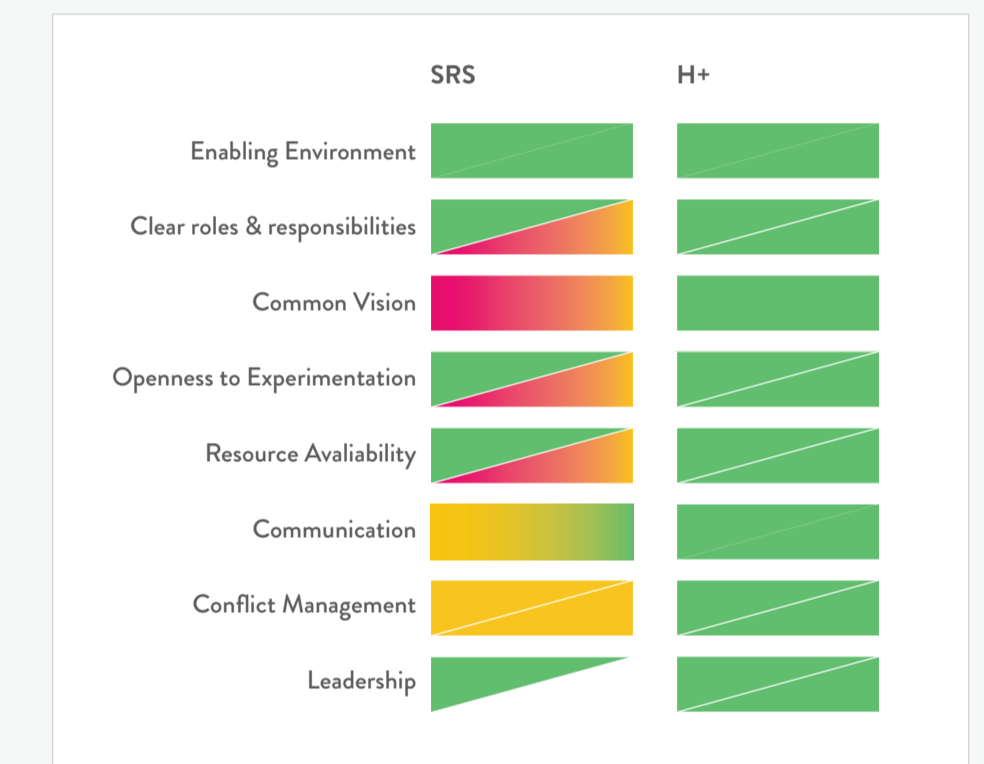


The implementation process for source-separated wastewater systems in Stockholm Royal Seaport. Note that the investigation process has been ongoing since 2011, during which substantial knowledge generation has taken place. The thickness of the stakeholder lines indicates the strength of their involvement

### RESULTS (continued)

The SRS process, on the other hand, has not had the full buy-in of the Stockholm water and wastewater utility (SVOA). Even though they have been part of the process, they have not felt that they have had the mandate to fully participate. Therefore, there has not been a common vision or availability of resources that would be required to go to implementation. Even so, the desire for more substantial investigations has contributed to generation of knowledge.

The diagram below describes a first compilation of how well the defined critical activities have been addressed with regards to the transition management framework used in this study. Each indicator is divided into two, where the top part represents the assessment of the responsible department in the city and the bottom part of the water utility in respective project.



The framework of critical factors affecting sustainable transitions within socio-technical systems (adapted from Storbjörk & Söderberg, 2003; McConville et al. 2017). The top triangle represents assessment of the responsible department and the bottom of the water utility.

### ANALYSIS

The implementation of source separated wastewater systems requires a cooperation between the city and its utilities. The progress in the H+ project is well reflected by the assessment of the critical factors in the framework.

The framework assessment indicates that the most important critical factor for the slow process in SRS are the lack of a common vision and buy-in to the concept, which in turn has contributed to (i) not assigning clear roles & responsibilities, (ii) a low priority for experimentation and (iii) thus allocating few resources within the water utility. The effect of these missing pieces is that the preconditions are missing for an implementation decision. Over the past two years there has been a gradual change, indicated by the colouring.

This study, moreover, gives rise to further questions:

- A common vision needs a successful cross-sectoral/-departmental cooperation, what factors are essential for this to be established?
- Are informal communication paths necessary to create conditions for innovation?
- How to get different entities to implement a technical innovation that contributes to overall benefits that may fall outside one or more organisations' traditional system boundaries?