



The TAPES project: Transnational Action Program on Emerging Substances

Running time

January 2012 – December 2015

Project budget

€ 4,058,096

ERDF grant

€ 1,996,548

Project partners

- Waternet, the Netherlands (lead partner)
- KWR Watercycle Research Institute, the Netherlands
- Technische Universiteit Delft, the Netherlands
- Water Authority De Dommel, the Netherlands
- Erftverband, Germany
- DVGW Technologiezentrum Wasser, Germany
- De Watergroep, Belgium
- University of Cranfield, United Kingdom
- VITO – Vision on Technology, Belgium
- Fachhochschule Nordwestschweiz, Switzerland

Project summary

Aim of the project

Emerging Substances from diffuse sources increasingly contaminate the environment. Due to their low molecular weight and their physical-chemical characteristics most present treatment systems (wastewater and drinking water) do not or not remove sufficiently this contamination. Although on the short run

there is likely to be no health risk, the effects for humans and nature on the long run is unknown. Therefore, drinking water organizations and wastewater treatment organizations are budgeting many millions of euros for instance for investment in new treatment technologies, but are doubting the most effective and efficient approach to spend this money.

A lot of (often public funded) research has been performed and quite a few new treatment technologies have been piloted but not yet implemented in practice. Besides, so far there is limited/no collaboration between partners within the water cycle. At the same time, combating ES is an international problem

This project aims to combat ES by an international, water cycle based approach in order to allocate the millions of Euro's available for investment in a most efficient and effective way. To realize this, the project will provide experience based knowledge on the effectiveness of various techniques and the best way to incorporate these in the water cycle. Based on these outcomes, the project will also provide decision makers with instruments on which they can base their investment decisions. Finally, the project will provide a blue print how to unlock the R&D potential for end users, thus bridging the gap between R&D results and insights on one hand and practical implementation on the other.

Topics to cooperate

Effective and efficient removal of ES is the main topic. But to do so, the cooperation will take place in 4 aspects:

Ad 1) A novel approach in sharing knowledge and expertise within the water cycle. Within NWE, many actors within the water cycle are publicly owned or publicly managed. Many of these actors have developed a lot of knowledge and expertise, but 90% of this knowledge is locked for other actors in other parts of the water cycle and even to other actors within the same part of the water cycle. The project will develop the WaterCloud, a new knowledge and experience exchange paradigm that unlocks available knowledge to other actors and, at the same time, will be enriched by the application of this knowledge and experience.

Ad 2) Implementation of measures and testing. This project will demonstrate how innovative technologies and measures at various point in the water cycle can be applied to fight diffuse ES pollution and what the effects can be. These demonstrations will also give input to the validation of the DSS.

Ad 3) Development of a knowledge based decision support system (DSS) which will help actors to define on a regional basis the best possible investment approach. Now actors have no tools how to allocate the available millions as best as possible. New treatment systems capture these funds for 20 years, while in the time between the focus of the ES problem might change.

Ad 4) Input to authorities. A water cycle broad approach is not self-evident. Partners will collaborate to motivate authorities on EU, national and regional level to stimulate water cycle actors to cooperate to tackle the ES problem. A lot can be gained if the initiative will not only come from the operational / management level, but will actively be supported by governors and other authorities.

Transnational cooperation

ES are not a local or regional issue. Via water basins, like river Rhine, ES are transported throughout NWE. Also, R&D on ES is not a local or regional activity. In each and every NWE territory actors are engaged in R&D on different levels. The effectiveness and efficiency of this R&D is for now, however limited. Also, this R&D has not been matched and linked within the different parts of the water cycle. Last but not least, approaches alongside the river influence the water quality downstream. This implicates that measures taken upstream affect the need and scope for measures downstream.

As such, the problem of ES has to be tackled in an transnational and integrated way. The partnership also expresses this need: All partners involved have their own knowledge and experience base. As they are located alongside various water systems as well as geographically, partners have complementary competences.

In order to combat ES, the project partners aim for:

- prudent allocation of available funds for investments to tackle the ES-problem
- for a new paradigm to make a much higher use of international available knowledge and expertise on ES,
- more efficient R&D spending by publicly owned water cycle actors in the NWE region and
- enthusiast authorities that are convinced that a water cycle broad approach will work and are willing to stimulate the water cycle sector to do so.

This can only be reached if cooperated on a transnational level.

Main actions and outputs

The output of this project will be a blueprint for efficient and effective allocation of (more and more) scarce publicly funded investments in infrastructure and R&D. WaterCloud will be a showcase for sharing knowledge and expertise, improving the utilization of now fragmented and segmented knowledge and expertise significantly. The DSS will support actors in the water cycle to allocate investments funds as efficient and effective as possible. Since public funded actors in the water cycle do not pursue competitive advantages nationally nor international, facilitating collaboration in the public domain offers large potential. Within the project three main actions are foreseen:

1. Development of a knowledge hub as blue print for unlocking knowledge, the so called WaterCloud. Within this hub partners will be able to share knowledge and to make it available for end users.

The output is a platform on which organisations and stakeholders can share knowledge and call for expertise in the network.

2. Implementation of technologies for removal of ES. The project will focus on implementation and testing of technologies to remove ES at diffuse sources wastewater treatment utilities (before entering the surface water) on one hand, as well as at drinking water facilities on the other. These technologies are focused to be embedded in the regular processes already available. Main outcomes will be knowledge and experience on the effect and efficiency of these technologies at various stages in the water cycle.
3. Development and testing of a Decision Support System which supports decision makers to decide for the most optimal solution for their specific ES problem. Output: tested and validated DSS.