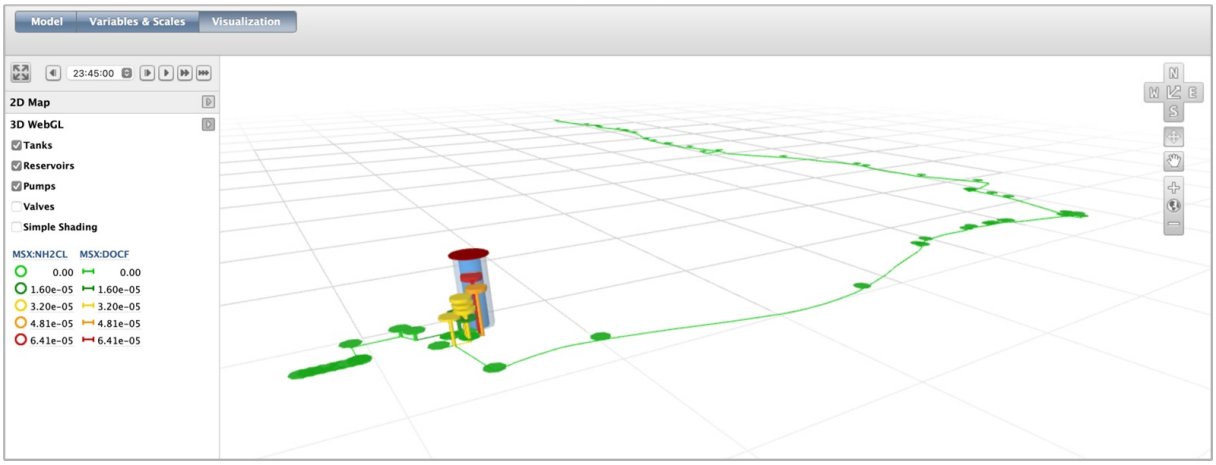
Product factsheet

Reclaimed water distribution network water quality model

Software solution



Description

A complete hydraulic and water quality extended-period simulation model for pressure flow networks, designed to simulate the advection, mixing and transformation of waterborne parameters in reused water. It aims primarily at mapping and quantifying risk in reclaimed water distribution networks.
This tool complements the Water-energy-phosphorous balance planning module in assessing the additional cost, risk and performance changes introduced in case the supply/demand combinations need to make use of an existing or projected distribution network.

The tool has undergone significant development between months M13 and M21, with initial release in M26 for internal Lisbon LL partner LNEC testing, and the project release took place on schedule in M30.

The targeted end users are hydraulic engineering experts in urban management, municipal and water utility contexts.

>The model is deployable at the spatial scale of an urban water distribution network or bulk water network.

This cloud-based tool is developed by Baseform using its own proprietary Java-based, web-centric software platform designed for networked infrastructures.

The model runs in Baseform's environment as an individual app. The primary inputs for the hydraulic and for the water quality model are an Epanet .INP file, and an EPANET MSX file respectively. The latter is based on a detailed formulation developed specifically for the project

by the LNEC team.

The model runs based on those two files and the interface allows for querying of results as well as full visualisation in Baseform's 3D environment. Some screenshots in the figures below illustrate the software's functionality.

Training material of the reclaimed water distribution network water quality model is available at https://youtu.be/LXpda5_C2ew.

Target audience

Hydraulic engineering experts in urban management, municipal and water utility contexts.

Actors, their roles and interactions

This is a specialized model that is best used by hydraulic engineering experts, usually working as part of consultancy in urban management or water utility contexts or used by the utility staff as part of their operational and engineering tool portfolio.

Unique selling points

The tool offers a unique standardized means to compare reused water supply/demand combinations through multiple criteria, with a purposefully developed formulation for reused water, on top of advanced hydraulics simulation capabilities.

Technical requirements

- Computer, tablet or smartphone with internet access.
- Any updated internet browser in any operating environment.

Software data

- Initial release: 2023
- License type: Commercial

URL

https://bwatersmart.baseform.com

Technology applied by the product

- **Water recovery technologies for water reuse**

Technology Readiness Level

Level 7 (Last update: 2024-05-09)

Case Study applying the product

Lisbon, Portugal

https://mp.watereurope.eu/d/CaseStudy/45

Related tags

water | Reuse | Model | Simulation | Supply | Distribution