Product factsheet

Water-energy-phosphorous balance planning module

Software solution

Description

This supply/demand matchmaking environment was conceived and designed entirely for B-WaterSmart, where sources and demand points are combined to enable the design of supply solutions to a set of potential users of reused water.
The supply and demand alternative combinations are assessed and matched through a range of user-selected metrics (e.g., volume availability, cost, energy content, carbon footprint, nutrient content) over a targeted period. The alternative combinations produced are further made available to Tools #24 (Reclaimed water distribution network water quality model), #27 (Risk Assessment for urban water reuse module) and #17 (Environment for decision support and alternative course selection), all developed by Baseform and available alongside this tool.
The matchmaking environment is driven by the demand(s) to be satisfied, translated as time series of required monthly volumes over a pre-specified period of time. The user is asked to register potential sources, with corresponding times series of available volumes taking place in the same time window, though not necessarily spanning its entirety.
The user is then asked to combine the available sources to make up the required monthly volumes, while complying on the energy and nutrients contents as desired. Such combinations are called ‘alternatives’ and are characterized by the degree to which they satisfy the required volumes over time, as well as by their energy consumption, nutrients contents and cost. One or more alternatives will be designed to solve the demand problem at stake.

The tool's targeted end users are planners and decision-makers in urban management, municipal and water utility contexts.
The tool is deployable at any spatial scale as it is applicable to any supply/demand context; indicative scales are city facility (such as an urban public park or garden), neighborhood, city, region. The software allows for full geographic representation and visualization of the sources and demands. The tool is conceivably applicable to any demand-driven matchmaking problem without requiring modification.

Training material of water-energy-phosphorous balance planning module is available at https://youtu.be/xkjRRawFXL.

Target audience

Water demand planners and decision-makers in urban management, municipal and water utility contexts.

Actors, their roles and interactions

Water demand planners and decision-makers in urban management, municipal and water utility contexts.

Unique selling points

A standardized, expert-based means to combine and assess reused water source combinations to satisfy specific demands.

Technical requirements

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

Software data

- Version: 1.0 (Last update: 2024-05-09)
- Initial release: 2023
- License type: Commercial

URL

https://bwatersmart.baseform.com

Technology applied by the product

- **Water recovery technologies for water reuse**

Case Study applying the product

Lisbon, Portugal

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

Related tags

water Reuse Supply Demand