



Water management



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Please find below 20 examples on real, implemented green growth ideas in a field of **Water Management**.

Examples are provided from these countries:

- Lithuania (4 units)
- Sweden (4 units)
- Denmark (4 units)
- Poland (4 units)
- Germany (4 units)



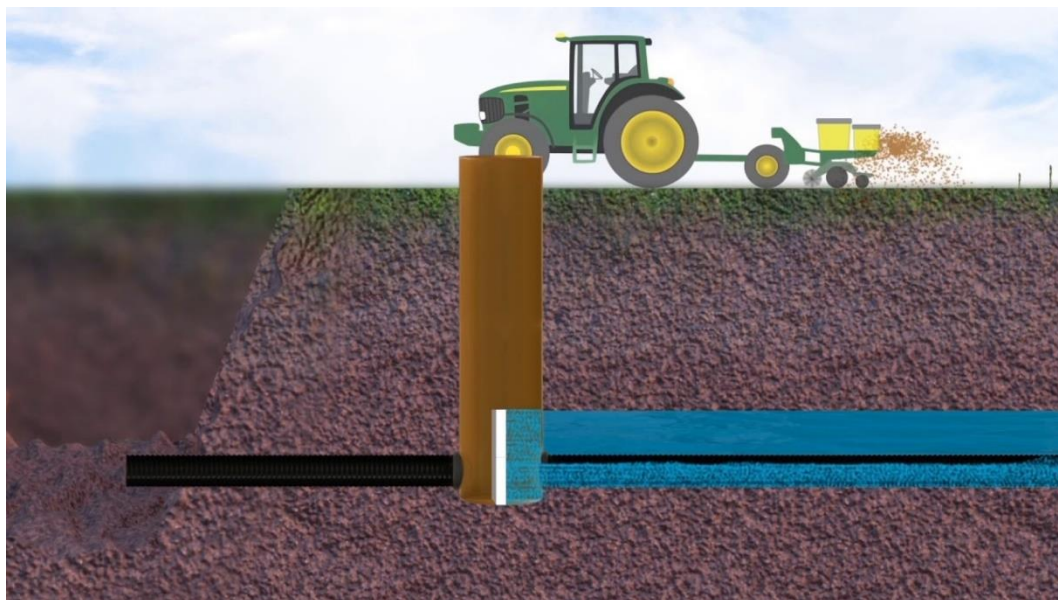
This material is prepared in accordance to INTERREG V-A South Baltic Programme project „SB BRIDGE – Building bridges for green tech future“ (2019-2021)



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1. Lithuania, **EkoDrena**, 2018



A solution for mitigating the negative environmental effects of farming

The solution involves an adjustable underground drainage system that regulates water retention in the soil, thereby preventing fertiliser runoff

<https://www.ekodrena.lt/>

2. Lithuania, **Nectar Sun**, 2015



The Nectar Sun is an innovative photovoltaic system made for water heating

Compatible with most electric and hybrid water heaters available for household use

The Nectar Sun controller is responsible for converting cost-free solar energy to free hot water



<https://www.nectarsun.com/>

3. Lithuania, **FFH, Ineco, 2010**



The proposed technology is based on ferriferous hydrosol (FFH) – a colloidal suspension of two- and three-valence iron hydrated compounds, acting as reagent for wastewater pollutants binding

FFH is produced by the individual process of electrolysis from iron waste

FFH demonstrates positive results in the wastewater containing heavy metals ions, radioactive metals – caesium and strontium, leaches from contaminated with heavy metals ground, of a variety of industries, treatment

http://www.ineco.lt/assets/files/inecokatalogas_v3_46EN.pdf

4. Lithuania, **NB-IoT technology, Vilniaus vandenys, 2020-2021**



Smart water metering system using NB-IoT technology

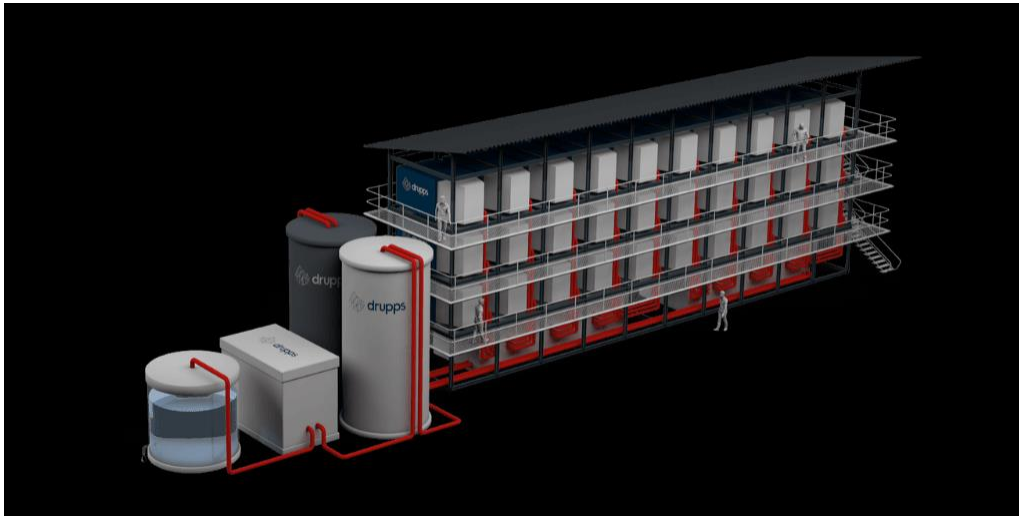
Allow to detect and eliminate accidents in water supply networks faster

It includes NB-IoT modem and impulse counter with lithium battery block which will operate more than 6 years without external power supply and battery change



<https://www.navitus.lt/en/ismanioji-vandens-apskaitos-sistema-naudojant-nb-iot-technologija/>

1. Sweden, **Drupps**, 2017



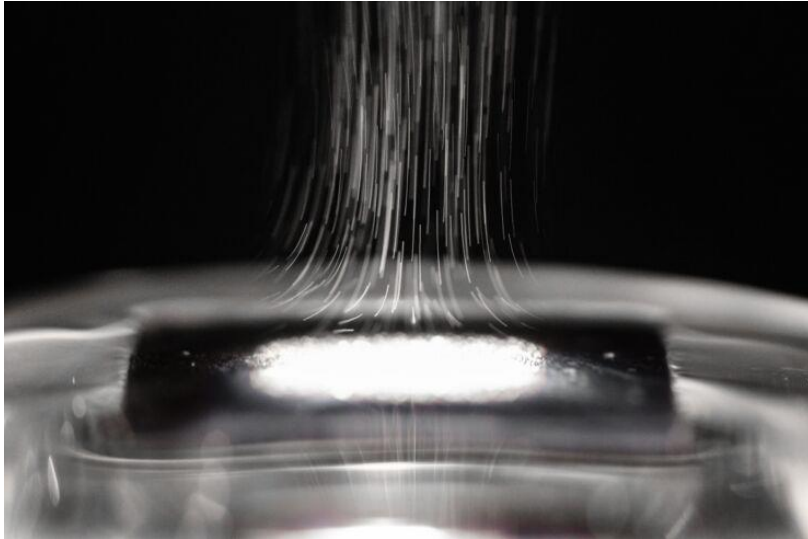
Scalable and sustainable atmospheric water that enables companies and organisations to reduce water footprint and secure long-term water supply

Processes ambient air and absorbs its moisture, before extracting it as high-quality water of food-grade purity in a series of steps including distillation

Combines mechanical filtering, running air through liquid and evaporation. Produced water is filtered through active carbon filtering and UV-sterilization.

<https://www.drupps.com/>

2. Sweden, **Organic steam generator, Laboratory of Organic Electronics at Linköping University, 2020**



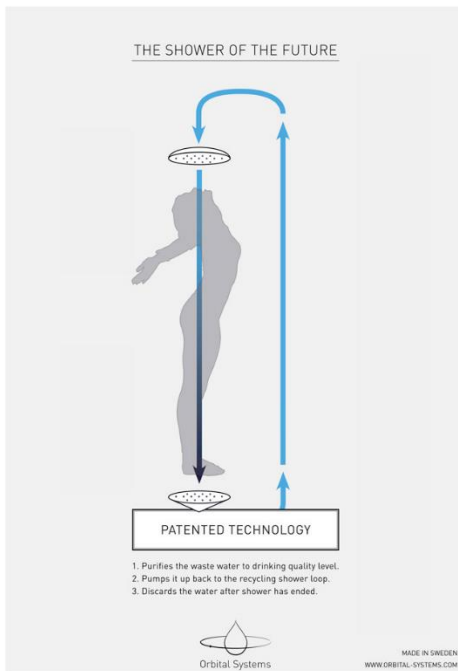
The generator can be built in a cheap way with natural materials

The steam generator consists of an aerogel that contains a cellulose-based structure decorated with the organic conjugated polymer PEDOT:PSS

The polymer has the ability to absorb the energy in sunlight, not least in the infrared part of the spectrum where much of the sun's heat is transported

<https://liu.se/en/news-item/rent-vatten-med-billig-organisk-anggenerator>

3. Sweden, **Oas, Orbital System**, 2013



A digital closed-loop shower Oas

The world's first smart recirculating shower system—saving up to 90% water and up to 80% energy

Oas uses a few litres of water to deliver a luxurious shower experience

<https://swedishcleantech.com/companies/817/orbital-systems-ab/>

<https://orbital-systems.com/orbital-shower/>

4. Sweden, **The Fenix hub, Aqua Robur,** **2019**



A self-powered IoT device

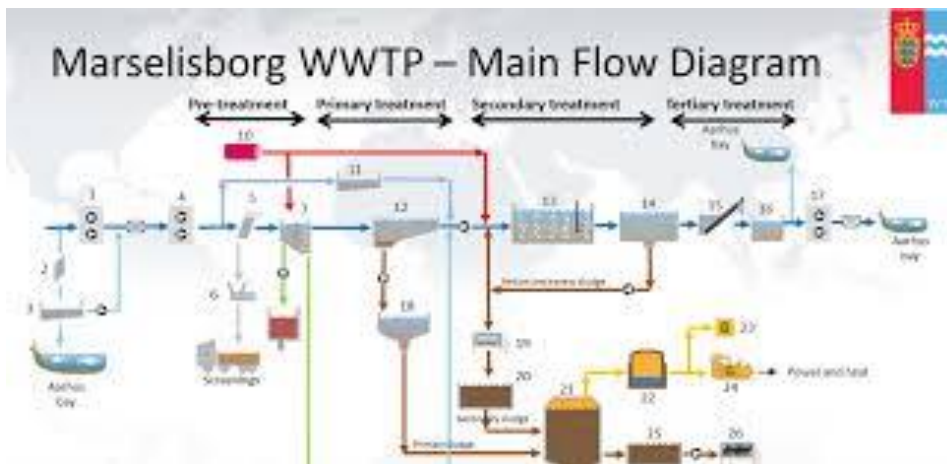
Measures and collects data in order to find leakages and deficient water quality in public water pipelines

Can be placed at any location

Enables water utilities to monitor their water networks in a way that suits their needs

<https://www.aquarobur.se/>

1. Denmark, **PhosphorCare, Aarhus Water, 2013**



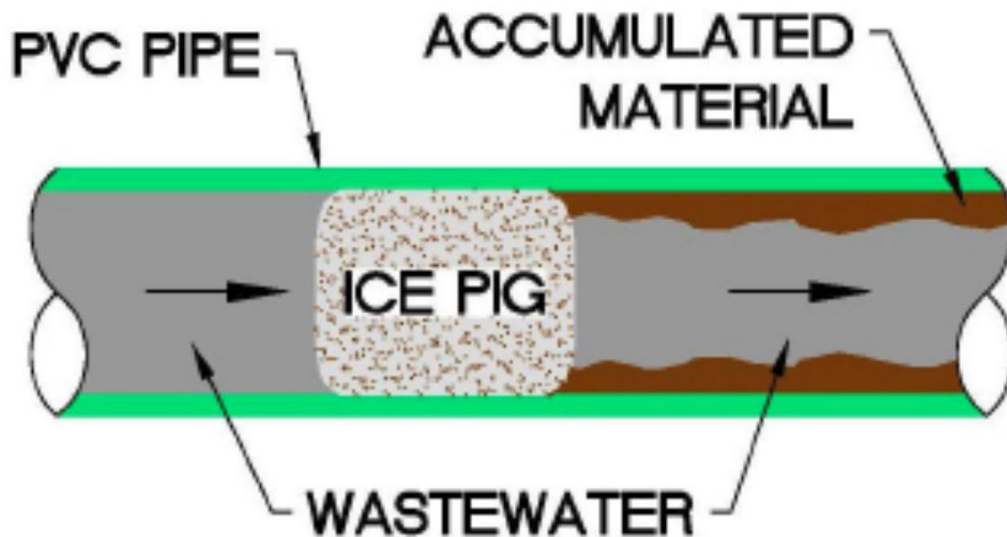
A simple technique to extract phosphorus from the wastewater and turn it into a valuable fertiliser

Recover phosphorus and nitrogen from wastewater through the use of a separate reactor

The outcome is a granulate that contains phosphorus, nitrogen and magnesium

<https://stateofgreen.com/en/partners/aarhusvand/solutions/from-wastewater-to-valuable-fertiliser/>

2. Denmark, **Ice Pigging, EnviDan, 2016**



A new method in which slush-ice replaces the traditional rinse process and purge pig when cleaning water pipes
After cleansing the water, the iron and manganese content, as well as substances that bind to these, such as arsenic, are decrease

Ensures resource savings in drinking water

<https://www.envidan.com/cases/ice-pigging>

3. Denmark, **The Waterway, EnviDan, 2015**

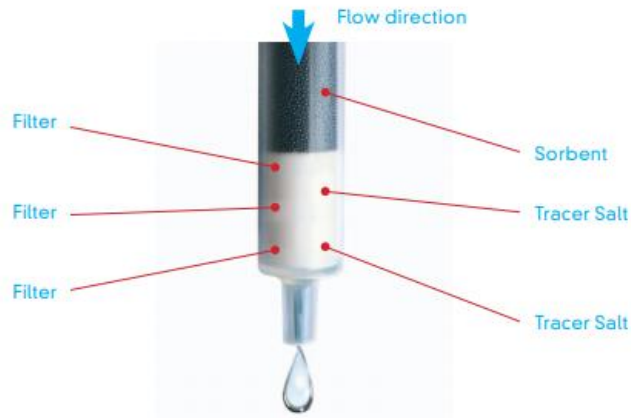


A new water handling road system focusing on both everyday and stormwater rain on the city's surfaces

The runoff is handled in an aesthetically water flume in the middle of the road in a new v-profile which, if necessary, controls stormwater and provides security to the properties along the street

<https://www.envidan.com/cases/the-waterway>

4. Denmark, **SorbiCell**, Viborg, 2015



Patented environmental sampling method, SorbiCell, efficiently monitors water quality and enables tracing of hazardous chemicals in wastewater to their source, including hydrocarbons, chlorinated solvents, pesticides and heavy metals

<https://www.eijkelkamp.com/files/media/downloads/ap-127203esorbicellcan.pdf>

1. Poland, **AQT Water, Argo PI, 2015**



ARGO wastewater treatment plant can operate in any terrain and climatic conditions, without using electricity, does not emit CO₂ into the atmosphere and ensures high wastewater treatment efficiency

It ensures high long-term treatment efficiency (as much as 95%)

The solution can be adapted to locally produced tanks

<https://greenevo.gov.pl/en/technologies/non-electricity-domestic-wastewater-treatment-plant/>

2. Poland, **Rovapo, Symbiona**, 2006



A closed water circulation technology that minimizes energy consumption and resulting waste products

It is a technology as clean as the water it generates

ROVAPO™ also means a high level of water recycled for repeat use (up to 95%)



<https://greenevo.gov.pl/en/technologies/rovapo-technology/>

3. Poland, **Wofil**, 2020



WOFIL offers technologically advanced water treatment systems using ozone technology and free radicals, without the need to apply artificial chemical substances such as chlorine, coagulants or potassium permanganate

Can be used in many branches of industry, such as in drinking water production for municipal water systems, bottled water and beverages, as well as in producing water for cooling applications in the energy industry

<https://greenevo.gov.pl/en/technologies/ozone-water-treatment-systems/>

4. Poland, **Epp, EkoWodrol, 2011**



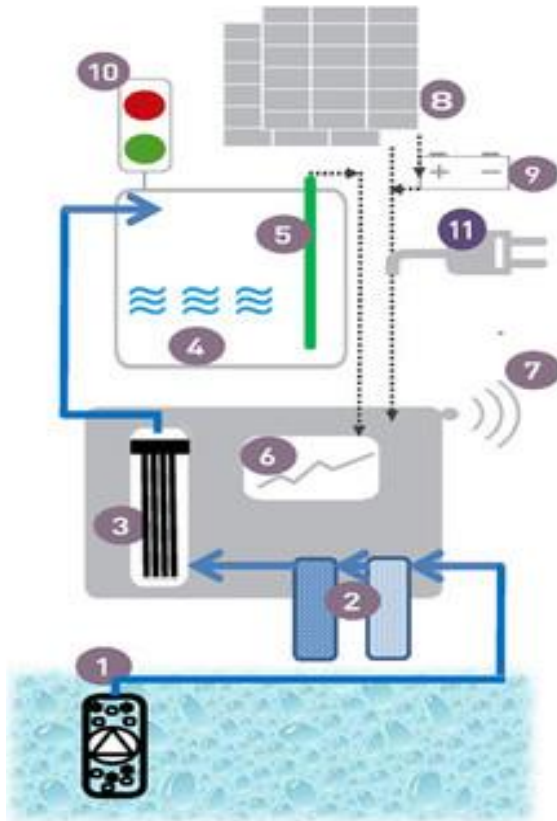
EPP pneumatic sewage pumping station

refreshes pumped sewage, prevents them from putrefying and guarantees safe and hygienic operation

The technology enables to entirely empty the pressing pipeline using the same device, which shortens the time sewage remain in the pipelines

<https://greenevo.gov.pl/en/technologies/epp-pneumatic-sewage-pumping-station/>

1. Germany, **INTEWA, GWT, 2019**



Automatic, solar driven water disinfection system for up to 20.000 liter per day pure, disinfected, safe and healthy water

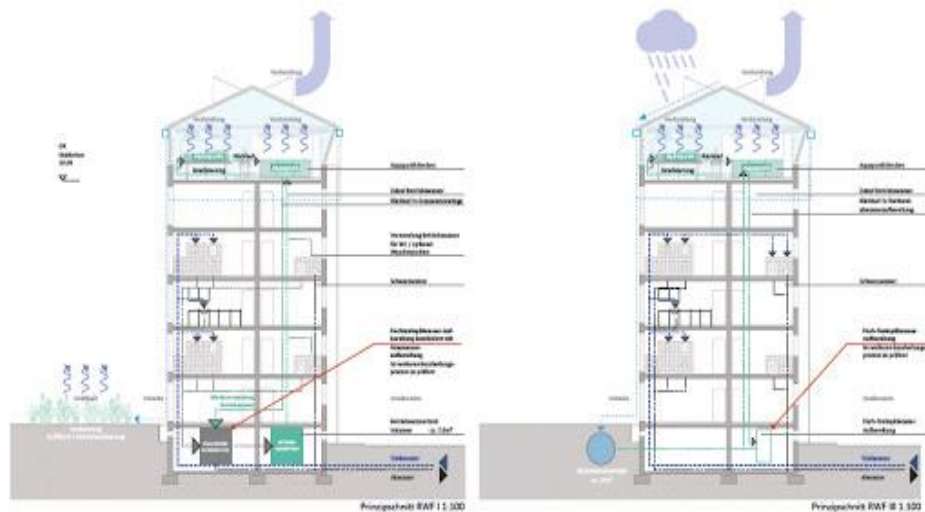
Is working fully solar driven, but can also be used on grid or with a back up battery

No chemicals have to be added in

The water quality can be monitored by App

<http://www.germanwatertechnologies.com/how-it-works>

2. Germany, **Roof Water-Farm, 2014**



ROOF WATER-FARM combines wastewater treatment technology with food production

Hydroponics and aquaponics are used as building-integrable, water-based farming strategies

Company envisions and tests decentralised wastewater treatment and use in buildings and residential areas together through greenhouse plant and fish production on city rooftops

<http://www.roofwaterfarm.com/en/ueber/>

3. Germany, **Hydropower shaft plant, TUM,** **2020**



A novel hydropower shaft plant which preserves river-based habitats

The shaft encasing the turbines has been sunk 2.5 metres down into the riverbed

Water flows down into the shaft to drive the turbines and is returned to the river under the weir

<https://www.tum.de/nc/en/about-tum/news/press-releases/details/36147/>

4. Germany, **ANDRITZ**, 2019



Double-suction submersible motor pumps for sustainable post-closure care and maintenance in mines

530 cubic meters of water per hour are conveyed by the pumps from the depths of the former mine over a head of 830 meters

<https://www.andritz.com/pumps-en/success-stories/mining/pumps-solutions-for-mines-in-germany>

THANKS

Thank You for attention!

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