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AQUARES NEWSLETTER

NEWSLETTER ABOUT THE PROJECT, CURRENT INFORMATION, PROGRESS AND
UPCOMING ACTIVITIES

SUPPORTING WATER EFFICIENCY THROUGH WATER REUSE

“AQUARES – Water reuse policies advancement for resource efficient European regions” is a project under the INTERREG Europe programme that aims to improve the implementation of regional development policies and programmes in the partnership regions, to increase resource efficiency, green growth, and environmental performance management in the water reuse sector. The project brings together 10 public organizations from 9 different European countries with the aim to achieve better water management of water resources through water reuse.

During the second and third semester of the project implementation partners have advanced with the research activities on Water reuse technologies and practices and the monitoring practices used in the territories of the partnership. The first study visit to transfer experience on water reuse implementation and monitoring issues was organized by region Lodzkie in October in Poland. There was organized the steering group meeting of the partners project AQUARES in region Lodzkie.

THE AQUARES PROJECT CONTENT

- News from AQUARES regions
- Coronavirus situation
- Reuse of reclaimed water
- New water project in Malta
- Innovative technologies in Latvia
- Postponed activities



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NEWS

Biotop pool in the Pardubice region – Biotop Hlinsko

Biotop pools are now "in". They have relatively low purchase costs, inexpensive operation and are still friendly to both nature and health-sensitive vacationers. Hlinsko biotope originated on the site of a former swimming pool, for the summer season 2020 will be finished.

An advantage over classic "chemical" swimming pools, which we also know from the surroundings of Hlinsko, it is a fact that the habitat is suitable for allergy sufferers. The purification process is a balanced natural system. It uses the biological functions of plants for natural water purification without adding chemical and disinfectants. Natural bathing habitat is a facility that gently handles with water, which at present it is becoming more and more important. And at the same time it is an element that significantly affects its surroundings microclimate. In general, that water in the habitat due to "work" plant is two to three degrees warmer than it would be under the same conditions in a classic swimming pool.

"The new swimming pool has been talked about for 40 years, and in the end we chose a modern biotope instead of an aquapark. This is due to four times lower investment, cheaper operation, and also to allergy sufferers who are sensitive to chlorine," said Mayor Miroslav Krčil.

Source: www.chrudimsky.denik.cz



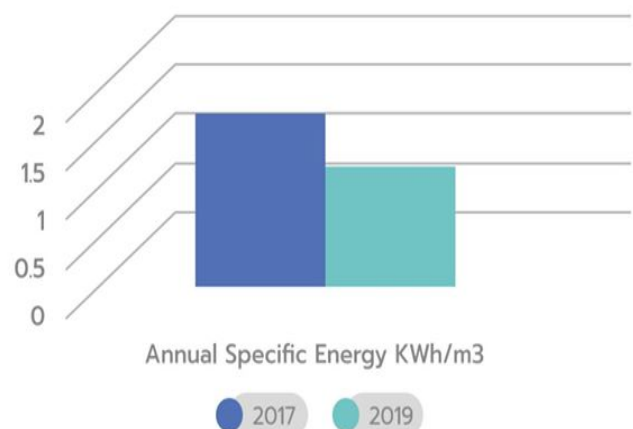
Improvements in the Operation of the Gozo WWTP

The Wastewater treatment plant (WWTP) located at "Ras il-Hobz" in the island of Gozo was inaugurated in 2008, as part of a national programme intended for ensuring the treatment of all the wastewater generated in the Maltese islands. The Ras il-Hobz treatment plant addressed all wastewater generated in the island of Gozo.

The plant treats 6,000 m³ of wastewater per day and has been a key factor in ensuring the improvement in the quality of the coastal waters around the island of Gozo.

Since 2017, the Water Services Corporation has embarked on an upgrading programme for the treatment plant, involving the entire treatment system. Following the implementation of these measures the energy consumption of the WWTP has dropped down by 32% since 2017. In 2017 the energy consumption was of 1.76 kWh/m³, while throughout 2019 the energy consumption was reduced to 1.2 kWh/m³. Another important result achieved through this upgrading programme saw the WWTP achieve a reduction of 43% of sludge production when compared to 2017.

These results improve the operation of this plant, which forms part of the water reclamation programme in the Maltese islands.



Source: Water Services Corporation

1st Public consultation meeting in Slovenia | Trebnje, November 26, 2019

Municipality of Trebnje organised a first public consultation meeting about water reuse in Slovenia on November 26, 2019. The participants discussed about needs and potentials for water reuse in Slovenia. There were inspiring presentations delivered by representatives from research organizations, ministry, NGOs, regional development centre, public and private companies followed by fruitful discussion more than 50 participants.

The meeting was opened by major of Trebnje, Alojzij Kastelic who emphasized why this topic is becoming more and more actual also in Slovenia. Hydrogeographer Dr. Tajan Trobec delivered a hydrogeographical overview of the vulnerability of water supply in Slovenia. Dr. Milenko Roš, a leading researcher of wastewater treatment, showed us some examples of domestic and foreign water reuse. Dr. Robert Reinhardt from [AlgEn](#) highlighted a potential of algal technologies for waste water treatment and Jani Jordan represented monitoring system for detecting leaks [AquaLink](#).

In the second session, the presentation from the ministry about regulation of the water reuse in Europe and its implementations in Slovenia was followed by presentation from the Regional Development Centre about sustainable development of spas (project [HealingPlaces](#)) and operation of wastewater treatment and water management municipal utility of Trebnje. The panel discussion was followed with a visit of a wastewater treatment plant in Trebnje.

Sustainable water management is becoming more and more actual due to climate change and pollution. Slovenia is lacking a unified and comprehensive regulatory framework, which would serve as basis for promoting water reuse in various sectors. For now, main identified sectors where water reuse policies implementation can be beneficial are agriculture (artificial wetlands), urban environment (blue-green infrastructure, recreation and irrigation, firefighting purposes) and industry (machinery and equipment washing).



Photo: A panel discussion at public consultation meeting in Trebnje, Slovenia (foto: Municipality of Trebnje)

IEA Foundation participates in the '1st DANA Forum in the Eastern Spain'

Cold-Front effects in the Mediterranean Area

Due to the floods, that the Region of Murcia suffered last autumn, the '1st DANA Forum in the Spanish East' was held. It was organized by the Ministry of Development and Infrastructure of Murcia and celebrated on Tuesday, January 21. About thirty experts, from different fields, could analyse this meteorological phenomenon to find solutions that would minimize its effects, as well as promoting measures against floods. Among these experts, is to be remarked the collaboration of the IEA Foundation through its director Sr Francisco Cabezas Calvo Rubio, who moderated the first agenda item entitled "Dana Phenomenon. Are we facing an extraordinary phenomenon? Do we have the regulations for this?"

The event was inaugurated by the Minister of Development and Infrastructure of the Region of Murcia, Sr José Ramón Díez de Revenga, in which he appealed to the collaboration between all administrations such as the Ministry of Water, Agriculture, Livestock, Fisheries and Environment of the Region of Murcia, whose director-general Sr Sebastián Delgado Amaro stating that "we have to advance in the specific regulations of flood risk management to be really effective".

Likewise, Sr Jesús García, head of the Planning Office of the Segura River Basin Authorities, has indicated on social networks: "Once the urgent works of the Dana of 2019 have been undertaken, it is time to review the plans underway and look for actions not executed because they were in a second level, and now we will execute them as long as there are funds for it".



Surface flow constructed wetland for nutrient retention from agricultural catchment

Constructed wetlands are implemented to improve water quality, to offer a habitat for biological diversity support in simplified, uniform areas and also as water storage for water reuse in dry summers. The pilot object in Latvia was built at intensively used agricultural area to retain nutrients and suspended solids. The main practical benefits are a nutrient amount retained in artificial waterbodies and a knowledge based on scientific studies and monitoring data in pilot sites. The stakeholders including farmers and legal beneficiaries, can use a good practice advice. The pilot site constructed wetland demonstrated a good example in reuse of water recourse as providing irrigation from wetland as a water reservoir during dry periods of a year. Wetland capacity served to reduce flooding risks in adjacent areas during spring flood or heavy rains.



This project was initially implemented as a wastewater treatment method. The monitoring showed good results in water quality improvement and the primary target was achieved. Recreational, social and economic benefits for the landowner were indicated during the exploitation period. Farmer used the wetland as an open water basin for swimming and fishing. Greenhouse plans were irrigated regularly with water from the wetland, while other watercourses were dry during the vegetation period. Other farmers are using this example to meet water quality requirements and to adapt to the changing climate.

CORONAVIRUS SITUATION

Drinking Water and Wastewater during Coronavirus SARS-COV-2

Regulatory act and relevant guidelines for the protection of public health by the SARS-COV-2 corona in the drinking water supply and wastewater treatment systems have been recently issued by the Ministry of Health of Greece. The provision of safe drinking water and the appropriate management of wastewater play a very important role in protecting public health from any disease, including COVID-19 infection. The legislation and guidelines include extra measures for drinking water and wastewater management in order to ensure public health protection.

Regarding drinking water, based on current data, the risk of SARS-COV-2 coronavirus infection for water systems is and the virus does not survive for long periods of time in water for human consumption or in wastewater. However, to avoid any risk, the protection of water supply systems from contamination should be ensured. Protection applies to all water supply systems from the source of water intake, transport pipelines, treatment system, pumping station, storage tanks, disinfection, and distribution network to the point of compliance with the quality parameters of drinking water legislation. The protection includes measures that already exist in most cases, such as measures for the protection of water sources, adequate maintenance of water systems, disinfection and regular monitoring of residual chlorine and other parameters of drinking water etc.

Moreover, although the data so far do not adequately substantiate the assumption that the virus is transmitted through wastewater, it is recommended that disinfection is applied in all cases. Regular monitoring of treated wastewater should take place and personnel should follow the hygiene and safety protocols in their workplace and

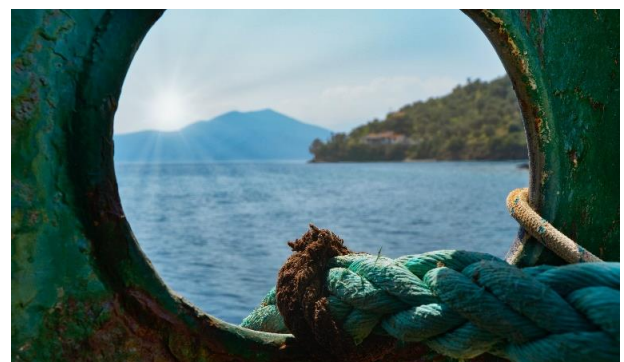
Water treatment and COVID-19 in Murcia Region & Spain

ESAMUR that provides the wastewater treatment service in the Murcia Region, has signed a sector position document regarding the action against COVID-19 with the AEAS, a professional non-profit association for the promotion and development of the scientific, technical, administrative and legal aspects of urban water supply and sanitation services.

SUMMARY AND STRATEGY OF THE SECTOR

The current level of protection of sanitation operators is considered adequate with the protection measures already in place, based on the information issued to date by WHO and other reference organizations, as well as the results of the first scientific studies on the presence of the SARS-CoV-2 virus in the purification process. As has been insisted, the recommendations on personal hygiene and the adequate use of protection means in current work procedures is the best way to be protected against the virus and COVID-19, as it is already against other viruses.

Specific monitoring of SARS-CoV-2 in waters is not considered necessary, since the indicators currently controlled already provide a sufficient level of protection and cover the risk of the presence of this virus, taking into account its low probability in the treated water and the recognized sensitivity of the virus to the applied treatments. Current disinfection practices (chlorine and derivatives) ensure an adequate level of protection of drinking water against this and other viruses, in the unlikely event that it could become present in natural catchment waters. The supplies have preventively reinforced the chlorination level of drinking water, following the recommendations of the health authorities and of different international reference organizations.



Spanish National Research Council develops a Method to alert the Coronavirus based on an Analysis of Wastewater

Researchers from Spanish National Research Council (CSIC) and the University of Valencia, Spain, have developed a molecular analysis system that can alert the circulation of the SARS-CoV-2 coronavirus (causing Covid-19 disease) in a community from the study of its wastewater. The analysis system, which could be useful as an epidemiological surveillance method, has been tested in six treatment plants in the Region of Murcia and in three treatment plants from the Valencian metropolitan area. This analysis has shown that disinfection treatments in treatment plants are effective in eliminating the presence of the virus.

This new analysis system has been developed by researchers from two CSIC centers, and a mixed center from the University of Valencia and the CSIC. In Valencia, the analyses have been carried out by researchers from the Agro-chemistry and Food Technology Institute (IATA-CSIC), led by Gloria Sánchez and Walter Randazzo, and from the Institute for Integrative Systems Biology (I2SysBio), a joint center of the CSIC and the University of Valencia, headed by Pilar Domingo-Calap and Rafael Sanjuán.

The analyses in the Region of Murcia have been achieved by the Sánchez and Randazzo team from IATA, together with the team controlled by Ana Allende and Pilar Truchado, from the Center of Edaphology and Applied Biology of the Segura River (CEBAS-CSIC).

In the Region of Murcia, the study was launched by the Public Entity for drainage and waste water treatment of Murcia (ESAMUR) in collaboration with the research groups of IATA-CSIC and CEBAS-CSIC. "The research groups have been taking samples since March 12 and during this time more than 60 samples have been analysed at different points in the six treatment plants in the Region, including effluent, secondary treatment output and effluent,"

explains the researcher Ana Allende, from CEBAS-CSIC. Allende states that the first objective was to determine if there was any presence of the SARS-CoV-2 coronavirus in the wastewater, as well as the efficacy of the disinfection treatments implemented in the treatment plants.

Meanwhile, in Valencia, these studies have been carried out in collaboration with Pinedo 1 y 2 and Quart-Benàger WWTP, which are dependent on the Ministry of Agriculture and Climate Emergency, Generalitat Valenciana. Indeed, the researchers are analysing samples collected on different dates before the detection of the first patients of Covid-19 in Spain. "The objective is to establish this type of analysis as a method of epidemiological surveillance. Detecting changes in the presence of the genetic material of the virus in urban wastewater over time and at different points in the Community will give us information on the prevalence of the virus in the population and its progression," points out Pilar Domingo-Calap, researcher at the I2SysBio.

To carry out the study, the researchers have applied methods previously developed by the IATA-CSIC group to detect foodborne viruses. "The results obtained by molecular techniques to date, using samples from last week, detect concentrations of approximately 100,000 copies of the virus' genetic material per litre of residual water", details researcher Gloria Sánchez, from IATA-CSIC. These levels are comparable to those obtained in the United States. Other recent studies in the Netherlands and China have also detected the presence of SARS-CoV-2 in wastewater. The study has verified that the disinfection treatment manages to eliminate the presence of the virus.



Water reuse for agricultural irrigation: European Council adopts new rules

On 7th of April 2020, the European Council through a written procedure adopted a Regulation that facilitates the use of urban wastewater (reclaimed water) for agricultural irrigation, among other things.

These rules will help Europe to cope with the consequences of climate change. The Regulation, fully in line with the concept of circular economy, will improve the availability of water and promote its efficient use. Ensuring that sufficient water is available for agricultural irrigation, particularly during heat waves and the most intense sequences, can help prevent crop loss and food shortages.

Given the disparity in geographical and climatic conditions between Member States, each Member State can decide whether or not to use reclaimed water for agricultural irrigation in all or part of its territory.

This decision implies that the Council has adopted its position at first reading. The Regulation must now be approved by the European Parliament at second reading, before it can be published in the Official Journal.

Czech Republic

Czech water managers are not preparing for any changes yet, because they allegedly have no significant demand from farmers. "Pilot projects are under way for the reuse of treated wastewater outside the scope of this regulation, for example, Pražské vodovody a kanalizace has implemented a wastewater treatment solution for the golf area, other applications can be found primarily in the industrial sector." According to the secretary of the Agrarian Chamber of the Czech Republic Jan Doležal, however, farmers would welcome the possibility of using purified waste water. However, he also pointed out the lack of water infrastructure: "In many places in the Czech Republic there is a problem with the condition of the transmission and irrigation system, or it is not clear who should maintain them.

Source: www.mzp.cz

New water project in Malta and Gozo

Malta's New Water Programme is actively introducing reclaimed water to address the water demand of the agricultural sector, and hence ensure that agriculture reduces its impact on natural freshwater resources. During 2019 works continued on the development of this project, enabling increased accessibility to New Water.

Promotion and engagement with the farming community have ensured that 70 new farmers have requested access to the New Water network. Of these 20 are in Malta (Malta-north area), and 50 in Gozo. This translates in a 12% increase in the total number of users having access to New Water.

In order to facilitate access to New Water, five new automated dispensing points were commissioned, 2 in Gozo and 3 in Malta-North region. These new distribution facilities are also reflected in an increased uptake of New Water, where the distributed volume in 2019 increased by 55% over 2018.

Furthermore, civil works on the laying out of an extensive distribution network in the Malta-South region continued. On completion this network will have a total pipe-work length of 40km and include 240 automated dispensers.



The Skanste project – a successful example of water reuse

Latvia needs more new, innovative technologies in the field of water reuse. More than 200 projects related to water reuse have been launched and are being implemented in Europe. Various initiatives in the field of water reuse have been initiated also in Latvia.

One of such initiatives is the open water drainage system project developed within the framework of the construction project "The 1st stage of revitalisation of Skanste Territory". As part of the Skanste public outdoor concept, an open rainwater management system has been set up in the urban pasture area and sustainable rainwater collection and storage channels have been established in the surrounding area. The developed project also included landscaping and greening solutions as well as hydrological modelling. Collected water in the pond will be used for recreational purposes, watering of greenery and also, if needed, for firefighting.

Skanste project contributes to green and sustainable growth of the economic potential of the area and creation of new jobs.

The total budget of the project is EUR 19 930 606, of which EUR 7 448 868 is co-financed by the European Regional Development Fund (ERDF). The project is being implemented from 2015 till 2022.

Skanste occupies the largest, currently underdeveloped area near the historical centre – the former floodplain meadows around the Sarkandaugava tributaries. Despite its advantageous location, pastures of the former city have been left empty due to high groundwater levels, flooding and unsuitable ground bed, as the historically most significant watercourse – Sarkandaugava – is filled.

The Skanste area has weak bottom soils, which are unfavourable for construction. Soil filling and complex drainage measures were also required due to the low and flat terrain and the difficulty of storm water runoff.

More info about Skanste project → <https://skanste.lv/en>



THE PARTNERSHIP



Regional Government of Murcia, Ministry of Water, Agriculture, Livestock and Fisheries, General Direction of Water



Ministry of Environment and Energy, Special Secretariat for Water



Lodzkie Region



The Regional Development Agency of the Pardubice Region



Energy and Water Agency



Lombardy Foundation for the Environment



Water Board of Oldenburg and East Frisia



Euro-mediterranean Water Institute Foundation (FIEA)



Association "Baltic Coasts"



The Municipality of Trebnje



Región de Murcia
Consejería de Agua, Agricultura,
Ganadería y Pesca



OOWV



Občina
Trebnje

STEERING GROUP MEETING, GREEK, SPRING 2020

The Greek partner, Ministry of the Environment and Energy General Secretariat for the Natural Environment and Water, should have hosted the fourth steering group meeting in Greece in the fifth semester 2020.

There are no specific date and place due to the coronavirus pandemic situation, thus we will inform you about the workshop and steering group meeting through the Interreg Europe webpage or social media.

STUDY VISIT

The Study visit to transfer experience on Water reuse implementation and monitoring issues was cancelled due to the coronavirus pandemic situation.

Partner from the Czech Republic, The Regional and Development Agency of Pardubice Region, did not announced the postponed date, because of the restriction all over the Europe.

We will inform you about the Study visit through the Interreg Europe webpage or social media.

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