Join us in raising Political and Social Awareness on Water Environmental Challenges where you are

Become a follower city
Preparing for climate change realities that are impacting our water resources is a defining challenge of the 21st century that requires adaptation strategies at local, regional, national and global levels.

No matter where you live in the world, as populations grow and natural environments become degraded, ensuring that everyone has access to sustainable water resources and sanitation services is an increasing concern. There is an urgent need for our communities to tackle the critical problems presented by water stress and to improve and consolidate our water resource management.

**Empower your city**

Empower the citizens of your municipality with “Political and sOCial awareness on Water EnviRonmental challenges” (POWER).

In this document you will learn more about how to become a POWER Community Follower City and how to benefit from the exchange on sustainability issues through the latest information and communications technologies (ITC).

This brochure tells you more about:

- The POWER Water Community platform and how to tailor it to your own local needs regarding water or other sustainability issues.
- Examples of the POWER Water Community platforms in key demonstration cities.
- Sharing innovative solutions of urban water management from your city in the POWER Best Practice Repository.
- Implementing the socio-political initiative “ConCensus” to mobilise community action in your municipality.
- Conducting a City Blueprint and Governance Capacity Framework Analysis of your municipality.

The POWER project approach is not just limited to water issues only. It can be applied to any sustainability related challenge. In fact, the city of Hanau is a follower city currently assessing the application of the platform for climate change and urban heat waves.
Water, as all earth’s resources, is a finite resource that is essential to life and to every aspect of our societies. Despite this fact, many people today do not consider their consumption or the supply of this precious resource.

Local water authorities around the globe are on the front line to address the challenges of climate change to mitigate the impacts. For that reason, cities must ensure the sustainable supply, use, reuse and management of water now; a crucial time in our history to rethink our relationship with this essential resource.

In this context, ICT facilitated tools, such as water community platforms, can contribute to the efforts of cities to become sufficiently water-wise in facing these increasing water-related challenges.

The “Political and sOcial awareness on Water EnviRonmental challenges” (POWER) Project provides a water community platform support tool to help drive sustainable behaviour by raising collective awareness of the environment and the consequences of our actions. This innovative open source ICT solution offers regions, cities and users a ‘link and scale up’ strategic network effect.

By facilitating the sharing of knowledge, public opinion and best practices through open consultation on the POWER Water Community platform, the aim is to support social actions to be mobilised through local strategies in response to climate change.

Raise the importance of your municipality’s water issues with POWER

“More than 2 billion people live in countries experiencing high water stress. The situation will likely worsen as populations and the demand for water grow, and as the effects of climate change intensify.” United Nations, 2018
The overall goal of POWER is to share knowledge and experience and to co-create solutions for water scarcity, security, quality and water consumption-related issues in different EU local authorities, thus creating an important tool for EU water policy.

The POWER Water Community platform (also known as a digital social platform (DSP)) of a given city is made available through a dedicated website and an accompanying POWER Water Communities mobile app.

The city’s POWER Water Community platform is a communication tool that enables top-down, middle-out and bottom-up interaction among all stakeholders, and is therefore designed to be used by:

- Local community members
- Activists
- Volunteers
- Municipal officials and representatives
- Water professionals and experts
- Regional, national or international-level policymakers
- Politicians
- Other stakeholders

How it works

Each POWER Water Community platform provides:

1. Information on water environmental challenges and on best-practices of water management relevant to local communities in an accessible and timely manner.

2. Channels of interaction and sharing knowledge among citizens and local communities with the municipality and between each other. These communication channels help to raise awareness and stimulate engagement and action through the provision of information and user interaction.

3. Functionalities that integrate information and knowledge visualisation with gamification features to encourage interaction and participation.

4. A facility for peer-to-peer (P2P) exchanges as information on local needs, personal experiences and knowledge are shared that enable the identification and sharing of community-driven best practices that stem from local experience.
The POWER Water Community platform structure

The POWER Water Community platform is designed in an open and modular way, organised in three main tiers that address the specific needs of the different actors and target groups.

For administration, these tiers are internally referred to as the:

- HUB (the information and content management backend),
- PUB (the public web portal),
- MOB (the mobile app).

The HUB is the content management backend. Here, all relevant adjustments can be made and information uploaded so that the frontend (see example picture above) looks the way the city wants it to fit its theme. Additionally there is a POWER app, which allows use by smartphone or tablet.
NON-POTABLE WATER, CONTRACTING & EXPORTATION, ASK FOR IT!

The non-potable water network in Sabadell
Uses infrastructure and future
Supply - tank truck
Success
Your non-potable water network

+ Documents

Learn & get points
Total Points
0
Know
0
Know to Act
0
See more...

WHERE WOULD YOU LIKE THE NON-POTABLE WATER NETWORK TO GROW?

*Title*

Description or attach picture/files.

Submit>

Get involved

Follow
Share
Comments & tips
Post a new post
Surveys & checklists
Register all

Zona Cova Alta (Montell) 27th January 2019 - 13:33 PM

No conocía la propuesta de agua regenerada, la arrel de llegar a este artículo, sería muy interesante poder tener acceso a una conexión a esta quinta agua. Podríamos utilizar esta quinta agua para regar las zonas verdes de la comunidad.

Comment ID 182 | leke

Reading your very interesting article, I was wondering if you encountered in Sabadell any problem of social acceptance about using treated wastewater. I'm working in several projects for which we face political barriers concerning the standardization of this new type of resource.

POWER Water Community platform features

Your POWER Water Community platform clearly identifies your city.

Your water issue is displayed via a list of relevant “challenges”, provided on the start page.

By clicking “About” the start page leads the user to a sub-page which gives a brief overview of your municipality’s water issues and the aim of your POWER Water Community platform.

You can create challenges in the HUB with the information relevant to your users.

By clicking the challenges in the PUB and MOB, the user not only finds information, but the challenge subpages also offer special functions to stimulate interactive participation. As such, you can provide quick links for users to:

- **Have a say** – allowing the user to comment on the issue;
- **Follow** – allowing the user to follow the issue and be informed of its developments;
- **Share** – allowing the user to choose from a list of sharing options, such as email, Facebook® or Twitter®.

The interactivity of the POWER Water Community platform means that registered users can follow certain topics, share them with other non-registered users and comment on the contents of the topics. These comments can also be commented on, shared, evaluated and recorded with further information such as uploaded documents or images.

Challenges are presented as tiles on the Water Community platform homepage.

Anyone who registers on the POWER platform can comment, share and “like” an article. Documents and pictures can also be uploaded to the comments section by users.
For a user to have a say or follow an issue, they must log in which requires them to register. An unregistered user can explore a challenge, but this user cannot participate, for example by leaving comments or collecting points to see a knowledge increase.

As a city representative, this registration process allows you to moderate participation and have full control of what is published on your city’s POWER Water Community platform.

If a registered user wishes to share a contribution, you first receive a request for activation. Once activated, contributions are made publicly visible on the website.

User registration

Special features to inform and involve users

Each challenge contains text about your overall issue but you can also integrate interactive elements such as uploaded documents and location-based services at local, regional or global level, such as Geographic Information System (GIS) maps of relevant water or climate change ‘hot spots’.
Gamification and knowledge visualisation are important pillars of the POWER Water Community platform that serve two main goals:

1. **To support citizens** in gaining personal, social and political awareness of water and sustainability related issues by drawing their attention to certain content, encouraging user contribution (e.g. comments) and facilitating action in the platform (e.g. attending city events on related sustainability topics).

2. **To enable municipalities** to track the awareness levels on different sustainability topics in their respective communities.

The POWER Water Community platform combines different gamification elements and mechanisms such as progress feedback, points, badges, and rewards. For example, by performing different actions on the platform such as reading an article, commenting, sharing content on social media, users gain more knowledge on the sustainability issue and are awarded points for their efforts and know-how.

Users can monitor their progress through the gamified visualisation charts presented on the platform.
In addition to the individual charts, there is a community preparedness chart that shows the overall awareness and knowledge of the platform’s registered users. With this community chart, a user can compare their own progress to their community’s progress.

Different communities working on the same topics can also compare their overall progress amongst themselves. Moreover, this collective visual community preparedness chart is also an instrument for the city to monitor which areas of awareness, knowledge and action (personal, social or political) that users are most engaged with, and hence identify where additional action is needed.

This illustration shows a registered user’s view of how their gamification score reflects their personal, social and political awareness of water and sustainability-related issues. This shows individual progress achievements and a comparison with peers.
Examples of how the POWER Water Community platform can work for your city

The following examples describe the use of the POWER Water Community platform by the partner Key Demonstration Cities: Jerusalem (IL), Leicester (UK), Milton Keynes (UK), and Sabadell (ES). These cases illustrate how they use the POWER Water Community platform in their communication and engagement with stakeholders.

Key Demonstration City: Leicester, England
Challenge: “Do you know your flood risk?”

Through the Leicester Water Community, Leicester City Council aim to inform citizens about the flood risk in the city, the sources of flooding and increase awareness of flood risk management. This includes the measures the city council and other agencies are taking to reduce flood risk and steps that citizens can take to protect properties, businesses and their occupants. These topics are expanded upon in the “what can you do against flooding”, “Prepare yourself for flooding”, “What is the city of Leicester doing to prevent flooding?” and “Sustainable Drainage in the City” challenges.

In order to provide citizens with the best possible information, an interactive map has been included in the “Do You Know Your Flood Risk?” challenge, which presents the city’s flood zones, hotspots and critical drainage areas.

Users can either search the map by postcode or manually select the area on the map that is relevant to them and check their own flood risk.

Further guidance, local strategy and policy information is provided in the attached documents section, which are freely available for download. In addition, real time data widgets presenting local river gauge data and latest flood warnings have been integrated into the challenge. With this, users can use the live data widgets and the information presented on other challenges on the Leicester Water Community to understand their flood risk and react accordingly.

Under the section “Get ready to act!” a link has also been integrated that directs users to the Environment Agency, where they can register for flood warnings and take further steps to protect themselves, their properties, businesses and communities against flooding.

The Leicester Water Community is empowering citizens to understand, manage and mitigate flood risk, to better protect their properties, businesses and communities.

For more information or to join Leicester Water Community, visit: https://leicester.power-h2020.eu/
Give your citizens the opportunity to share their experience associated with the water challenges of the city.

The Leicester Water Community platform home screen.

Map showing flooding areas.

Realtime data used to show flood risk.
Small changes make a big difference and if everyone changes their daily routines, water consumption in MK will go down. The challenge explains how to check for leaks and how to get a free survey from the local water authority. There is also a section on UK water legislation for anyone who wants to know more about building regulations and water regulations and strategies.

Targeted challenges on the subject of water scarcity have been created to get people thinking about ways they can save water in their own homes and gardens. These challenges have been successful in generating a variety of innovative water saving suggestions from MK citizens. Suggested ideas have included everything from turning off the tap while brushing your teeth, and avoiding flushing the toilet unnecessarily, to watering plants with cooled water that has been used to sterilise baby bottles.

Further information on schools projects, the MK Sustainability Strategy and how to prevent plastic getting into water environments have also proven to be popular with Milton Keynes water communities.

For more information or to join the Milton Keynes Water Community, visit: https://milton-keynes.power-h2020.eu

Key Demonstration City: **Milton Keynes, England**

**Challenge: “Water Scarcity”**

Although the United Kingdom is surrounded by water and more than enough seems to fall from the sky, the efficient use of water is becoming increasingly important.

Milton Keynes (MK) is in the dark brown patch in the eastern central region of the adjacent Meteorological Office map. As one of the fastest growing populations in one of the driest areas of the UK, it is critical that MK citizens are encouraged to use less water so that the community can grow without the risk of water shortages.

The MK Water Community platform has a section about what actions citizens can take to use less water such as take shorter showers and collect rainwater to wash the car and water the garden.
The Milton Keynes Water Community platform home screen.

Why should I join the community?

- to learn why we need to save water in Milton Keynes
- to get ideas and tips for reducing water consumption
- to participate in workshops on water sustainability
- to help create a smarter water community

FIND OUT HOW

Map illustrating that Milton Keynes is in the driest region of the UK. (Courtesy of the UK Meteorological Office)

This picture of a Milton Keynes Council employee checking a water meter was used as part of a funny caption competition. This was published with a 'don’t try this at home' message along with reassurance that most meters are much easier to read than this example shows.
The POWER project is working with Jerusalem’s water utility company, Hagihon, to help reduce the municipality’s non-revenue water (NRW). This NRW is water that has been “lost” before it reaches the customer, which can be “physical” losses such as through pipe leaks, and in “apparent” losses, such as through theft or metering inaccuracies. Because high levels of NRW are financially detrimental to the water utility as well to the quality of the water itself, Hagihon is encouraging customers to save water and use the POWER Water Community platform to share information.

Key Demonstration City: Jerusalem, Israel
Challenge: “Increasing awareness of water issues in Jerusalem”

Residents are also learning how to irrigate public, community and private gardens with smart irrigation as a way of reducing water usage through monitored care of plants by automatic application of the right amount of water in the right place at the right time. This water saving activity has been adopted as part of the POWER ConCensus process where citizens have demonstrated that they want a greener city and are adopting water saving measures to manage their gardens.

To complement Jerusalem’s sustainable approach to water, Hagihon and the POWER project are managing an educational programme that teaches 6000 students a year about sustainability, water conservation and ecology. The curriculum is conducted in 3 languages: English, Hebrew and Arabic to students from elementary to high school to provide them with information about water in Jerusalem and Israel. In teaching them how to save water at home as well as how to test water quality through various parameters, the next generation of Jerusalem citizens are being equipped to continue more sustainable water practices and ensure their municipality is being provided with good quality water.

For more information or to join Jerusalem Water Community, visit: https://jerusalem.power-h2020.eu
Many issues that municipalities face require long term policies divided into coherent stages in order to be implemented. The ConCensus approach can produce decisions that lead to environmentally sustainable municipalities through a process of citizen engagement.

ConCensus is a mechanism developed by the project partner EURECAT that rewards engaged citizens with direct involvement to oversee the development and implementation of a specific municipal policy. The application of ConCensus is a vehicle through which a local administration, having already created a long-term roadmap with the active contribution of citizens, and interacting with representatives of the research and private sectors, can implement this roadmap. The POWER Community platform provides an ideal means of communication and participation within the ConCensus process.

Our ConCensus success story

In July 2019, the first Water Forum took place in Jerusalem. Under the leadership of ConCensus, all managers responsible for urban irrigation and representatives of green NGOs took part. As a result, all 74 community gardens in Jerusalem will be connected to the city’s municipal water network, provided that all gardens use intelligent and water-efficient irrigation methods. Through the POWER project, this is the first time that community gardens have been recognized by the City of Jerusalem, making an important contribution to the development of the city.

Further information about ConCensus can be found at: https://doi.org/10.1016/j.futures.2018.06.012
Sabadell, a city near Barcelona with more than 200,000 inhabitants, is employing its POWER Water Community platform to address issues of water quality and water reuse. The Water Community platform is a useful tool to provide information about these topics to citizens in different formats, including: maps about the present and projected network of reused water, conferences in video, successful examples of the efficient management of water, etc. The platform is also an effective communication tool that provides a space for the public to comment and share their opinions.

All citizens, regardless of their age, can be addressed through the Water Community platform. For example, the challenge “Educassa, education from the beginning” has school-teachers and children as the main target audience.

Educassa is an environmental education programme that Companyia d'Aigües de Sabadell (CASSA) has been developing for 25 years to promote responsible water consumption. The programme content has been made for children aged from 3 to 14 years with activities tailored according to each age group.

The challenge gives information about all the activities of EDUCASSA so that teachers and parents can know exactly what students are going to do and contact CASSA to participate in the programme with their school. It also provides some online activities that complement the students’ visits to water treatment plants inside the EDUCASSA programme. These activities can be tests to help them understand what has been explained during the visit or for example, interactive mini-games to apply a practical insight into the way a treatment plant functions. The challenge also has space for teachers to leave their comments after the activities, so that CASSA can use the feedback to keep improving the EDUCASSA programme.
Within the framework of the POWER project, the topic of water quality and water reuse in Sabadell was examined in more detail by scientists from the KWR Water Research Institute and the University of Utrecht in the Netherlands. Sabadell is actively trying to counteract the problem of water scarcity both through technical systems and by raising awareness among the population. Using findings from the institutions' City Blueprint and Water Governance Capacity Framework tools, the research is complementing the city’s work towards a better water supply.

As a result, Sabadell not only wants to focus on the advantages for the city and its population, but also wants to share its experiences with other cities as a POWER Water Community in order to support municipalities and regions worldwide as a multiplier in successfully improving their water supply.

For more information or to join Sabadell Water Community, visit: https://sabadell.power-h2020.eu/
Despite the numerous solutions available to address our water, waste and climate challenges, often it is governance barriers that inhibit solutions being applied. In recognising that good water governance is essential to address urban water challenges, POWER partners, KWR Water Research Institute and the University of Utrecht, have developed a framework to measure ‘water governance capacity’ within three key areas: ‘knowing’, ‘wanting’ and ‘enabling’.

The scores are broken down into 27 indicators which are assessed in a range from very limiting (– –) to very encouraging (++). The indicator scores are the result of research and interviews to examine how well organisations, multi-level governments and stakeholders collaborate in solving a water challenge.

By analysing the governance barriers, the tool provides visual identification of key areas of concern and helps cities and organisations to find strategic planning solution pathways that will help to address existing challenges effectively and economically.

As can be seen from the example of a Water Governance Capacity Analysis diagram above, the main barriers that are the focus of follow-up steps and solution pathways can be seen at a glance where the blue areas are at reduced levels.

For more information about the City Blueprint and the Water Governance Capacity Framework and how it can be used as a means of overcoming challenges and sharing knowledge between cities facing similar water, waste and climate challenges, visit: https://www.power-h2020.eu/water-governance-address-urban-water-challenges/
City Blueprint

Extreme weather events resulting from climate change are forcing cities to adapt their water cycles because the cost of inaction is very high. How can a city quickly grasp which elements of its water-cycle are already sustainable and which need to be adapted?

To answer this question the KWR Water Research Institute and the University of Utrecht, developed City Blueprint: a practical communicative tool that can help cities lay out the proper path towards sustainability. The power of City Blueprint lies in the fact that cities can, with relatively little effort, learn to recognize how their watercycle services can be improved.

In the POWER best practice repository, we collect leading examples and promising concepts for addressing water-related challenges. These come from the POWER Cities as they share local insights with a global audience to exchange ideas.

This repository is an important pillar of the POWER strategy for collaborative learning as we connect the local spheres of cities with the outside world in engaging a wide community of experts, professionals and other stakeholders.

The most active cities which contribute most examples and are engaged in many discussions are awarded with gold, silver and bronze badges and listed among the Top 10 POWER Cities in our interactive map on the POWER Cities Network.

If you have leading examples of practices or technologies to improve the urban water management in your city, share them with us and other cities around the world, and become part of the community-driven best practice repository.

Become a POWER Follower City

Develop a POWER Digital Social Platform (DSP) for your community and bring together your citizens, experts and all those who care about your city’s water issues to provide new impetus and know-how to improve your water management. The POWER DSP can be applied to wider sustainability issues too.

Visit https://www.power-h2020.eu/follower-cities/ for more information or contact us to see how you can empower your municipality to combat its environmental challenges.

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