

D.T.3.2.5 BUDAPEST ACTION PLAN (AP)

Action Plan recommendations for
Budapest FUA

06 2022





1. INTRODUCTION

This action plan builds on the set of strategic recommendations for the Budapest FUA in the City Water Circles project. The document aims to present, in a non-exhaustive way, the actions that can be undertaken up to 2030, with the coordination of the actors involved in the project and the involvement of other stakeholders.

In the research preceding the preparation of the strategic proposals for the project, the interviewed experts identified human capacity and cost constraints that are major problems in Hungary, and which are particularly affecting the public sector. Accordingly, in consultation with potential partners, this document has focused on low-budget, high-impact but small-scale actions.

Some of the actions are specifically aimed at socialisation, as a change in public attitudes is essential to build a more sustainable water management system. In addition to awareness-raising, however, it is essential to reform the regulatory environment in certain areas, which the district authorities may be entitled to do by means of regulations. The iterative implementation of bottom-up and top-down initiatives supports the partnership between local authorities and citizens, builds trust and creates the potential for long-term cooperation.

However, the need for comprehensive, long-term planning is a key issue, and the third group of actions can therefore be developed primarily through strategy development and strategy formulation.

Together, these three strands aim to address the problem that, although sustainable water management investment options and design methods exist and are known to experts, this knowledge base is not always available to the public and clients. As these projects are often slower and more costly, they can only become standard practice if the right long-term approach is taken.

As many aspects of the water management system can only be addressed through a holistic approach, horizontal actions covering all areas have been formulated in addition to the specific strategic objectives set out in the project. These aim to address the problems described above in a more comprehensive way through legislation, strategy development and social communication, or a combination of these. These horizontal objectives are closely linked to a number of specific objectives of the Action Plan proposal.

2. VISION OF BUDAPEST IN THE CWC PROJECT

In the future, Budapest will implement a coordinated, sustainable, circular water management adapted to climate change, supported by near-natural technical solutions (e.g. green roofs, greywater and rainwater retention systems) and natural area management.

Municipalities play a key role in information and knowledge sharing, in the development of new regulations, in setting a good example through institutional investments and pilot projects, and in supporting local actors in implementing solutions for circular water management in the private sector.

Measures to increase green spaces (e.g. green strips along roadsides, along tram tracks, permeable parking spaces, green walls and green roofs) contribute to climate-adaptive urban management and water retention in the city.



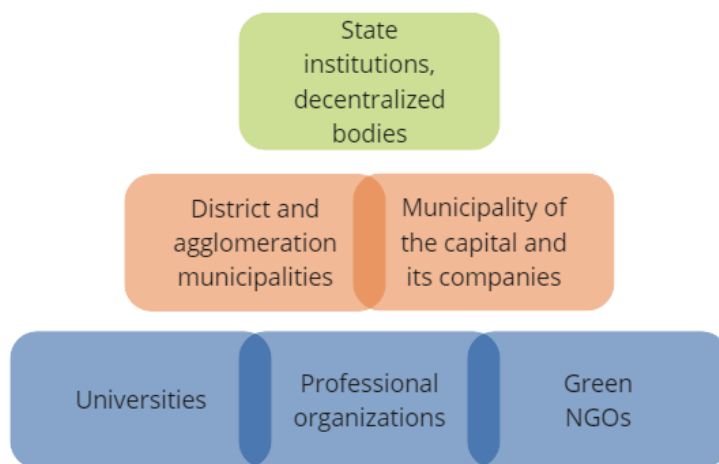
3. BUDAPEST'S STRATEGIC OBJECTIVES IN THE CWC PROJECT

Budapest's strategic objectives are:

1. On-site water retention
2. Ensuring good quality of water bodies
3. Increase efficiency in water use and distribution
4. Recycling and reuse of wastewater and greywater
5. Promoting water reuse and sustainability
6. Preventing floods

4. INTEREST GROUPS

Based on the expert interviews conducted during the research, the stakeholder groups that may have decision-making, implementation or opinion-making powers in relation to the challenges and developments of water management in the capital were identified. Based on the expert interviews, the research team identified 7 stakeholder groups: state institutions, decentralized bodies; district and agglomeration municipalities; municipality of the capital and its companies; universities; professional organizations and green NGOs.

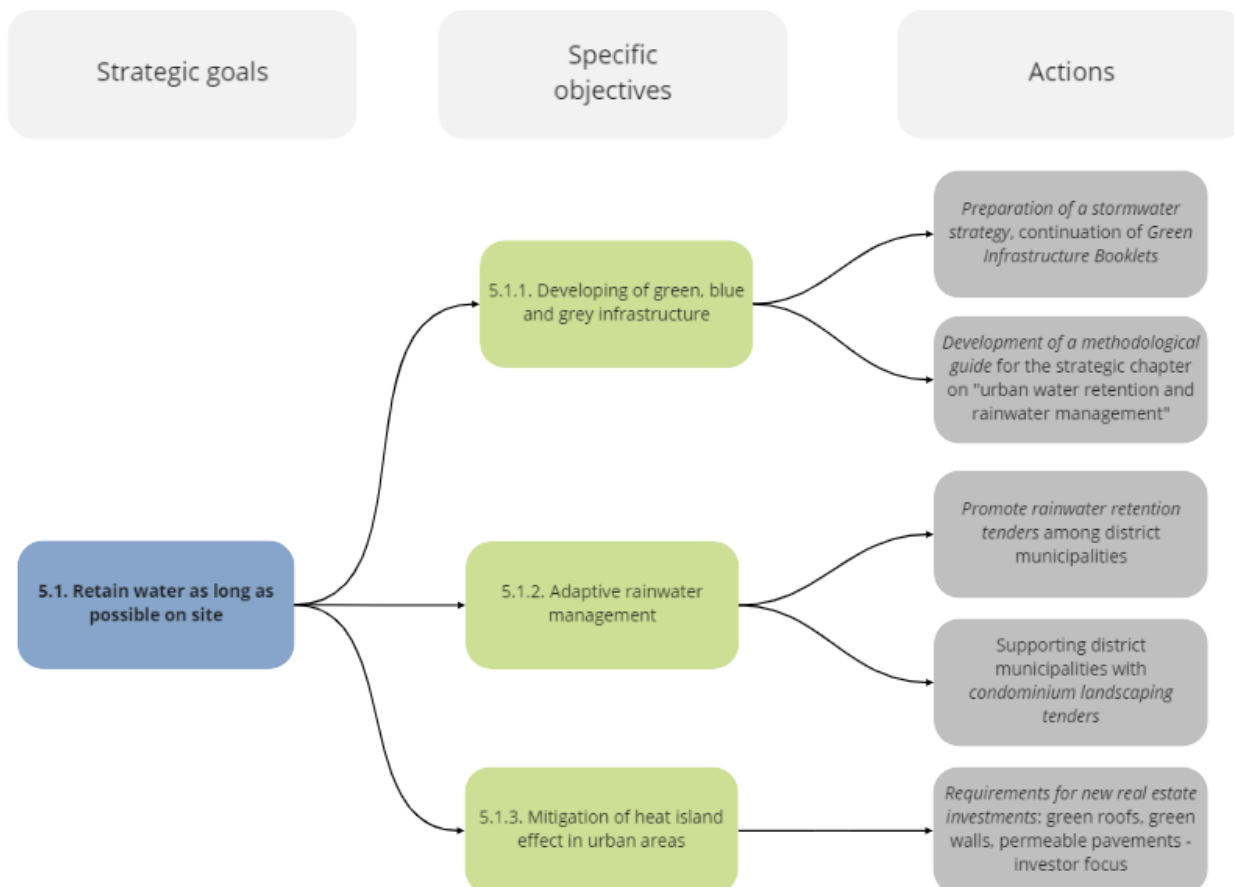


5. ACTIONS

The scope of actions will be defined in line with the strategic and related specific objectives. For each identified action, the following elements have been developed: associated objective, background and challenges, description of the action, expected result, institution responsible for implementing the action, other partner organisation(s) involved, timetable, estimated costs and resources required, target indicator.



5.1. Retain water as long as possible on site



5.1.1 Developing green, blue and grey infrastructure

STRATEGIC OBJECTIVE: 5.1. Retain water as long as possible on site	
SPECIFIC OBJECTIVE: 5.1.1 Developing of green, blue and grey infrastructure	
NAME OF THE ACTION: Preparation of a stormwater strategy, continuation of Green Infrastructure Booklets (Zöld Infrastruktúra Füzetek)	
Type: strategic planning	
Background to the action, challenges	Currently, a number of different strategy documents address urban planning and development challenges related to stormwater, wastewater, greywater and drinking water. A "water action plan" could be modelled on the action plan already prepared by the Municipality of Budapest focusing on the maintenance and development of green spaces in the capital. It is of paramount importance for the strategy to plan blue, green and grey infrastructure in an integrated way.



Description of the action	To create a coherent strategic environment, a stand-alone stormwater strategy needs to be developed, and the continuation of the Green Infrastructure Booklets could support this process, with a focus on blue and grey infrastructure opportunities. <i>Links to LIFE UrbanEnergy, Budapest Climate Strategy and SECAP</i>
Expected result	A planning document specifically addressing water management in the capital, based on the experience of previous documents.
Responsible institutions, organizations	Municipality of Budapest
Other institutions, organizations to be involved	Budapest Sewerage Works (FCSM), FŐKERT, BFVT, district municipalities, agglomeration municipalities
Timeframe	2022-2030
Estimated cost requirements	No data available.
Indicator	Number of new Green Infrastructure Booklets. Number of municipal investments for sustainable development of blue and grey infrastructure.

STRATEGIC OBJECTIVE: 5.1. Retain water as long as possible on site	
SPECIFIC OBJECTIVE: 5.1.1 Developing of green, blue and grey infrastructure	
OBJECT OF THE ACTION: Development of a methodological guide for the strategic chapter on "urban water retention and rainwater management" Type: strategic planning	
Background to the action, challenges	Current district and strategy documents only partly concern municipal water retention as a climate adaptation and sustainability objective. The previous urban development concept and the integrated urban development strategy will be replaced by the sustainable urban development plan in the near future. It is important that urban water retention and run-off management is already included in a separate section of the forthcoming strategy documents.
Description of the action	There is a need for a clear methodological guide to the strategic issue of urban water retention, which sets out the main strategic, analytical issues in the context of a municipal development document. <i>Links to LIFE UrbanEnergy project</i>
Expected result	Setting out strategic objectives and actions for municipal water retention in urban development documents.
Responsible institutions, organizations	Municipality of Budapest, district municipalities



Other institutions, organizations to be involved	Hungarian Chamber of Engineers, other professional organizations
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	The number of completed or new strategies that already include urban water retention as an integrated objective.

5.1.2. Adaptive rainwater management

STRATEGIC OBJECTIVE: 5.1. Retain water as long as possible on site	
SPECIFIC OBJECTIVE: 5.1.2 Adaptive rainwater management	
NAME OF THE ACTION: Promote rainwater retention tenders among district municipalities Type: bringing society on board	
Background to the action, challenges	Due to its high urban density, Budapest has to face with significant rainfall during heavy storms, which is difficult to handle even with a separate and combined sewerage system. Most of the rain falls on residential property, so retention and drainage of runoff in these areas is a priority.
Description of the action	<p>Precipitation falling on paved surfaces on residential property can be retained by a cheap and simple infrastructure solution, and the collected precipitation can be used to water and cool the area. Many districts in Budapest already use rainwater retenting devices to encourage residents to use and retain rainwater. The aim is to raise awareness of run-off and reduce the strain on the sewer network, particularly in areas with separate sewer systems in the suburbs.</p> <p>The KöZöld Forum, which has been active for several years, can also coordinate the exchange of experience on rainwater retention projects. A comprehensive analysis of the volume and impact of rainwater retention can be carried out every few years with the Budapest Sewerage Works (FCSM).</p> <p>Connections to Zugló SECAP</p>
Expected result	Every district in Budapest should have a residential rainwater retention programme.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	NGOs



Timeframe	2022-2030
Estimated cost requirements	HUF 5 million / year / district
Indicator	Number of applications for residential rainwater retention by 2030.

STRATEGIC OBJECTIVE: 5.1. Retain water as long as possible on site	
SPECIFIC OBJECTIVE: 5.1.2 Adaptive rainwater management	
NAME OF THE ACTION: Supporting district municipalities with condominium landscaping tenders Type: bringing society on board	
Background to the action, challenges	Due to its high urban density, Budapest has to face with significant rainfall during heavy storms, which is difficult to handle even with a separate and combined sewerage system. Most of the rain falls on residential property, so retention and drainage of runoff in these areas is a priority.
Description of the action	<p>Another key tool for urban water retention is to increase the water retention capacity of condominium sites. Precipitation falling on paved surfaces in condominium ownership can be retained by increasing the intensity of green space with low-cost solutions. Many districts in Budapest are encouraging condominium communities to green their courtyards through courtyard greening campaigns. The aim is to raise public awareness and increase the water retention capacity of the area concerned, but there is also a community-building function associated with the greening of condominium yards.</p> <p>Impact monitoring is essential for this action, after greening the yards of condominiums.</p>
Expected result	All districts in Budapest should have a condominium landscaping programme.
Responsible institutions, organizations	Municipality of Budapest, district municipalities, condominium communities in the capital
Other institutions, organizations to be involved	NGOs
Timeframe	2022-2030
Estimated cost requirements	HUF 5 million / year / district
Indicator	Number of condominium landscaping projects to be completed by 2030.



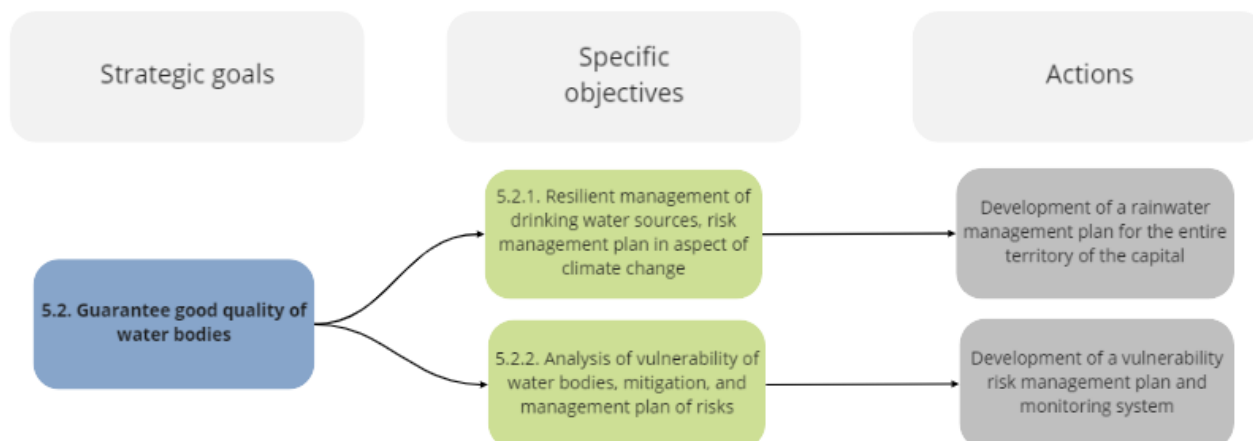
5.1.3. Mitigation of heat island effect in urban areas

STRATEGIC OBJECTIVE: 5.1. Retain water as long as possible on site	
SPECIFIC OBJECTIVE: 5.1.3 Mitigation of heat island effect in urban areas	
NAME OF THE ACTION: Requirements for new real estate investments: green roofs, green walls, permeable pavements - investor focus	
Type: legislation	
Background to the action, challenges	<p>There are many good examples of regulatory incentives for water retention in Budapest districts (e.g. green roofs are mandatory for new flat roofs, cisterns are required after a certain size of concrete area). These regulations are not uniform at the level, or are not always known. Some existing regulations could serve as an example for other districts.</p> <p>The district authorities also have the possibility to take water management issues into account when issuing local regulations and when drafting their local regulations about constructions. This could be an answer for new construction projects, if forward-looking solutions and parameters are regulated to respond to specific challenges. The capital city can play a coordinating and supporting role in this area, helping to harmonise regulations and acting as a facilitator to promote and demonstrate existing solutions.</p>
Description of the action	<p>Large emitters (industry, shopping centre, office buildings) could be interested in developing delayed discharge solutions or secondary use. When renovating car parks in private buildings: paving the car parks with permeable paving, bringing the road/parking surfaces in line with the existing green surfaces, using appropriate filters and allowing run-off from paved surfaces to drain onto green surfaces (with drainage or partial drainage if necessary) could be an option.</p> <p>There is scope to standardise existing construction regulations and land-use plans with the facilitation of the capital, making extensive use of existing good examples.</p> <p><i>Links to Budapest Climate Strategy and SECAP, Zugló SECAP</i></p>
Expected result	Uniform regulation in the capital (municipality and districts) for new real estate investments: green roofs, green walls, permeable pavements.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	corporate partners, professional organizations, NGOs
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.



Indicator	Uniform regulation in the capital (municipality and districts) for new real estate investments: green roofs, green walls, permeable pavements. Number of investments built under the indicated strategy.
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5.2. Guarantee good quality of water bodies



5.2.1 Resilient management of drinking water resources, climate change risk management plan

STRATEGIC OBJECTIVE: 5.2 Guarantee good quality of water bodies	
SPECIFIC OBJECTIVE: 5.2.1 Resilient management of drinking water sources, climate change risk management plan	
NAME OF THE ACTION: Development of a rainwater management plan for the entire territory of the capital	
Type: strategic planning	
Background to the action, challenges	<p>The capital city and its agglomeration currently have sufficient quantity and quality of drinking water, but during the dry season, water yields decrease while demand for water increases.</p> <p>One aspect of the problem is that some Danube wells may temporarily stop producing, reducing the amount of water that can be extracted, and the energy demand for water extraction may increase dramatically during drought periods. Also, water demand, especially on the residential side, could increase significantly during this period.</p> <p>Within the boundaries of the capital, there hasn't yet been a need to restrict the use of water for irrigation, but the agglomeration's municipalities should also be taken into account, some of which are also supplied by the utility supplier of Budapest (Budapest Waterworks) from wells on the Danube. In some agglomeration municipalities it is already common practice to restrict watering during drought periods.</p>



	Another challenge is the average level of the Danube, which is falling year on year. Here, the primary and most important objective is to protect the spawning waters and maintain the integrity of Szentendre Island.
Description of the action	One of the most important tools to tackle the problem could be a rainwater management plan for the whole capital, taking into account the different winter-summer water levels and the differences in capacity at different levels of the Danube. <i>Links: the Budapest Climate Strategy and SECAP, LIFE UrbanEnergy project</i>
Expected result	Comprehensive rainwater management plan for the whole of the capital, taking into account the effects of climate change
Responsible institutions, organizations	Municipality of Budapest, Budapest Sewerage Works (FCSM)
Other institutions, organizations to be involved	Budapest Waterworks, General Directorate of Water Management, district municipalities
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	The amount of drinking water withdrawn and extracted at different water levels.

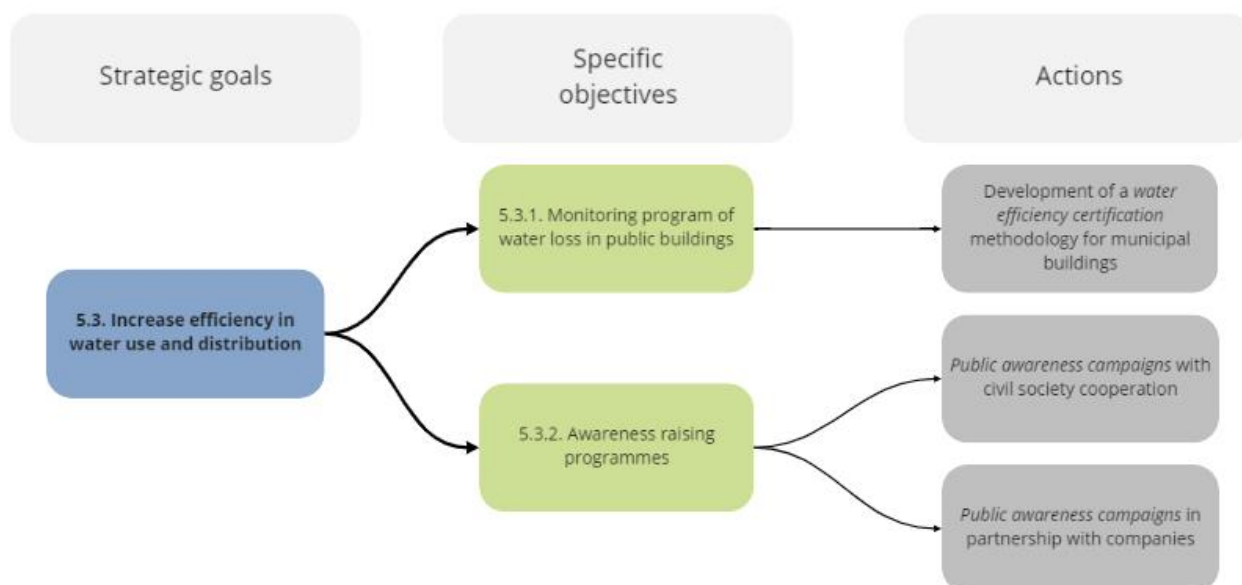
5.2.2 Analysis of vulnerability of water bodies, mitigation, and management plan of risks

STRATEGIC OBJECTIVE: 5.2 Guarantee good quality of water bodies	
SPECIFIC OBJECTIVE: 5.2.2 Analysis of vulnerability of water bodies, mitigation, and management plan of risks	
NAME OF ACTION: Development of a vulnerability risk management plan and monitoring system Type: strategic planning	
Background to the action, challenges	<p>In the capital and its agglomeration drinking water is currently available in sufficient quantity and quality. However, currently in all areas drinking water purity water is used typically (e.g. for irrigation of green areas, cooling of roads and tracks), which requires significant abstraction, particularly during periods of drought.</p> <p>In addition, heavy rainfall, which is increasing as a result of climate change, is overloading the sewage system, which can lead to spills and overloading of sewage treatment plants. In this case, the undiluted effluent will be discharged directly into the Danube, causing localised disturbance and environmental damage.</p>



Description of the action	There is a need to develop a vulnerability risk management plan, including possible adaptation measures to the increasing frequency of extreme weather events due to climate change.
Expected result	Developing a comprehensive vulnerability risk management plan and monitoring system for the entire area, taking into account the impacts of climate change.
Responsible institutions, organizations	Municipality of Budapest, District Municipalities, Lechner Knowledge Centre, Municipality of Hegyvidék
Other institutions, organizations to be involved	Budapest Sewerage Works (FCSM), Budapest Budapest Waterworks, Lechner Knowledge Centre
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of discharges, quality of diluted effluent discharged.

5.3. Increase efficiency in water use and distribution



5.3.1 Monitoring water use and losses in public buildings

STRATEGIC OBJECTIVE: 5.3 Increase efficiency in water use and distribution
SPECIFIC OBJECTIVE: 5.3.1 Monitoring program of water loss in public buildings



NAME OF THE ACTION: Development of a water efficiency certification methodology for municipal buildings	
Type: strategic planning	
Background to the action, challenges	<p>A significant challenge is loss of water from public buildings, unnecessary over-use and one-time use of water.</p> <p>The current situation is linked to usage of clean drinking water in all areas.</p> <p>One of the current approaches is to use water effective, which, from a structural point of view, is mainly embodied in practical water-saving solutions (e.g. taps with percolators). As these investments are essentially low costs, they are increasingly being used in municipal, corporate and private sector buildings.</p>
Description of the action	<p>A solution to this general challenge could be the development of a professional evaluation system that reviews the water efficiency characteristics of a building. In the long term, a water efficiency certificate could be developed along the lines of the energy certificate, which would evaluate the water use characteristics of a building according to a set of criteria. The certificate would also allow for monthly or annual monitoring on a building-by-building basis, which could encourage the owner to use water more effective and to invest in improvements. It should be stressed that the design should use technical solutions applicable to local, medium-term climate conditions.</p> <p>It is important to follow the model that is already in relation to SECAPs, the role of raising the awareness of the employees of the individual buildings, promoting consumer-side savings, and explaining the use of water-saving solutions applied is also important here.</p> <p>Reference should be made to the sustainable rating systems (e.g. BREEAM) also used by the Hungary Green Building Council (HuGBC) and the GreenDependent Institute's Energy Neighborhoods programme.</p>
Expected result	The methodology would quantify the amount of water used by public buildings, the rate of water loss. In the long term, the water efficiency certificate could entitle operators to discounts depending on the results.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	professional organizations, NGOs
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Changes in the amount of water consumed, number of regular checks.



5.3.2. Awareness-raising programmes

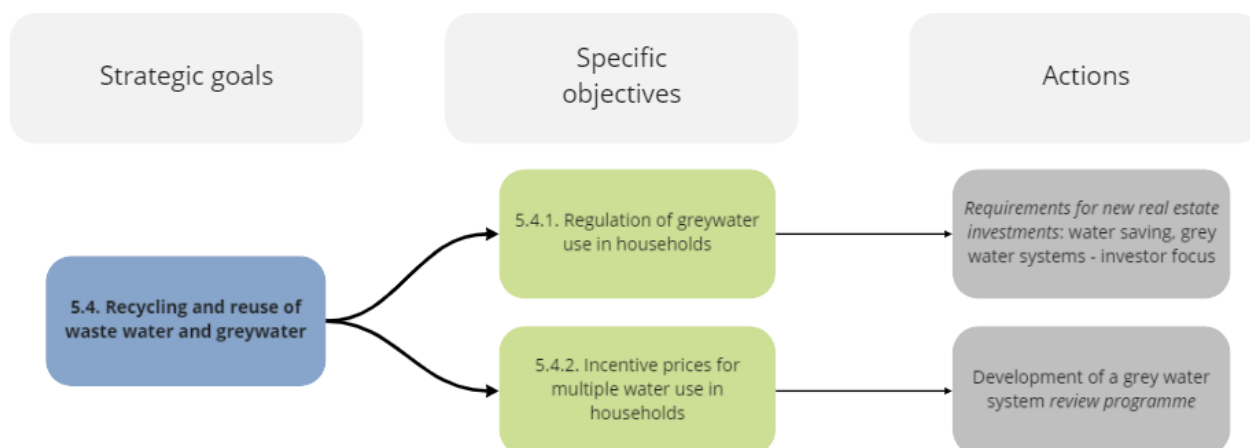
STRATEGIC OBJECTIVE: 5.3 Increase efficiency in water use and distribution	
SPECIFIC OBJECTIVE: 5.3.2 Awareness-raising programmes	
NAME OF THE ACTION: Public awareness campaigns with civil society cooperation Type: bringing society on board	
Background to the action, challenges	<p>Awareness-raising is one of the most important tools, as many problems come from a lack of knowledge among the population. The main challenge for awareness-raising by local authorities is to reach and activate diverse groups of the population. In contrast, NGOs with a high degree of social embeddedness are strong precisely in mobilising different groups of the population, so this type of cooperation between the public and civil sectors has considerable potential.</p> <p>In the framework of strategic cooperation with green NGOs based in the capital, it is possible to implement or promote awareness-raising campaigns, public tenders, information on current events in the capital, or to collect data and research among citizens.</p>
Description of the action	<p>In the framework of the action, the municipalities of the capital or the districts and the related thematic NGOs will carry out awareness-raising campaigns in cooperation with the public. These campaigns can be idea competitions, community planning events, climate-friendly competitions or awards, greening or renewal actions, green festivals, awareness-raising publications, green space adoption programmes, etc.</p> <p><i>Links: Budapest Climate Strategy and SECAP, Budapest and district community budgets, Radó Dezső Plan, Green Budapest Working Group</i></p>
Expected result	Implementation of practice-oriented public campaigns on an annual basis, led by the Municipality of Budapest and the district municipalities, with the involvement of NGOs
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of practice-oriented public campaigns implemented, number of local organizations involved, number of local residents involved.



STRATEGIC OBJECTIVE: 5.3 Increase efficiency in water use and distribution	
SPECIFIC OBJECTIVE: 5.3.2 Awareness-raising programmes	
NAME OF THE ACTION: Public awareness campaigns in partnership with companies	
Type: bringing society on board	
Background to the action, challenges	The main challenge for public awareness-raising by local authorities is to reach and activate diverse groups of the population. Cooperation between municipalities and large companies can lead to social responsibility actions that are mutually beneficial for both parties and can strengthen future public-private development partnerships (PPPs).
Description of the action	<p>Under the action, the municipalities of the capital or the districts and certain large companies will carry out awareness-raising campaigns and actions in cooperation with the public. These campaigns can be idea competitions, community design events, climate-friendly competitions or prizes, greening or renewal actions, green festivals, etc.</p> <p>Develop the Green Budapest Patronage and Sponsorship system: increased financial resources are needed to maintain and improve green spaces at a higher level. Building on international examples, a green space account or funding through a public charitable foundation should be developed to enable green infrastructure maintenance and development programmes and projects to attract entrepreneurial, private and other funding.</p> <p><i>Links to Budapest Climate Strategy and SECAP, Radó Dezső Plan, Budapest Global Cooperation</i></p>
Expected result	Implementation of practice-oriented public campaigns on an annual basis, led by the Municipality of Budapest and the district municipalities, with the involvement of profit-oriented companies and enterprises
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of practical public campaigns implemented, number of companies involved, number of local residents involved.



5.4. Recycling and reuse of waste water and greywater



5.4.1. Regulation of grey water use in households

STRATEGIC OBJECTIVE 5.4 Recycling and reuse of waste water and greywater	
SPECIFIC OBJECTIVE: 5.4.1. Regulation of greywater use in households	
NAME OF THE ACTION: Requirements for new real estate investments: water saving, grey water systems - investor focus	
Type: legislation	
Background to the action, challenges	<p>The district authorities also have the possibility to take water management issues into account when issuing local regulations and when drafting their local regulations about constructions.</p> <p>This could be an answer in relation to new construction, if forward-looking solutions and parameters are regulated to respond to specific challenges. The capital city can play a coordinating and supporting role in this area, helping to harmonize regulations and acting as a facilitator to promote and demonstrate existing solutions.</p>
Description of the action	<p>In the case of large emitters - industry, shopping centres, office buildings - users should be encouraged to secondary uses.</p> <p>Consolidation of the existing construction regulations and land-use plans with the facilitation of the capital city, wide use of existing good examples. Setting up the necessary expert team and organising consultation forums.</p> <p><i>Links to Budapest Climate Strategy and SECAP, Zugló SECAP</i></p>
Expected result	Consolidation of the district's existing construction regulations and land-use plans
Responsible institutions, organizations	Municipality of Budapest, district municipalities



Other institutions, organizations to be involved	-
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of investments made as a result of the harmonized regulation.

5.4.2. Incentive prices for multiple water use in households

STRATEGIC OBJECTIVE 5.4 Recycling and reuse of waste water and greywater	
SPECIFIC OBJECTIVE: 5.4.2. Incentive prices for multiple water use in households	
NAME OF THE ACTION: Development of a grey water system review programme	
Type: bringing society on board	
Background to the action, challenges	Currently, there are few grey water investments in Budapest - and in Hungary in general - and the regulatory environment is not conducive to their development. The investment typically requires a much more complex design, which makes the preparatory phase very expensive, and the implementation often lacks expertise, the operation is cumbersome and the return on investment is low. Stormwater retention and recovery has lower risks and higher benefits in terms of return on investment and should therefore be pursued. Damage from flooding can be prevented and water can be recycled.
Description of the action	By giving its preliminary opinion on the plans for the construction of a rainwater utilisation system, the Budapest Sewerage Works (FCSM) can contribute to ensuring that the investments implemented are actually operational and can be easily operated and maintained in the long term.
Expected result	Development of a plan document review programme, with a public discount
Responsible institutions, organizations	Budapest Sewerage Works (FCSM)
Other institutions, organizations to be involved	Professional organizations
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of plans submitted for consultation.



5.5. Promote multiple water use and water sustainability



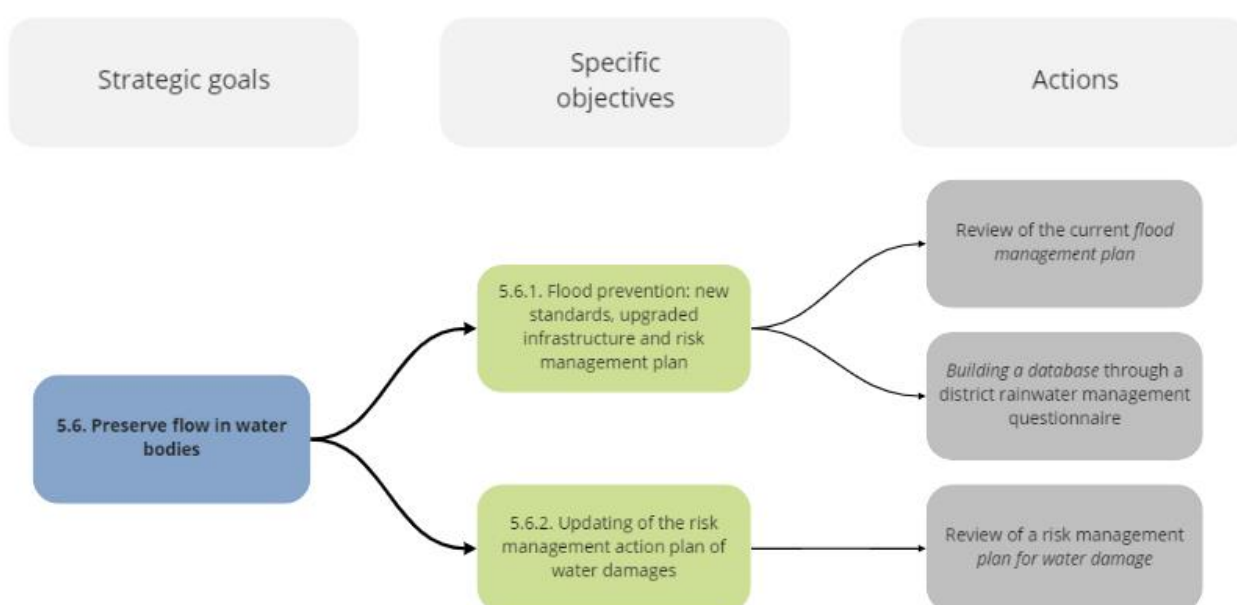
5.5.1 Leadership in climate adaptive urban water management

STRATEGIC OBJECTIVE: 5.5 Promote multiple water use and water sustainability	
SPECIFIC OBJECTIVE: 5.5.1 Leadership in climate adaptive urban water management	
NAME OF THE ACTION: Participation as a coordinating partner in direct EU tenders	
Background to the action, challenges	In addition to raising public awareness, networking of experts at international level is also tremendously important. The knowledge, experience and network of contacts accumulated during projects are often not channelled into a subsequent project, and working groups in different EU projects do not know about each other, so their results cannot be multiplied. It is difficult to transform the experience of participants in a project into "organizational experience" through organizational learning. Similarly, the exchange of knowledge and experience between organizations is often hampered, so that some projects running in parallel may have overlapping activities running in parallel without knowing each other.
Description of the action	The solution to this challenge could be for the Municipality of Budapest and the district municipalities to seek to participate in as many direct Brussels funded projects (LIFE, INTERREG, URBACT, UIA) as possible, and to build international contacts for the regular exchange of professional knowledge and experience.
Expected result	Successful implementation of direct Brussels-funded projects, either under or district management.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	professional partners



Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of newly applied and awarded LIFE, INTERREG, URBACT, UIA projects in the capital and its districts.

5.6. Preserve flow in water bodies



5.6.1 Flood prevention: new standards, upgraded infrastructure and risk management plan

STRATEGIC OBJECTIVE: 5.6. Preserve flow in water bodies	
SPECIFIC OBJECTIVE: 5.6.1 Flood prevention: new standards, upgraded infrastructure and risk management plan	
NEED FOR ACTION: Review of the current flood management plan Type: strategic planning	
Background to the action, challenges	Hungary is basically well developed in terms of flood protection, but to protect people and property become more difficult because of the increasing frequency of unpredictable climate phenomena and flash floods. However, it is also necessary to be prepared for the need to renew previously built infrastructure and to prioritise improvements to specific vulnerable sections.
Description of the action	A number of infrastructure developments, computer simulations and modelling can support flood protection.



	<p>It is important that, as flood protection developments are typically long-term (50-100 years) and will determine the future and image of the areas concerned, which are typically of high natural and aesthetic value, they require careful consideration, planning and, where possible, public consultation, and the application of ecological considerations is also top importance.</p> <p>A complex, regularly reviewed flood protection plan that considers the effects of climate change can help both to establish a coherent spirit for long-term development and to minimise unexpected risks.</p> <p><i>Links to the Budapest Climate Strategy and SECAP</i></p>
Expected result	Regular review of the flood protection plan (due: every 4 years)
Responsible institutions, organizations	Budapest Sewerage Works (FCSM)
Other institutions, organizations to be involved	Municipality of Budapest, Budapest Waterworks, General Directorate of Water Managament
Timeframe	2022-2023
Estimated cost requirements	1-5 million HUF
Indicator	Number of changes and improvements as a result of the review.

STRATEGIC OBJECTIVE: 5.6. Preserve flow in water bodies	
SPECIFIC OBJECTIVE: 5.6.1 Flood prevention: new standards, upgraded infrastructure and risk management plan	
NAME OF THE ACTION: Building a database through a district rainwater management questionnaire Type: strategic planning	
Background to the action, challenges	<p>One effective way for the capital city to build databases to inform future investments is to take measurements, collect data, and expand and update existing databases. By requesting data from the districts, the capital can consolidate the available data and make methodological and harmonization recommendations to the districts to better address cross-district water management problems on the basis of integrated databases. In addition, districts can collect data from, for example, smart meters, sewer networks and individual reservoirs, additional surfaces (e.g. roofs, asphalt) to measure runoff rates.</p>



Description of the action	<p>The Municipality of Budapest developed a questionnaire on rainwater management for the district municipalities, which included the following sections: data reporting, record keeping, stormwater problems and incidents, groundwater pollution, surface water pollution, regulation, contact.</p> <p>The aim of the questionnaire was to assess the current situation, practices, capacities and potentials of the districts in relation to rainwater management. The responses will be used as input for a rainwater management strategy for Budapest.</p>
Expected result	A planning database on rainwater management practices and incidents in Budapest districts.
Responsible institutions, organizations	Municipality of Budapest, Budapest Sewerage Works (FCSM), Budapest Waterworks
Other institutions, organizations to be involved	district municipalities
Timeframe	2022
Estimated cost requirements	No data available.
Indicator	Number of projects supported by the database created, number of investments carried out.

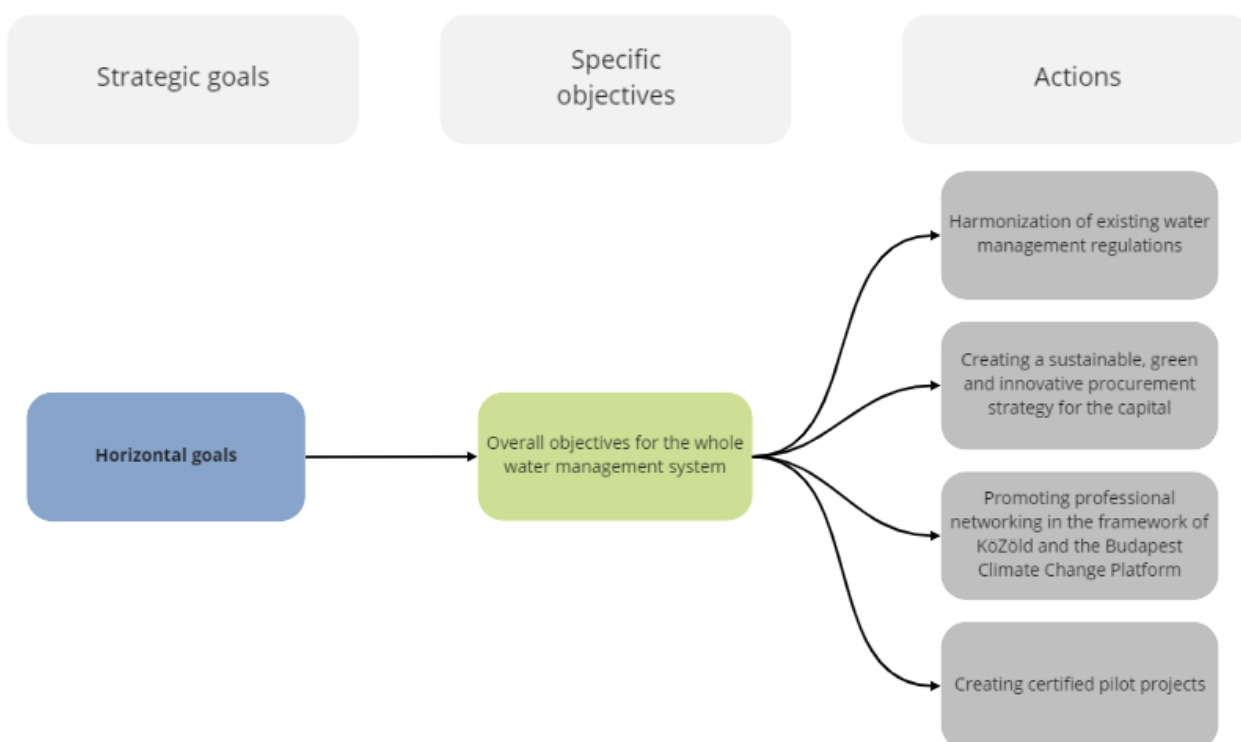
5.6.2 Update the Water Damage Risk Management Action Plan

STRATEGIC OBJECTIVE: 5.6. Preserve flow in water bodies	
SPECIFIC OBJECTIVE: 5.6.2 Updating of the risk management action plan of water damages	
NAME OF THE ACTION: Review of a risk management plan for water damage Type: strategic planning	
Background to the action, challenges	<p>Hungary is basically well developed in terms of flood protection, but to protect people and property become more difficult because of the increasing frequency of unpredictable climate phenomena and flash floods. The predominance of extreme events means that even at the most unexpected times, it is necessary to be prepared for the possible arrival of floods.</p> <p>An additional problem for water management and drinking water supply in relation to floods is that some Danube wells can become contaminated and unusable at times.</p>
Description of the action	Closely linked to flood protection is the protection of natural values and water resources, and the preservation of their purity. This is a priority, both for the supply of drinking water (contaminated wells that become temporarily unusable) and for the conservation of natural water bodies and habitats.



	In line with its earlier commitment, the General Directorate of Water Management is currently working on the renewal of its risk management plan, which could include a focus on the consequences of climate change as a result of changing climatic conditions.
Expected result	Regular review of the risk management plan for water damage (due: every 4 years)
Responsible institutions, organizations	General Directorate of Water Management, Ministry of the Interior: National Directorate General for Disaster Management
Other institutions, organizations to be involved	Municipality of Budapest, Budapest Sewerage Works (FCSM), Budapest Waterworks
Timeframe	2022-2023
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of changes and improvements as a result of the review.

HORIZONTAL ACTIONS





STRATEGIC OBJECTIVE: Horizontal	
SPECIFIC OBJECTIVE: Horizontal	
NEED FOR ACTION: Harmonization of existing water management regulations	
Type: legislation	
Background to the action, challenges	The capital can influence the national legislation mainly through lobbying, by developing proposals in the framework of a legal working group. This proposal tool could, for example, be aimed at changing the insufficiently defined rainwater management regulation in the water utilities and at developing the legal framework for a comprehensive wetland framework law.
Description of the action	<p>Within the framework of the action, a set of legal recommendations focusing on the harmonization of existing regulations (VGT, VKT and their ordinances) and aiming at the integration of stormwater regulation will be developed with the Municipality of Budapest, the districts of the capital and optionally with the county towns, which are more characterised by closed-row development. There is a need for harmonization of the various pieces of legislation and a review of legislation and standards on stormwater and wastewater management, water management and water utilities.</p> <p><i>Links to the Budapest Climate Strategy and SECAP</i></p>
Expected result	A comprehensive water framework law by 2030.
Responsible institutions, organizations	General Directorate of Water Management, Municipality of Budapest
Other institutions, organizations to be involved	agglomeration municipalities, other Hungarian municipalities, professional organizations
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of lobbying actions for the new framework law.

STRATEGIC OBJECTIVE: Horizontal	
SPECIFIC OBJECTIVE: Horizontal	
NAME OF THE ACTION: Creating a sustainable, green and innovative procurement strategy for the capital	
Type: legislation	



Background to the action, challenges	Most of the activities to achieve the horizontal or specific objectives set out in the development plans will be carried out through public procurement, but the primary selection criterion will be the lowest price. Conversely, a green (blue) public procurement framework should be established to support long-term sustainable and innovative projects and solutions.
Description of the action	As part of the action, the Municipality of Budapest will establish a sustainable, green and innovative procurement strategy. <i>Links to the Budapest Climate Strategy and SECAP (Strengthening Climate Protection Considerations in Public Service Procurement and Procurement)</i>
Expected result	Establishing a sustainable, green and innovative procurement strategy for the capital, laying down the legal and economic details of a blue (green) public procurement framework.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	Hungarian Chamber of Engineers, professional organizations
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of tenders under the blue (green) public procurement scheme.

STRATEGIC OBJECTIVE: Horizontal	
SPECIFIC OBJECTIVE: Horizontal	
NAME OF THE ACTION: Promoting professional networking in the framework of KöZöld and the Budapest Climate Change Platform Type: strategic planning	
Background to the action, challenges	In addition to raising public awareness, networking of experts at home is also of paramount importance. An area related to expert networking is the development of training programmes for professionals working in the municipalities of the capital and the districts, including professional training and study visits. In addition to increasing the awareness and knowledge of sustainable water management, these events can also provide an opportunity for people working in different offices and fields to get to know each other better, so that joint work can be more smoothly carried out.
Description of the action	One element of the action is the operation of an inter-district and inter-capital administrative forum (broadening the scope of the KöZöld Forum). A few years ago, the KöZöld Forum was set up as a grassroots initiative, organised by the Green Office



	<p>of the Municipality of Hegyvidék, with the participation of the district municipalities and the Municipality of the Capital.</p> <p>Another element of the action is the operation of the Budapest Climate Platform. The aim of the action is to establish a long-term cooperation with actors playing a strategic role in promoting climate awareness and sharing good practices. On the one hand, the platform will help to continuously reach a wide range of target groups, to collect and share target group-specific and thematic content and good practices, and to monitor and build a comprehensive database of climate protection measures in the capital city, covering as many areas as possible.</p> <p><i>Links to the Radó Dezső Plan, Budapest Climate Strategy and SECAP</i></p>
Expected result	Professional meetings every two to three months, involving the municipalities of the capital, districts and agglomerations, as well as the professional and non-governmental organizations concerned.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	professional organizations, NGOs
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of technical consultations carried out between the relevant groups in the capital.

STRATEGIC OBJECTIVE: Horizontal	
SPECIFIC OBJECTIVE: Horizontal	
THE NAME OF THE ACTION: Creating certified pilot projects Type: strategy development, bringing society on board	
Background to the action, challenges	<p>A key tool for the capital city or districts could be to implement pilot investments on their own or managed properties that respond to water management challenges, such as the renewal of the City Hall Park, or the district example of the CWC project's grey water system in the district of the Hétszínvirág Kindergarten in Zugló. These pilot projects can serve as examples for both district municipalities and private investment.</p>



Description of the action	Showcasing good solutions for small-scale blue-green infrastructure can be an excellent demonstration tool for both the industry and the public. For example, the City Hall Park, led by the Municipality of Budapest, and the Pünekösdűrdő Park are examples of large-scale demonstration projects. Medium-scale projects include the Széllkapu Park, implemented by the Municipality of District II, and the Vizafogó Park, developed by the Municipality of District XIII. Pocket parks and playgrounds based on Green City principles can also be considered as pilot projects.
Expected result	The implementation of successful, innovative blue-green infrastructure showcase projects in Budapest.
Responsible institutions, organizations	Municipality of Budapest, district municipalities
Other institutions, organizations to be involved	professional organizations, NGOs
Timeframe	2022-2030
Estimated cost requirements	Can be estimated with more detailed planning.
Indicator	Number of pilot projects implemented at level.