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ANNEX

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*to the*

COMMISSION DECISION

**on the financing of the pilot project “An innovative and comprehensive concept of urban biodiversity development for local governments in Europe - restoration of the urban water ecosystem of the City of Łódź” and the adoption of the work programme for 2023**

## ANNEX

### **Work programme for 2023 for the implementation of the pilot project “An innovative and comprehensive concept of urban biodiversity development for local governments in Europe - restoration of the urban water ecosystem of the City of Łódź”**

#### ***1. Introduction***

On the basis of the objectives given in the budget remarks, this work programme contains the actions to be financed and the budget breakdown for year 2023 as follows:

(a) for grants (implemented under direct management): point 2

Legal basis

Under Article 58(2), point (a), of Regulation (EU, Euratom) 2018/1046, appropriations for pilot projects of an experimental nature designed to test the feasibility of an action and its usefulness, may be implemented without a basic act.

Budget line

PP 05 23 01

Objectives pursued

- Increasing local landscape retention and rainwater infiltration
- Reducing the phenomenon of urban heat island
- Reducing the costs for the maintenance of public and private green areas
- Limiting the high content of dust and pollutants in the air
- Increasing the area of green spaces - biologically active and water permeability of urban surfaces
- Increasing the potential of rainwater treatment
- Increasing biodiversity in urban areas
- Reducing the risk of flooding and the costs associated with it during periods of heavy rainfall
- Reducing the outflow of rainwater through the combined sewage system
- Improving the attractiveness of the city and its sustainable development
- Involving residents and other stakeholder groups in the process of green transformation of the city

Expected results

- Increasing the number of biologically active surfaces
- Supplying the Lamus river with additional water
- Implementation of small retention systems based on NBS (Nature Based Solution)
- Revalorisation of the J. Kiliński park
- Construction of a dedicated rainwater network/installation

Climate and biodiversity mainstreaming contribution - description of how the action(s) included in this work programme contribute to climate and biodiversity mainstreaming, in qualitative and quantitative ways

About 20 rivers and streams flow through Łódź, but most of them are hidden in underground channels. For several years, the city authorities have been taking steps to rebuild them and bringing them to the surface, and one of these ambitious projects is the Lamus River, which flows through historic parks established in the 19th century as palace gardens of the Łódź factories, the founders of the Łódź “Promised Land”.

The “Restoration of the Urban Water Ecosystem” project will reclaim the Lamus River, which entails to disconnect it from the sewer system and integrate it in a public space, and use rainwater and snowwater from nearby properties and rooftops to feed the Lamus River. In addition, the plan is to irrigate greenery in parks and direct rainwater to the Jasiołka river valley.

On top of this, the project will include elements of rainwater retention (e.g. using a sequential sedimentation system and biofiltration) and monitoring the level of soil and groundwater moisture (through special soil moisture sensors). The project will use prototypes of PARO bollards, which are an innovative solution in the field of water micro-retention.

The project will be very comprehensive and will take into account the problems of small retention, groundwater level, presence of water in the city landscape. The aim of the project will be the proper drainage of rainwater and snowmelt in order to solve current problems related to water shortage and periodic excess of water, resulting in flash floods and drying of trees in parks.

Along with the reconstruction of the riverbed, recreational and educational zones will be created. The concept of revalorisation of the park with the river will be developed with the participation of citizens and for citizens, while preserving the historical heritage of parks that are historical monuments.

The project will take full advantage of the use of unsealed surfaces that allow rainwater infiltration. For several years, this type of parking lots and paths has been successfully implemented in other parts of the city.

The area of parks along the Lamus River will be the centre of ecological workshops and promotion of the green transformation, providing opportunities to learn about the activities of the European Green Deal. The river valley and adjacent green areas will be transformed into an educational path that will be the focal point of future educational projects. The reconstruction of the river, which had a direct impact on the creation of the “Promised Land” in Łódź, would be an excellent element of strengthening historical awareness and local identity, and at the same time it is in line with the climate policy objectives of the European Green Deal. Since Łódź is poor in naturally flowing watercourses, the reconstruction of the river may have a positive impact on the urban ecosystem and contribute to the creation of a new unique tourist attraction. The implementation of the project will create European added value in terms of activities aimed at solving a significant environmental problem and innovation.

Bringing the underground watercourse of the Lamus River to the surface will significantly improve the microclimate by cooling the air thanks to the absorption of heat by the evaporation process. The water table of retention reservoirs retaining rainwater will be a surface that reflects sunlight. The heavily hardened areas around the Lamus valley will be replaced with a biologically active surface, covered with vegetation and water permeable. As

a result, the local temperature will be reduced by several degrees Celsius.

Balancing water management through the restoration of the Lamus River and the development of adjacent areas with greenery will reduce the costs of watering and replacing greenery. The newly introduced greenery will increase water retention and, consequently, raise the groundwater level. Improving the microclimate towards higher humidity and lower temperatures will eliminate drought-related stress on plants and thus improve their sanitary condition. This will also reduce the costs of potential replacement of dry plants that cannot withstand harsh urban habitat conditions.

The waters of the Lamus River, together with greening investments based on plants selected and matched to climatic conditions, will act as a local air humidifier. The results of many international studies indicate that lowering the temperature and increasing air humidity cause a decrease in the concentration of harmful dust. This applies primarily to the concentration of PM10 - a mixture of particles with a very small diameter (less than 10 µm), which may contain toxic substances such as polycyclic aromatic hydrocarbons, e.g. benzo(a)pyrene, heavy metals, dioxins and furans. In addition, air and water pollution will be directed to hydrophyte treatment plants, i.e. basins and reservoirs covered with vegetation and with extended retention times. The vascular plants there (surfaced and submerged) will effectively remove pollutants and increase sedimentation. Tall vegetation will also naturally limit the phenomenon of dust floating.

The investment implementation area covers 60 hectares of land in the city center, which partly includes historical areas located within the City Center Revitalisation Project. The project is carried out with the participation of scientists from the European Regional Center for Ecohydrology, which grew out of the International Center for Ecology (ICE) under the auspices of UNESCO. The cost estimate was based on analyses by PricewaterhouseCoopers and Chapman Taylor Architects.

The project will be implemented in synergy with those Horizon 2020 projects in which the city of Łódź participates and which have a similar focus on urban biodiversity, water issues, river restoration and redevelopment.

## **2. Grants**

The global budgetary envelope reserved for grants under this work programme is EUR 3 500 000.

### **2.1. Restoration of the urban water ecosystem of the City of Łódź**

Type of applicants targeted by the direct award

City of Łódź - Local Government unit – Beneficiary

Łódź, as a participant in the Climate Neutral and Smart Cities mission, has as one of its main goals the exchange of thoughts, experiences and successes in the field of green transformation. The city is already sharing its experiences with many European cities through innovative projects from the programmes. The problem of river reconstruction occurs in many European cities where rivers are channelised or concreted. Thanks to the innovative system of water retention and drainage of excess water, a solution is offered to the problems of all cities struggling with the problems of periodic floods and droughts, which is characteristic especially for the very changeable climate of Central and Eastern Europe, where there are heat waves, heavy snowfalls and heavy rains. The results of the analyses of implemented innovative solutions in the field of soil moisture monitoring or water micro-

retention will be used as a tool for designing similar solutions in other parts of the city. In addition, by implementing the Climate Neutral and Smart Cities missions, the innovative and comprehensive concept of urban biodiversity development will be made available to all local governments in Europe.

The Municipality of the City of Łódź elaborated the concept of the project, they own the investment area, and they are the best placed to integrate the project into the long-term strategies of the city. Additionally, according to the legal system in Poland, the implementation of the project is part of the city's own tasks, which are the basis for the activities of cities in Poland, as defined in the Polish Local Self-Government Act (Dz. U. z 2023 r. poz. 40, 572.). Own tasks of the city include matters such as spatial cohesion, environmental protection and nature conservation, water management, water supply systems, the sewage system and water treatment.

The Municipality of the City of Łódź is considered to be the only body with the necessary combination of *governance capability*, which is essential to cope with the challenges of the proposed very complex project, *expertise, know-how and administrative power* to implement the project. Therefore, the grant will be awarded without a call for proposals on the basis of Article 195, first subparagraph, point (f), of Regulation (EU, Euratom) 2018/1046, i.e. awarded for activities with specific characteristics that require a particular type of body on account of its technical competence, its high degree of specialisation or its administrative powers, on condition that the activities concerned do not fall within the scope of a call for proposals.

Description of the activities to be funded by the grant awarded without a call for proposals on the basis of Article 195, first subparagraph, point (f), of Regulation (EU, Euratom) 2018/1046

The grant will cover the following activities:

- Revitalisation of the J. Kiliński Park, including the implementation of functional zones and plantings and reconstruction of communication routes
- Introduction of Nature Based Solutions (NBS)
- Construction of a rainwater channel connecting the Lamus River channel with the Jasiień River channel
- Reconstruction of the existing road drainage system along with the construction of installations for NBS systems
- Reconstruction of the existing channel of the Lamus River
- Reconstruction of the existing and construction of installations/networks to ensure water supply to the Lamus River
- Development of the design concept
- Carrying out the procedure for the selection of the contractor for the development of the functional and utility programme
- Developing a functional utility programme
- Conducting a procedure for the selection of a contractor in the design and build system of design documentation and construction works
- Development of design documentation along with the necessary arrangements and decisions enabling the execution of construction works

- Execution of construction works
- Acceptance of construction works and obtaining an occupancy permit
- Project settlement
- Ongoing maintenance of the completed scope
- Exchange of knowledge and experience with other cities and stakeholders
- Encouraging companies and private entities to retain water from rooftops and discharge it after treatment into the Lamus river.

#### Implementation

The action will be implemented directly by DG REGIO.