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KOMMUNAL KREDIT PUBLIC CONSULTING

STRENGTHENING PUBLIC FINANCE CAPACITY FOR GREEN INVESTMENTS IN THE EASTERN PARTNERSHIP (EaP) COUNTRIES

"Designing Green Public Investment Programme and Conducting Training in Azerbaijan"

Definition of programme's focus area within the water sector and the associated investment measures

Prepared for the project launch meeting on 17 June 2021

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1. Objectives of the programme

The proposed investment measures of the public support programme will contribute to adaptation to a decline in supply of quality water and/or increased water demand.[1] The programme will focus on enabling a more widespread use of non-standard water resources – in particular, the groundwater extraction and surface water catchment.

The programme will contribute to the overall objective of diversifying water supply sources by using an increased mix of surface water and groundwater to ensure that water supply does not fall below water demand in future (taking into account the predictions of climate change impacts on the water resources). Specifically, the programme will include four main objectives (activity areas):

- **Increase water extraction/catchment volumes**[2]
- **Increase available water storage capacities**[3]
- **Ensure groundwater level recovery/increase**[4]
- **Ensure efficient water supply**[5]

Possible specific targets of the programme may include improvement in security of supply by diversifying sources (having more than one safe source) and increasing overall production capacity (for example, increasing daily Q of water produced by 20%).

2. Investment measures

The programme would include several relatively small measures, as follows:

- **Construction of shallow wells** (construction of well, pumping station, necessary pipes, supply of electricity, automatic control, disinfection system, protection of well)
- **Construction of deep wells** (construction of well, pumping station, necessary pipes, supply of electricity, automatic control, disinfection system, protection of well)

[1] Deterioration of water quality reduces the available water supply in the same way as drought (or low precipitation periods). This includes employing desalination when the need arises (intrusion of saline water in groundwater bodies) or other water purification in case of pollution.

[2] With a careful attention to be paid to groundwater mining risks.

[3] Methods for accomplishing this may include raising a dam, practicing aquifer storage and recovery, removing accumulated sediment in reservoirs or lowering water intake elevation.

[4] Increasing the amount of groundwater storage available promotes recharge when surface water flows are in excess of demand, thus increasing climate resilience for seasonal or extended periods of drought, and taking advantage of seasonal variations in surface water runoff. Depending on whether natural or artificial aquifer recharge is employed, the required infrastructure may include percolation basins and injection wells.

[5] Such as establishing water trading with other utilities in times of water shortages or service disruption. Other effective measures include, for instance, decrease in water losses (e.g. through rehabilitation of water infrastructure), or treatment and reuse of returned waters – however, these are already out of the scope of the project.

- **Construction of small water treatment facilities for water wells** that require more than disinfection systems (filtration systems to reduce turbidity, aeration systems to reduce iron levels)
- **Construction of new water storage facilities** (cistern, water tower) for existing or new water wells
- **Construction of new surface water catchments** from small water-bodies
- **Construction of new ground water storage facilities** (e.g., ponds)
- **Construction of small water treatment facilities for surface water catchments** (disinfection, filtration, aeration)
- **Construction of small, decentralized wastewater treatment facilities**

In addition to the main types of investments, other investments that would serve to support the effectiveness of the system include:

- **Construction of long-range supply mains** for diversity and security of supply may require construction of long supply pipelines (this kind of investment is becoming necessary in many countries, for example, even including southwest Germany)
- **Construction of storage and supply capacity for bulk water supply areas** with sufficient and reliable water supply may seek to add additional customers for example through bulk supply

All investments listed above will require proper maintenance and operation (including electricity supply) that should be paid by the population through the tariff. The local utility or Azersu would manage the resulting infrastructure.

Other non-investment measures supporting the effectiveness of the above include:

- **Inventory of surface and groundwater sources** including capacity and quality of source
- **Awareness raising campaigns,** for instance, on the cost of providing a stable and clean water supply and water savings on the demand side

3. Beneficiaries, implementers and international support

Main beneficiaries of the programme

The OECD team considers the programme will build on improving water availability for regions vulnerable to climate change (areas with low groundwater levels or combined with frequent floods).

Communities (villages) will benefit from improved water supply security and/or protection of available surface and groundwater sources from pollution, including due to intrusion of untreated wastewater into drinking water sources. The prerequisite is that the water distribution network (or wastewater network, as applicable) in the community (communities) already exists. If the system is managed by Azersu, the company will also benefit from the programme's implementation.

Role of the Ministry of Ecology and Natural Resources

The primary role of the Ministry will be in the design and implementation of investment programme. This will include, among others:

- → setting supply increase targets and overseeing their achievement
- → determining eligibility criteria for the projects selection (within the pre-defined project pipelines)

The Ministry may also consider the following:

- → advising on disbursement of funds
- → establishing/modifying existing agency that can be certified as body that can manage donor and IFI funds

While the Ministry will be involved in the programme preparation and implementation, the green investment programme itself matches the more general interest of the Ministry in the fields of:

I. environmental protection and using of natural resources
II. hydrometeorological services
III. environmental safety

Possible co-operation with donors and IFIs

The programme implementation will most likely involve co-operation with donors and international financial institutions (IFIs).

According to the World Bank, the combined efforts of the government of Azerbaijan and several major international partners from Europe and Asia were covering the needs of about 80 percent of the urban population in rayons outside Baku and it was expected that the rest would be addressed in the near future.[6]

Most of the IFIs would prefer larger scale projects, although a green investment programme aimed at climate change adaptation and resilience may be a part of a larger facility that might be interesting for IFIs. NEFCO, for instance, has co-financed smaller-scale projects, albeit so far water supply is not a priority (wastewater is). In case of the Green Climate Fund (GCF), which provides a mix of grants and loans, all climate adaptation measures can be a part of co-financing and the programme can be a part of a bigger application to the GCF that includes other climate adaptation measures.

[6] See http://documents1.worldbank.org/curated/pt/695271531169219228/text/Azerbaijan-Implementation-Completion-and-Results-Report-ICR-Document-to-BOS-07052018.txt.