

Review of World Bank Clean Technology Fund (CTF) Public Sector Proposal Ukraine: Urban Infrastructure Project 2 (UIP2)

Document Source: PAD - Second Urban Infrastructure Project + Annex 7: Clean Technology Fund”

Background

Over the past 20 years access to water supply services in Ukraine has stagnated at 80 percent of the total population and at 90 percent of the urban population. Some 85 percent of urban residents have access to sewerage, but only 70 percent to wastewater treatment.

Out of more than 6,000 water supply and sanitation utilities, 1,857 provide services to the urban population. The ownership structures of these water utilities ranges from communal utilities (owned by the municipalities, and accounting for 83 percent of the total number of utilities), state utilities, and private utilities. Due to poor financial viability, the utilities have been unable to properly maintain their assets; and because of poor creditworthiness and legislative constraints, utilities have not been able to raise capital for necessary investments. In many areas, water supply is intermittent because service providers have inadequately maintained infrastructure. Average non-revenue water rates rose to more than 40 percent of water production due to physical losses from deteriorating infrastructure and commercial losses from unmetered consumption. Infrastructure for collecting and treating wastewater is either nonoperational or poorly operated, and the pollution of national and international waterways is high.

IN 2012/2013, the average *water and wastewater tariff* level for businesses and households in Ukraine were 3.63 UAH/M³ while costs (including depreciation of assets) were 5.43 UAH/ M³. To meet operating and maintenance costs, utilities depend on government transfers which are inadequate and arrive late. EUR 4-6 billion is needed to bring the water and sanitation systems to operational safety and a total of EUR 22-26 billion to achieve international service standards.

Solid waste collection services suffer from limited operational capacity, an underdeveloped landfill infrastructure and low user fees. The current cost recovery rate is only between 5 and 7 percent. The investment needed in the sector is estimated at approximately EUR13 billion.

The establishment in 2011 *National Commission for Regulation of Communal Services* is expected to improve financial operations. The Regulator is to improve cost recovery through tariffs, establish national service standards, improve governance of the utility sector (removing tariff setting from local political influence) and strengthen reporting requirements.

To support improvements in sector performance, the World Bank approved an Urban Infrastructure Project (UIP) in 2007 that focused on two main priorities: (i) energy efficiency (EE) to reduce the energy consumption of participating utilities by 15 percent; and (ii) improving the quality of urban water supply and wastewater services. The UIP2 project is a follow-up.

Overall CTF/IBRD and specific CTF project rationale

The investments financed by the UIP2 project will be implemented by eight water and wastewater utilities and one municipality for the solid waste subcomponent. Typical investments include wastewater and sludge treatment, water treatment, solid waste plants, replacement of water transmission pipes, construction of de-ironing stations.

The UIP2 project’s US\$350m loan finance is composed of:

- a US\$300m IBRD loan with a maturity of 18 years, a 6 year grace period and an interest rate of Libor + 0.47 percent; and
- a US\$50 m CTF-loan with a 20-year maturity, a 10-year grace period and a service charge of 0.75 percent per annum on outstanding loan balance.

US\$335m are for investments in urban infrastructure improvement; US\$10m for technical assistance and capacity building; and US\$5m for project management and supervision.

The project development objective is to improve the quality, efficiency and sustainability of water, wastewater, and solid waste services in at least eight selected cities in Ukraine. The project is to reduce the burden that the water and sewerage sector currently puts on government budgets, using a two-sponged approach. (i) The project will improve the financial performance of utilities by focusing on investments and institutional measures which reduce the cost of service by increasing EE and staff productivity and reducing non-revenue water. (ii) More rational tariff setting, improvements in customer service, billing and collection management and measures that increase public awareness and education are to increase the public's willingness to pay and enable stepwise tariff adjustments towards more cost-reflective levels; a process which is expected to take ten years.

The UIP2 project is part of Ukraine's CTF Improving Energy Efficiency program. About 30% of utilities' operations and maintenance expenses are tied to energy costs. The concessional loan from the CTF finances investment components which reduce greenhouse gas (GHG) emissions. These include investments in EE in water and wastewater systems - such as replacement of water and wastewater pumping equipment; automated control systems; sludge thickening equipment - and investments in landfill gas capture.

The economic benefits of the UIP2 project include (i) increases in EE as measured by the volume of energy used per m³ of water produced or wastewater treated in utilities; (ii) reduction in maintenance costs associated with the poor state of the water and wastewater assets; (iii) reduction in non-revenue water losses; (iv) local environmental benefits from reduced BOD pollution and recycling of industrial or municipal solid waste; (v) global environmental from reduced GHG-emissions.

Project beneficiaries include participating utilities and municipalities, existing consumers who will benefit from improved water supply, wastewater and solid waste services and people who will benefit from improved access.

Handling of risk in the project

The PAD classifies overall implementation risk as substantial, with stakeholder risk and implementing agency risk being in this category. Elevated country and sector risks include: (i) cost estimates at feasibility stage varying widely from the amounts at contract award; (ii) resistance to tariff adjustments; and (iii) frequent changes in the senior management of government ministries.

One response to the high-risk environment of UPI2 is realism in assumptions: although minimal debt service coverage requires real tariff increases of 35% to 70% for each utility, the project analysis assumes that the real tariff increases will not exceed 25% in the next five years.

To ensure commitment, the cities were selected competitively by the Ministry of Regional Development, Construction, Housing and Communal Services (Minregion); the Ministry of Finance

(MoF); the Ministry of Economic Development and Trade (MoE); and the Utilities Regulator. The approach had three stages. It started in 2011-2012 with a nationwide call for investment applications. Next, the Minregion short-listed 16 cities based on the following criteria: (i) commitment to review and increase tariffs towards financial sustainability; (ii) willingness to improve customer service and operational efficiency; (iii) high potential for development impact; (iv) advanced readiness of subproject investment; and (v) the economic viability of the proposed investment.

Finally, to avoid public unrest when the participating DH companies begin increasing their tariffs to cost-recovery levels, the project implements communication strategies in the participating municipalities. Customers' are informed about what investments are being done, what effect they will have on service quality and how they impact the level of required tariff increases.

Comments

Justification for CTF support

The feasibility studies for all ten projects have not yet been concluded. The three completed studies estimate the rate of returns with economic prices and externalities (but without inclusion of GHG emissions) of the projects at 53%, 28% and 17% respectively. Since the other seven projects are similar, one may conclude that the high risk of UIP2 is compensated by high economic rewards.

The PAD claims that the CTF funds allow the beneficiary utilities to finance investment in technologies that are more energy efficient and responsive to environmental concerns, but would not be undertaken without concessional finance because they require higher upfront capital costs. That seems to be a reasonable assumption in view of the finance.

The outcome objectives of "increased energy efficiency" and the thereby associated "avoided greenhouse gas emissions" are achieved. But this evaluation cannot make any statements about the CTF cost effectiveness ratio for the project in terms of tons avoided CO₂-emissions per US\$1000 of CTF finance, because Annex 7 in the PAD has no information on this subject.

Transformative impact

The transformative impact of the project is weak in the short term, but probably acceptably strong in the medium to long term.

For obvious reasons - the beneficiary utilities have limited access to bank loans and little if any operating profit, therefore, the "increased finance for low carbon development mobilized" outcome objective of the CTF is not achievable.

The PAD is very honest about the limited replication potential. The "Demonstration Potential at Scale" section in Annex 7 refers to "funding replacement of the equipment will have a transformational effect on the energy consumption of the sector". Yet, even if "this project intends to show that incremental costs savings from the investment in more energy efficient assets will be financially paid back through energy cost reductions" it will not have a demonstration impact on utility investment programs as long as these remain "constrained to make capital investments due to cash flow shortages".

The hope for a transformation in the medium to long term is founded on the impacts of lower energy expenses and of improved service quality on the desired tariff reforms (“willingness-to-pay”) and on the operation of the Regulator. Well-documented information on the financial impacts of the investments provides the Regulator with reference benchmarks to assess proposed utility investment programs and requests for tariff adjustments.

Conclusion

The proposed project complies with the CTF Results Framework as it addresses “transformational impact (indicator A)” and the CTF program outcome indicators “B1 avoided GHG emissions”, “B3 increased supply of low carbon technologies and practices” and “B5 increased energy efficiency in order to transform CTF countries into low carbon economies”.

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