

Case 13

Russian Federation

Water Sector

Clean Don

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Clean Don (Rostov on Don, Russia)
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Public Organization, managing the public interest:
Private Organization, developing the project:
Capital Providers, financing the project:

City Administration of Rostov on Don
ABVK eco
ABVK eco (equity), local banks (capital)

Why is this project a Case Study for PPPs:

Poor condition of the wastewater infrastructure became stop-factor for development of new residential zones

The strategy included the following distribution of roles of public & private sides :

PUBLIC - construction and rehabilitation of the municipal infrastructure;
PRIVATE - new technologies of sludge treatment combined with energy generation and elimination of smell;
BOTH - sewers, collectors and pumping stations.

After 5 years of implementation a strong impact on the waterbody has been reduced and living conditions of citizens have been improved:

- Chlorine-free disinfection of wastewater discharged in the Don river
- Full treatment of sludge dedicated for recultivation of soils and usage in agriculture
- Connection of 25.000 new customers to the centralised sewage system
- Liquidation of septic tanks and cesspools in the living areas of low-income residents
- High energy efficiency through own power and heat generation

About this project

- **“People & Planet”**: through improvement of the wastewater infrastructure we have reduced impact on environment!
- **The approach** can be used within the water sector: not only in Russia, but also worldwide.
- **The key success factors** are:
 - Combined financing (public + private) to lower capital cost
 - High energy efficiency and connection fees as drivers for repayment of investments
 - Technical concept with a strong environmental commitment
 - Access to best available technologies, involvement of local manufacturers

Before Project:

Implementation area includes the city of Rostov on Don and two suburbs: Aksay and Bataysk; in total – 1,3 M inhabitants. The agglomeration has a fairly well developed infrastructure (98% of population is connected to the centralised water system). Some zones of the city are **not equipped with centralised sanitation** services and use septic tanks.

The wastewater treatment includes full mechanical and biological processes. It has a **very high environmental impact on the Don river** – mostly through the chlorine-organic compounds after wastewater disinfection.

Lack of the wastewater infrastructure has stopped some “green-field” development projects.

Commitment to Improve Quality of Life:

Commercial motivation of the private operator is to expand the service area and to increase the number of customers **matches with intention** of the local community and their authorities **to improve quality of life**.

After the construction of wastewater networks, the cost of property and land plots has raised; retail and other businesses have increased their presence in these areas.

This **win-win concept of the PPP** project resulted in:

- Reduction of water-related diseases;
- Improvement of the recreational facilities located at the Don river;
- Improving access to modern sanitation infrastructure of low-income population ;
- Elimination of the infra gap

Elimination of the **infra gap** through connection to centralised wastewater network:

- Football Stadium (World Cup 2018, 45.000 places)
- Restaurants, Cafes and business centers
- New residential houses

After Project:

Construction and reconstruction of 50 km of wastewater network and sewers has allowed to connect **over 25.000 people** to the centralised sewage system.

Zero Chlorine after implementation of the UV-disinfection.

Construction of new sewers has led to connection of new residential districts and commercial property (**700.000 m²**).



Initiation and Approval:

The project has been **initiated by the private** company. Before the final approval, the project has been selected by the regional authorities based on multifunctional assessment of several proposals made by private investors (operators) from different industries.

At the level of the national Investment Fund, the proposal has been evaluated by an **independent consultant** (Societe Generale & Raiffeisenbank) and finally approved by the State Commission.

During project preparation, including the feasibility study and the environmental assessment, the private and public parties worked as **one team of experts** in order to select components meeting the environmental, economical and technical criteria.

Public Property:	Private Property:
<ul style="list-style-type: none"> • Reconstruction of the WWTP • Construction of the new sewer • Supply of the WWTP by natural gas • Reconstruction of Power infra of the WWTP 	<ul style="list-style-type: none"> • Construction of the UV unit for wastewater disinfection • Construction of Power Generation Plant for WWTP • Construction of the Sludge Treatment unit • Construction of wastewater networks

Closure and Implementation:

Each party had own financing; all tendering and contracting procedures have been organised with respect of public and private procurement rules.

The municipality were willing to pay the contractors; but the contractors had problems to deliver in time → **significant delay of all components**.

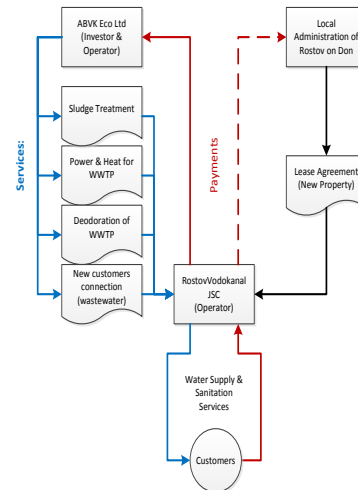
The private company had problems with money (no project finance available) and performance (insolvency of the German contractor) → **only one component was built in time**.

The only **solution**: to renegotiate time and components in order to **keep the budget unchanged**.

The key success factor: ability to change initial content and time in order to save the project and to reach (almost) the same results by implementing other (similar) works.

From Assets to Public Services:

No direct payments from customers because new assets and new technology are only a part of the main process of wastewater collection and treatment.



Land Plots:

The majority of objects constructed by the private investor are located at the wastewater treatment plant (WWTP).

The city administration has provided the private investor with over 3.000 m² of land needed to built new facilities.

Private investor obtained a servitude for construction of wastewater networks inside of residential zones.

Public facilities are built on municipal land.



Project Efficiency*:

Local Administration of Rostov on Don				
Investment Fund of Russia	Regional Administration of Rostov on Don	ABVK Eco	Local Banks	
24%	23%	3%	23%	27%
PROJECT BUDGET				
55.834.000 USD (4.466.720.000 RUR)				

NPV 1.128.300 USD
IRR 14,91%
Pay back 20,75 years
Budget Efficiency 12.529.000 USD

The project has a very **low financial efficiency** due to strict tariffs regulation for wastewater services.

* to be reviewed



Public Involvement:

During **Environmental Assessment** the private investor has conducted procedures of Public Hearings.

The project has been promoted through local Press and TV.

Some issues related to the technology of sludge combustion have been raised by **GREEN PEACE**; that concern contributed to argumentation to change components of the project.

Ростов официальный № 33 (976) 14.08.2013

ООО «АВК-Эко», 344019, Ростов-на-Дону, ул. Мещеряева, 1А, информирует, что общественные обсуждения по объекту государственной экологической экспертизы — проектной документации «Строительство под ключ завода по сжиганию иловых осадка очистных сооружений канализации в г. Ростов-на-Дону» состоятся 18 сентября 2013 г. в 14:00 по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт.
 Общественные обсуждения организуются администрацией МО г. Ростов-на-Дону (Постановление администрации города Ростов-на-Дону № 824 от 05.05.2013 г.)
 С материалами ОВОС можно ознакомиться по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни.
 Замечания и предложения принимаются в письменном виде по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни по факсу (863) 286-98-65, по e-mail: of@avk-eco.ru.
 Контактное лицо: Хурлов Жанна Владимировна, тел. (863) 286-98-65.

Impact on People & Planet:

Improvement or construction of the infrastructure have significant **impact on quality of life**.

PEOPLE

Access to Water and Sanitation is essential for the modern facilities. Empirical observations show that connection of a land plot to centralized water/wastewater services raises its market price **up to 40%**.

After project completion, we expect over 25,000 people connected to existing infrastructure and over 30,000 new customers (**in total +5%**).

PROSPERITY

Construction of centralized sewer system allows **low-income residents** to access services at reduced price.

Own power & heat generation (at lower cost) **slow tariffs growth**.

PARTNERSHIP

Project implementation requires very close **cooperation** between the public and private parties.

Synergetic effectiveness:
1 + 1 > 2

PLANET

New technologies applied for wastewater disinfection (**no chlorine**) and for sludge treatment (**thermophilic digestion**) prevent parasitological and chlorine-organic pollution of soil and the water body (Don river, Azov and Black Seas).

Own power and heat generation (**natural gas + reused methane**) reduces specific energy consumption at the WWTP by 10%.

PEACE

Pollution reduction of the Don River, Azov and Black Seas **prevent local and inter-regional conflicts**.

OTHER IMPACT:



Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Access to centralized sanitation for low-income customers
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	Pollution reduction of the river; Enhancement of recreational facilities
4. QUALITY EDUCATION	●			
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL			●	Connections for existing & new customers; sanitation for developers
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		Reduction of energy cost for wastewater treatment
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		Indirect impact on local economy through better infrastructure for business
9. RESILIENT INFRASTRUCTURE, SUSTAINABLE INDUSTRIALIZATION, FOSTER INNOVATION		●		Best available technologies for wastewater treatment & power/ heat generation; methane produced during sludge treatment will be re-used
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES	●			
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Lower impact on drinking water quality through reduction of wastewater infiltration
12. RESPONSIBLE CONSUMPTION BY ALL		●		Sludge is a part of communal waste; after treatment it becomes safe for re-use
13. COMBAT CLIMATE CHANGE	●			
14. PROTECT THE OCEAN		●		Prevention of pollution of Don river shall mitigate impact on Azov and Black Seas
15. TAKE CARE OF THE EARTH		●		Significant environmental impact (i. a. reduction of pollution, energy efficiency)
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL, ACCOUNTABLE INSTITUTIONS AT ALL LEVELS	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Public-Private Partnership in action

Scalability & Replicability of the (Case Study) project:

The project can be replicated within **the water sector: not only in Russia, but also worldwide:**

PARAMETER	POSITIVE IMPACT	NEGATIVE IMPACT
Economical /Environmental	<ul style="list-style-type: none"> Gas prices in Russia have risen – more incentives for energy savings 	<ul style="list-style-type: none"> Currency risks and economical sanctions have lead to changes of the project concept
Content and Effects	<ul style="list-style-type: none"> Some components are profitable to recover CAPEX for all 	<ul style="list-style-type: none"> During implementation of long-term projects, some effects can change faster than projects' sponsor is able to comply with components combination
Property Rights and Cost	<ul style="list-style-type: none"> Property created at the cost of public sources is operated by private on the basis of lease agreements Private property rights help to raise money using project finance 	<ul style="list-style-type: none"> When financing objects from mixed funds (private & public), joint ownership over assets can be an issue for joint operation
Structure of the Project	<ul style="list-style-type: none"> The private operator ≠ private investor; different functions lead to risks and responsibilities allocation 	<ul style="list-style-type: none"> Heavy structure of the project doesn't allow to take decisions in time Involvement of additional player create additional risks
Cost Repayment	<ul style="list-style-type: none"> No direct tariff for customers; repayment of CAPEX through the private operator (third party involved) 	<ul style="list-style-type: none"> Putting the third party (an operator) in the middle of financial flows can generate further threats
Project Terms	<ul style="list-style-type: none"> Flexibility in time and content in order to reach the goals of the project 	<ul style="list-style-type: none"> Flexibility at later stages of the project is (almost) not possible
Footprint	<ul style="list-style-type: none"> High social and environmental importance 	<ul style="list-style-type: none"> High social and environmental importance

Other **related infrastructure** sectors can use the experience (with some limitations). **Global replication** is rather difficult due to economical-environmental variations worldwide.

People First is also about the Management Team that made it happen:

During the project preparation we observed **many changes in the team of the public partner** (three Federal Ministries, two Governors and two Mayors): people came and went but the **team at the private side didn't change** – the same people went through all stages from initiation to current operation.

Our company has got both: the negative and the positive experience, and all obstacles helped us to grow.

We've learned many lessons; the most important is **communication**: inside of the team, between the private and public, and with other stakeholders.

We have received support at the highest level of authorities because we solve particular problems for particular people living in the particular place.

The synergy of activities from the public and the private sides; their experience and different skills applied have helped us to achieve the number of goals: environmental, social & economical – all of them meet the SDGs.

