Experience of Ternopil in Modernizing Water Utility Facilities

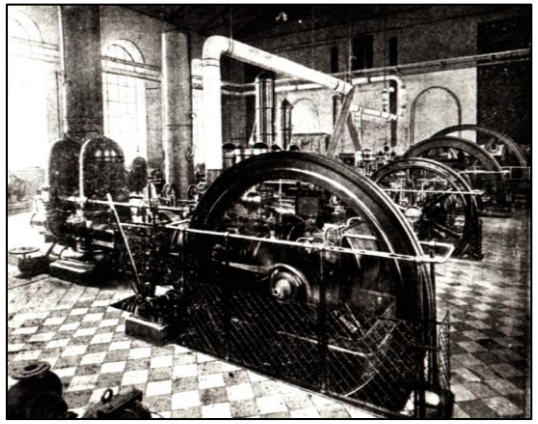
Speaker: Volodymyr KUZMA
Director of Utility Company “Ternopilvodokanal”

Evolution of Ukraine's Water Supply and Wastewater Disposal Systems

- **Late 19th – first half of the 20th century – The beginnings of centralized water supply and wastewater disposal.** (Sources of funding: municipal funds, private investors and partial state support)
- **1945–1990 – Post-war reconstruction and industrial development.** (Sources of funding: centralized state funding)
- **1991–2021 – Transition to market-based operations of water utilities.** (Sources of funding: rapidly increasing tariffs, partial state support, municipal support and the gradual involvement of international financial institutions)
- **2022–2026 – Operations under wartime conditions.** (Sources of funding: tariffs that do not fully cover economically justified costs, partial support from the state and local budgets, and substantial assistance from humanitarian organizations and international financial institutions)



Source: https://www.volynpost.com/news/61374-istoriia-luckogo-vodogonu-foto



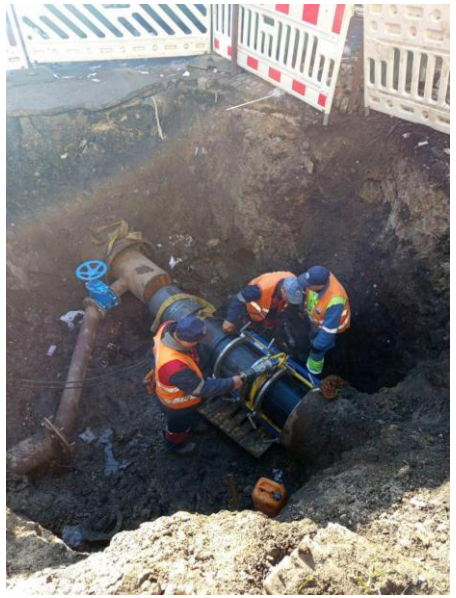
Source : https://vodokanal.kharkov.ua/content/history_watersupply



Source: archival photographs of UC Ternopilvodokanal

Main Objectives of Using the Company's Investment Programme Funds





- Improving the quality of drinking water treatment and wastewater treatment.
- Replacement of networks.
- Replacement of pumping equipment with automated control systems.
- Renewal of the vehicle fleet.
- Ensuring 100% commercial metering.









Source: archival photographs of UC Ternopilvodokanal

Projects Implemented under the Second Urban Infrastructure Project (World Bank Loan Financing)



- TER-ICB-02L3 “Reconstruction of Verhno-Ivachiv water intake”
- TER-ICB-02L1 “Construction of Iron removal plant with reconstruction of third lift pump station in the city of Ternopil”





Results:

- Improved water quality.
- Increased reliability of the water supply system.

Source: archival photographs of UC Ternopilvodokanal

Projects Implemented under the Second Urban Infrastructure Project (World Bank Loan Financing)

- TER-ICB-03/1 “Modernization of wastewater pump stations No.7, 9” (two largest ones)

Results:

- Approximately 50% reduction in electricity consumption.
- Increased reliability of the wastewater disposal system.









Source: archival photographs of UC Ternopilvodokanal

Projects Implemented under the Second Urban Infrastructure Project (World Bank Loan Financing)

- TER-ICB-09 “Optimization of water supply and distribution system, including replacement and rehabilitation of water supply and wastewater disposal network”, specifically:
  - ✓ *Reconstruction of the water pipelines DN800 and DN1000 from Verhno-Ivachiv village to Ternopil city, 15 Kvitnia Street*
  - ✓ *The reconstruction of the distribution network from the outlet of Water pumping station No. 4 in 15 Kvitnia Street in Ternopil city*
  - ✓ *Reconstruction of the pressure gravity collector of residential wastewater disposal system DN800 from chamber "A" on Dovzhenka Street to the Wastewater Treatment Plant on Obizna Street in Ternopil city*
  - ✓ *The reconstruction of pressure collector DN-600 from the wastewater pumping station No.7 on Halytska Street to the switching chamber on Konovaltsa Street in Ternopil city*

Results:

- Reduction of water losses.
- Increased reliability of water supply and wastewater disposal systems.









Source: archival photographs of UC Ternopilvodokanal

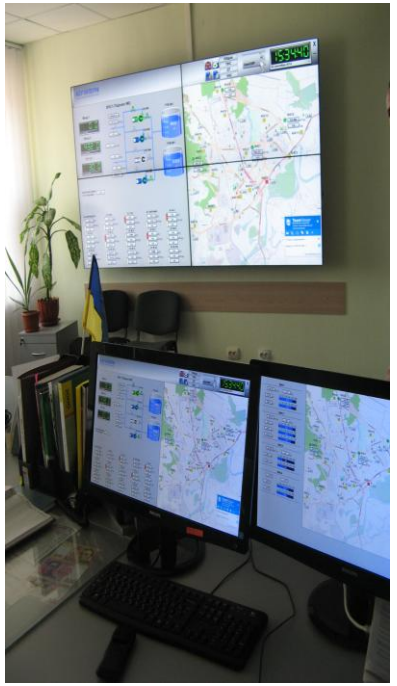
Projects Implemented under the Second Urban Infrastructure Project (World Bank Loan Financing)









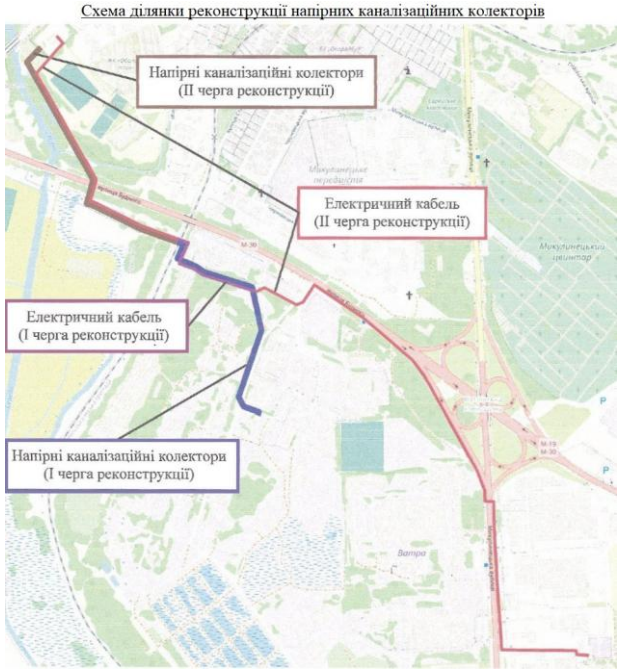


- TER-ICB-05 “Installation of SCADA system for water pump stations, wastewater pump stations, and wastewater treatment plant and water supply and wastewater disposal network”
- TER-ICB-06 “Procurement of instruments for laboratories”
- TER-ICB-07 “Procurement of automotive equipment”
- TER-DC-11 “Procurement of special vehicle for avoidance of accidents and emergencies”

Source: archival photographs of UC Ternopilvodokanal

Project Implemented under the Interreg NEXT Poland–Ukraine 2021–2027 Programme (European Union Grant Funding)

Project “Development of sewage infrastructure in two cities - Suwalki and Ternopil” No. PLUA.01.02-IP.01-0020/23







Results:

- Increased reliability of the wastewater disposal system.
- Improved environmental conditions.

Source: archival photographs of UC Ternopilvodokanal

Resilience in Wartime: How Water Utilities Adapt to New Challenges

- Backup power supply.
- Engineering protection of critical infrastructure facilities and personnel.
- Emergency stocks of materials and equipment.
- Availability of alternative decentralized water supply sources.
- Distribution of technical, fuel and material resources across different locations.

Resilience is the ability to continue providing services even under emergency circumstances.









Modernization Continues

(plans for large-scale projects in the coming years)

- Reconstruction of water supply and sewerage networks.
- Modernization of pumping equipment.
- Modernization of wastewater treatment plant.
- Automation and digitalization.
- Reduction of energy consumption and development of alternative power supply sources.
- Reduction of water losses, implementation of district metering and pressure management.
- Compliance with European environmental standards.

Recovery should not mean returning to the old model – we should build better, more efficient and more modern infrastructure.



Reconstruction of wastewater treatment plant with the construction of a sludge dewatering facility and reconstruction of biological ponds – EUR 22 million



Reconstruction of the Ternopil Water Intake Complex, including the reconstruction of water pipelines to expand the water supply coverage area – EUR 14 million



Reconstruction of DN800 and DN1000 water pipelines from the village of Ivachiv Horishnii to the city of Ternopil (15 km in length) – EUR 10 million



Reconstruction of emergency sections of pressure-and-gravity sewer collectors in Ternopil – EUR 10 million

Partnership as the Foundation of Resilience



Thank You for Your Attention and Continued Support!

