# WORLD BANK DANUBE WATER PROGRAM

Sustainable infrastructures Private sector examples of good practices in development of sustainable wastewater services

2/3/2022



### Summary

- 1. Business models From B and DB, to DBO and BOT
- 2. Lease & O&M The Czech example

Ostrava

3. BOT – An example in Poland Mlawa





# 1.

# **Business models**





# A few definitions





В

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Finance,

Build.

Conce

ssion

**Operate**,

## Most of life-cycle costs are OPEX ...





# Who does what ? (1/3)

Type of contract	Scope of Work Public authority	Scope of Work Private partner
Construct° only	<ul> <li>Produces a design (or engages a private sector design Consultant to do so)</li> <li>Calls for tenders from private constructors</li> <li>Responsible for operation &amp; maintenance of the facility</li> <li>Funds the project</li> </ul>	- <b>Builds</b> the facility to government's design for a fixed price
Design & Build (DB)	<ul> <li>Produces a performance specification describing the outcomes that the facility must achieve and the requirements it must meet.</li> <li>Calls for tenders from private sector contractors</li> <li>Responsible for operation &amp; maintenance</li> <li>Funds the project</li> </ul>	<ul> <li>Designs and constructs a facility that meets the performance specifications for a fixed price</li> <li>Building permit application</li> </ul>
DBO 1-2 years (Design, Build & Operate)	<ul> <li>Produces a performance specification describing the outcomes that the facility must achieve and the requirements it must meet.</li> <li>Calls for tenders from private sector contractors</li> <li>Funds the project</li> <li>Operates the plant</li> </ul>	<ul> <li>Designs and constructs a facility that meets the performance specifications</li> <li>Building permit application</li> <li>Provides technical assistance during 1-2 years         <ul> <li>usually corresponding to the Guarantee Period</li> </ul> </li> </ul>



# Who does what ? (2/3)

Type of contract	Scope of Work Public authority	Scope of Work Private partner
DBO 15-30 years Long Term Performance -based contract	<ul> <li>Produces a performance specification describing the outcomes that the facility must achieve and the requirements it must meet.</li> <li>Calls for tenders from private sector contractors</li> <li>Funds the project</li> </ul>	<ul> <li>Designs and constructs a facility that meets the performance</li> <li>Optimizes CAPEX and OPEX</li> <li>Operates and maintains the facility for a specified period usually between 15 and 30 years</li> <li>Operator hires local staff</li> <li>Performance/operating costs are the contractor's risk</li> </ul>
BOT (Build Own Transfer) <u>Long Term</u> <u>Performance</u> <u>-based</u> <u>contract</u>	<ul> <li>Produces a performance specification describing the outcomes that the facility must achieve and the requirements it must meet.</li> <li>Calls for tenders from private sector</li> <li>Pays the SPV a monthly or quarterly service payment commencing when construction is complete</li> </ul>	<ul> <li>Designs and constructs a facility that meets the performance specification for a fixed price</li> <li>Optimizes CAPEX and OPEX</li> <li>Operates and maintains the facility for a specified period – usually between 25 and 30 years</li> <li>Operator hires local staff</li> <li>Performance/operating costs are the contractor's risk</li> <li>Finances the design and construction of the facility by raising equity and/or debt finance.</li> <li>Returns the facility in good operating condition at the end of the contract period.</li> </ul>

# Who does what ? (3/3)

Type of contract	Scope of Work Public authority	Scope of Work Private partner			
Lease &Operate	<ul> <li>Manages the assets, decides on and funds investments</li> <li>Agree with private on performances to be met, lease fees, tariff and margin</li> </ul>	<ul> <li>Operates and maintains the facility for a specified period usually between 25 and 30 years</li> <li>Provides knowhow, suggest improvements and innovations on OPEX and CAPEX</li> <li>Agree with private on performances to be met, lease fees, tariff and margin</li> </ul>			
Concession Long Term Performance -based contract	<ul> <li>Can finance some significant investments</li> <li>Control the performance</li> <li>Negotiate tariffs and performances to be met</li> </ul>	<ul> <li>Manage and maintain the assets</li> <li>Finance investments</li> <li>Operate the infrastructures, optimize CAPEX and OPEX</li> <li>Bears the risk of income</li> </ul>			



# **Pros & Cons from the Public Authority view point**

Type of contract	+/-			
Construct only	<ul> <li>Technical options unchallenged</li> <li>No feedback from operational experience considered</li> <li>no incentive to optimise the operational efficiency, no support for operations</li> <li>no incentive to optimize the whole-of life cost</li> <li>+ Client decides on the investment and the technology</li> </ul>			
Design & Build (DB)	<ul> <li>+ Cheap financing solution</li> <li>+ Fast and cost effective selection process</li> <li>+ Reduces design time and construction calendar (as design and building elements run concurrently)</li> <li>+ financial risk transferred (labour and materials)</li> <li>- Final operation costs can be reasonably higher than original estimates.</li> <li>- No support to the operators</li> </ul>			
DBO 1-2 years (Design, Build &Operate)	<ul> <li>+ Cheap financing solution</li> <li>+ Fast and cost effective selection process</li> <li>+ Reduces design time and construction calendar (as design and building elements run concurrently)</li> <li>+ financial risk transferred (labour and materials)</li> <li>+ training and technical assistance</li> <li>- Final costs can be reasonably higher than original estimates.</li> <li>- No incentive to optimize the whole-of life cost</li> <li>- Limited knowhow transfer limited responsibility on the operations</li> </ul>			

# **Pros & Cons from the Public Authority view point**

Type of contract	+/-
<b>DBO</b> 15-30 years	<ul> <li>+ Cheap financing solution</li> <li>+ Fast and cost effective selection process</li> <li>+ Reduces design time and construction calendar (as design and building elements run concurrently)</li> <li>+ financial risk transferred (labour, materials, consumables and staff)</li> <li>+ training and comprehensive knowhow transfer</li> <li>+ lifecycle cost optimization, OPEX and CAPEX are optimized</li> <li>- Tender preparation is unusual</li> </ul>
BOT 25-30 years	<ul> <li>+ strategic control over service delivery</li> <li>+ Fast and cost effective selection process</li> <li>+ Reduces design time and construction calendar (as design and building elements run concurrently)</li> <li>+ financial risk transferred (labour, materials, consumable and staff)</li> <li>+ no debt, high regularity of the costs</li> <li>+ training and comprehensive knowhow transfer</li> <li>+ lifecycle cost optimization, OPEX and CAPEX are optimized</li> <li>- preparation usually long and demanding</li> <li>- higher transaction and financing costs</li> </ul>

# **Pros & Cons from the Public Authority view point**

Type of contract	+/-
Lease & Operate 25- 30 years	<ul> <li>+ Go-governance, Commitment of both parties , cooperation mode</li> <li>+ transparency</li> <li>+ Control on tariff, performance, costs</li> <li>+ Lease provides Financial ressource for CAPEX</li> <li>+ Access to innovations and technical assistance, long term knowhow transfer</li> <li>- Board of directors decisions are required for main projects</li> </ul>
<b>Concession</b> (25-30 years	<ul> <li>+ Main responsibilities ar transferred to the private partner</li> <li>+ Limited investments on the public party</li> <li>+ financial risk transferred (labour, materials, consumables and staff)</li> <li>+ training and comprehensive knowhow transfer</li> <li>+ lifecycle cost optimization, OPEX and CAPEX are optimized</li> <li>- Control is demanding</li> <li>- Transparency can be an issue</li> </ul>



# 2.

# OSTRAVA (Cz) Lease & Operation & Maintenance

@suez







# Two main shareholders – Three agreements Transparency – Co-governance - Performance



# COMPOSITION OF BOARD OF DIRECTORS: 3 DELEGATES OF CITY OF OSTRAVA, 3 DELEGATES OF SUEZ AND 1 COMMON DELEGATE.

# **COMPOSITION OF BOARD OF SUPERVISORS – 7 MEMBERS – 4 DELEGATES OF COO, 1 EMPLOYEE DELEGATE, 2 DELEGATES OF SUEZ**



## **Responsibilities of the parties – Cooperation principles**

#### LEASE OF INFRASTRUCTURE

Payment of a rent City of Ostrava ensures an investment program at the minimum level of the rent Rent in 2021 was + 12 m€

#### OPERATION AND MAINTENANCE AS PER THE EXPECTED PERFORMANCES

#### Reasonable profit Tariffs are decided in accordance with

•Formula in the contract

•Profit regulation and under Ministry of finance control



# **Example Output 1**

#### **PROFILE OF WATER AND WASTEWATER CONSUMPTION**





# **Example Outputs 2**

#### **PROFILE OF WATER LOSS AND NRW**





# **Example Output 3**

#### **ACCESS TO INNOVATION**

#### 16 000 meters are equipped with transmitters 32 000 meters should be equipped end of 2024





# **Example Output 4**

#### **COMPARISON OF WATER TARIFS IN CZECH REPUBLIC**





# **3.** Mlawa (Pol) BOT





# **PPP** in Mława

### **PROJECT DESCRIPTION**

- DBFO Waste Water Treatment Plant with a flow of 5 200 m<sup>3</sup> (42 000 PE)
- Signature in 2016 for a period 33-year contract
- Design, construction and commissioning by Suez International/Degremont
- 12 mln Euro value of Investment
- 88 mln Euro value of the O&M
- Suez Woda SPV specially created for the purpose of this project with 15 employees.
- Project awarded as one of the best PPP agreement on the polish market.





# Beginning of the project

### **CITY NEEDS**

- Need for fast modernisation of Wastewater Treatment Plants
- Increase level of residents' connections
- Maintaining tariffs at an acceptable level
- No debt

### **CHOICE: PPP TENDER**

- Construction of a new Wastewater Treatment Plant including design, financing and operation
- Taking over the existing Waste Water Treatment Plant
- Guaranteeing 33 years of trouble-free operation
- Capacity of WWTP 40 000 p.e.

### **GUARANTEES**

- Public Partner land for construction and guarantee of sewage disposal
- Private Partner the entire investment and ensuring proper operation





# **Timeframe and tarifs**

## TIMEFRAME

- Signature of the contract In 2016
- Start of operation of old plant
- Permit in 2017
- Construction 2017 2019
- Start of operation in 07 2019

# **OTHER FEATURES**

- Contract length: 33 years
- Employment guarantee for staff for 5 years

# TARIF

 Criterion: unit rate per m3 and duration of volume guarantees

WRSr = 0,80\*W<sub>HICP</sub> + 0,10\*W<sub>WB</sub> + 0,10\*W<sub>EI</sub>

	20 25 years
•	variation = -/+ 3%.
•	Average quantity for the last 3 years
	(1,63mln m <sup>3</sup> )
	7 /

Guarantee of waste water volume:

20-25 years

/	m3	Mława	Pułtusk	Nidzica	Płońsk	Ciechanów	Płock	Średnia <50 000	Średnia kraj.
	Woda	2,78	2,71	3,13	2,99	2,79	4,16	4,00	3,95
	Ścieki	5,66	4,78	4,36	6,29	5,99	6,12	6,03	7,00
	w tym oczyszczanie	3,38							
	Total	8,44	7,49	7,49	9,28	8,78	10,28	10,03	10,95

## Conclusion

#### MANY TYPES OF COOPERATION FOR O&M ARE POSSIBLE

- Design Build & Operate
- · BOT
- Lease & Operate ...

#### **IDENTIFY PUBLIC PARTY NEEDS**

- Financing
- Operational responsibility
- technical performance, productivity...

#### TAKE THE MOST OF THE PRIVATE PARTNER

- Operational guarantee
- Knowhow transfer
- Innovation
- Technical performance ...

#### LOOK FOR WIN WIN COOPERATION LONG TERM / TEMPORARY BASIS



# **THANK YOU**



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