



# **SAMRA**

## **Wastewater Treatment Plant**

### **A Major Asset for Jordan**

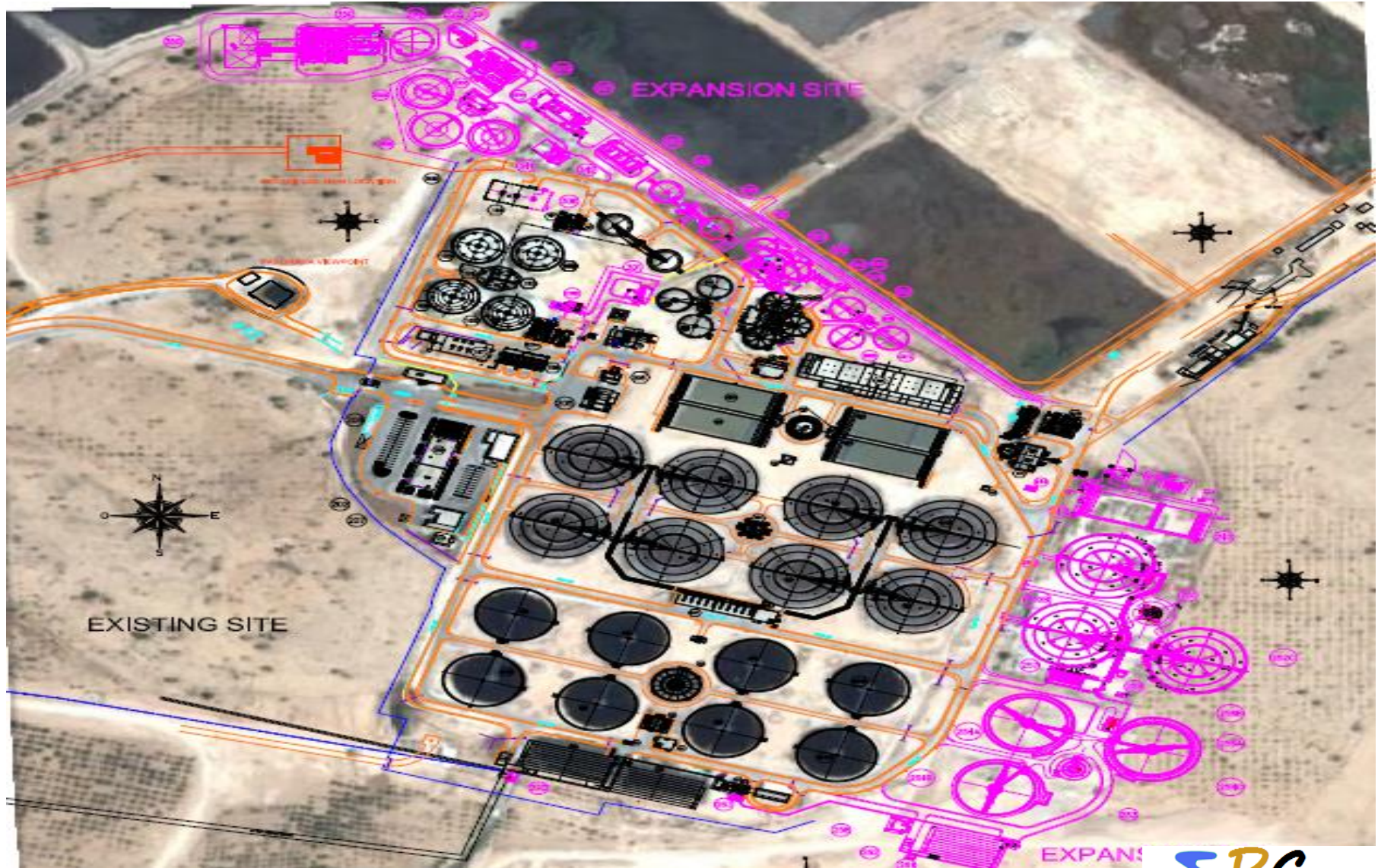


# 1-Project Overview – The water cycle





# 1-Project Overview - map



# 1-Project Overview – Flows and Loads

- **As Samra WWTP phase I**
  - BOT contract signed in 2003 Jordanian Government
  - Plant capacity: 267.000 m<sup>3</sup>/day
  - Construction completed : 2008.
  - O&M period of 22 years
- **As Samra Expansion (phase II)**
  - Water line capacity 40 % increasing : 267 000 m<sup>3</sup>/d to 367 000 m<sup>3</sup>/d.
  - Sludge line capacity 80% increasing + mechanical dewatering for phases I & II.
  - Major part of works is similar to Phase I, except mechanical dewatering.
  - The BOT duration is 25 years including 3 years for construction and 22 years of O&M (i.e. until 2037)



# 1-Project Overview – Financing structure

## SOURCES:

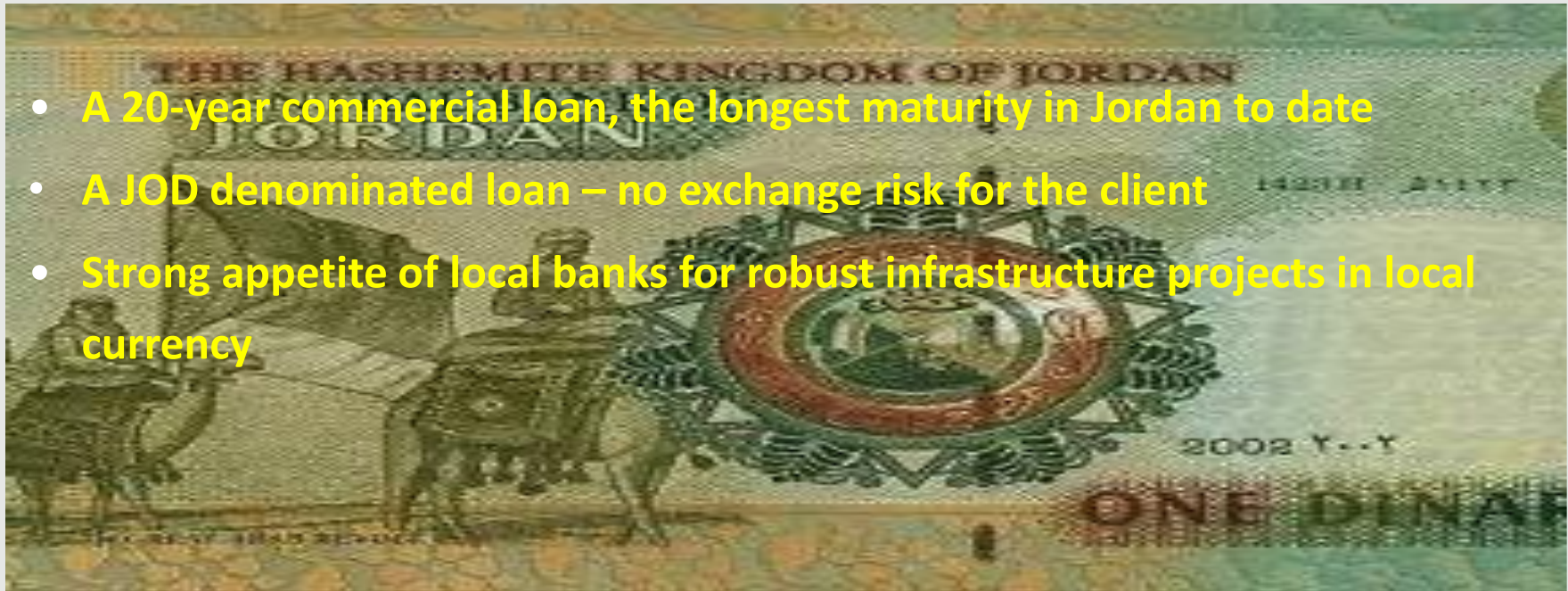
•MWI / MCC:	93.4 MUSD
•LENDERS:	146.0 MUSD
•Sponsors Equity :	8.5 MUSD
•Operational Cashflows +Interim Capex :	19.7 MUSD
• <b>Total:</b>	<b>267.7 MUSD</b>

## APPLICATIONS:

•Refinancing existing loan:	43.6 MUSD
•EPC payments:	184.2 MUSD
•Financial charges during construction:	26.5 MUSD
•Others (including PMC / Tax)	13.4 MUSD
• <b>Total:</b>	<b>267.7 MUSD</b>



## 2- Financing- The commercial loan



- A 20-year commercial loan, the longest maturity in Jordan to date
- A JOD denominated loan – no exchange risk for the client
- Strong appetite of local banks for robust infrastructure projects in local currency

- Facility Size – JOD 105 m
- Term – 20 years from Financial Close
- Fixed interest rates during 3 year Construction Period, Floating rate thereafter
- Debt/Equity : 80/20

- DSCR minimum : 1,25
- Recourse against Sponsors limited to the Equity Guarantee
- Standard security package (including direct agreements but no reserve account)

## 2- Financing - A template for Viability Gap Funding

- **First wastewater treatment facility** in the Middle East to use a combination of private, local government and donor financing.
- Closing the financing of the expansion proved the **feasibility** and demonstrated the **significant benefits** of **combining** private sector financing with grant funding in a scheme referred to as Viability Gap Financing.
- By bringing down the capital costs, the grant funding enabled the project to be **financially viable**, thus benefiting the government and local rate-payers, **without subsidizing the private sector**.
- Recognized by several international financial organizations the Samra innovative financing has set-up a new template for **Viability Gap Financing**. This new mechanism provides a significant leverage to the financial assistance of international donors and will undoubtedly allow new projects to materialize.

# 3 - The sole source negotiation – Challenges & Opportunities

- **Millennium Challenge Corporation (Donor) accepted the idea of sole source negotiation due to :**
  - Reputable and professional sponsors giving confidence to MCC
  - Reliable operator
  - Track record of first phase
  - A methodology to complete the cost analysis of the non competed bid
- **The Government implemented a Special Committee including several Ministries and administration :**
  - Ministry of Water and Irrigation represented by MWI Secretary General and WAJ Secretary General
  - Ministry of Finance represented by its Secretary General
  - Ministry of Planning represented by its Secretary General
  - Ministry of Public Works and Housing represented by its Secretary General
  - Ministry of Customs represented by its Secretary General
  - The Audit Bureau
  - MCA-J represented by its CEO

**This Committee, advised by several International Consulting firms ,reviewed the EPC pricing and the negotiated deal in order to ensure full transparency to the negotiations and gave the final approval on the Project.**



# 4-Project benefits



## Controlled reuse of water for irrigation

The high-quality water is used downstream for irrigation.

**65% of available water resources are consumed by agriculture**



## Employment & transfer of know-how

Local individuals are developed and promoted.

**180 permanent local employees**  
Up to 2,500 employees during construction phases



## Tariff affordability

The low cost of treatment is part of the strategy to boost the economy

**Tariff JOD/m<sup>3</sup> : the lowest in Jordan**

The equivalent of **4,000 farms or 10,000 hectares** are irrigated with Samra high quality water

# 4- Project benefits - Key figures



## TREATED WATER FOR AGRICULTURE

The plant produces treated wastewater for agriculture usage which represents approximately **10% of the water supply available in Jordan**, freeing up fresh water for more valuable uses

## 70% OF THE WASTEWATER TREATED IN JORDAN

The plant produces **more than 70% of the total treated wastewater in Jordan** and treats the sludge from numerous septic tankers unloading in Ain Ghazal pre-treatment plant.

## HIGH QUALITY WATER

High-quality water produced through professional O&M and expected to reach 134 million m<sup>3</sup>/ year. The quality is in **compliance with international effluent standards**

## 95% ENERGY SELF SUFFICIENCY

Through **hydro and biogas production**, the potential **recovery is 95%** of its energy needs (Phase 1). Only the remaining 5% is drawn from the national grid.

# 4-Project Highlights – 2013 Award

## WORLD FINANCE AWARD

- World Finance Award : Best Water Project 2013
- HE Hazim El-Nasser was interviewed in London together with Thomas Langford (CCC) and Anne de Pazzis (Degrémont).





# 5- A long-term partnership ...

- **... To the benefit of Jordan:**
  - a cornerstone of the Jordan Water Strategy (**10% of the water supply** available in the country, **more than 75%** of the wastewater treated)
  - A **guarantee** of long term high quality and availability of treated water
  - A key as well for the **Renewable Energy** policy through **hydro energy and biogas production** (last year production 55 GWhr or 90% of the plant needs)
  - Flexibility of the Project Agreement enables further **developments** to be anticipated (Phase III?, Pumping stations?, sludge management?,...)
- **... Because this is our long-term BOT culture and our expertise:**
  - **Environmental care** well incorporated into **Business Culture**
  - Make Stakeholders and Public authorities **our Partners**
  - Lead the way in **Quality, Health, Safety** and **Environment** management
  - **Innovation / Renewable Energies** are the future of water Facilities & Utilities

# ANNEXES

# **AS SAMRA WWTP**

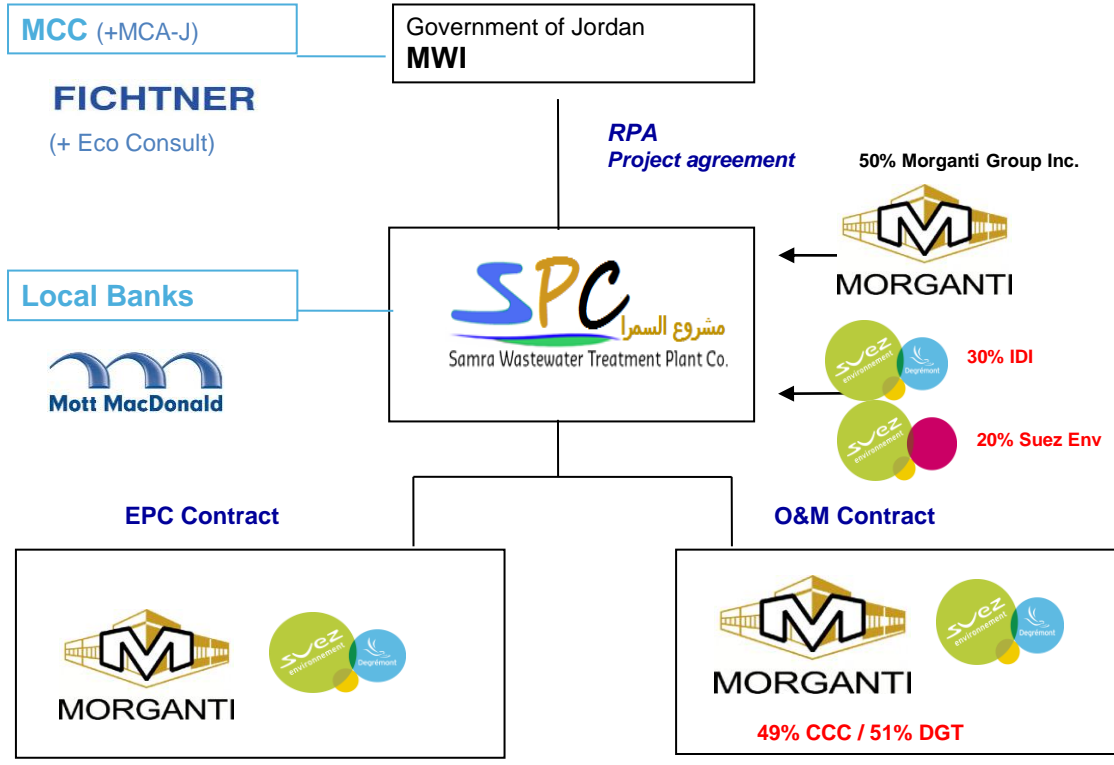
## **The Public-Private Partnership concept**

# **CONTRACTUAL FRAMEWORK**



# 3-Project General Organization

## Stakeholders

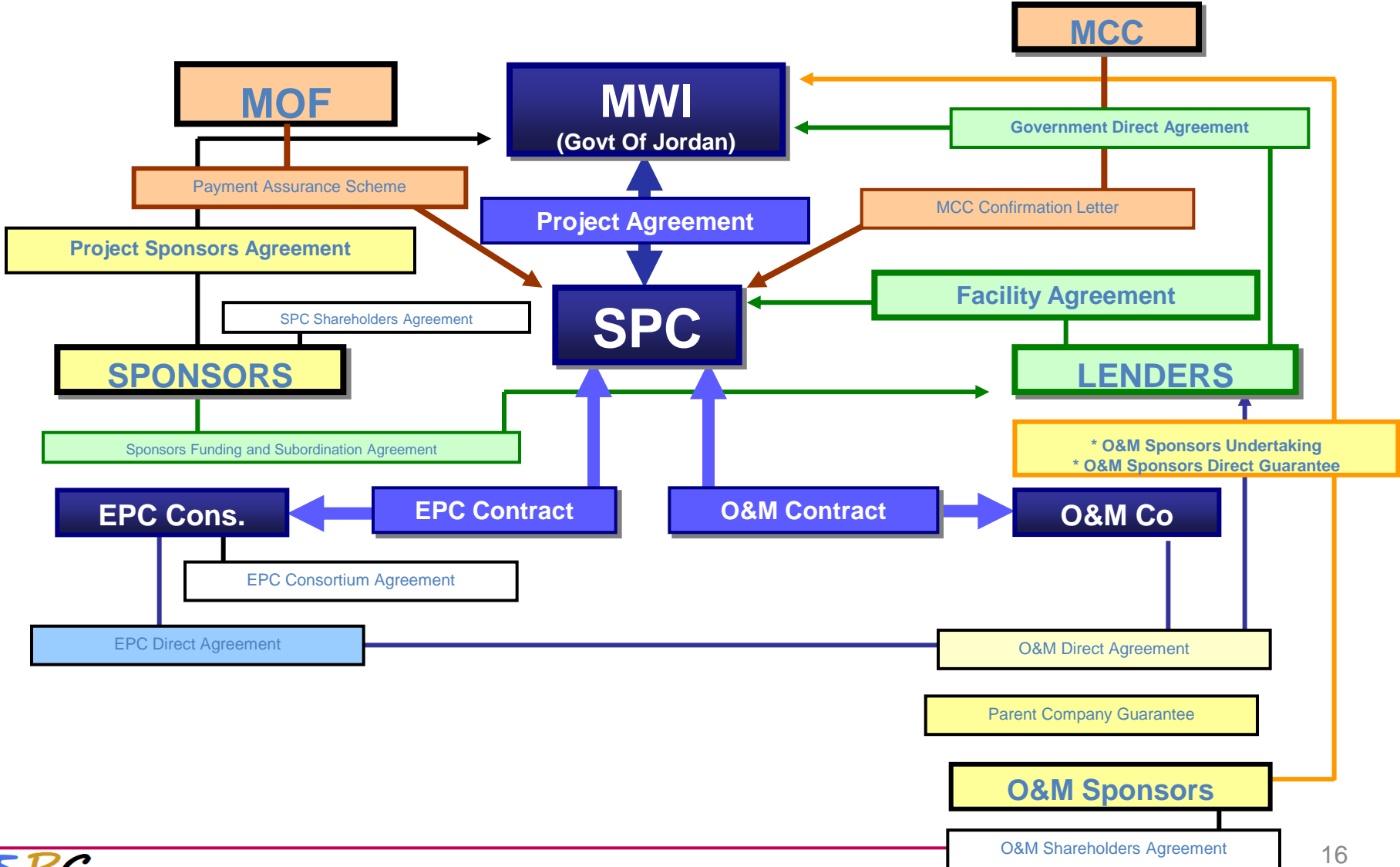


Civil engineering /  
Earthworks /  
Civil works /  
M&E Erection

Process Engineering /  
M&E Equipments supply /  
Commissioning

- **Client:** Government of Jordan represented by the Ministry of Water and Irrigation (MWI)
- **Donor:** Millennium Challenge Corporation (MCC); U.S. foreign aid agency
- **Grant Fund Manager:** Millennium Challenge Account (MCA-Jordan).
- **Authorities Engineer:** Fichtner (+ local consultant Eco Consult)
- **Project Companies:** Samra Wastewater Treatment Plant Company Ltd. (SPC) and Samra Plant Operation and Maintenance Co. Ltd. (O&M).
- **Sponsors:** Suez Environment / IDI and Morganti-CCC
- **Lenders:** Lender Syndicate led by Arab Bank
- **Lenders Advisor:** Mott Mac Donald

# 4- Contractual framework

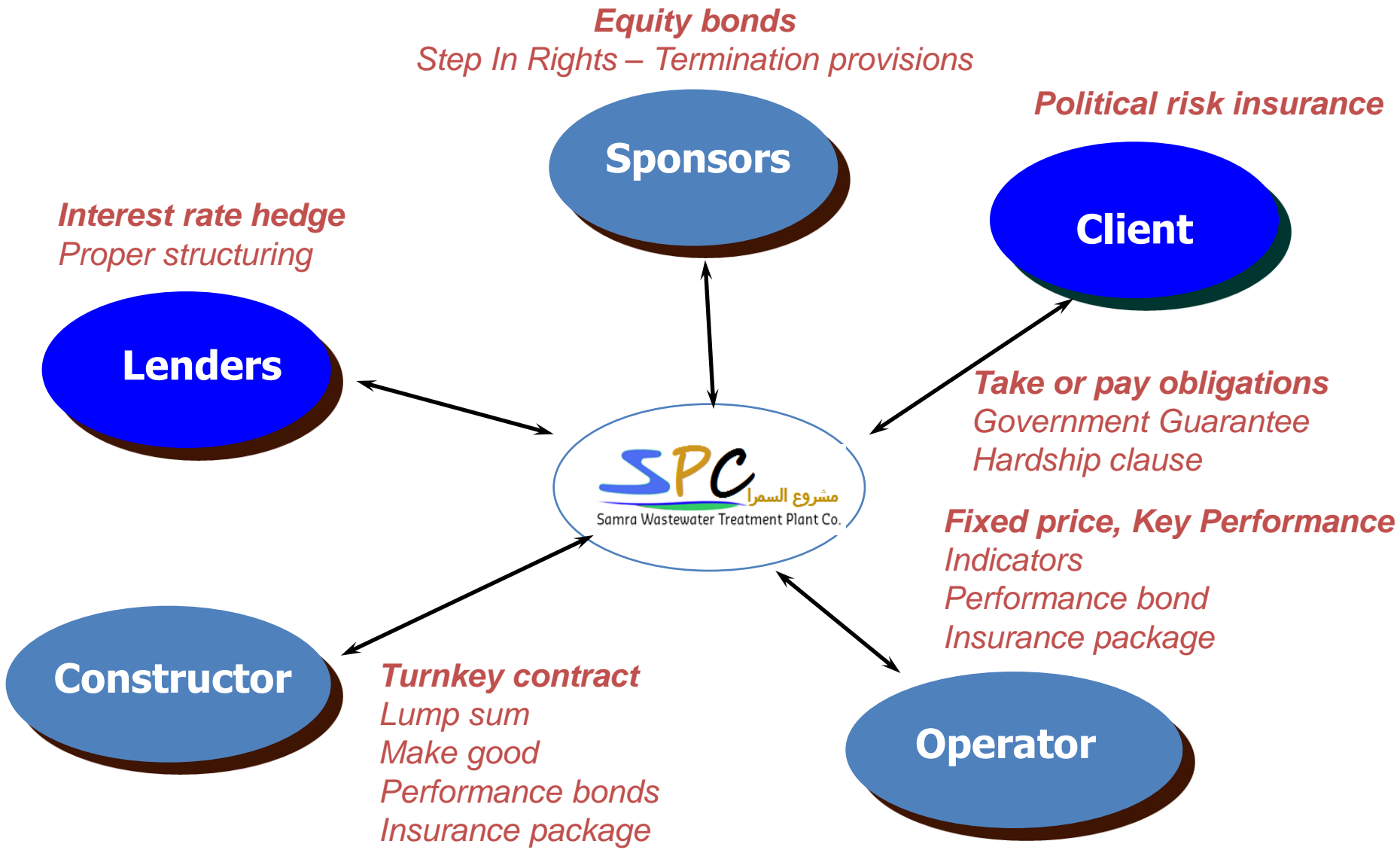


# 4- Contractual framework

No.	AGREEMENT	MOF	MWI	Lenders	SPC	Sponsors	EPC	O&M	Insurance Co.	Electricity Co.
1	Restated Project Agreement		X		X					
2	Restated Project Sponsors Agreement		X			X				
3	Equity Guarantee Agreement		X	X		X				
4	Reserve Account Agreement		X	X	X					
5	Government Direct Agreement		X	X	X					
6	Ministry of Finance Guarantee Agreement	X			X					
7	EPC Contract				X		X			
8	O&M Contract				X			X		
9	Restated Proprietary Information License Agreement				X	X				
10	Facility Agreement			X	X					
17	Account Control Agreement			X	X					
11	Sponsor Funding and Subordination Agreement			X	X	X				
14	Share Pledge Agreement			X	X	X				
15	Finance Parties Rights Agreement			X	X	X				
18	Moveable Assets Security Agreement			X	X					
19	Possessive Mortgage Agreement			X	X					
20	Adel Appointment Agreement			X	X					
16	Assignment Agreement (including notices & acknowledgements)			X	X					
12	EPC Direct Agreement			X	X	X	X			
13	O&M Direct Agreement			X	X	X		X		
21	Reinsurance Assignment			X	X				X	
22	Power Supply Contract Assignment			X	X					X



# Risk Mitigation Instruments



# **AS SAMRA WWTP**

## **The Public-Private Partnership concept**

# **A UNIQUE FINANCING**

# A unique financing package

**Winner of two international prizes:**

- **WEX global Award for innovative financing**
- **World Finance Infrastructure Award**

- **Lenders fully familiar and enthusiastic for the project**

- Reputable and professional sponsors giving confidence to the Lenders
- Reliable operator
- Track record of first phase
- Same risk profile
- The sponsors have accepted to carry the risk of refinancing at year 13

- **Excellent financing package offered by Arab Bank**

- Rare opportunity therefore strong competition from local banking industry
- Best conditions ever offered for an infrastructure project in Jordan
- 20 years tenor, Prime rate – 0,5%
- Ratios, Minimal fees, no reserve account

**→ Benefit for MWI**

- Refinancing gains to GoJ – Lower cost passed-through to GoJ
- Local currency financing = no foreign exchange risk for GoJ
- Ease of concluding financial documentation

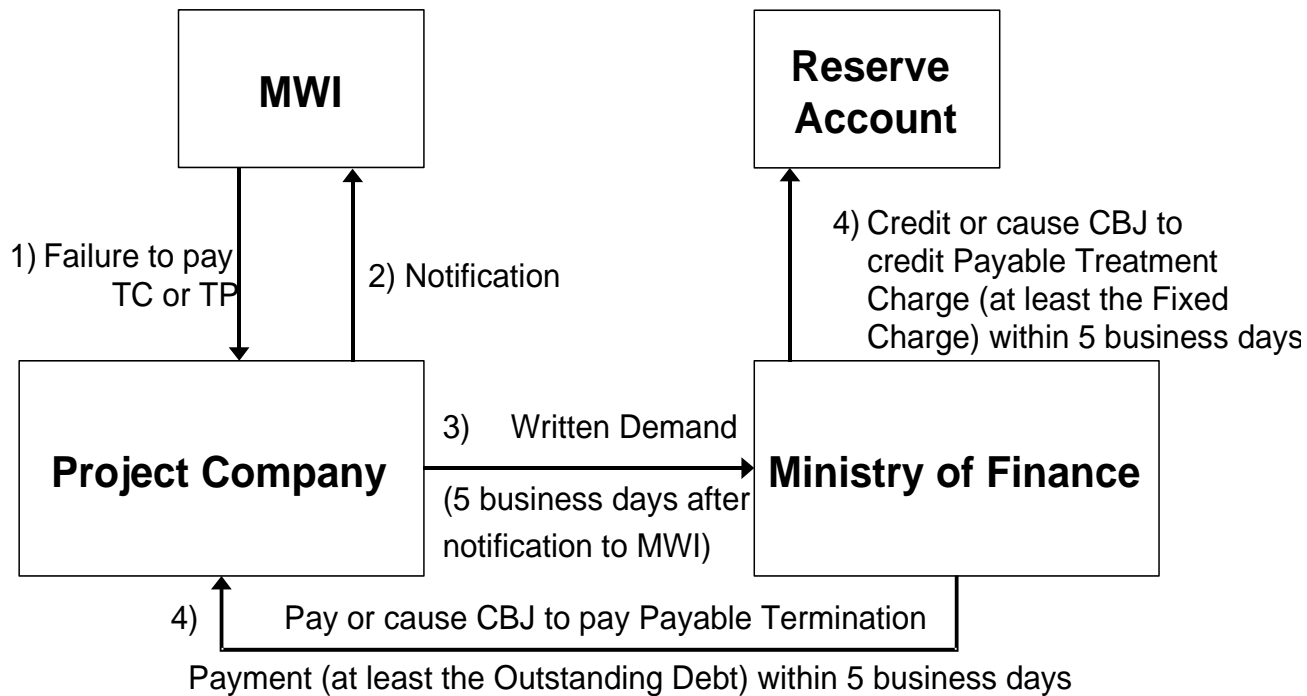
# Tariff & Payment Mechanics

## HOW DOES IT WORK?



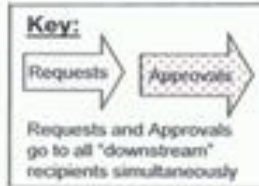
# Payments are secured through the Payment Assurance Scheme

MWI payments are secured through the Reserve Account and backed with a sovereign guarantee



# DISBURSEMENT MECHANISM

## Approval & Disbursement Process for Monthly Construction Draws *(subject to change)*



**Authority Engineer's (AE) Operational Review** (12 days total, of which 7 days is for AE and 5 days is for MWI) **3**

- AE reviews lenders' report
- AE reviews Progress Certificate and makes a site visit, as necessary
- AE certifies that all progress and deliverables required for payment have been met/provided
- AE confirms that costs in Invoice are MCC Eligible Expansion Costs
- AE checks that Project is expected to adhere to expected progress schedule
- AE confirms that project is in technical compliance with Compact Documents.
- AE identifies and recommends any variations.
- AE recommends approval via MCC Disbursement Certificate to MWI, which concurs and sends its approval to MCA-J Fiscal Agent in writing

**MCA-J Administrative Review** (5 days total) **4**

- 1) Fiscal Agent (FA) records receipt date on invoice and issues approval form to MWI and MCA-J Project Director (**30-day Prompt Payment clock for MCC starts**)
- 2) MCA-J Project Director instructs Fiscal Agent to pay through MCC Paying Agent
- 3) FA performs administrative review to ensure that appropriate approvals are received and payment is within authorized budget.
- 4) FA prepares and submits payment request form.

**SPC prepares MCC Disbursement Notice** **2**

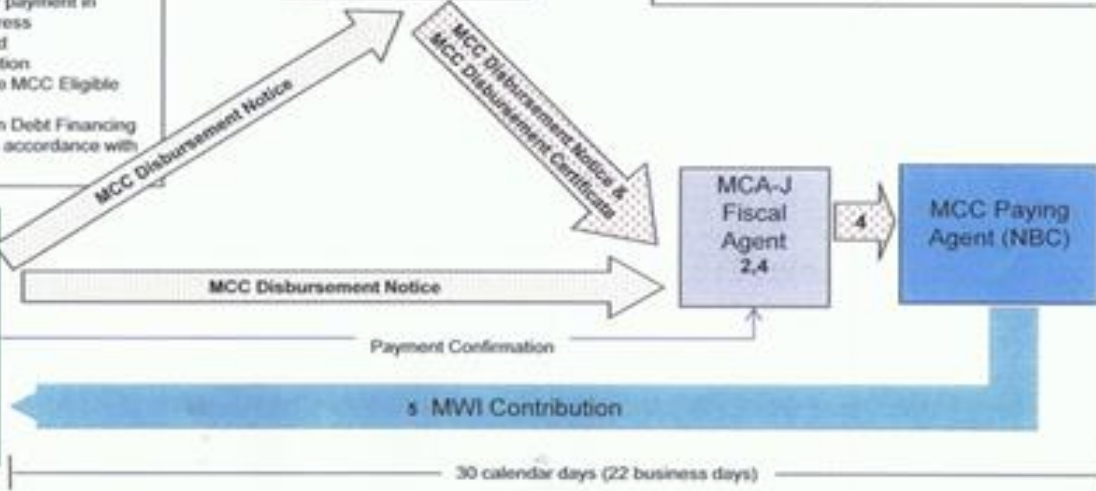
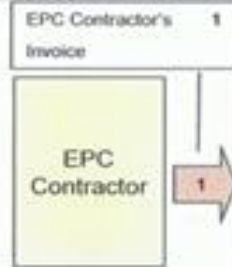
SPC sends MCC Disbursement Notice to MWI with copy to MCA-J Project Director and MCA-J Fiscal Agent (to start 30-day prompt pay) containing:

- 1) Progress Certificate, which contains:
  - ◆ EPC Contractor's Invoice
  - ◆ Documentation supporting claim for payment in accordance with Construction Progress Measurement and Valuation Method
  - ◆ Costs to be paid with MWI Contribution
  - ◆ Certification that costs will constitute MCC Eligible Expansion Project Costs
- 2) Request for drawdown of Expansion Debt Financing
- 3) Certification of Equity Investment in accordance with Appendix 7

**MWI, MWI Authority Engineer (AE), MCA-J Project Director** **3**

**Payment** (5 days total) **5**

- 1) FA updates accounting system
- 2) SPC confirms receipt to FA



# Conditions attached to MWI and MCC payments during construction

- **MCC requirements**
  - They apply to SPC and EPC and all of their subcontractors
  - A very comprehensive set of requirements of various kinds
- **MCC financial ratios**
  - Ratios are set by MCC to ensure side by side drawdown of grant with other sources
  - Lenders introduced similar ratios to ensure “pro rata” contribution
- **ESIA / ESMP**
- **Sludge Management Plan**
  - Not linked to EPC performance but necessary for EPC payments
  - MCC’s strong concern on environment.
  - Deadline for implementing final disposal solutions is getting shorter (2 years rather than 3)

**If SPC or EPC or O&M not compliant, MCC disbursement will stop**

**→ All financing sources stop consequently.**

When it comes to

# **MANAGEMENT & GOVERNANCE**



# SPC, a key role

One single management, a necessity

## EPC consortium



Coordination of actions



**Plant Manager**



**General Manager**

Reports about operational performance

Accountable for contractual, economic and operational performance

**MWI**



**Lenders**

