Case study on New Cairo Wastewater Project

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IFC Advisory Services
Public-Private Partnerships
Project Description

Due Diligence & Structuring Phase

Implementation Phase

Current Situation

Main Success Factors
Project Description

- In 2007, IFC was appointed by the Government of Egypt (“GoE”) to structure a PPP for the financing, design, construction, operation and maintenance of a new Wastewater Treatment Plant (“WWTP”) in New Cairo via Private Sector Participation (“PSP”);

- GoE’s objectives included:
  
  (i) Provision of adequate *water sanitation* to New Cairo to meet present and projected growth;

  (ii) Implementation of a *model PPP transaction* which can be replicated in other parts of the water sector; and

  *(iii) Mobilization of private sector* finance and know-how.
The Need

- New Cairo is one of the new centers promoted to help alleviate the problems of urban overcrowding in Greater Cairo;
- Water sanitation and supply were identified as priority sectors by the GoE as the existing infrastructure are insufficient and of poor quality.

<table>
<thead>
<tr>
<th>Population Forecast</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>690,000</td>
<td>2.0 M</td>
<td>3.2 M</td>
</tr>
</tbody>
</table>

New Cairo City
(35.2 ha)

WWTP

12.1 ha

11.0 ha

12.1 ha
Key Stakeholders

- Ministry of Housing (MHUUD)
- Ministry of Finance (MoF)
- Ministry of Investment (MoI)
- PPP Unit
- Off-taker (NUCA)
- Tender/Construction (CAPW)
- Operation (Holding Co.)
- Regulator (EWRA)
- Planning (GoPP)
- IFC
- Consultants
- Investors
- Lenders
- WWTP Project
- End-users
IFC Approach

Assessing PSP Options

Preparing the PSP Transaction

Implementing the Transaction
Phase I: Due Diligence & Structuring

Emphasis on Exhaustive Diagnosis

- Team Mobilization
- Technical and Legal Analysis
- Financial Analysis
- Structuring Transaction
- Pre-Marketing "Teaser"
- Draft Strategic Report
- Strategic Options Report
• Committed client who is capable to deliver;
  • Line ministry / authority involved must also buy into the project.

• Consultants
  • Normally led by IFC to ensure quality and control of the process;
  • Definition of good terms of reference key for a good future relationship.
Project Scope: Private partner to design, finance, construct, operate, and maintain a new **250,000 m³/day** wastewater treatment plant (no future expansions)
**Transaction Structure (2/2)**

- **Duration**: 20-year BOT agreement taking into account:
  - Depreciation of fixed assets;
  - Local debt terms.

- **Payment Mechanism**: GoE pays quarterly *Sewage Treatment Charge* (“STC”):
  - (i) a **fixed portion** (fixed opex, debt service and RoE); and
  - (ii) a **variable portion** (variable opex).

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**Diagram:**
- **Fixed Opex**
  - Indexed to Inflation (every year)
  - Based on WWTP availability
  - Based on volume of treated sewage

- **RoE & Debt Service**
  - Outstanding Debt indexed to Interest (every 3 years)

- **Var. Opex**
# Risk Allocation

<table>
<thead>
<tr>
<th>Key Risks</th>
<th>How to mitigate?</th>
</tr>
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<tbody>
<tr>
<td>Inflation</td>
<td>Operating portion (fixed &amp; variable) of the STC indexed to PPI on an annual basis.</td>
</tr>
<tr>
<td>Interest rates</td>
<td>Senior &amp; Subordinated debt indexed to 3-year CDs of 4 “reference” banks every 3 years.</td>
</tr>
<tr>
<td>Forex</td>
<td>Not mitigated as GoE had adverse experience on IPP tariffs on EGP devaluation.</td>
</tr>
<tr>
<td>Credit worthiness</td>
<td>Direct Agreement stipulated that MoF is to pay STC if NUCA cannot pay within 30 days after invoice date.</td>
</tr>
</tbody>
</table>
| Demand risk          | - Take or pay agreement - Only portion at stake is variable STC which is based on treatment levels.  
                       |   - Project plant prioritized for incoming influent flows                                                                                  |
| Supply of utilities  | GoE responsibility to provide the site with water, electricity, gas, phone lines, etc...                                                  |
Creative Payment Structure

- Challenge for local banks → lack of pricing benchmarks made it difficult to provide long tenors;

- Early discussions with banks and investors to design appropriate structure and make project bankable;

- Key requirements:
  - payment to match cost structure;
  - account for high inflation in Egypt;
  - offer appropriate protection against interest rate fluctuations; and
  - provide credit enhancement for the payments to be made by the off taker

- To cater to market needs, the payment structure was tailored to reflect the above requirements
Sewage Treatment Charge
Payment Formula

\[ STC_Q = \{CC_0 + FC_0 + (VC_0 \times V_Q) + INA_Q +/- IRA_Q - D_Q +/- OA_Q\} \]

- Payments made by the off taker (NUCA) “guaranteed” by the Ministry of Finance (Direct Agreement).
Project Description

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Phase II: Implementation

Emphasis on Transparency and Sustainable Partnership

- Commercial Closing
- Expression of Interest (EOI)
- Information Memo (IM)
- Prequalification
- Data Room and Site Visits
- Bid Documents
- Bidders Due Diligence
- Bid Submission & Evaluation
Prequalification & Bidding

• Technical Criteria:
  ➢ BOT, operating, design & construction experience.

• Financial Criteria:
  ➢ Net Worth ≥ US$ 75M at end of recent 3 financial years (US$ 150M for consortium).

• Local, regional and international investors applied; with 7 prequalified:
  1. Orascom (Egypt) and Aqualia (Spain);
  2. Al Kharafi (Kuwait);
  3. Samcrete (Egypt) and Befesa (Spain);
  4. Abdel Warith (Egypt) with Veolia (France);
  5. Metito Berlinwasser (UAE/Germany) with Hassan Allam Sons (Egypt).
  6. Passavant Roediger (Germany) / Al Rajhi (Saudi Arabia);
  7. Marubeni (Japan) and Biwater (UK).

• The first 5 submitted bids in April 2009.
Bid Evaluation

- Bidding organized as *two-envelope procedure*:
  - Technical bid evaluated on a “pass/fail” basis
  - Bidders who “passed” invited to the commercial bid opening

- The winning bidder selected based on *lowest NPV* of $\text{STC} + \text{Electricity pass through}$ throughout the 20-year concession

- *As electricity cost is pass through*
  - Bidders requested to quote projected electrical consumption
  - Cost was added to STC calculation to select the winning bidder
  - Thus building an “indirect” energy conservation incentive
Results

<table>
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<th>Bid</th>
<th>EGP/m³</th>
<th>US$ /m³</th>
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<tbody>
<tr>
<td>Orascom / Aqualia</td>
<td>1.74</td>
<td>0.31</td>
</tr>
<tr>
<td>Samcrete / Befesa</td>
<td>2.10</td>
<td>0.38</td>
</tr>
<tr>
<td>Al Kharafi</td>
<td>1.98</td>
<td>0.36</td>
</tr>
<tr>
<td>Veolia / Abdel Warith</td>
<td>2.50</td>
<td>0.45</td>
</tr>
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- Lowest contract value bid was EGP 2.6 billion (US$0.5 billion) over the 20 year concession period
- Estimated saving of EGP 2.9 billion (US$ 0.5 billion) for the GoE over 20 years.
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• Signing of the PPP Mandate between Orasqualia and CAPW was achieved on June 6th, 2009 (Commercial Close);

• IFC team continued its support to the GoE up until Financial Close, which took place on February 4th, 2010.

• The New Cairo Wastewater Treatment plant is now being constructed and should start operations in Q4 2012.
Success Factors

- MoF was a committed and capable client;
- Thorough due diligence to reach a good project structure;
  - Legal (e.g. issues with current tender law);
  - Technical (scope of work and performance criteria);
  - Financial (good reference for Governments to expect project outcome and payment)
- Proactive management of stakeholders (*Line Ministries, public authorities, awareness campaigns*);
- Strong marketing of the project and good understanding of the market needs (*scope, payment mechanism, credit enhancement, etc.*);
- Transparent process (*investor conferences, objective evaluation, no post bid negotiations, etc.*)

International PPP know-how and sector expertise combined with good international marketing and catering to local market needs is key for successful structuring and implementation of a PPP Project.