

**SAWEA Conference 2009**  
3<sup>rd</sup> March 2009

**Increased Role Of the Private  
Sector in Delivering Water &  
Wastewater Services**



# Contents

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- **Alternative Service Delivery Models**
- **The rational for Change**
- **The Saudi Initiative**
- **Success of Saudi Programme/few Examples**
- **Impact of the Credit Crunch**
- **Introduction to ACWA Power International**



# Water & Wastewater Services

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- Essential services for the health and wealth of mankind.
- Technology needs to be applied and physical assets need to be built (capital Expenditure) and operated (Operation and maintenance expenditure) to deliver these services in a reliable manner at an adequate quantity.
- Unlike many other human Endeavour, these services require significant upfront expenditure to build the plant and associated infrastructure; and
- Quite often needs a reasonable amount of ongoing expenditure to operate and maintain the plant and infrastructure.

# Alternative Service Delivery Models

## Traditional Model

### Private Sector

**Sells:**  
Engineering  
Equipment supply  
Contracting services

### Government

Produces water & power  
Sells @ subsidized prices  
Doesn't recover cost  
Can't meet demand  
Can't maintain assets

### Public, Commerce & Industry

Waste due to low prices  
Don't get quality or quantity

## Private Finance Model

### Government

Regulates  
Creates legal certainty platform  
Offers & maintains competition

### Private Sector

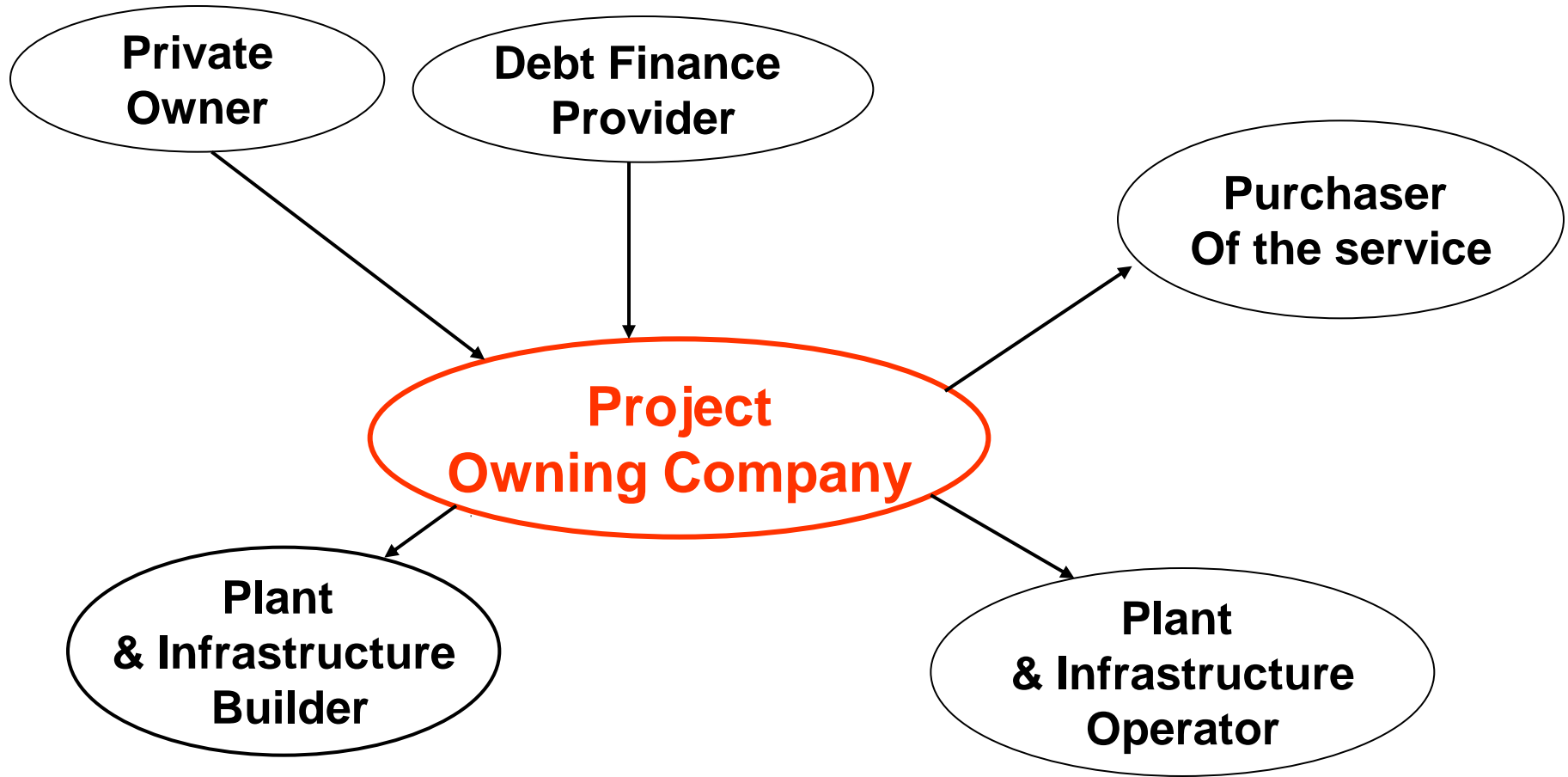
Delivers reliable service  
Fulfills demand  
Offers competitive price

### Public, Commerce & Industry

Receive needed quality and quantity of:  
*Water*  
*Electricity*

# The Private Finance Model

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# Contents

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# The Rational For Change

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- While albeit they are both essential commodities, water and power are just that like rice, wheat or clothing.
- Governments by definition are structured to govern; make policy, create level playing field, regulate and monitor.
- Private sector is geared to produce goods and services efficiently.
- Private sector adopts a more rigorous approach to understanding and managing risks.
- The ownership and associated “profit” (and “financial loss”) motive provides a significant incentive to deliver.

# Private Finance Model: The Rationale

Innovate (creating value)

Optimize between Capex and Opex

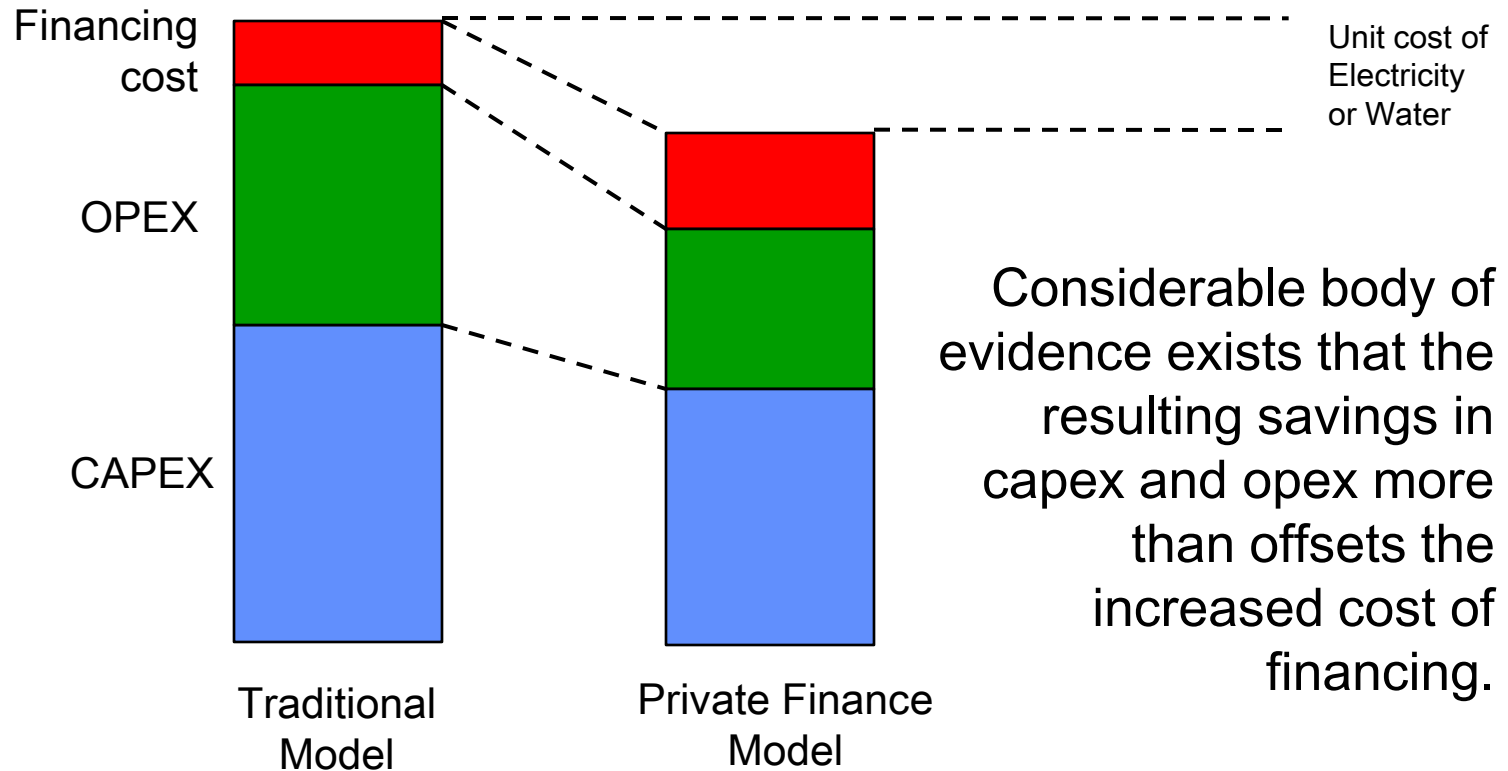
**Integration of design, construction, operator responsibility, and private sector ownership offers significant incentive to:**

Allocate risks to mitigate/manage, thus reducing contingency expenses and risk margins

Facilitate EPC contractors and equipment suppliers delivering better prices to private sector-led projects



# Private Finance Model /The Rationale



# Contents

---

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- Success of Saudi Programme/few Examples
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# The Saudi Initiative

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- Till 2004 Water & Power (considered in most instances together due to cogeneration synergies) was provided by four essentially Government Owned entities.
  - Bulk water was/is produced by Saline water Conversion Company (who also co-generate power and sell to SEC).
  - Electricity is generated by Saudi Electric Company.
  - ARAMCO produces both water & power for it's own consumption.
  - Marafiq produces water and power (in addition to also purchasing from SWEC and SEC) for use at the two industrial cities.
- In 2003 HH the King of Saudi Arabia opened 24 sectors for greater private sector participation and water & power was targeted as a priority sector to increase the involvement of the private sector.
- To kick start the process the Government decided to initiate a pipeline of 4 projects to increase bulk water and power capacity.

# ARAMCO & Marafiq Have also embraced the model

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- When ARAMCO & Sumitomo chemicals decided to develop an integrated chemical complex at Rabigh the utility services (water, power & steam) requirements were outsourced.
- ARAMCO & Dow Chemicals are preparing another integrated petrochemical project at Ras Tranura and plan to outsource the water, power and stem requirements.
- Marafiq is already outsourcing the augmentation of water & power requirement at Jubail. The BOT project is under construction.
- Marafiq has already tendered additional power and water at Yanbu. Bidders are currently preparation the tenders

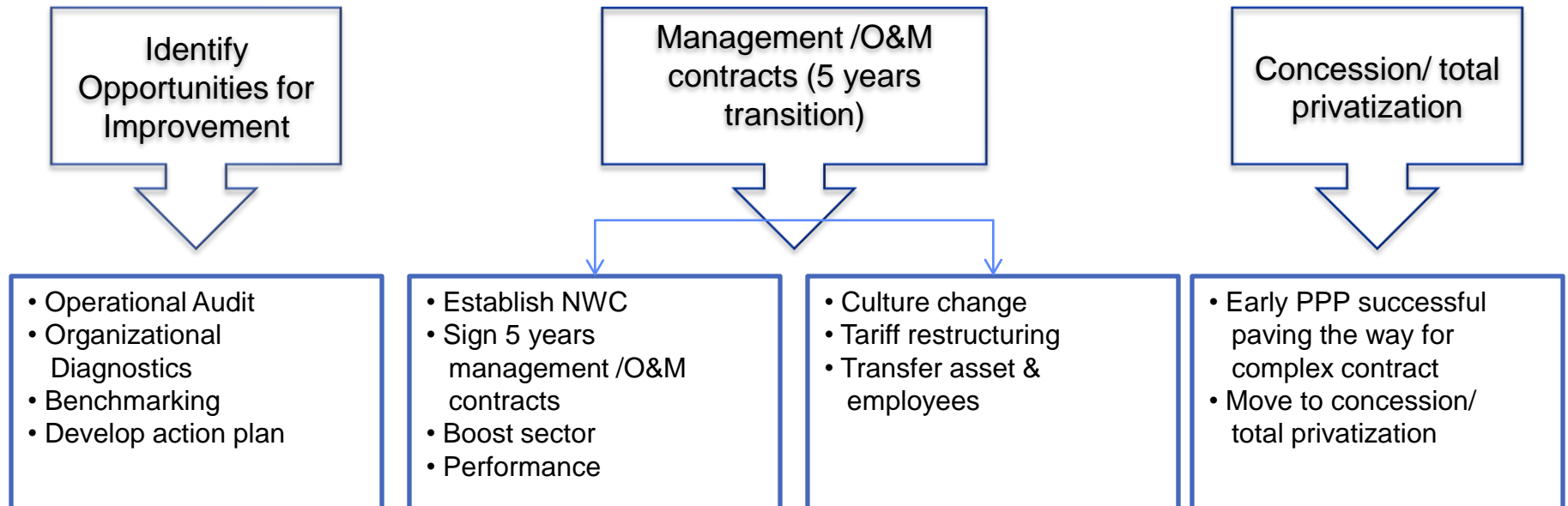
# Water Distribution & Wastewater Services

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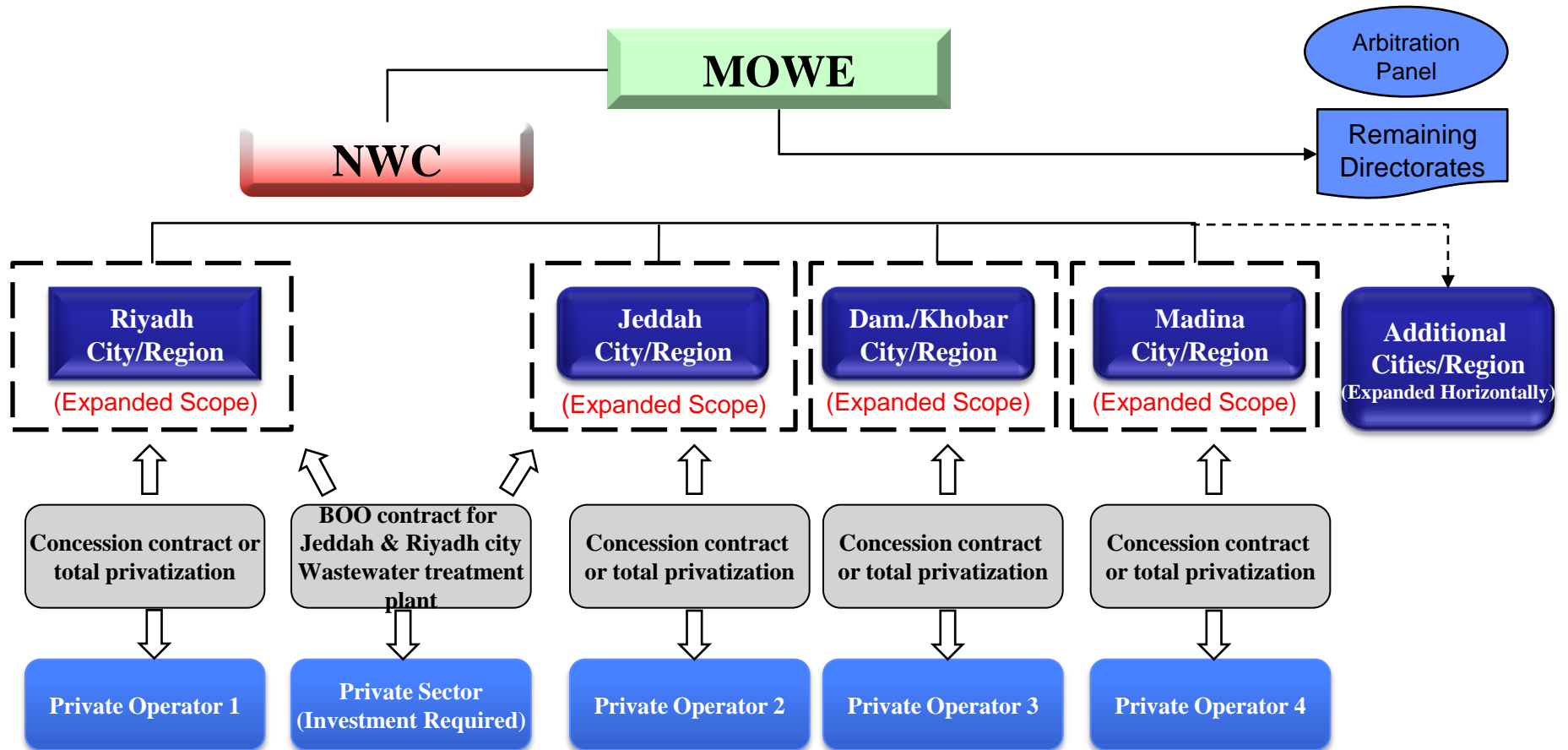
- This was in the hands of multiple agencies at national level and at municipal level.
- Little attention was given to wastewater collection, treatment and safe disposal let alone consideration being given to reuse for either industrial or irrigation purposes.
- All change with the adoption of a policy to streamline and transform the sector progressively increasing the role of the private sector.

# Water & Wastewater Sectors: Strategic Transformation Plan

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# National Water Company



# Achievement and Progress so far

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- Riyadh City: 6 year management contract awarded to Veolia in 2008
- Jeddah City: 7 year management contract awarded to Suez Environment / ACWA Holding signed in 2008.
- Dammam & Madinah cities: RFP is ready for tendering of 6 year management contract.
- Riyadh city Wastewater BOO: Consortium of HSBC is on job to finalize tendering process for BOO/ concession contract for all wastewater treatment plants. RFP is likely to be released shortly.
- Jeddah city Wastewater BOO: Consortium of CRA + E&Y are finalizing the RFP for BOO/concession contract for all wastewater treatment plants.



# Other regulatory Reforms

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- Electricity Sector Reforms underway.
  - Generation separated from Transmission and distribution.
  - A regulator has been established: Electricity Regulating Authority (ECRA).
- A Water Sector Reform Bill has been passed.
- Decision already taken to bundle all of the existing assets of SWCC (desalination and the desal/power cogeneration assets) into 7 packages and sell to the private sector starting in last quarter 2009.
- A key related issue protection of the Environment is also being addressed. Regulator PME (Presidency for Meteorology and Environment) is being strengthened.

# Contents

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- Alternative Service Delivery Models
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- The Saudi Initiative
- **Success of Saudi Programme/an Example**
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- Introduction to ACWA Power International



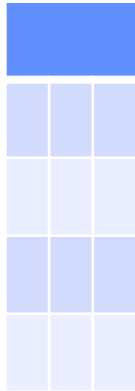
# Marafiq IWPP – Basic Detail



- 2745 MW Gas Fired Power Plant.
- 800,000 m<sup>3</sup>/d desal plant.
- Water and Power produced will augment supplies to the Jubail Industrial City.
- Developers: ACWA Power Int. + Suez Energy + Gulf Investment Corp.
- EPC: GE + Sidem + HHI.
- Project Cost: US\$ 3.3 Billion.

# Creating Financial Value to the Economy = Value ✓

- Bid Tariff for Marafiq



Marafiq		
Developer	Power	Water
Suez/ACWA/GIC	5.71	311.25
IP/Sumitomo/Oger	6.99	307.50
Mitsui/KEPCO/NPC	7.50	273.75

- In net present value terms SAR 1.8 Billion is the difference between the lowest bid and the second lowest bid
- Competitive tension being created by the programme is delivering significant value

# Fujairah 2 IWPP vs. Marafiq IWPP

## Comparison with a similar project in UAE

	Fujairah 2	Marafiq
Capacity	2000MW +130 mgpd	2750MW+175 mgpd
Fuel	Gas	Gas
PWPA Term	20 years	20 years
Transfer at end of term	No	Yes
<b>Private sector /Public sector ownership</b>	<b>40/60%</b>	<b>60/40%</b>
<b>Local Private ownership</b>	<b>0%</b>	<b>40%</b>
Project cost	US\$ 3 billion	US\$ 3.4 billion
Funding Structure: Debt/Equity	80/20%	80/20%
LEC (US cents/kWh)	2.97	1.66
LWC (US\$ /1000 gal per day)	3.72	3.723

# Fujairah 2 IWPP vs. Marafiq IWPP

	Fujairah 2	Marafiq
Transfer at the end of term	No	Yes
LEC (US cents/kWh)	2.97	1.66
LWC (US\$ /1000 gal per day)	3.72	3.723
Fuel Price	5.9 SAR/KJ	2.95 SAR/KJ
Type of Contract	BOO	BOOT

**Saving on the Saudi Project in terms of NPV**

**SR 3.0 Billion\***

\* Saving calculation include adjustment for fuel price difference but not for the fact that the whole of the capital cost has been written off in the 20 year PWPA term.

# Contents

---

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# Impact of the Credit Crunch

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- The projects are typically funded with 20% equity and 80% debt and each is a multi billion US\$ transaction.
- Yes, there is a credit crunch, but we do not expect it to impact significantly on the private sector participation programme
- Why?
  - The general consensus amongst financial institutions is that the limited recourse project finance framework remains a bankable structure.
  - The issue is lack of liquidity in the global financial market. But there is a significant financial capacity in the Kingdom.
  - KSA remains highly creditworthy and this framework on many of the Saudi projects have sovereign credit support.
- Proof: We are working on US\$ 2.3 Billion Rabigh IPP financing right now. That shows that we are not being unrealistically optimistic.



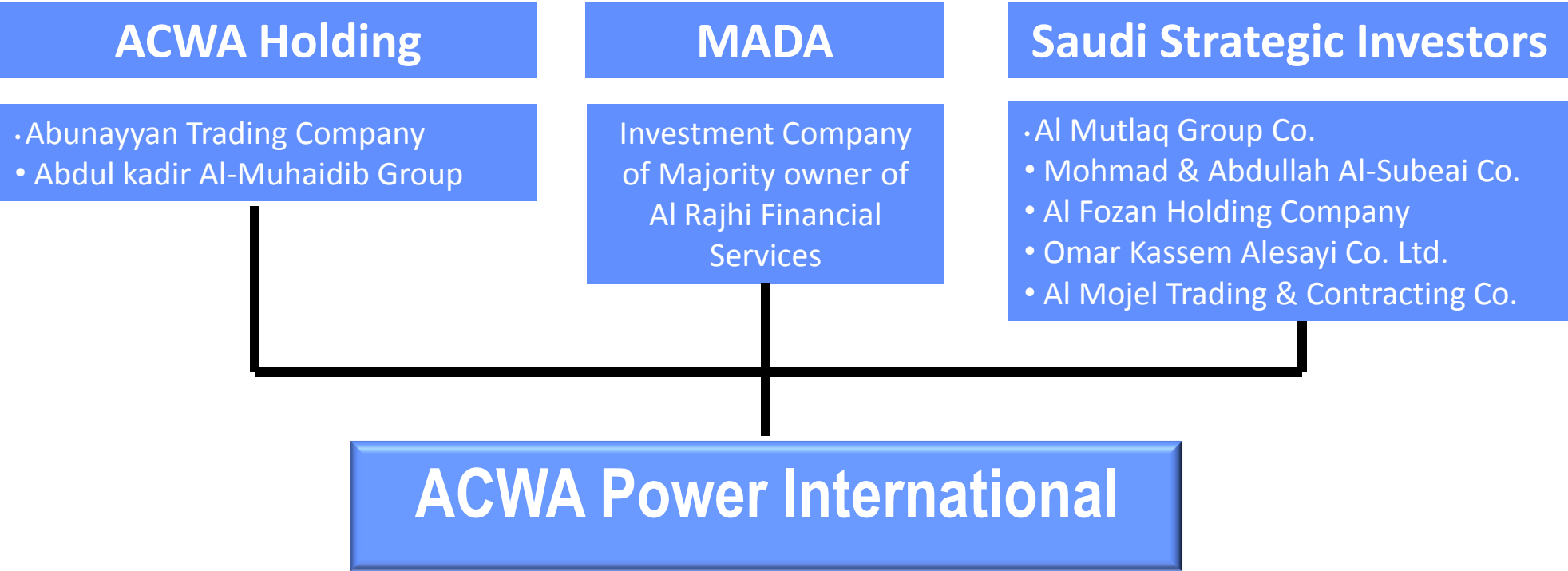
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- Alternative Service Delivery Models
- The rational for Change
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- What Next? + Impact of the Credit Crunch
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# ACWA Power International - Who are we?



# ACWA Power International - What have we done?

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In the last 48 Months:

- Assembled consortiums and Bid the first 4 IWPP transactions launched in the Kingdom of Saudi Arabia and have won all four.
- On a negotiated basis the first transaction has been expanded to deliver more water; structured as a separate project.
- The Five projects total 4800MW and 2.4 Million Cum per day of desalinated water, representing a total of US\$ 9.6 Billion of investment.
- ACWA Power led three of the five transactions as the Lead Developer.
- One project completed. Four are under construction and are on schedule.
- Rabigh IWSP now operational. First units of Shuaibah IWPP has already started to dispatch desalinated water and power.

# ACWA Power International – The Portfolio

## Shuaibah Phase III IWPP

- Project cost: SR 9,188 million
- Power capacity: 900 MW
- Water capacity: 880,000 m<sup>3</sup>/day
- Contract type: 20 year PWP based on BOO
- PCOD: July 2009
- Partners: TNB/Malakoff/Khazana

## Shuaibah Expansion IWP

- Project cost: SR 875 million
- Water capacity: 150,000 m<sup>3</sup>/day
- PCOD: February 2009
- Partners: TNB/Malakoff/Khazana

## Desalination Barges

- Water capacity: 50,000 m<sup>3</sup>/day
- PCOD: First quarter 2008

## Shuqaiq Phase II IWPP

- Project cost: SR 6,866 million
- Power capacity: 850 MW
- Water capacity: 212,000 m<sup>3</sup>/day
- Contract type: 20 year PWP based on BOO
- PCOD: December 2010
- Partner: Mitsubishi Corporation/GIC

## Rabigh IWSP

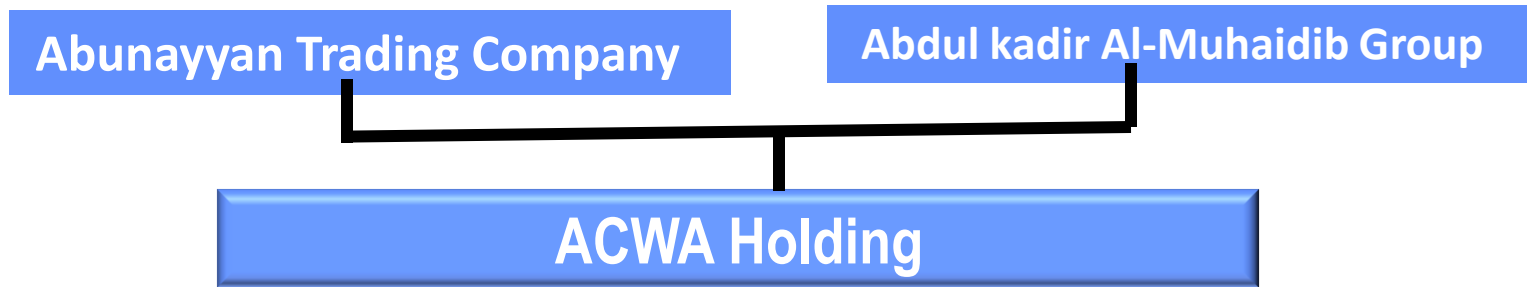
- Power capacity: 360 MW
- Water capacity: 5,580 t/hr (134,000 m<sup>3</sup>/day)
- Steam capacity: 1,230 t/hr (29,500 m<sup>3</sup>/day)
- Contract type: 25 year WECA based on BOOT
- PCOD: June 2008
- Partner: Marubeni/JGC/Itochu

## Marafiq Jubail IWPP

- Project cost: SR 12,588 million
- Power capacity: 2,743 MW
- Water capacity: 800,000 m<sup>3</sup>/day
- Contract type: 20 year PWP based on BOOT
- PCOD: March 2010
- Partner: Suez Energy International/GIC



# ACWA Holding – In the Water & Wastewater Sector



- Jeddah Industrial Area Wastewater Concession – The project, first of its type to be implemented treats the wastewater generated by the industry to a level of quality adequate for industrial reuse.
- 7 year contract on a 50/50 JV with Suez Environment to operate and maintain the water and wastewater network, a precursor to full concession.
- Has assembled a consortium to pursue the wastewater treatment plant BOT for Jeddah and Riyadh and is awaiting ToR.
- Currently implementing industrial wastewater concession at Hafuff

# Thank you for your attention

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