

المركز الوطني للتخصيص  
NATIONAL CENTER FOR PRIVATIZATION & PPP



# Al Shuqaiq (3) Independent Water Plant (IWP) Project

A study issued by the Knowledge Portal  
Of the National Center for Privatization  
[ncp.gov.sa/ar/knowledge](http://ncp.gov.sa/ar/knowledge)

برنامج التخصيص



الشركة السعودية لشركات المياه  
Saudi Water Partnership Company

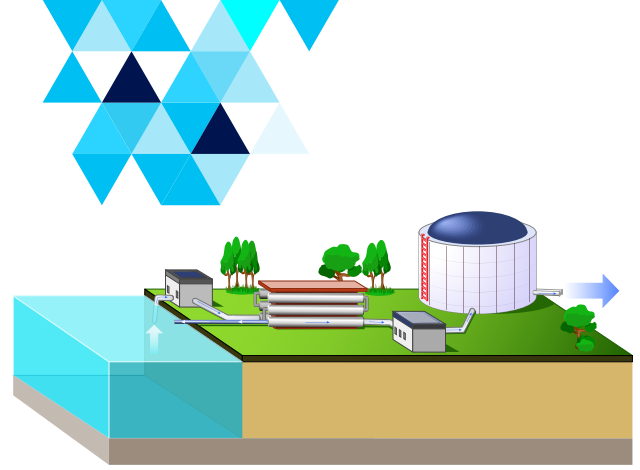


رؤية  
2030  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA

المركز الوطني للتخصيص  
NATIONAL CENTER FOR PRIVATIZATION & PPP

وزارة المالية  
Ministry of Finance

وزارة البيئة والمياه والزراعة  
Ministry of Environment Water & Agriculture  
Kingdom of Saudi Arabia - المملكة العربية السعودية

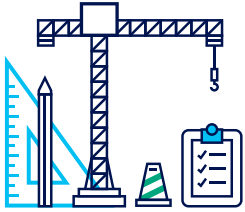


## Project

## Al Shuqaiq (3)

## Independent Water Plant (IWP) Project

## Project to Produce Desalinated Water



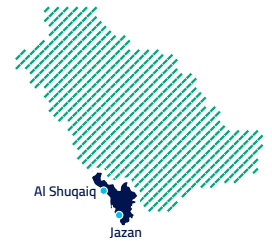
### Sector

Environment, water  
& agriculture



### Project Location

Kingdom of Saudi Arabia  
City of Al Shuqaiq, on the Red Sea Coast,  
137 kilometers North of the city of Jazan,  
serving the city of Jazan and Aseer



### Is the Project within the Privatization Program?

Yes, it is

### Production capacity

**450,000**  
m<sup>3</sup>/day

of desalinated water to Aseer and Jazan:

**67%** of the production → to Aseer

**33%** of the production → to Jazan

### Type of Contract



**BOOT**  
Build Own Operate Transfer

The private partner will design, Finance, build, own and operate the plant during the contract term, after which, the project and its elements will be transferred to the government.

# CASE STUDY



## Advantages of Public Private partnerships

- ▶ Utilizing the expertise of the private sector in developing this vital sector in building, operating and managing
- ▶ Improving service quality and capital expenditure efficiency
- ▶ Risk sharing and allocation between the public and private sectors in a more effective manner so that each party has risks that can be managed and dealt with
- ▶ Attracting the latest technologies and innovations by benefiting from the capabilities of the private sector in the field of desalination
- ▶ Encouraging the private sector towards investment and active participation in the national economy
- ▶ Rationalizing public spending and easing the burden on the government budget by providing the private sector with the opportunity to finance, operate and maintain some services that can be carried out

### Duration of Contract



### Project Award Date

The PPP contract was signed on

**29/01/2019**

### Financial

#### closing date

**March  
2019**

### Project Status

The operating phase will begin in the fourth quarter of

**2021**

## What was the previous situation before Al Shuqaiq (3) Independent Water Plant (IWP)?

Prior to Shuqaiq (3) Independent Water Plant (IWP), there were two projects:

### ▶ The first project:

**Beneficiary Cities and Centers:** Abha, Khamis Mushait, Ahad Rafidah, the military city and the neighboring cities and villages

**The productive capacity of water:** **83,432** cubic meters

**Compound Electricity Power :** **62** MW

**Purification Used:** **Flash**

In this process, the seawater is heated in a heat exchanger known as a brine heater. This is done by condensing steam on the surfaces of pipes passing through the brine heater, which then heats the seawater inside these pipes. The hot seawater flows through the brine heater into another vessel called an evaporator at its first stage where there is a low pressure level that makes the water boil directly. The sudden entry of hot water in this stage makes the seawater boil quickly and evaporate suddenly as a portion of it turns into water steam, depending on the level of pressure at this stage. Evaporation continues until the water cools down, giving the necessary evaporation temperature until it reaches the boiling point.

# CASE STUDY

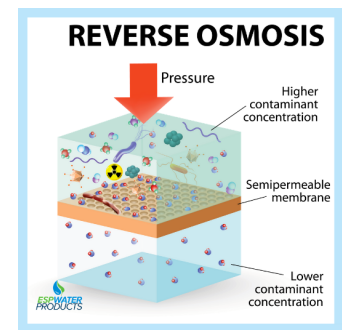
## What was the previous situation before Al Shuqaiq (3) Independent Water Plant (IWP)?

### ► The second project:

Beneficiary Cities and Centers:	Aseer and Jazan
The productive capacity of water:	<b>212,000</b> cubic meters
Design Electricity Power :	<b>850 MW</b>
Purification Used:	<b>Reverse Osmosis</b>

## Does this project use new techniques

Yes, seawater desalination process is based on the reverse osmosis technique for saline desalination. The process of reverse osmosis is recent compared to the distillation and dialysis processes, which were introduced commercially during the 1970s. Reverse osmosis is defined as the process of separating water from a compressed brine through a membrane. It does not need to be heated or changed in shape, and the energy required for desalination is for compressing feed water, which is much lower than for the flash method that involves boiling the water.



## Will this project contribute to solving a problem in the water sector?

- Yes, the project contributes to meeting the increasing demand for desalinated water in some of the cities of the Kingdom.

The water sector in the Kingdom is the largest desalination market in the world, but there is still a great issue with regards to the limited water resources.

Thus, this project aims to:

- Meet the growing demand for water that is potable and safe for other human uses.
- Increase production to cover supply and demand of beneficiaries.
- Involve the private sector in the development of this vital sector and increase its contribution.
- Achieve high levels of continuous production.
- Reduce power consumption.
- Reduce operating costs.

# CASE STUDY

## The main benefits of this project



Enhancing water security



Promoting local content by purchasing 40% of total building costs of Saudi companies



Providing a high quality water supply with a capacity of 450,000 cubic meters per day



Employing 50% of the total staff at the plant during the first five years and increasing to 70% thereafter

## Is this project in line with the Kingdom Vision 2030?

Improving quality of services provided in Saudi cities

Ensuring environmental sustainability



Promoting the contribution of the private sector in the economy

Attracting foreign direct investment

## Does this Project Contribute in supporting local content?

Yes, this project supports local content as follows:



# 40%

In the Building phase

# 50%

In the Operational stage between one to five years

# 70%

In the Operational stage after the first five years of operation

# CASE STUDY

What is the **positive impact** of this project on the **social, environmental, & demographic** levels?



Ensuring continuous access to adequate quantities of water to the cities specified above



Reverse osmosis technology is environmentally friendly



Creating direct and indirect jobs during the building and operating phase



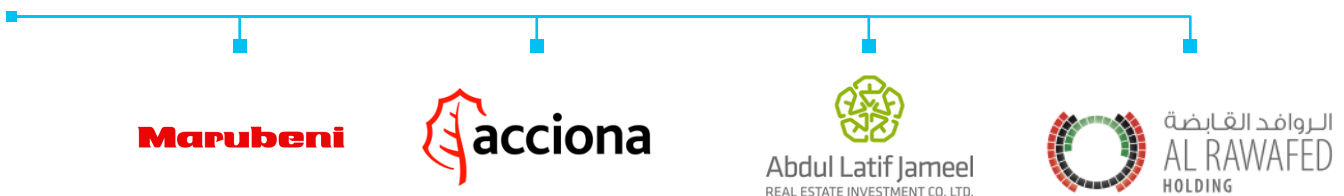
Reducing power consumption

## Winning Bidders

Prior to the award of the contract, 51 companies expressed their interest in Al Shuqaiq (3) Independent Water Plant (IWP) Project to Produce Desalinated Water, but the winning consortium was chosen after a competition between more than 6 companies including international, regional and local companies.

The winning consortium:

The project was awarded to a consortium constituted of Saudi, Japanese and Spanish companies as follow:



Marubeni was founded in 1858 which is one of the largest Japanese companies specialized in energy. Marubeni is one of the most recognized companies in the field of water and energy and has worked in many projects in the Kingdom of Saudi Arabia and the UAE.

Marubeni leads this consortium with 45%, ACCIONA Agua with 10%, Abdul Latif Jameel Cooperate Real Estate Development with 30% and Rawafed Al Hadara Holding Company with 15%.