



Collaboration between private and public sector for financing desalination in Israel

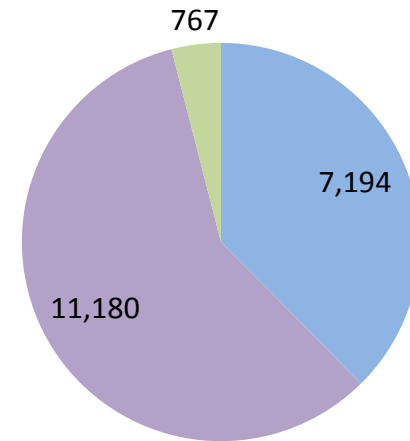
Water Authority
State of Israel



PPP Projects in Israel

- Since 1998, 11 PPP projects have been operational or under construction
- Total investment value of these projects is estimated at c. 19 NIS billion (\$5 billion)
- Total investment in water desalination is approximately 1.9 \$billion.
- In addition, there are 7 projects in different procurement stages these days.

Investments by Sector (NIS Billion)



■ Water ■ Transportation ■ Construction

Total Investment 19 NIS Billion
(\$5 billion)



Water Desalination Projects in Israel



Water Consumption

2010

- Agriculture Sector – 1 Billion m³
- Industry Sector – 150 Million m³
- Home usage Sector – 750 Million m³

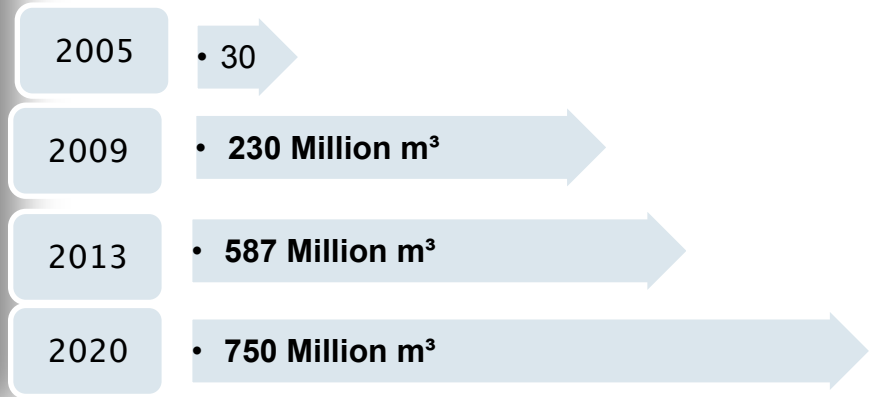
1.9 Billion m³

2020

- Agriculture Sector – 1.2 Billion m³
- Industry Sector – 190 Million m³
- Home usage Sector – 1.1 Billion m³

2.5 Billion m³

The Development of Desalinated Water



m³=cubic meter



PPP Projects - Water Desalination

Project	Size (million M ³)	Investment (\$ million)	Investors	Financing (\$ million)	Finance Providers
Ashkelon Desalination	120	325	<ul style="list-style-type: none">▪ IDE (50%)▪ Veolia (50%)	260	<ul style="list-style-type: none">▪ Bank Leumi
Palmachim Desalination	90	250	<ul style="list-style-type: none">▪ GES (100%)	200	<ul style="list-style-type: none">▪ Bank Hapoalim
Hadera Desalination	127	425	<ul style="list-style-type: none">▪ IDE (50%)▪ Shikun & Binui (50%)	340	<ul style="list-style-type: none">▪ EIB▪ Calyon▪ BES▪ Bank Hapoalim▪ Bank Discount
Sorek Desalination	150	450	<ul style="list-style-type: none">▪ IDE (51%)▪ Hutchinson (49%)	360	<ul style="list-style-type: none">▪ Bank Leumi▪ Bank Hapoalim▪ EIB
Ashdod Desalination	100	400	<ul style="list-style-type: none">▪ Mekorot (100%)	320	<ul style="list-style-type: none">▪ Bank Hapoalim▪ EIB

Total capital investment of \$1.9 billion with total water production capacity of 587 million M³



The Price Proposal

- Typically the price proposal is 70% - 80% of the total score
- The price proposal includes all economic benefits that the bidder assumes to receive from the State
- Cost of hedging (inflation, interest rates) is also taken into account, based on the bidder's price proposal



The Weighted Price is the total value of the economic benefits provided to the bidder



The Payments Structure

- Bi – Monthly payment mechanism
- Payment structure is based on two types of payments

Fixed Payment

- Take or Pay mechanism based on availability of the plant
- Provides return on capital invested regardless of actual water consumed

Variable Payment

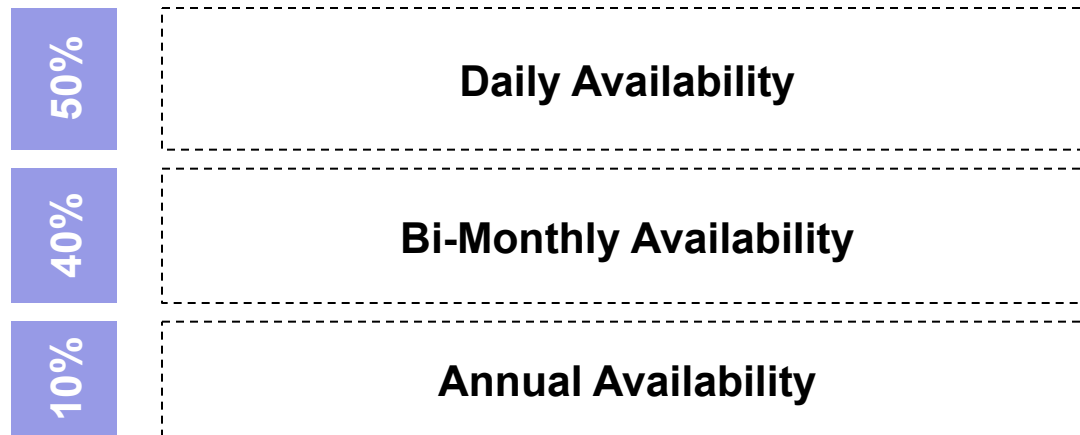
- Payment for each cubic meter of Desalinated Water actually delivered to the State
- Provides return on variable costs of water production (energy, chemicals etc.)

Bi monthly payment, which includes the fixed price and the variable price, based on the plant's performance



The Payments Structure – Fixed Price

- **Take or Pay mechanism** - unconditional payment to actual quantity delivered
- The fixed price includes a penalty mechanism to ensure a minimum availability of the plant
- Availability of the plant is being calculated based on three product capacities

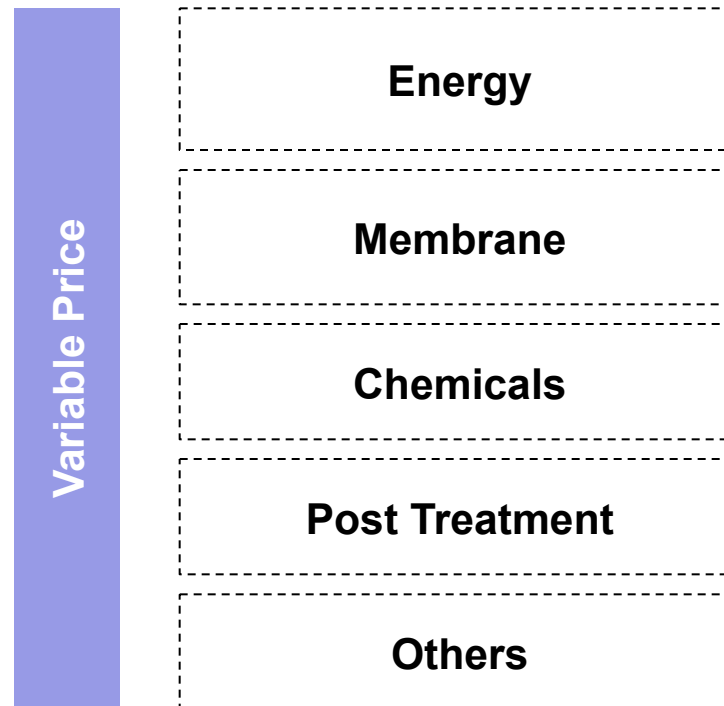


Incentives to ensure water availability, while reducing project risk



The Payments Structure – Variable Price

- Payment for each cubic m of Desalinated Water actually delivered to the state
- Water in excess of the contract's annual quantity will not be paid for
- The total price consists of sub price categories
 - Allow for optimal hedging for each operational category
 - Reduce risks for the concessionaire





Financial Risks

- Developments of water desalination projects via PPP tenders include some external risks:

Inflation

- longevity of the tender process
- Long term contract
- Erode investor return

Currency

- Many input factors are denominated in foreign currencies
- Mainly euro and dollar
- Foreign investors look for return in own currency

Interest Rates

- Relatively long time between bid submission to financial close
- Cost of hedging provided by banks will be transferred to the State

Commodities

- Energy is the largest operational cost
- Significant impact of energy costs

Hedging mechanism provided by the State allow for minimizing financial risk and hence lower bid price