

**DESALINATION PROJECT WILL HELP
MORE THAN 2 MILLION PEOPLE**



BRINGING WATER TO GAZA

Drinking water for all residents

Gaza has a water crisis. Only 3% of its freshwater meets the World Health Organization's quality guidelines. One of the most densely populated places in the world, Gaza faces the worst drinking-water conditions in the region.

The Gaza Central Desalination Plant and Associated Works Programme was created to respond to these pressing humanitarian needs and will provide 55 million cubic meters of quality drinking water a year for the more than two million people in Gaza. It will help regenerate the coastal aquifer, improve living conditions, boost the economy by adding construction jobs and provide water for industry.

International collaboration

Institutions from around the globe are committed and working together to make the project a success. The Palestinian Authority is directing the project at all levels. The Union for the Mediterranean is giving political support. The European Investment Bank brings expertise in the water sector and will supervise the desalination plant. The World Bank is also supervising the project and providing financial and technical support for the associated works. The European Union and the Islamic Development Bank are mobilising donations from around the world. The Office of the Quartet is coordinating relations between the Palestinians and Israelis to ensure smooth operations on the ground.

Closing the gap on costs

More than a dozen countries and international organisations have pledged €460.2 million for a project that will cost around €580 million. The Donor Conference in March 2018 gathered broad financial and political support, especially from Arab contributors, who provided 50% of the project's cost. Since then, new financiers, such as the World Bank and its Trust Fund partners, have offered support.

ACHIEVEMENTS SINCE THE DONOR CONFERENCE



80% of the total cost is secured, with further commitments pledged over the last few months.

The European Union committed to **INCREASING** further **its contribution (EUR 86.1 million)**, if other partners come in as well, to cover any reasonable costs that haven't been secured.

ALL LAND has been acquired and is under the Palestinian Water Authority's control.

PROJECT IMPLEMENTATION

has started, with the tender for the associated works in South Gaza opened in April 2019. It is financed by the Kuwaiti Fund as part of the World Bank's phase one of the associated works currently being finalised in the south and middle of the Gaza Strip. Construction is set to start in August 2019.

Tender documents for the **DESALINATION PLANT** have been finalised.

THE FINANCIAL MECHANISM of the European Investment Bank has started and is receiving the first contributions. The World Bank's Partnership for Infrastructure Development Multi-Donors Trust Fund is active and has already received USD 27 million.

THE PARTIES HAVE AGREED on the entry and storage of materials. The task force created by the Office of the Quartet is being used as the platform to approve materials.

PROBLEM AND SOLUTIONS

1- THE WATER PROBLEM EXPLAINED

Availability of fresh water in the Gaza Strip is amongst the lowest in the world. More than two million residents depend mainly on groundwater and some imported water from Israel.

The coastal aquifer below Gaza has been over-pumped, causing seawater to flow in. 97% of the aquifer is contaminated. A UN report estimates that the aquifer will be irreversibly damaged by 2020, if nothing is done. Approximately 90% of the water in Gaza is not safe to drink due to high salinity, chloride and high nitrate levels from human and agricultural pollution. The World Health Organization says that more than **25%** of diseases in Gaza are linked to the water crisis. Illnesses include diarrhoea, kidney failure, stunted growth and impaired intelligence in children.



2- OUR SOLUTION

The Gaza Central Desalination Plant and Associated Works Programme, developed by the Palestinian Water Authority, will solve the water crisis using two main components:

1. A desalination plant with a capacity of 55 million cubic metres of water per year will be equipped with an independent power generation facility. This plant will be built on about 7.3 hectares south of Deir Al-Balah in the centre of the Gaza Strip.
2. A comprehensive associated works project will add a south-north carrier system that runs 160 kilometres, supplying fresh water to residents across the Gaza Strip.

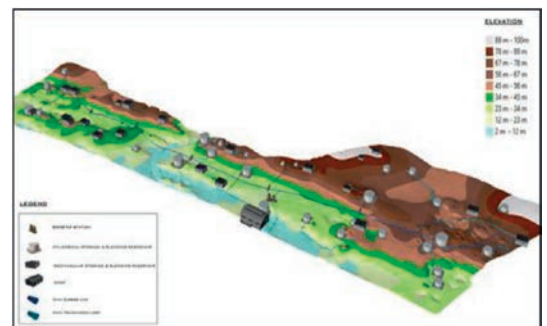


Figure 1: Illustration of the Gaza Central Desalination Plant and overall map of the associated works

A comprehensive Environmental and Social Impact Assessment has been carried out for all the works.



Figure 2: Main project site

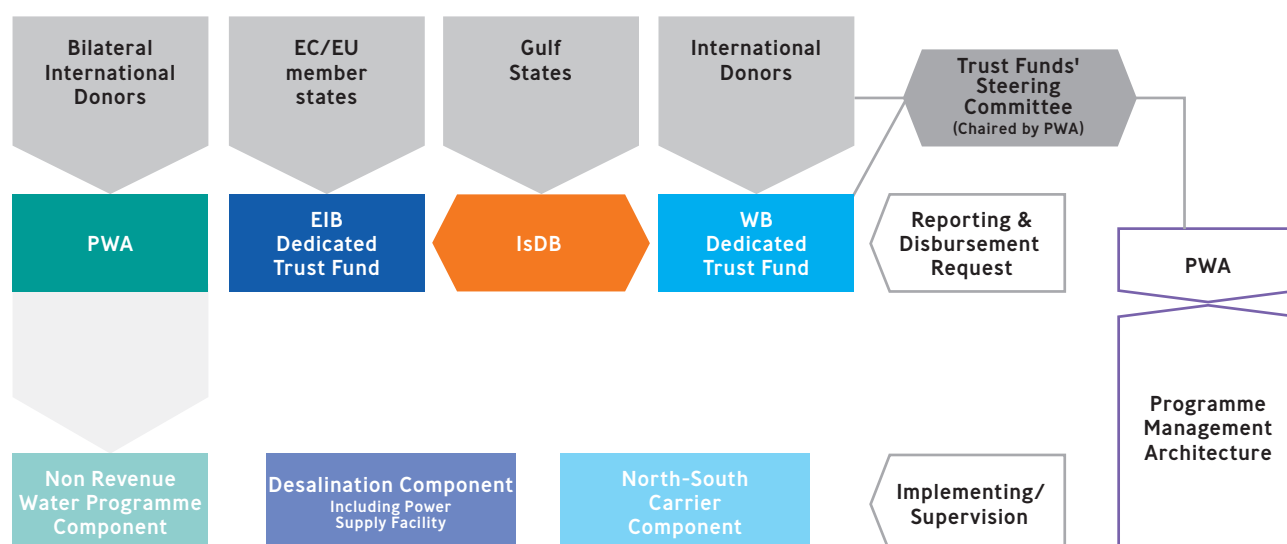
3- COSTS AND CONTRIBUTIONS

Grants will cover all the costs, which are estimated at approximately €580 million, including construction and management.

<i>Programme Items</i>	<i>Cost (€ m)</i>
1. Desalination Facility & Dedicated Power Plant (Lot 1 & 2)	302.5
1.1. Lot 1: (Desalination Facility & PV Roof)	227
1.1.1. Desalination Facility (SWRO)	215
1.1.2. PV Roof	6
1.1.3. Grid Connection	6
1.2. Lot 2: (Dedicated Power Plant)	75.5
1.2.1. Reciprocating Dual Engines	40
1.2.2. PV on Ground Structure	27.5
1.2.3. Wind Turbines	8
2. Associated Works	160
2.1. North-South Conveyor	130
2.2. Non-Revenue Water Reduction	30
3. Operations for five years	46
4. Consultants for Supervision	15
5. Programme Management Support Consultant (PMSC)	6.5
6. Local Programme Management Unit (PMU)	5.5
7. IFIs Programme Management Support	20
8. Contingencies	26.8
Total Cost of the Programme	582.3



The many donors and international institutions committing money for the programme require an efficient governance and funding mechanism. Money will flow through accounts at the Islamic Development Bank, the European Investment Bank and the World Bank, as illustrated below.



The EIB is channelling donor contributions for the desalination and energy plants. It can accommodate donor funding under its Gaza envelope under the FEMIP Trust Fund. The World Bank is channelling donor contributions for the associated works under its Partnership for Infrastructure Development Multi-Donor Trust Fund.














Flag	Country/Inst.	Amount (in EUR million)
	Algeria	0.8
	Cyprus	0.1
	EU	86.1
	France	10
	ISDB (on behalf of Arab Donors)	290
	Italy	8.1
	Japan	8.1
	Malta	0.02
	Netherlands	8
	Romania	0.025
	Slovenia	0.5
	Turkey	11
	World Bank and Multi-donor Trust Funds	37.4
Total end 2018		460.2

Table 1: Pledges overview

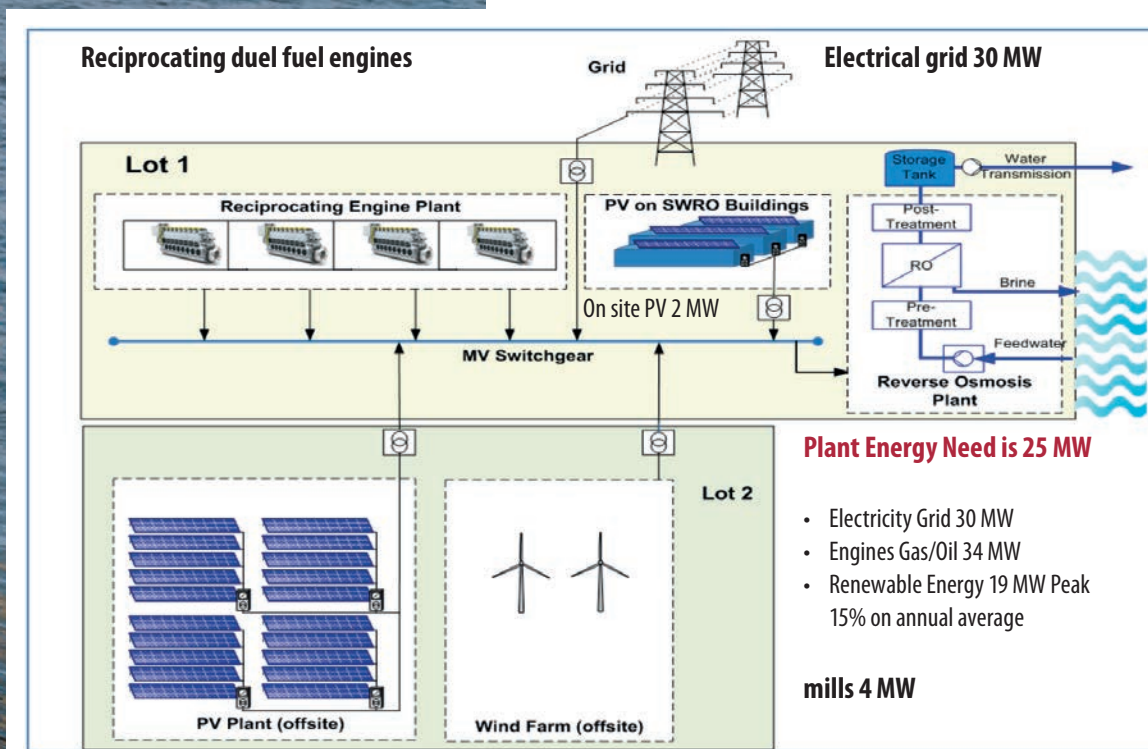


4- THE POWER SUPPLY

The desalination plant needs about 25 megawatts of power, but this will be hard to supply because Gaza has a severe power deficit. Conventional and renewable power will be used to meet the plant's needs.

1. **Diesel/Gas:** An on-site fossil fuel plant with high-efficiency reciprocating engines (**34 MW**) that run on both diesel and gas when the plant is at full capacity.
2. The plant will be connected to the power grid to ensure more reliable and continuous power.
3. Renewable energy will cover up to 15% of the annual power consumption, which will lower the plant's expenses and make costs more affordable for customers. This consists of:
 - o Solar panels on the plant's roofs
 - o An off-site, 10-hectare solar panel plant
 - o A wind farm along the coast using two turbines

Any extra power created will be fed back into the power grid.

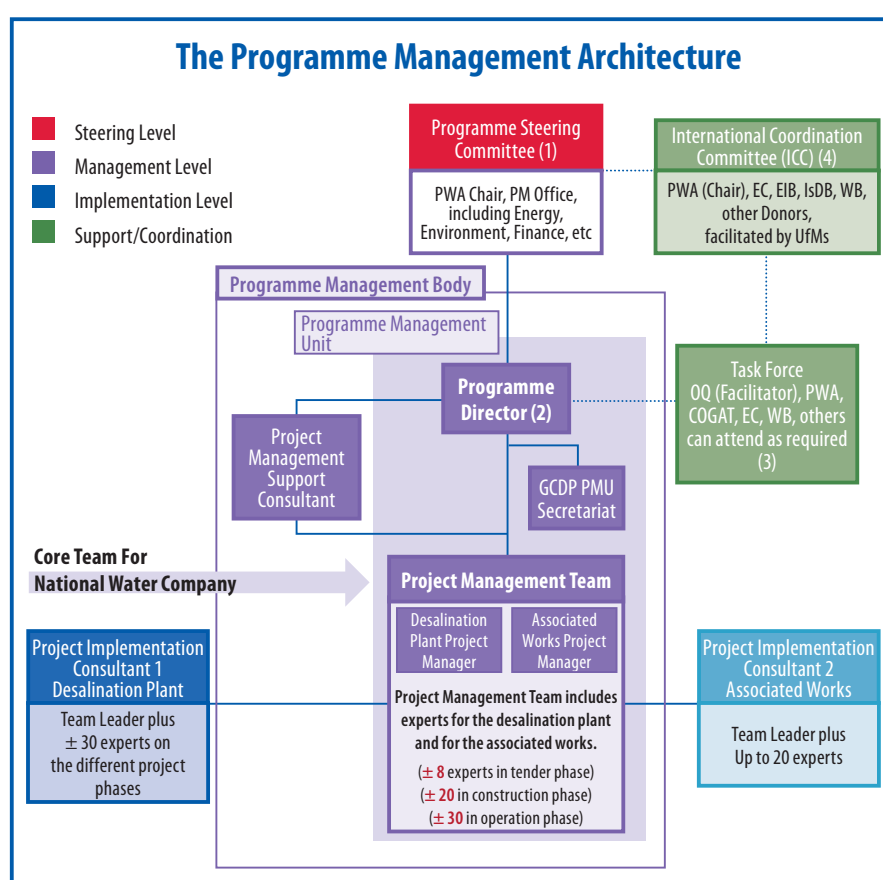


5- WHO WILL RUN THE PROJECT?

A Programme Management Unit comprising a programme director, two project managers, a secretariat team, engineers, technicians and other groups will manage and implement the whole project.

This unit will receive international expertise and support in construction, management, procurement and quality control.

The unit will form the core team of the National Water Company to be established in a future coordination with the Palestinian Water Authority.



6- HOW WILL PEOPLE AND EQUIPMENT ENTER GAZA?

Israel gives approval for the entry of materials and people into Gaza, with a special interest for 'dual-use' materials that Israel considers potential security concerns.

To ensure that tendering and construction of the programme runs smoothly, a task force was formed to set transparent and predictable arrangements for material entry and storage. Facilitated by the Office of the Quartet, the Task Force is the primary platform for sharing information, advancing approvals for the entry of

materials, and discussing any related challenges. Approvals for materials are based on a "capsule model," which enables one-time approval for "dual-use" items such as construction, telecommunication, electrical, and chemical materials.

All the parties approved a tendering process based on a procedure known as the alliance approach. The alliance approach grants two shortlisted bidders the opportunity to submit lists of materials to Israel for clearances and enables the Palestinian Water Authority to enter into continuous and moderated dialogue with bidders and other parties, including Israel, to ensure that the procurement flows smoothly.

7- TIMELINE

Preparation for the associated works has already started under the World Bank's advanced phase 1, with financing from the Kuwaiti Fund and other donors. The Tenders for the southern component of the main carrier system were opened on 22 April 2019. Construction is scheduled to start in August 2019 and be completed in October 2021.

Tendering for the desalination plant is expected to last 16 months. Construction is expected to take three years and be finished in mid-2023.

	Gaza Central Desalination Plant	Associated Works
Launch of tender	May 2019	October 2018
Contract signature and construction start	October 2020 (tentative)	August 2019
Construction completion	October 2023 (tentative)	Phase 1: October 2021 Phase 2: September 2023

Table 2: Project Timeline

Planned procurement of desalination plant

- Introducing alliance approach to partners: **Done**
- Procurement manual: **May 2019**
- Prior information notice: **May 2019**
- Prequalification phase: **June 2019**
- Start of detail design: **December 2019 (tentative)**
- Signature of engineering, procurement and construction contract: **October 2020 or later**

Procurement of renewable energy plant

- Renewable energy feasibility study: **June 2019**
- Launch of tender and procurement process: **September 2019**
- Signature of engineering, procurement and construction contract: **March 2020**



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