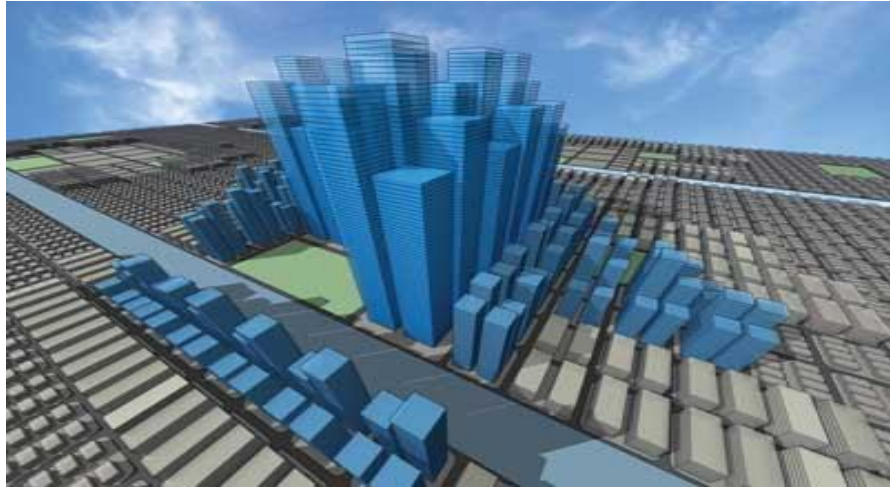




SOLITON
HOLDING

The Feasibility and
Benefits of
Automated Water
Leakage detection,
repair and
maintenance

Date: 23.11.2011



The model City has a population of 1 million people

Average water usage per capita is 500 liter per day

The model will compute water for residential and industry usage (excl. agriculture)

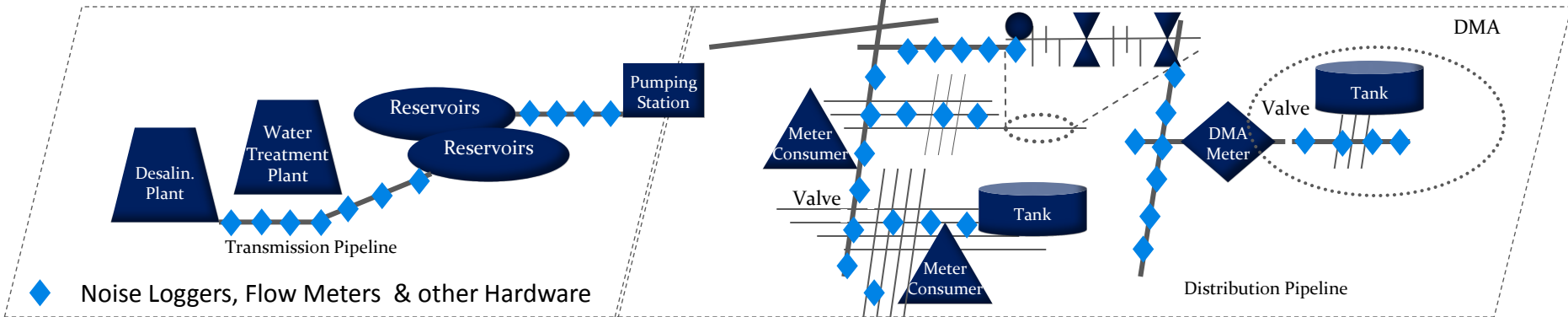
The city has a 30% water leakage

Population	1,000,000
Water consumption per Capita (liter)	500
Water Consumption Residential (m3)	182,000,000
Water Consumption Industry (m3)	125,000,000

Total Water (m3)	307,000,000
Leakage/ Theft/ other	30%
Water Production	438,571,429

Non Revenue Water m3	131,571,429
Cost of Desalinated Water (AED/m3)	3.6
Non Revenue Water Value (AED)	473,657,143

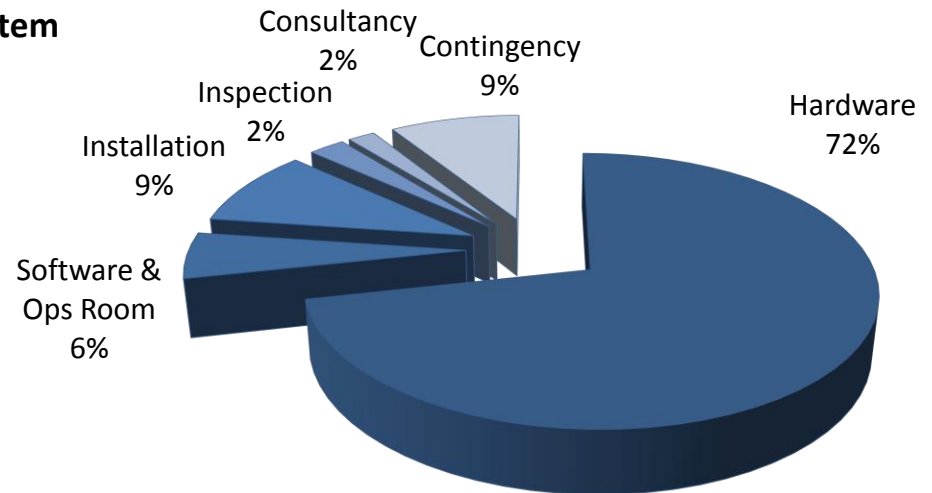
Total pipeline length in City: 2,000 km



Installation of an Automated Leak Detection System

- 13,000 Noise Loggers
- 2,600 Flow Meters
- Transmission Monitoring Systems
- 4,400 Repeaters
- 267 Data Collectors and
- 30 Leakage Inspectors (staff)

Estimated Cost: AED 106 million



Funding (Finance AED 106,7 million)

BOT Payments over 7 years

AED 106,722,428

Profit sharing rate

6%

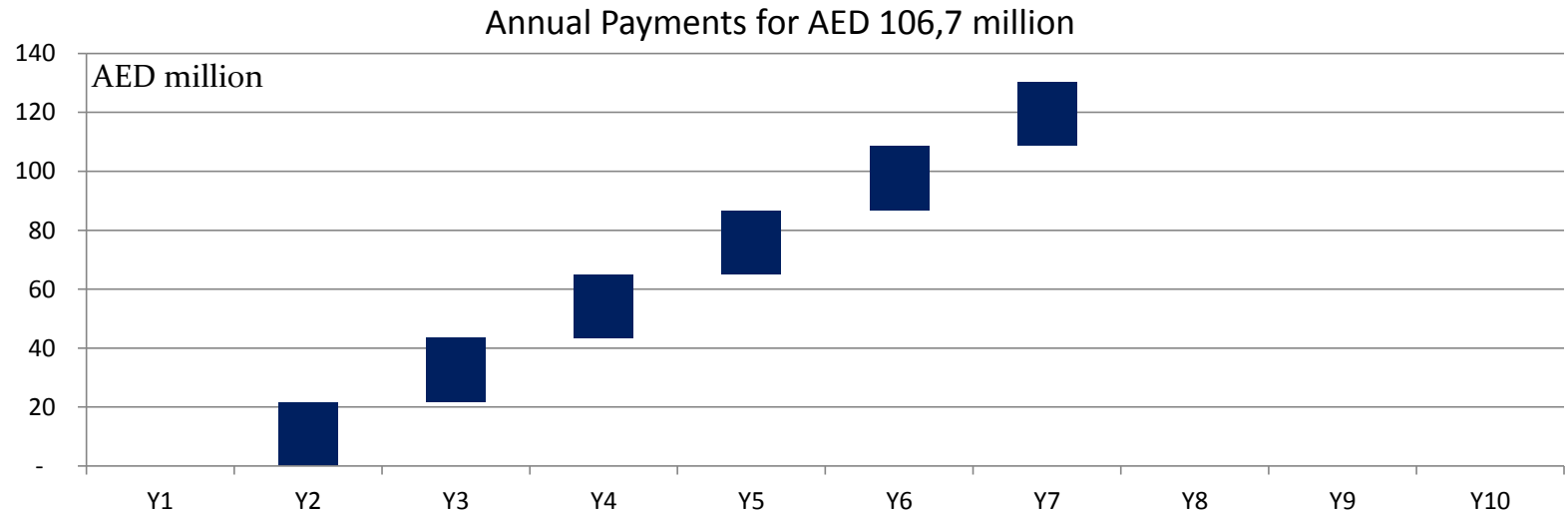
Payments

6

Annual Payment over 7 years

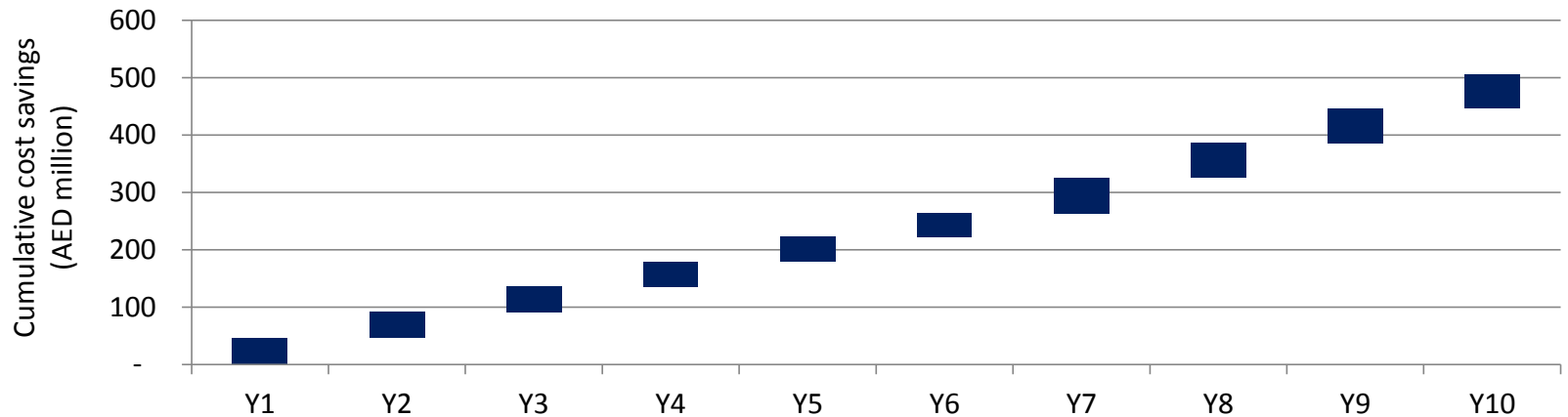
-AED 21,703,354

Year 1: Payment Holiday

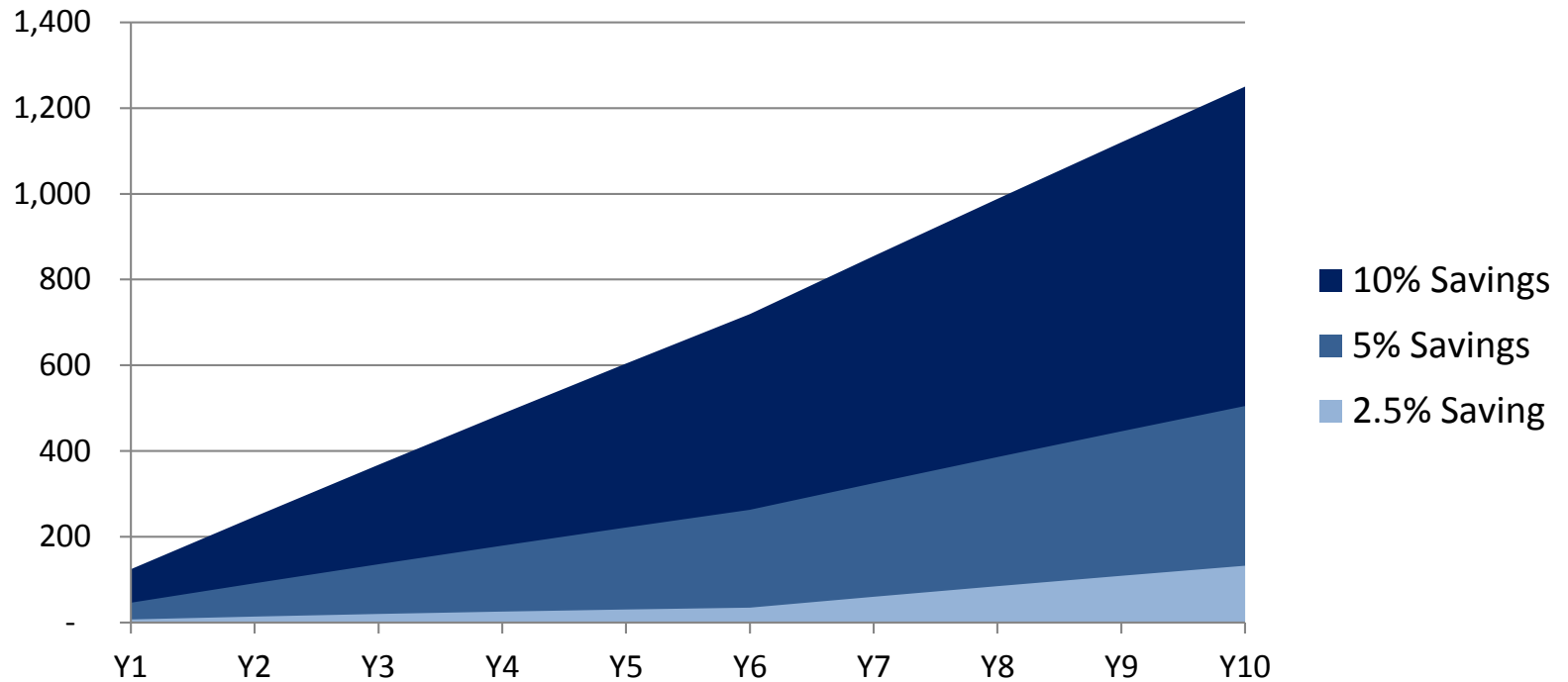


Financial Benefit Analysis

Estimated Cost Savings City of 1 million	Y0 ^[1]	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Cum. Y10
Savings for Utility Company												
Estimated Annual Water Supply (million m ³)	439	447	456	465	475	484	494	504	514	524	535	5,337
Leakage & Other Water Losses Estimate (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	-
Potential Water Leakage Reduction with LDS		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	-
Leakage Estimate with LDS System (%)	30%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	-
Water Production Cost per m ³ Desal. (AED) ^[2]	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.7	-
Total Utility Water Cost Savings (AED million)		78	77	76	76	75	74	73	72	72	71	745
Estimate Cost of Operations (AED million) [3]		10	10	10	11	11	11	11	11	12	12	109
Payments for BOT (AED million) [4]		22	22	22	22	22	22					130
Total Benefit (AED million)		46	45	44	43	42	41	62	61	60	59	505

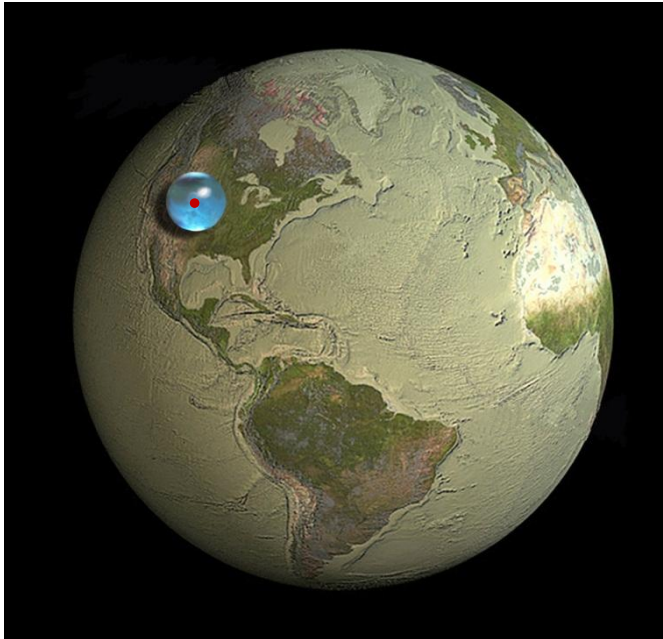


AED million - Savings

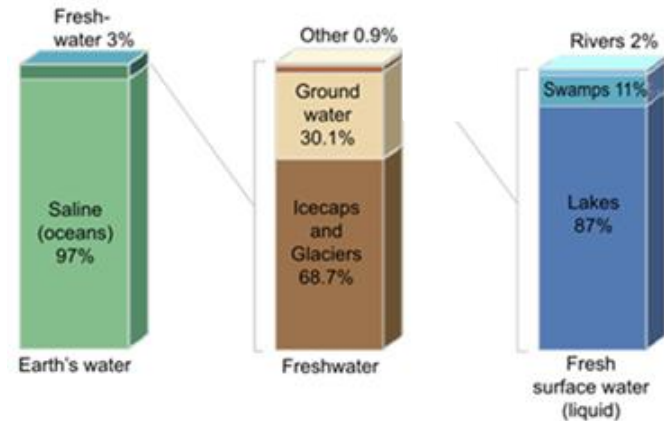


With the assumptions above a water leak reduction of 2% would still yield to a positive result.

1	Million People
100	Million Financed (AED)
10%	Loss reduction
1,000	Million Savings (AED) in
10	Years



- Volume of the Earth is 1,083,210,000,000 km³
- Volume of the Water on the earth is 1,386,000,000 km³
- This is only 0.1% by Volume
- 70% of the surface of the earth is covered with water
- Less than 1% is easy usable



- Globally, more than 45 million cubic meters per day are lost through leakage. Significant reductions are possible through automated leak detection, repair and monitoring systems. Boston lost 50% of its water and was able to reduce water loss to 36% after a leak detection initiative
- Mexico City loses more than 50% of its water (over \$US 1 billion per annum)
- It is estimated that the UK loses 3.4 billion liters per day due to leaking pipes

**It's time to give water
a second thought.**

