

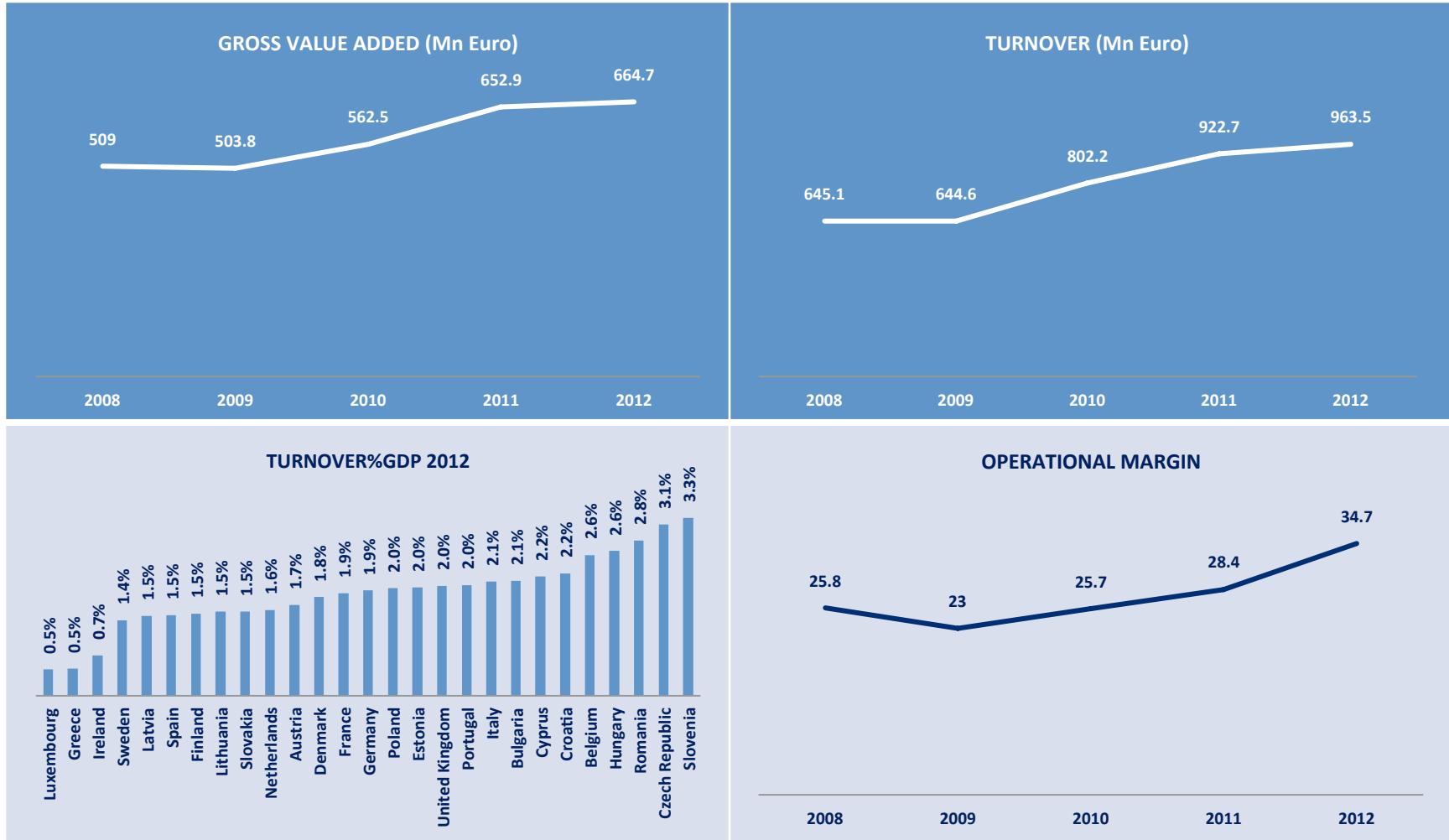
THE WATER MARKET IN GREECE

A MACRO ECONOMIC PERSPECTIVE

MAY 2015

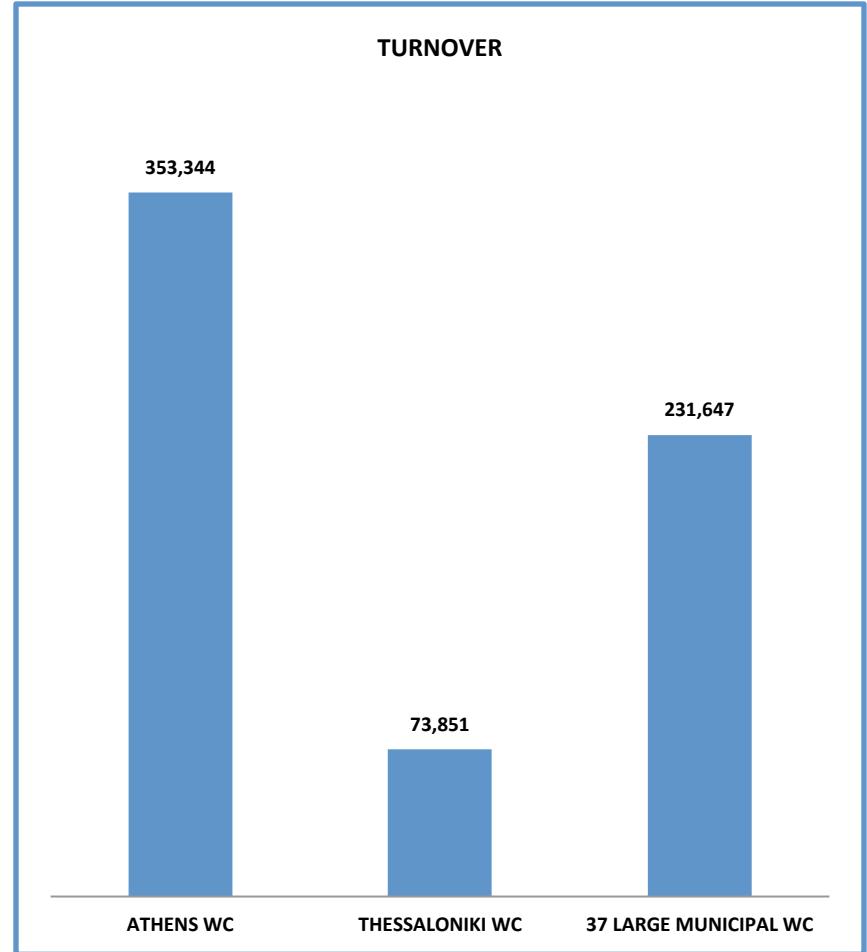
Dr. Spiros Travlos

THE ENVIRONMENT SECTOR IN GREECE



WATER SECTOR CORPORATE STRUCTURE

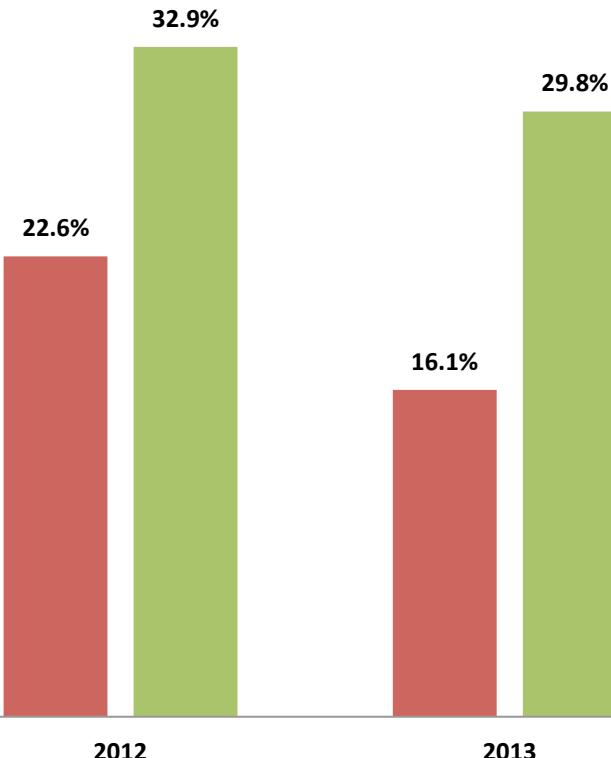
- The water sector is dominated by the two listed companies in Athens and Thessaloniki. EYDAP has 4.3 million consumers.
- The rest of the sector is fragmented with 130 municipal water companies catering for 5.2 million customers.
- Municipal companies are wholly owned by the municipalities without private participation.



ATHENS AND THESSALONIKI WATER COMPANIES

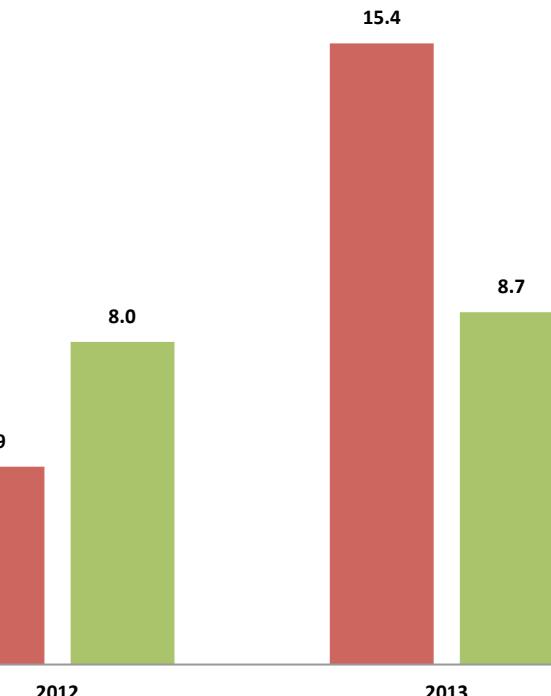
EBITDA % TURNOVER

■ ATHENS WATER ■ THESSALONIKI WATER



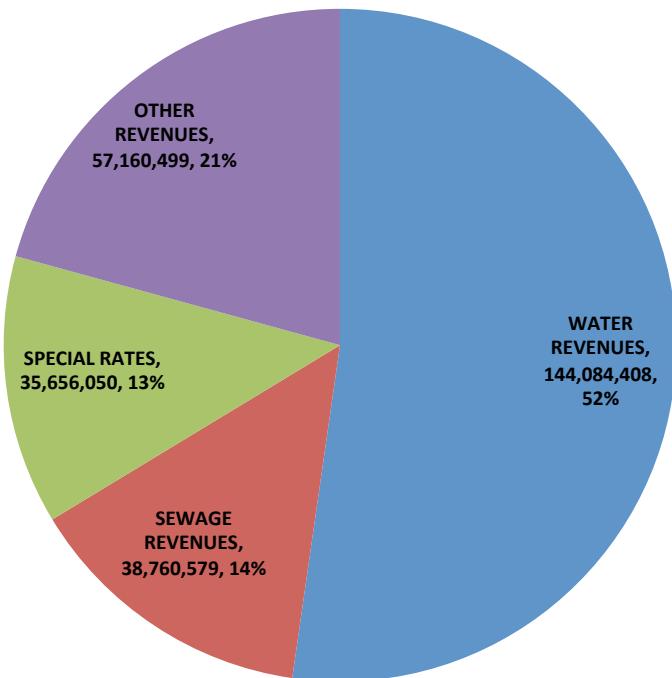
VALUATION MULTIPLES

■ ATHENS WATER ■ THESSALONIKI WATER

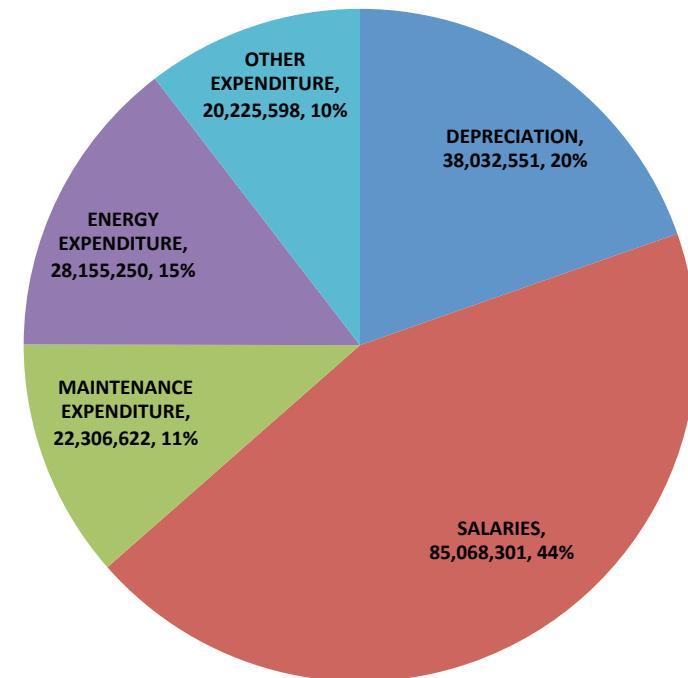


REVENUE AND COST STRUCTURE OF MUNICIPAL WATER COMPANIES

REVENUE STRUCTURE



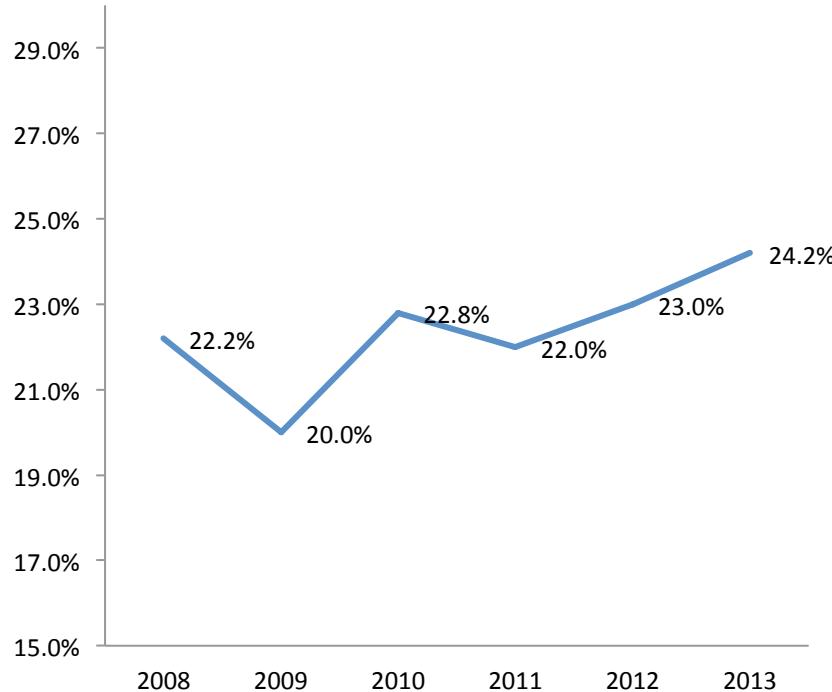
COST STRUCTURE



KEY WEAKNESS OF THE WATER MARKET: WATER LOSSES

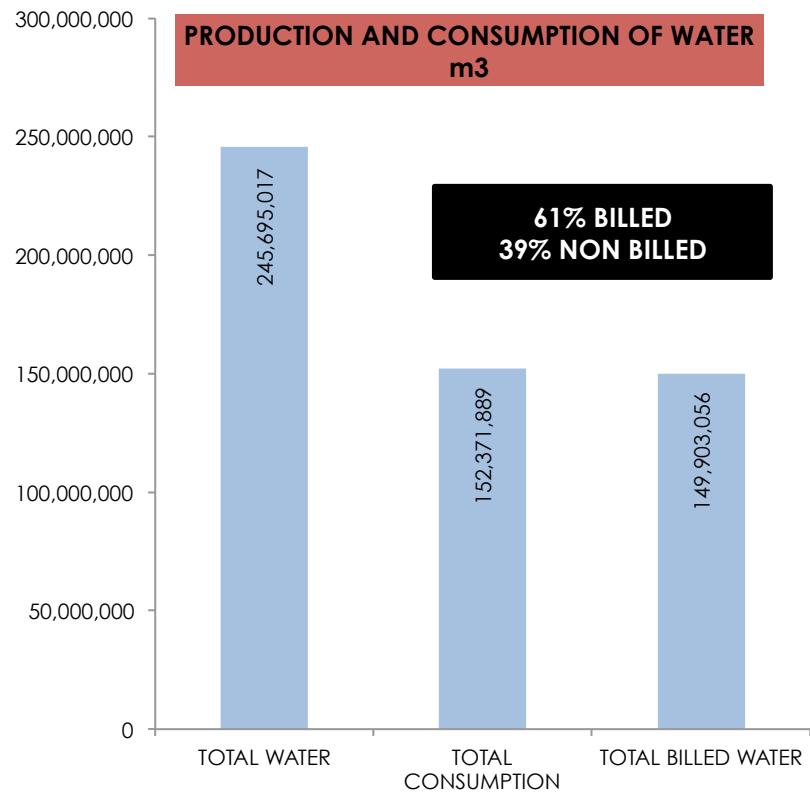
ATHENS WATER COMPANY

NON BILLED WATER



37 MUNICIPAL WATER COMPANIES

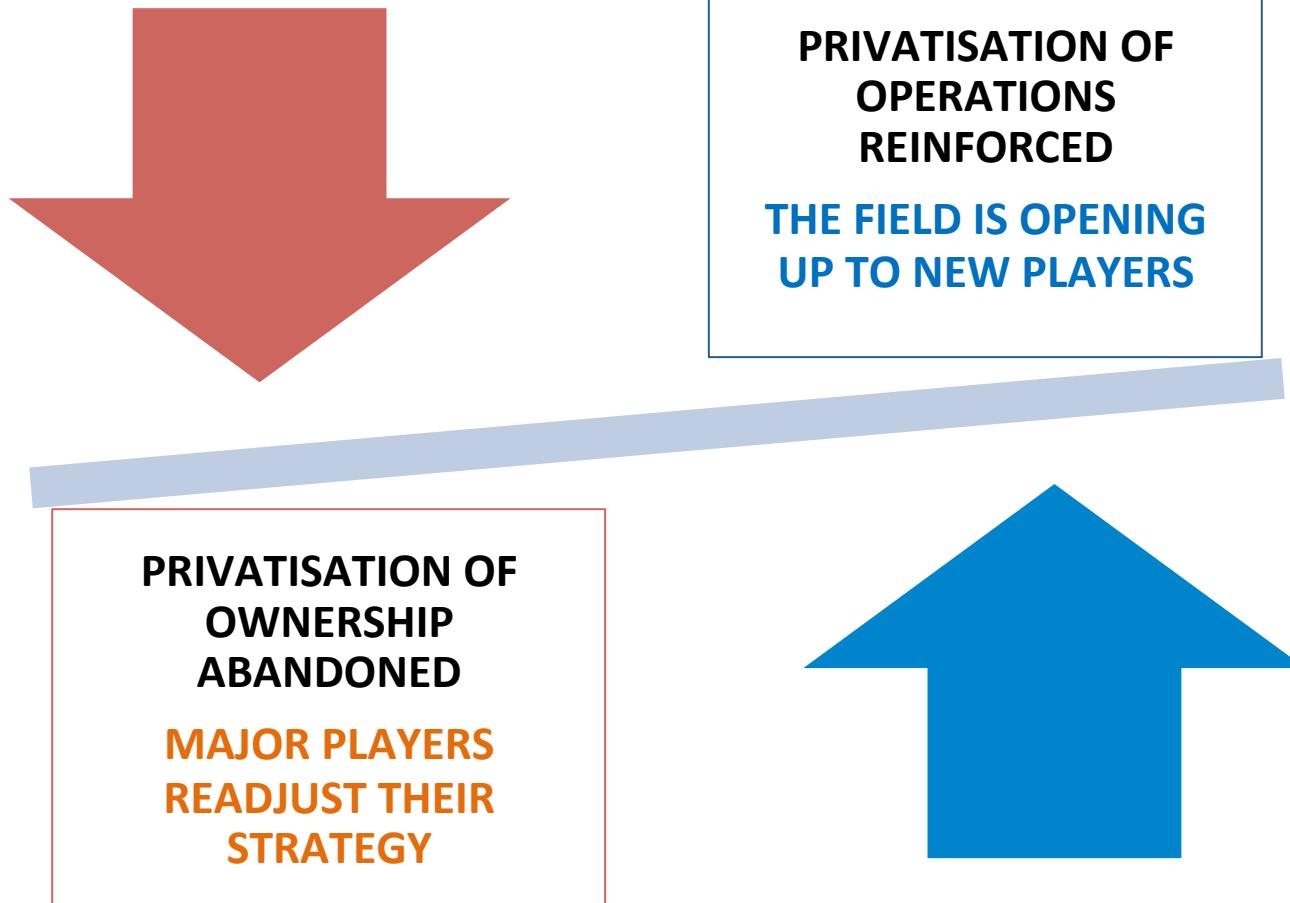
PRODUCTION AND CONSUMPTION OF WATER m³



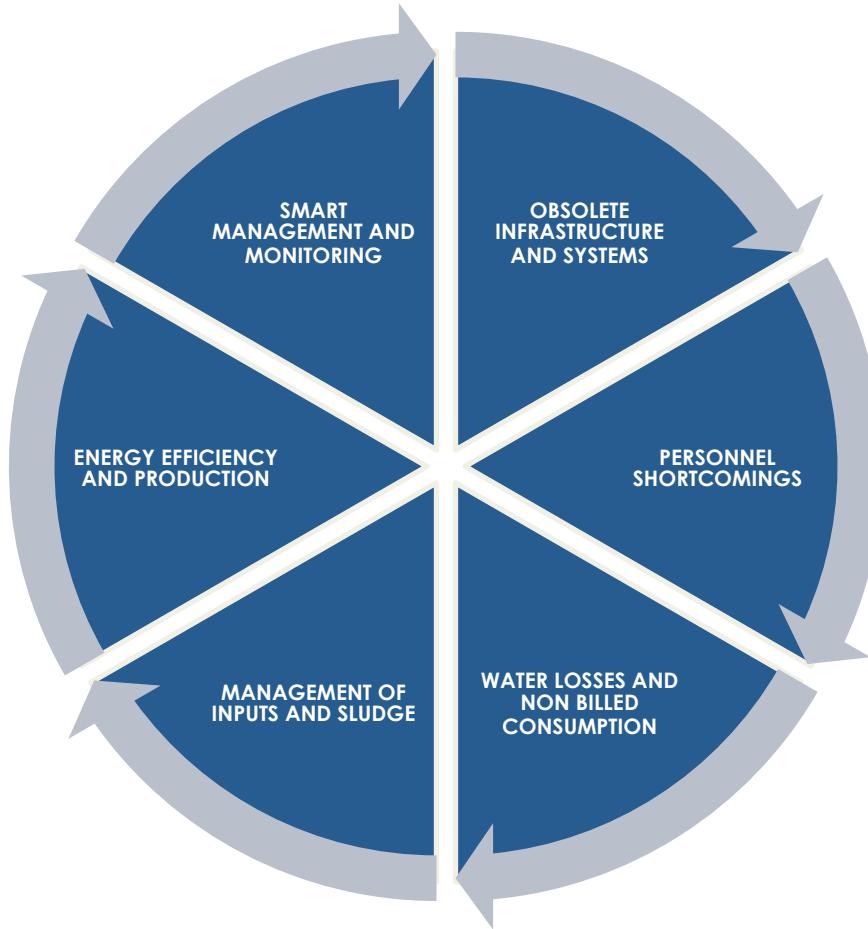
WATER MARKET MAIN DRIVERS

- The cancellation of the EYDAP/EYATH privatisations in 2014 following the State's Council ruling is leading to a review of the strategy at the top end of the market with pressures increasing to off-load some operations to the private sector through long term management contracts.
- Restrictions on hiring due to the Hellenic Republic's MoU commitments towards the creditors reinforces the trend of privatising operations across the water market.
- Obsolete infrastructure upstream (reservoirs, dams, refineries) requiring heavy investment in upgrades and maintenance will put pressure to improve management of operations.
- High level of (apparent and real) water loss in the distribution network requiring investment in new monitoring and metering technology and in network maintenance is likely to lead to PPP solutions with generous support from EU funds for the period 2014-23.
- The implementation of the EU Water Directive 2000/60/EC is reinforcing the pressure for cost effective management and transparent pricing at a cost recovery level.
- Consolidation downstream (networks) is set to accelerate with the merging of municipal water companies as loss making operators will be forced to wind down over the next 2 to 3 years.

NEW OPPORTUNITIES ARISE FROM A CHANGE IN POLICY



MAIN CHALLENGES FOR WATER COMPANIES



REQUIRED ACTIONS

Mapping of External Networks and Installations– GIS

Integrated System of Remote Monitoring and Control

Upgraded SCADA and Control Centre

Real Time Monitoring – Cloud Applications

Energy Efficiency Measures in Pumps and Plants

Smart Metering Systems

Intermediate Water Tanks

Production and Use of Renewable Energy

Tertiary Treatment– MBR

On-Line Quality Monitoring of Water and Sewage

Employee Training

Outsourcing of Maintenance and Operations

INVESTMENT TRENDS IN THE WATER INDUSTRY



Historical investment in Municipal Water Companies exceeding 10 Bn Euro with 3 Bn in 2007-13 period.
Athens Water Company spend 185 Mn in 2008-14.



New requirements for 2014-20 estimated at 2.5 Bn euro for Municipal Water Companies.
Athens Water Company Requirements estimated at 410 Mn euro.

ATHENS WATER COMPANY INVESTMENT REQUIREMENTS

	EXISTING SITUATION	REQUIRED ACTIONS AND INVESTMENTS
ASSET WATER MANAGEMENT	Adequate water resources Installations and networks belong to the EYDAP Assets Company. Maintenance costs at 2% of revenues.	Asset management plan. Revising terms of contract with EYDAP Assets Company on the issue of aqueduct. Allocating funds for new investments in the aqueduct according to plan.
WATER REFINERIES	Adequate capacity for the next 5 years	Implementation of new programs for improving efficiency in refining.
WATER NETWORKS	Variations of quality and age of networks. Physical losses around 13%. No active monitoring systems for water loss.	Install system-wide flow measurement program (system meters) to identify critical areas of physical losses. Develop active leak detection program (objective of 25% reduction in physical losses). Identify appropriate balance between repair and replacement . Upgrade storage reservoirs to improve water security .
SEWAGE NETWORKS	Variations of quality and age of networks Adequate pumping infrastructure but without back up facilities. In some parts of the network surface water and sewage are mixed together, before being treated.	Introduce asset management on newly adopted networks. Develop and implement parallel coastal sewer and back-up/ alternative options for critical pumping stations Develop program for targeted improvement of local sewer connections Install appropriate flow measurement
SEWAGE TREATMENT PLANTS	Overcapacity in certain plants. Efficiency and environment issues remain.	Further treatment capacity required (5 years+) with operational improvements at existing plants Implement necessary energy efficiency/recovery proposals at plants Implement specific operational and environmental improvement proposals
SLUDGE MANAGEMENT	Sludge management expensive and with limited re-use. Limited energy production.	Recover water treatment sludge at source Explore alternative beneficial uses for sludge Further develop energy from sludge proposals

ATHENS WATER COMPANY INVESTMENT REQUIREMENTS

	EXISTING SITUATION	REQUIRED ACTIONS AND INVESTMENTS
CUSTOMER SUPPORT	Bad state of meters with 11% of water not billed. Customer management non existent.	Reduce lost revenues through customer meter under-reads Develop and implement targeted customer meter upgrade program Further upgrade customer interface to develop payment methods and options
ADMINISTRATION	Engineering led and not customer driven company. Financial operations based on accounting without any systems of control and planning. No communication policy with customers. No internal capabilities to react to regulation.	Overhaul financial information provision with the objectives of developing and maintaining an internal 5 year rolling business plan and providing accurate and timely financial management information. Develop the statistical department as the basis of a regulation function Change the culture of the organisation from engineering and operations-led to customer focused and customer driven

FUNDING INVESTMENT

- The new National Plan co-financed with EU has earmarked 821 Mn Euro for sewage and water upgrades at national level and additional resources close to 1000 Mn have been allocated to the 13 regional plans. Municipal Water Companies will tap these sources of funding.
- Additional funding is provided through special revenues allocated for investment by the Municipal Water Companies.
- The Athens Water Company is considering issuing a corporate bond when market conditions for Greek debt have improved.

MARKET OPPORTUNITIES

OPERATORS

- A gradual opening of the market is expected over the medium term as pressures to modernise operations will increase.
- Target Athens and Thessaloniki Water Companies for various operations of scale.

TECHNOLOGY PROVIDERS

- Technological upgrade will take hold of the sector over the next 5 years with across the board opportunities.
- Target mainly Athens and Thessaloniki Water Companies and a group of about 10 medium size Municipal Water Companies.

INVESTORS

- Privatisation will not continue in the water sector but existing private operators require funding for their development.
- Target domestic established companies with a track record in water operations and construction which are few and generally have a good reputation.
- Look out for domestic technology development companies with innovative profile.

NOTES

- The macro data contained are from EUROSTAT.
- The analysis of Municipal Water Companies has been based on published balance sheets for the year 2012.
- The data and information on Athens Water Company are from market sources.
- *Disclaimer: I cannot guarantee the precision of statistical data contained in this report and the intentions of companies regarding their investment plans.*