13th International Conference Europe –INBO 2015
Thessaloniki 21-24 October 2015
Roundtable 4

“WATER RESOURCES MANAGEMENT EFFORTS & CHALLENGES BY A WATER SUPPLIER (EYATH SA)”

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EYATH S.A.
RIVER BASIN OF CENTRAL MACEDONIA
EYATH sa Thessaloniki’s Water supplier & Sewerage Co
Our business:
Provide water and sewerage services in the greater Thessaloniki area

1. Water Supply Services
   - Groundwater and surface water collection;
   - Water treatment; and
   - Distribution of potable water to households, municipalities, other public and industrial uses

2. Sewerage Services
   - Collection and transfer of wastewater;
   - Treatment of wastewater; and
   - By-product treatment including sludge and treated effluent

Principal operational Indicators (2012)
- c.258,000m³/day average water production
- c.510,000 customers corresponding to c.1.0mn inhabitants
- c.120km² service area
- c. 192,000m³/day average wastewater treated
- More than 1.0mn inhabitants served
- c.640km² service area

Notes: (1) Industrial Zone plant (“MKA”) capacity is included (c. 10,350m³/day) (2) Water supply and sewerage services are provided in certain areas of the mentioned municipalities. Also, network improvement provided to Delta municipality
Water supply services
Water resources

Overview of water resources

EYATH utilises two sources to obtain raw water; surface water from Aliakmonas River and underground water from various well fields in the greater Thessaloniki area.

Surface
- Aliakmonas river is the sole surface source used for the provision of raw water.
- The State is obliged to provide up to c.172,800m³/d at the off-take point at Vrachia.

Groundwater
- The main underground water resources include springs at Arravissos (c.90,000m³/d).
- Total aquifers water c.170,000m³/d supply capacity.

The Hellenic Republic holds the exclusive right on the natural water resources.
Thessaloniki’s Water supply from Aravissos Carstic springs
Sewerage services
Thessaloniki sewerage systems

- **MKA Industrial WWTP system**
- **Thessaloniki WWTP system**
- **Main sewerage pipeline**
- **EELTH Thessaloniki WWTP system**
- **Tourist area**
- **Industrial area of Thessaloniki**

**EELTH Thessaloniki WWTP system**
- Design capacity: 296,000 m³/day
- Average waste water inflow 174,000 m³/day
- Treated waste water is channelled via a double pipe of 13km length to the sea
- A brand new sludge drying facility started operating in 2012

**Industrial Zone plant (“MKA”) Industrial WWTP system**
- Design capacity: 15,000 m³/day
- Present waste water inflow: 9,000 m³/day
- Actions for the upgrade of the facility are underway
- c. 750 customers in the industrial area

**Aeneas Tourist Area**
- Design capacity: 27,000 m³/day
- Present average waste water inflow 7,200 m³/day
Thessaloniki’s wastewater treatment plant & Drying & Ozonization units
# EYATH’S Water & W/W Tariff System

<table>
<thead>
<tr>
<th>Quantity m3 /4monthly bills (Domestic clients)</th>
<th>Price €/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>0.46</td>
</tr>
<tr>
<td>11-30</td>
<td>0.63</td>
</tr>
<tr>
<td>31-60</td>
<td>0.72</td>
</tr>
<tr>
<td>61-120</td>
<td>1.16</td>
</tr>
<tr>
<td>121-180</td>
<td>2.39</td>
</tr>
<tr>
<td>181 and more</td>
<td>4.03</td>
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</tbody>
</table>

**Sewerage cost** on all the above 80% on the water cost

<table>
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<tr>
<th>Industry m3/4monthly bills</th>
<th>Price €/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-500</td>
<td>0.52</td>
</tr>
<tr>
<td>501 and more</td>
<td>0.81</td>
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Clients of the Industrial area of Thessaloniki Special arrangement
Climate change the biggest challenge for the water sector. Floodings & droughts. It may change land uses and habits.

Impairs drinking water quality
Requires large investments
REGIONAL CLIMATE MODEL (RegCM3): CHANGES UNTIL 2071-2100 RELATIVE TO 1961-1990

Changes in mean annual precipitation  Changes in mean temperature
WATER SECTOR’S BASIC PRINCIPLE

Apply Mitigation & Adaptation actions to Climate Change by reducing Carbon Emissions but without endanger the Economic and Financial stability of the Water Sector
EYATH’S CERTAIN ADAPTATION ACTIONS FOR WATER SOURCES MANAGEMENT

- Improve water distribution system and minimize water losses
- Implement more systematically monitoring control on drinking water
- Search for new alternative water sources (i.e. treated effluents for re-use & Artificial recharge)
- Develop water & w/w treatment processes
- Recycle sludge to agriculture
- Involve in Research projects (CC-Water, CC_Ware, Gabardine, Real_t_so for CSO’s, Thermaic Gulf)
- Inform the public on its plans and actions
Implementing monitoring plan in water supply sources
Precipitation and surface run-off monitoring measurements

Use of CC_Waters instruments

Ecological sun panel
Water Supply Infrastructure
TREATED EFFLUENTS AS A PRECIOUS WATER SOURCE
ADVANCED TREATMENT USING PILOT MEMBRANE_RO_MICROFILTRATION SYSTEM
Treated effluents as an alternative water source for Artificial Groundwater Recharge
SCHEMATIC PLAN OF PILOT HYDRAULIC INFRASTRUCTURE

Main water transport pipe Φ150 mm

Infiltration ponds

Injection well

New installed pipe network Φ60 mm, length 400 m

Sewage station

Inverse osmosis
ATTEMPTS & ACTIONS TO MINIMIZE WATER LOSSES
SEWAGE  SLUDGE RECLAMATION
EUROPEAN WATER POLICY

Past

Present

Future
COMPLIANCE IN IMPLEMENTING EU’S ENVIRONMENTAL & WATER LEGISLATION

One small step for policy makers, one giant leap for operators
Dissemination efforts
Above all ... People do the job not the machines
Government decides but local actors implement (Mr Donzier INBO Technical secretary)

Costs of the implementation should be recovered from the appropriate sectors

The Water Industry’s obligations under the WFD should be fair and reflective of the “polluter pays” principle

Water suppliers need to understand their consumers needs since they pay for the service

“Pollution control at source” not “end of pipe treatment” EUREAU
And one year with plenty of water

Thank you