



**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.**



EYATH sa Thessaloniki's Water supplier & Sewerage Co



Our business:

Provide water and sewerage services in the greater Thessaloniki area

1 Water Supply Services

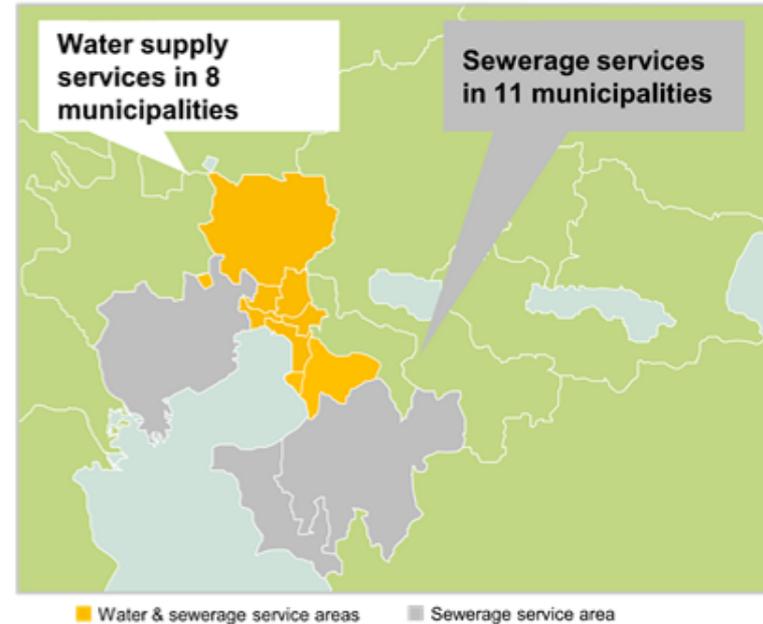
- Groundwater and surface water collection;
- Water treatment; and
- Distribution of potable water to households, municipalities, other public and industrial uses

Sewerage Services

2

- Collection and transfer of wastewater;
- Treatment of wastewater; and
- By-product treatment including sludge and treated effluent

Greater Thessaloniki area map⁽²⁾

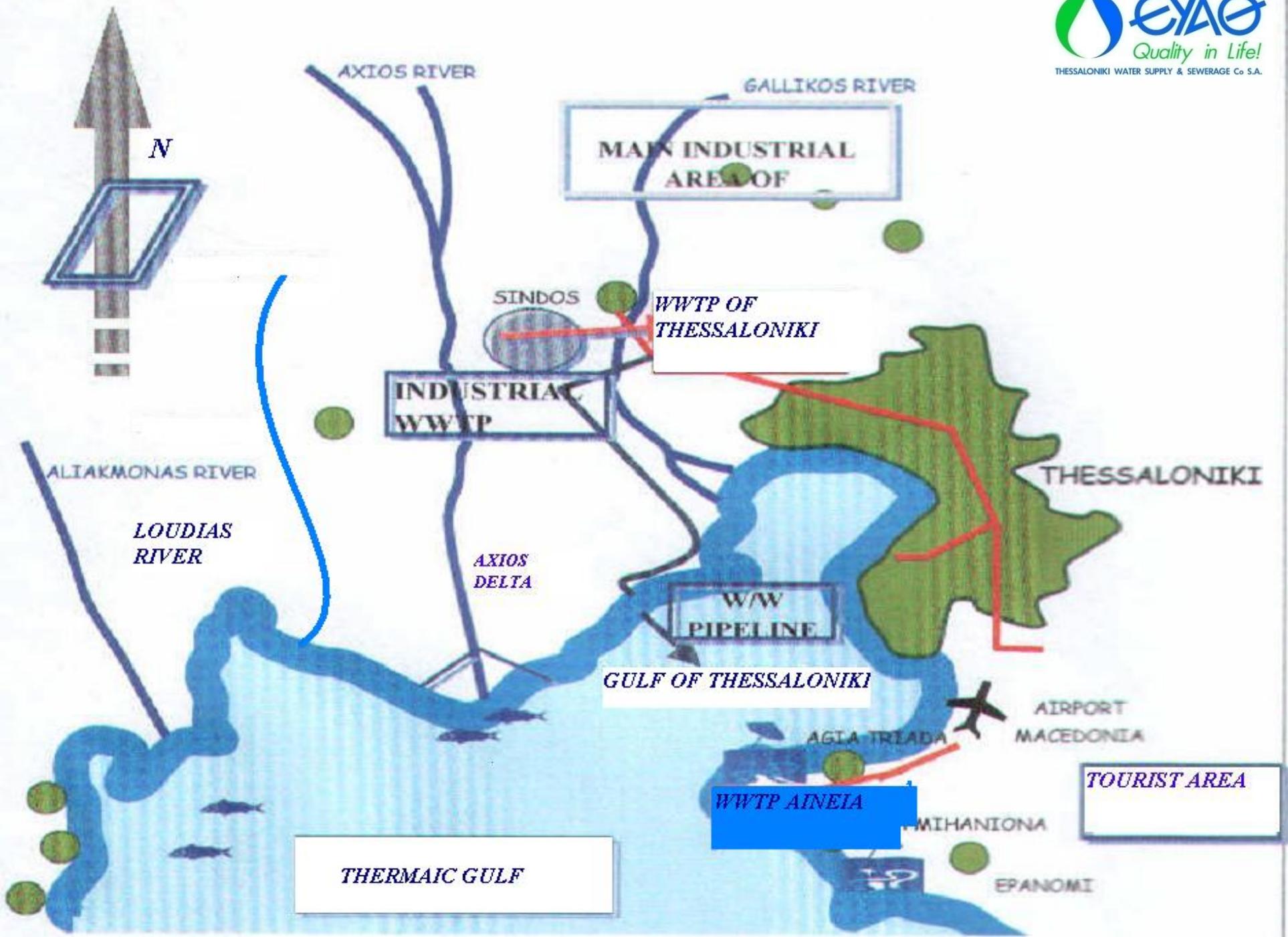


Principal operational Indicators (2012)

- 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⁽¹⁾
- More than 1.0mn inhabitants served
- c.640km² service area

Notes: (1) Industrial Zone plant ("MKA") capacity is included (c. 10,350³/day) (2) Water supply and sewerage services are provided in certain areas of the mentioned municipalities. Also, network improvement provided to Delta municipality

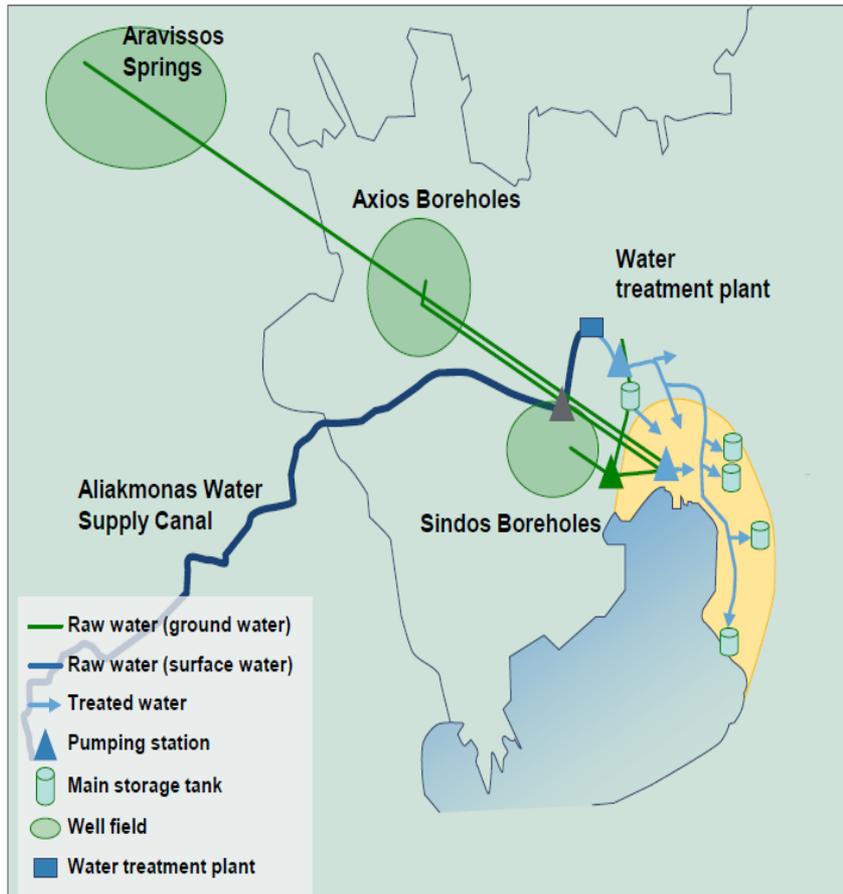


Water supply services

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

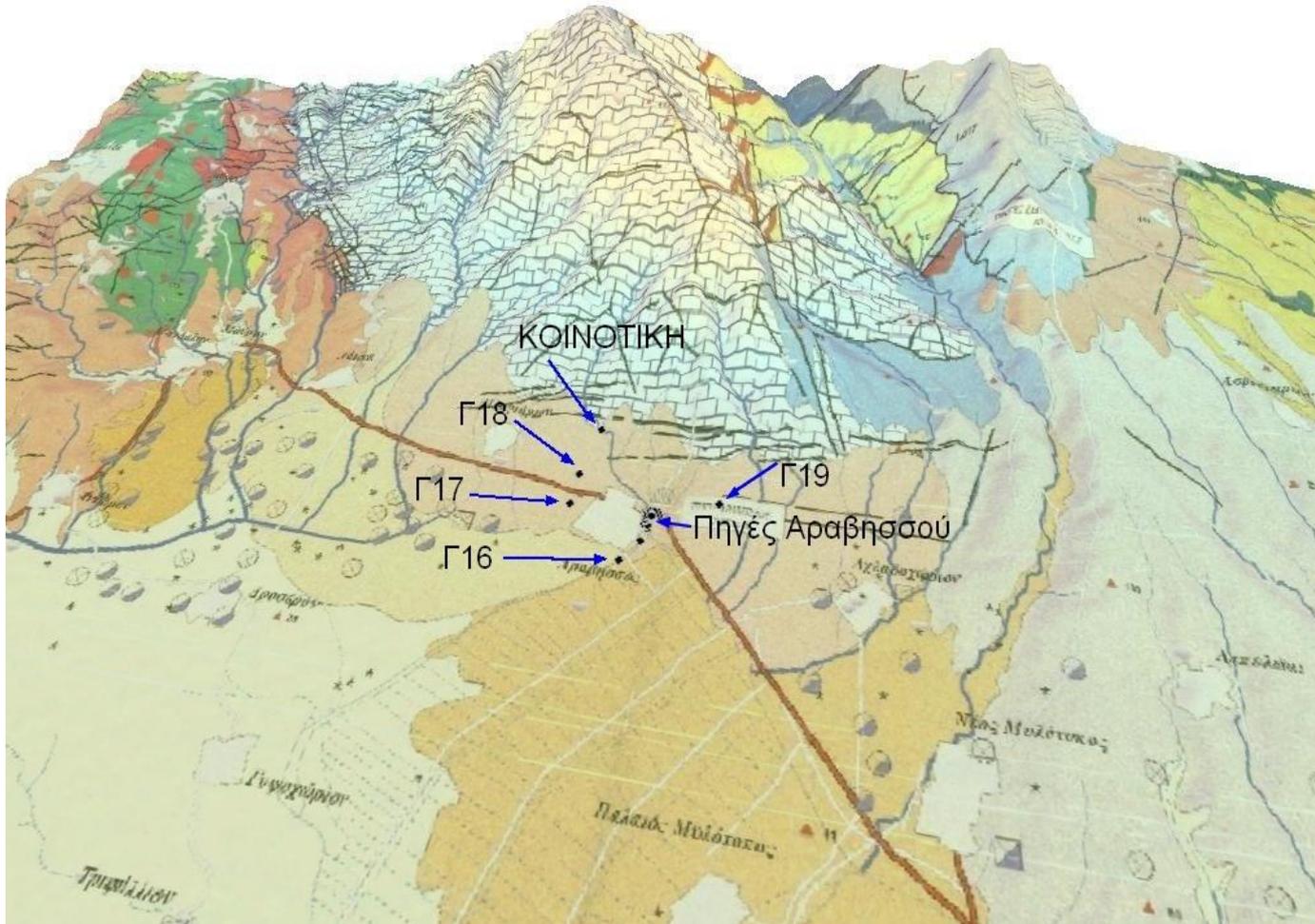
Groundwater

- 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

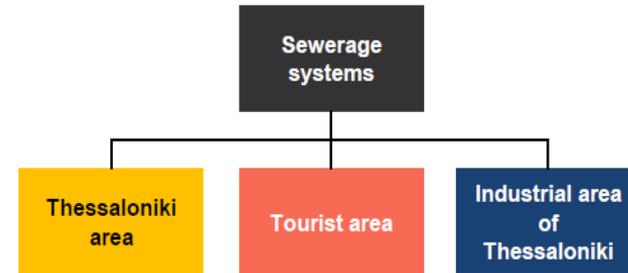
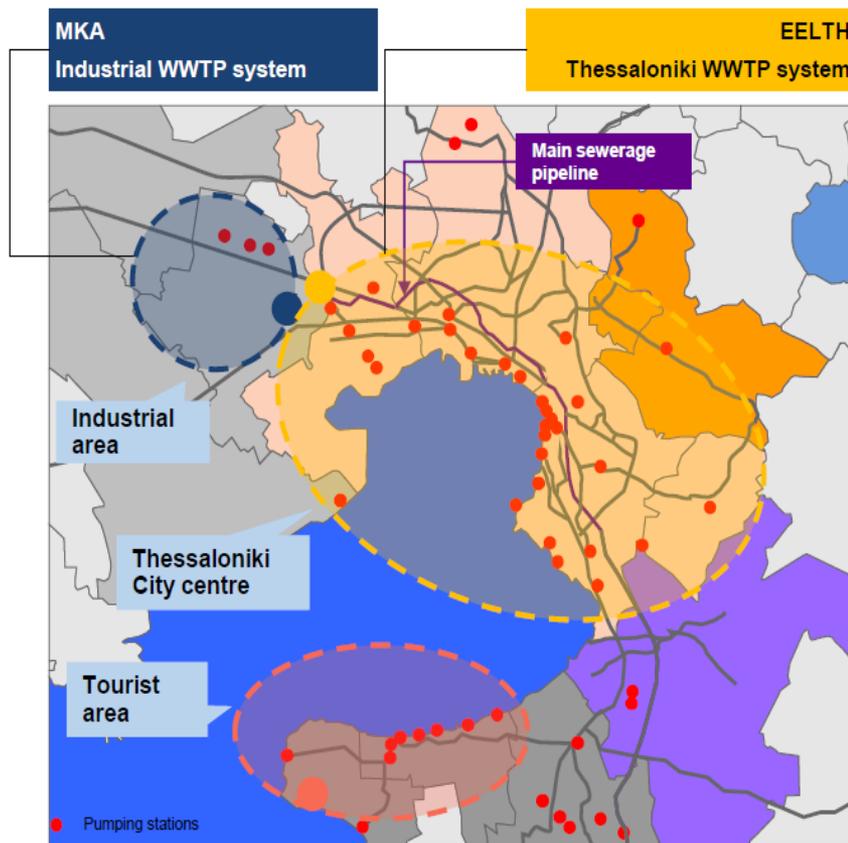


Thessaloniki's Water supply from Aravissos Carstic springs



Sewerage services

Thessaloniki sewerage systems



EELTH Thessaloniki WWTP system	<ul style="list-style-type: none"> • Design capacity: 296,000m³/day • Average waste water inflow 174,000m³/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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Design capacity: 27,000m³/day • Present average waste water inflow 7,200m³/day



Thessaloniki's wastewater treatment plant & Drying & Ozonization units



EYATH'S WATER & W/W TARIFF SYSTEM

Quantity m ³ /4monthly bills (Domestic clients)	Price €/m ³
0-10	0.46
11-30	0.63
31-60	0.72
61-120	1.16
121-180	2.39
181 and more	4.03
<u>Sewerage cost</u> on all the above	80% on the water cost
Industry m ³ /4monthly bills	Price €/m ³
0-500	0.52
501 and more	0.81
Clients of the Industrial area of Thessaloniki	Special arrangement



CLIMATE CHANGE & THE NEED TO ADAPT



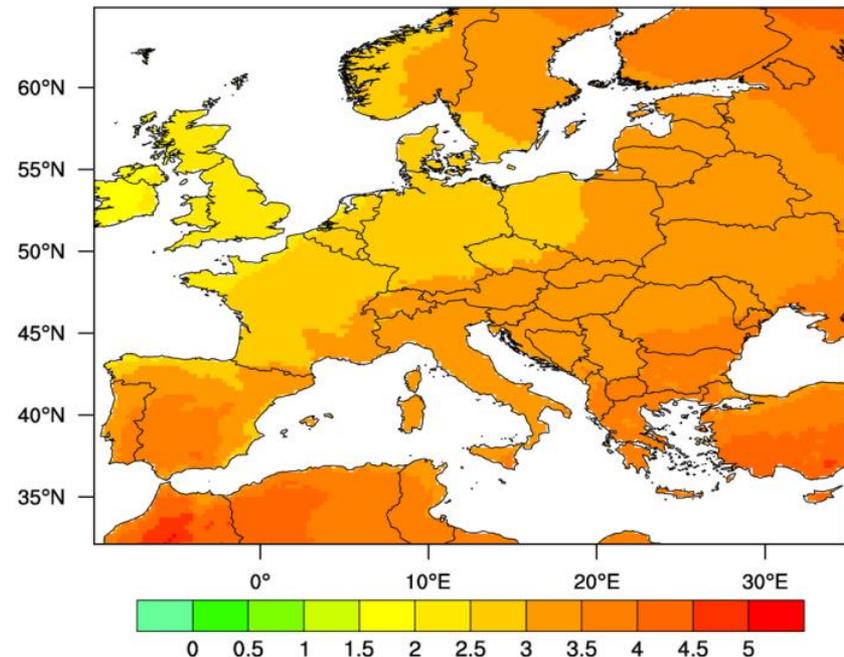
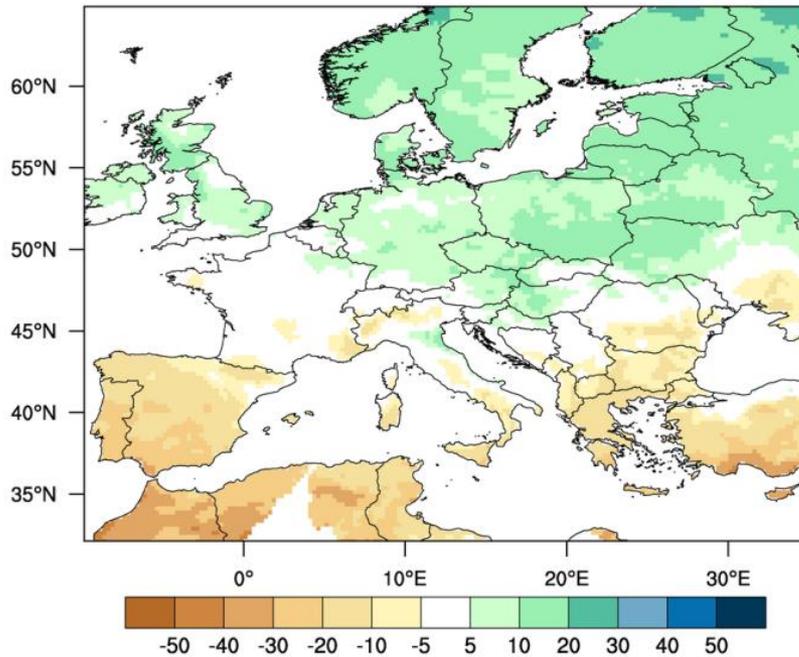
Climate change the biggest challenge for the water sector
Floodings & droughts . It may change land uses and habits

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



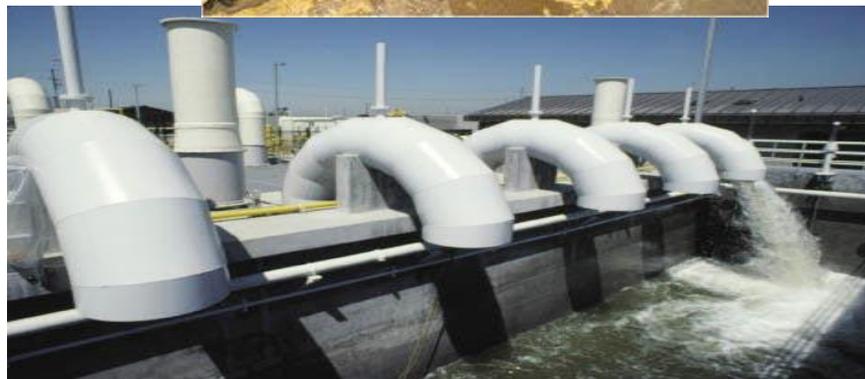
Ecological
sun panel



Use of CC_Waters
instruments



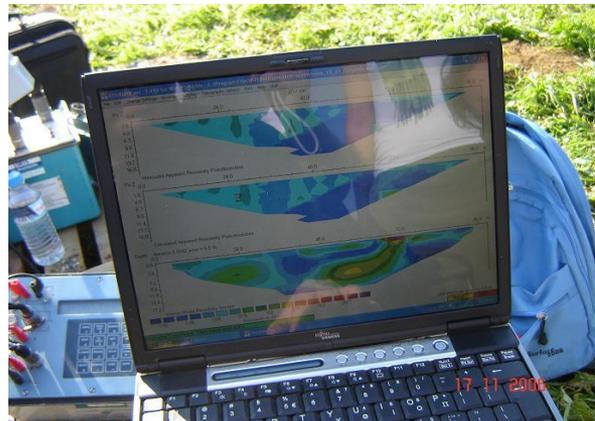
Water Supply Infrastructure



TREATED EFFLUENTS AS A PRECIOUS WATER SOURCE



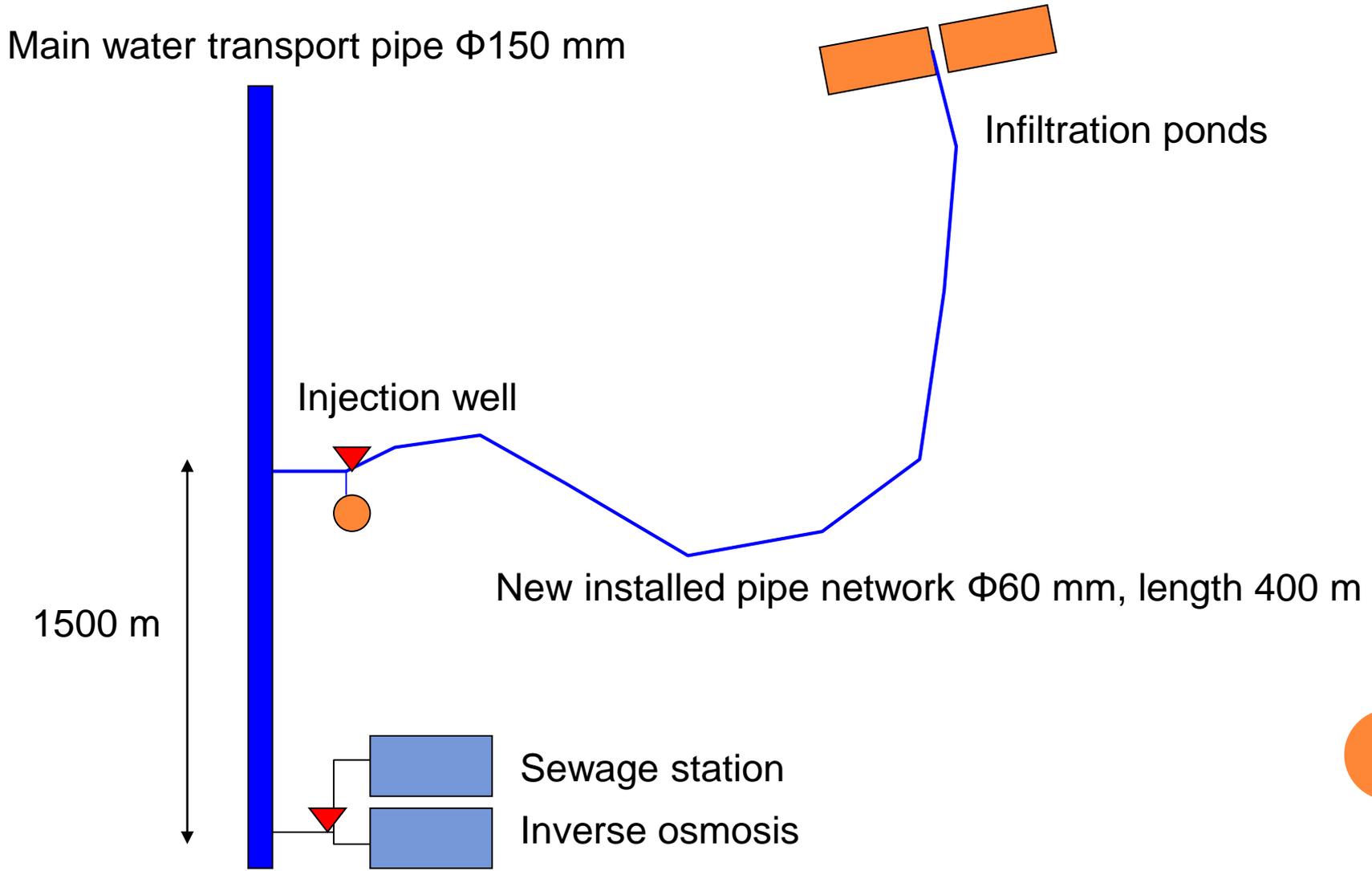
ADVANCED TREATMENT USING PILOT MEMBRANE_RO_MICROFILTRATION SYSTEM



Treated effluents as an alternative water source for Artificial Groundwater Recharge



SCHEMATIC PLAN OF PILOT HYDRAULIC INFRASTRUCTURE



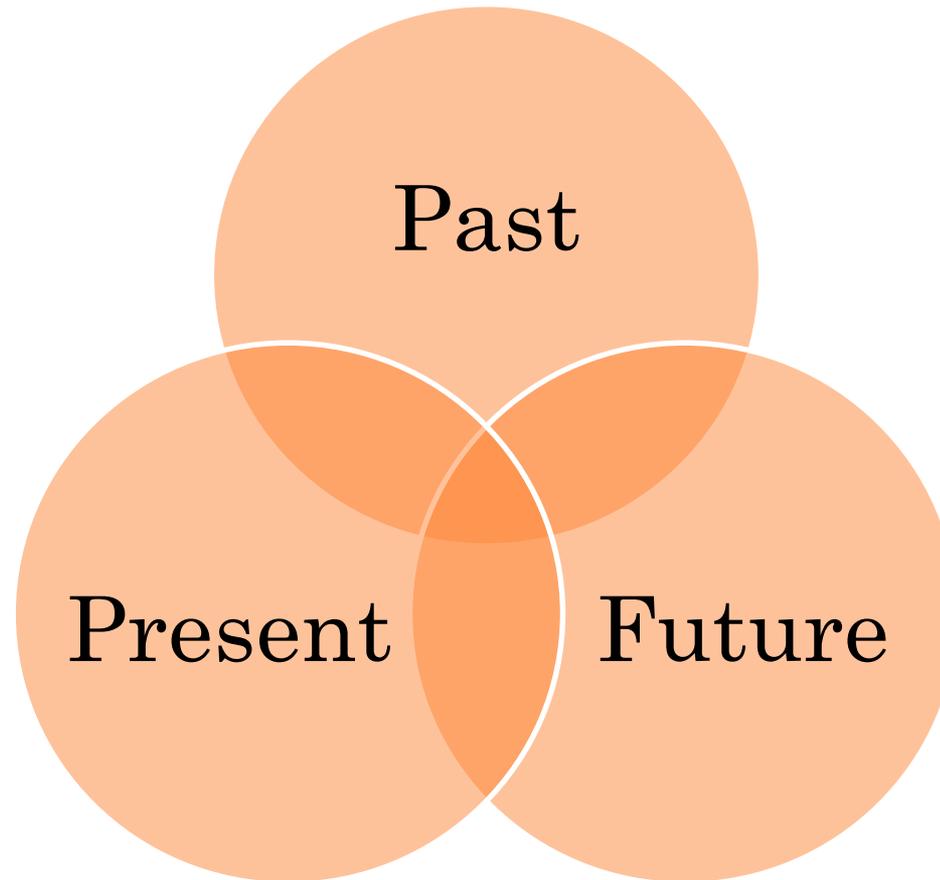
ATTEMPTS & ACTIONS TO MINIMIZE WATER LOSSES



SEWAGE SLUDGE RECLAMATION



EUROPEAN WATER POLICY

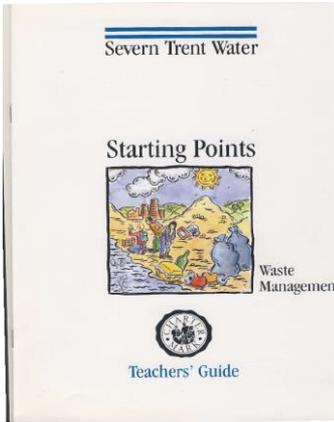


COMPLIANCE IN IMPLEMENTING EU'S ENVIRONMENTAL & WATER LEGISLATION

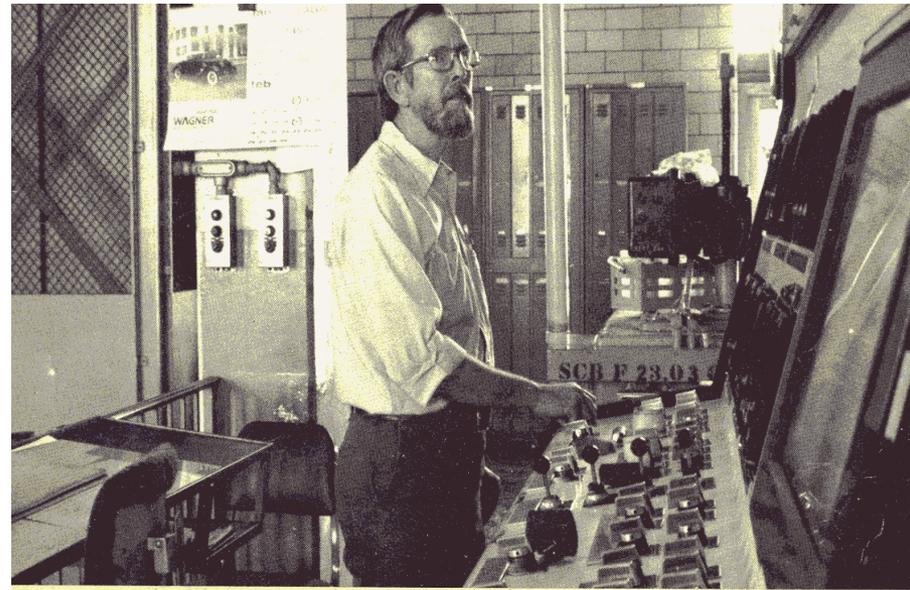
One small step for policy makers, one giant leap for operators



Dissemination efforts



Above all ... People do the job not the machines



VIEWS _POSITIONS

- 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

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