

Israel's excellence in Italy

Tel Aviv,
14th and 15th March 2011
Israel Export Institute

Conference

"The Italian Water Market – Its challenges and opportunities"

Introduction to the Water Management System in Italy

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The Water Management System in Italy

AGENDA

- Legislative Framework
- Structure of water management
- State of water quality
- Inefficiencies in water management
- National spending
- Main Players on the Italian water market
- Associations and institutions for water management
- Business perspectives in Italy
- Webography

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Legislative Framework

European Union

Water Framework Directive (WFD) 2000/60/CE for:

- the protection of water basins
- the management of water resources

The WFD aims to reach a "healthy state" for all water bodies by 2015 through an integrated management of water basins
(IWKI-Integrated Water Resource Management)

- Legislative Framework -

Italy

Italy transposed the WFD through the decree 152 of April 3, 2006

The decree 152/2006 was based on

- the law 183/89 for the land protection
- the law 36/94 (Galli Law), a regulation of water utilities
- the decree 152/99 on water pollution protection

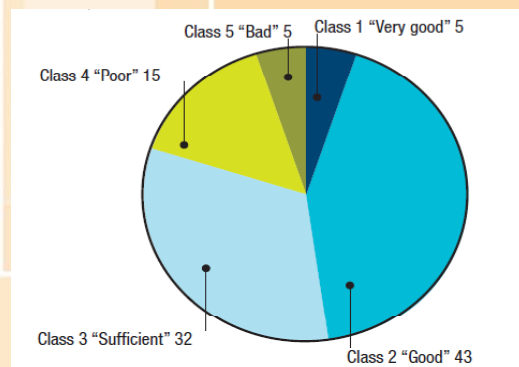
The decree 152/2006 required that the Water Protection Plan be approved no later than 31 December 2008

Structure of water management

- **Central government authorities:**
define the general direction and control all processes
- **Optimal Territorial Ambits (A.T.O. - „Ambito Territoriale Ottimale“):**
municipalities and provinces set up the integrated water service in a co-operative manner
- **Regions and local administrations:**
define and adopt the organizational models and the most appropriate solutions to the specific territorial situation
- **Basin/district Authorities:**
are responsible for the definition and periodic updating of the water balance between the availability of resources and what can be used

State of water quality

State of Rivers (index values in %)



source: ISPRA 2009

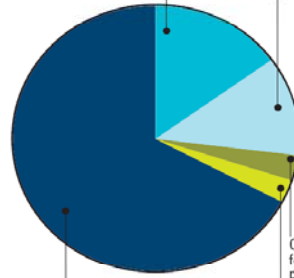
- State of water quality -



Quality of coastal waters

(index values in %)

ISPRA, 2009



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- State of water quality -



Qualitative state of groundwater bodies in 11 regions and 2 autonomous provinces 2007



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source: ISPRA 2009

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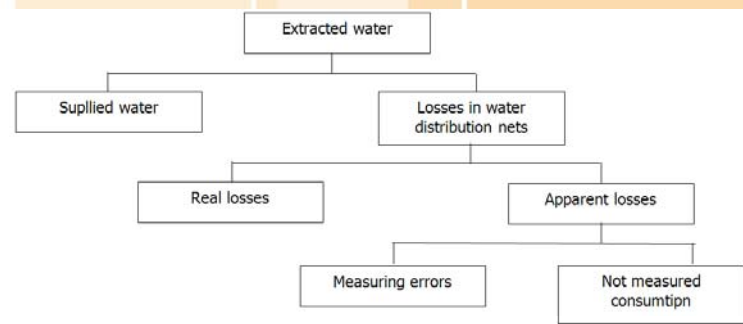
Inefficiencies in water management

1. Reduced availability of water

- water evaporation and evapo- transpiration provoke a loss of 132 billion m³ of water a year
- owing to the inefficiency of water distribution nets, the water availability is reduced to 52 billion m³ of water a year

- Inefficiencies in water management -

2. Infrastructural inefficiencies

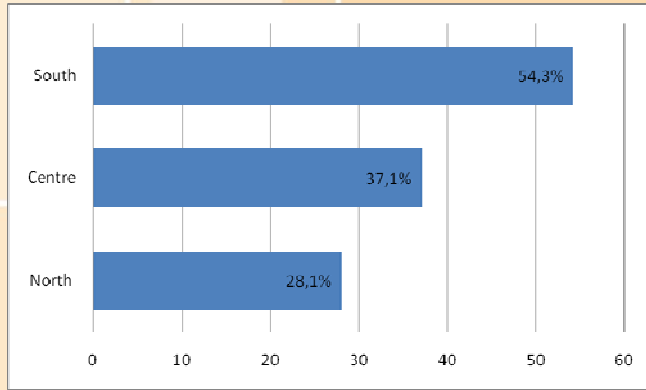


source: AIAT 2010

- Inefficiencies in water management -



Losses in water distribution nets



source: University Bocconi, Milan 2011

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- Inefficiencies in water management -



3. Italian population served by a waste water treatment system

Inefficiencies in the purification of the water supply				
	Inhabitants	sewerage systems (%)	depuration system (%)	Inhabitants with no depuration system
Italy	60.340.000	84,7	70,4	17.860

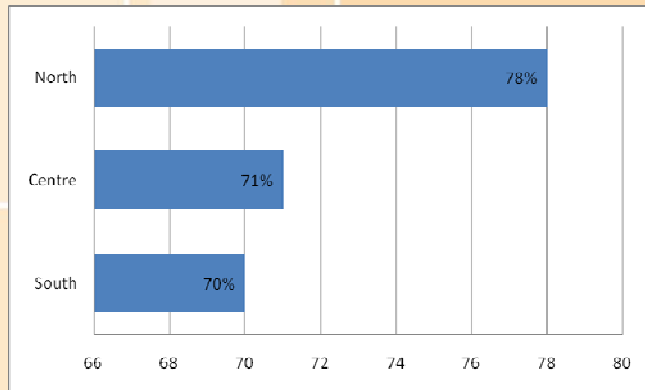
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3. Italian population served by a waste water treatment system



source: University Bocconi, Milan 2011

4. Low Quality of the primary water resources

- Wasteful water consumption causes high quantity of sewage, which are released in the environment (rivers, seas) without being treated (ca. 30%)
 - Discharges damage the water sources → higher costs for water treatment
- vicious circle

- Inefficiencies in water management -



5. Desalination

- **Increasing demand** in the arid meridian region of Italy also for agriculture
- Demand also on the **small islands** with a lot of mass tourism
- No existent investment program for this sector in Italy
- There are 66 installations in Italy at the moment, some of them quite old and about to be decommissioned

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National spending on environmental management

In Italy about **34.730 million €** are spent for the management of waste, waste water and water sources:

- 27% (9.516 million €) for water management
- 11% (3.700 million €) for waste water management

source: ISTAT 2011, the numbers refer to the year 2009

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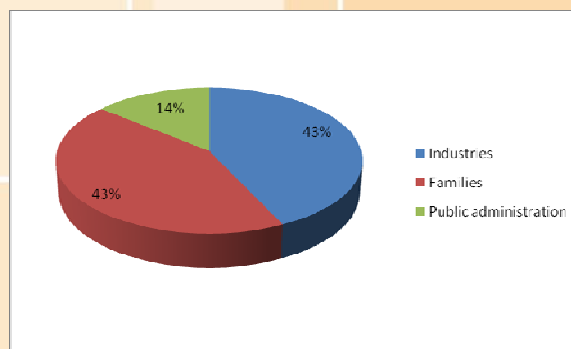
National spending on water management

Between 1997 and 2009 the costs of water management in Italy have known a steep increase:

- Costs for water management increased of 44% (0,6% of the entire GDP)
- Cost for waste water management increased of 52% (0,2% of the entire GDP)

source: ISTAT 2011

Origins of the budget for the spending on water management

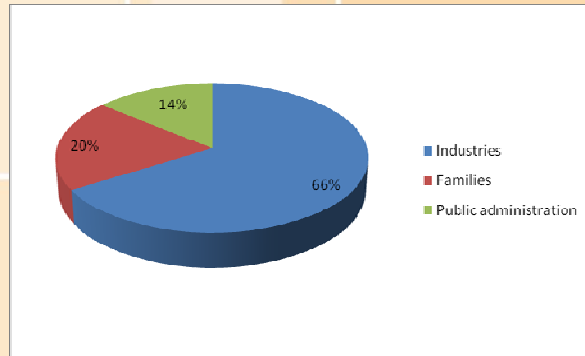


source: ISTAT 2011

- National spending -



Origins of the budget for the spending on waste water management



source: ISTAT 2011

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Main Players on the Italian water market

Multi-Utilities and A.T.O.

Acea SpA www.aceaspa.it

- One of the most important Italian public utilities
- An industrial Group which focuses on the consolidation and creation of value from its two main activities, energy and water with Integrated water service (aqueducts, sewerage and purification)

Gruppo HERA www.gruppohera.it

- Multi-Utility company leading in environmental, water and services
- Manages the entire cycle, from collection through purification and returning water to the environment

IREN www.gruppoiren.it

- Operates in the following sectors: electricity, gas, district heating, integrated water service and environment, and it also provides other public utility services (telecommunications, public lighting, traffic light services, facility management)

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Multi-Utilities and A.T.O.

Amiacque S.R.L. www.amiacque.it

- Infrastructures and services for water entire cycle: water purification and supply, aqueduct and waste water treatment

Metropolitana Milanese www.metropolitanamilanese.it

- Infrastructures and services for water entire cycle: water purification and supply, aqueduct and waste water treatment

A2A www.a2a.eu

- Energy Multi-Utility which was born on January 1st, 2008 from the merger between Aem Milano and Asm Brescia and with the incorporation of Amsa.

Acquedotto Pugliese www.aqp.it

- Multi-Utility, management of aqueducts

Engineering and Production

SMAT Torino www.smatorino.it

- leader in the field of integrated water services operating in the areas of engineering, construction and management of diversified water sources, state-of-the-art drinking water treatment systems, sanitation systems and recycling of urban waste water, purification and recycling networks, energy cogeneration and recovery systems

Impregilo - FISIA Italimpianti www.fisiait.com

- One of the main construction groups at international level operating in infrastructures, concessions and environmental sectors
- Desalination for 40 years, with leadership position in technology MSF in UAE, QATAR, KUWAIT, South Arabia

Veolia Water Italy www.veoliawaterst.it

- The Italian subsidiary of Veolia Water Solutions & Technologies (VWS), the technical branch of Veolia Water and the world leader in water treatment solutions

Engineering and Production

Degrémont's www.degremond.com

- Project management and water treatment
- Controls all the stages involved in designing and building plants
- Plants for drinking water production, desalination, wastewater pollution removal, wastewater sludge treatment and recycling

Unieco Ambiente www.ambiente.unieco.it

- Si muove nel campo ambientale a tutto spettro realizzando impianti e macchine per il trattamento dell'aria, dell'acqua e dei rifiuti, discariche, e interventi di risanamento e controllo ambientale attraverso soluzioni innovative brevettate

CULLIGAN ITALIANA SpA www.culligan.it

- piccoli impianti ad uso domestico fino ai grandi sistemi destinati all'industria, dalle centrali termiche all'acqua ultra-pura per applicazioni sanitarie o per l'industria elettronica, fino alla fornitura di acqua potabile

Engineering and Production

IDRECO SpA www.idreco.com

- Study and project formulation, supply of equipment, technical services and supervision, turnkey project installations concerning air and water treatment and recovery

Ercole Marelli Impianti Tecnologici SpA www.emit.it

- Operates in Italy and worldwide in the activity of Engineering, Procurement and Construction (E.P.C.) in water and waste sectors and energy production from renewable sources

Termomeccanica Ecologia www.tme.termomeccanica.com

- Deals with the construction and management of environmental and industrial engineering works
- Technological water treatment (portabilization, desalination and water purification), both for civil and industrial use

Net Engineering www.netspa.com

- projects and hydraulic infrastructures

Associations and institutions for water management

1. **AIAT** – Italian Association of Environmental Engineers
www.ingegneriambientali.it
2. **ANFIDA** – Italian Association between the Aqueducts
www.anfida.it
3. **AII** – Italian Hydrotechnic Association
www.idrotecnicaitaliana.it
4. **ANIDA** – Italian Association of the Companies for Environment Defense
www.anida.it
5. **FEDERUTILITY** www.federutility.it
6. **Aspi-** Italian Association for the Maintenance and Cleaning of Sewerage nets
www.associazioneaspi.it
7. **CONVIRI** www.conviri.it

Business perspectives in Italy

The current situation

- Unequal distribution of water
- Inefficiency of water distribution nets
- High water consumption
- Presence in water of solid substances (fecal excrements etc.)
- Generally only the application of primary and secondary sewage treatment, whereas tertiary treatment is often missing
- Not treated water discharges
- High cost for water treatment and disinfection
- Prohibitive costs for the reuse/recycling of treated water

The ideal model

- Limitation of water consumption
- Planning of separate sewerage nets
- Separation of water from excrements
- Water recycling and reuse of fertilizing substances
- Flexibility
- Better monitoring and water management solutions
- Application of innovative technologies

The opportunities for the Israeli Companies

- There is a big demand of innovative technologies to solve the **inefficiencies of water supply system** and avoid the waste of water → e.g. in the water distribution nets there are losses of about 52 million m³ of water
- To limit the costs for the water treatment and disinfection there have to be established new **technologies for the sewage water treatment**. New installations have to be built up to manage the waste water which for example in Sicily is treated only per 50%
- **Investments of about € 30 billion** have to be done in the next years to guarantee an adjustment to the other industrialized countries
- **High number of potential partners**
The biggest Italian association *Federutility* has 460 associated members 233 of which operating in the water sector

Webography

- **IRSA** Istituto di Ricerca sulle Acque
www.irsa.cnr.it
- **ISPRA** Istituto Superiore per la Protezione e la Ricerca Ambientale
www.apat.gov.it/site/itit/Temi/Acqua/Depurazione_delle_acque_reflue/
- **Ministero dell'Ambiente e della tutela del territorio e del mare**
www.miniambiente.it
- **CNR** Consiglio Nazionale delle Ricerche
www.cnr.it/sitocnr/home.html

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Thank you very much for
your attention!

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