PPP as a catalyzer of good water management

Płock, March 10th, 2009

CIFAL PLOCK

VEOLIA WATER

Agenda

- ☑ A few words about Veolia
- ☑ Veolia Water approach to good water management
- ☑ Efficient water and wastewater services by PWiK TG

VEOLIA WATER

A few words about Veolia

VEOLIA
WATER

Veolia Environnement Group

VEOLIA WATER

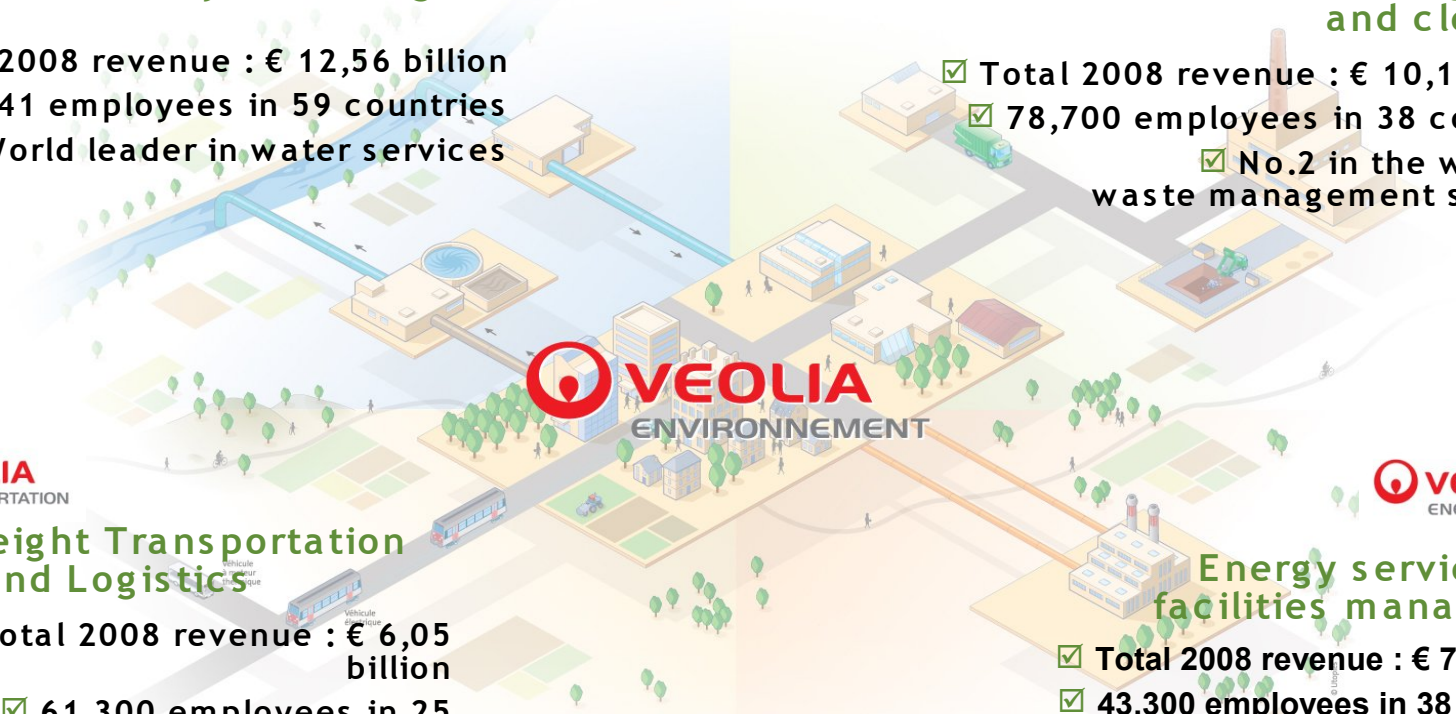
Global water cycle management

- ☑ Total 2008 revenue : € 12,56 billion
- ☑ 77,841 employees in 59 countries
- ☑ World leader in water services

VEOLIA ENVIRONMENTAL SERVICES

Global waste management and cleaning

- ☑ Total 2008 revenue : € 10,14 billion
- ☑ 78,700 employees in 38 countries
- ☑ No.2 in the world for waste management services



VEOLIA TRANSPORTATION

Staff /Freight Transportation and Logistics

- ☑ Total 2008 revenue : € 6,05 billion
- ☑ 61,300 employees in 25 countries
- ☑ Leading private European passenger transport operator

VEOLIA ENERGY

Energy services and facilities management

- ☑ Total 2008 revenue : € 7,45 billion
- ☑ 43,300 employees in 38 countries
- ☑ European leader in the energy services market

- ☑ 2008 revenue: € 36,20 billion of which 1/3 in the industrial and tertiary sector
- ☑ Two markets: industrial and tertiary sector customers and local authorities
- ☑ Over 298.498 employees located in 65 countries

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Veolia Water key digits

2008 revenue: € 12,56 billion

77% Self-government clients

23% Industrial clients

726.000 km drinking water mains

108.000 km wastewater mains

3.800 drinking water production plants

2.800 wastewater treatment plants

100.000.000 people served worldwide

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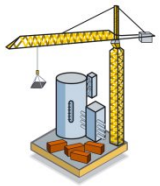
Veolia Water – scope of activities

Veolia Water specializes in water and wastewater treatment services and provides the technologies supporting these services.

☑ Design/build of turnkey installations

- Tailor-made design
- Technical specifications often devised by the customer
- Skills in design, construction and commissioning



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Solutions & Technologies

☑ On-site services

- Operation and maintenance of water and wastewater facilities
- On-site personnel
- Outsourcing of the water cycle management

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A water cycle management

Veolia Water manages the entire water cycle from source of supply to discharge into the natural environment.

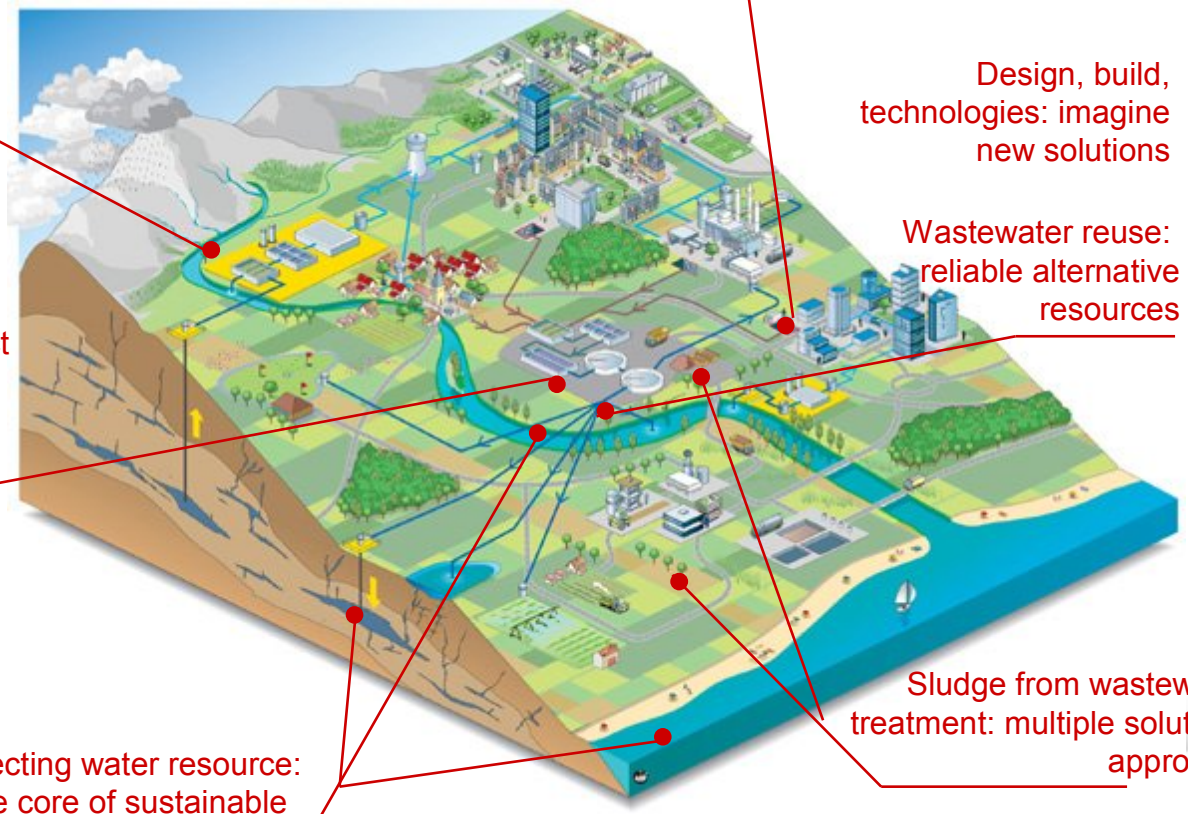
Water production and distribution : our commitment to water quality and service

Customer service: at the heart of our activities

Design, build, technologies: imagine new solutions

Wastewater reuse: reliable alternative resources

Wastewater collect and treatment : preserving the environment



Sludge from wastewater treatment: multiple solutions approach

Protecting water resource: at the core of sustainable development

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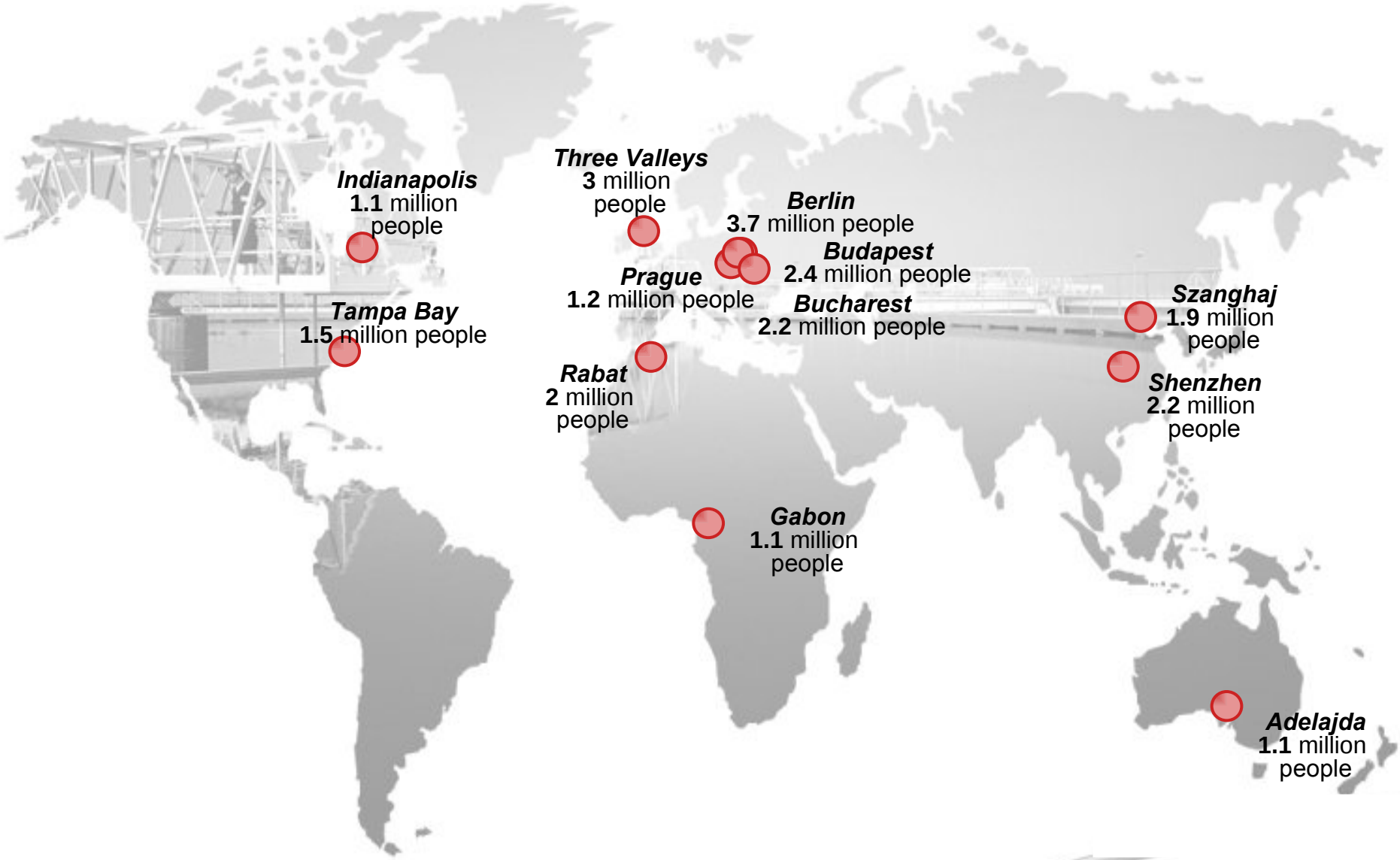
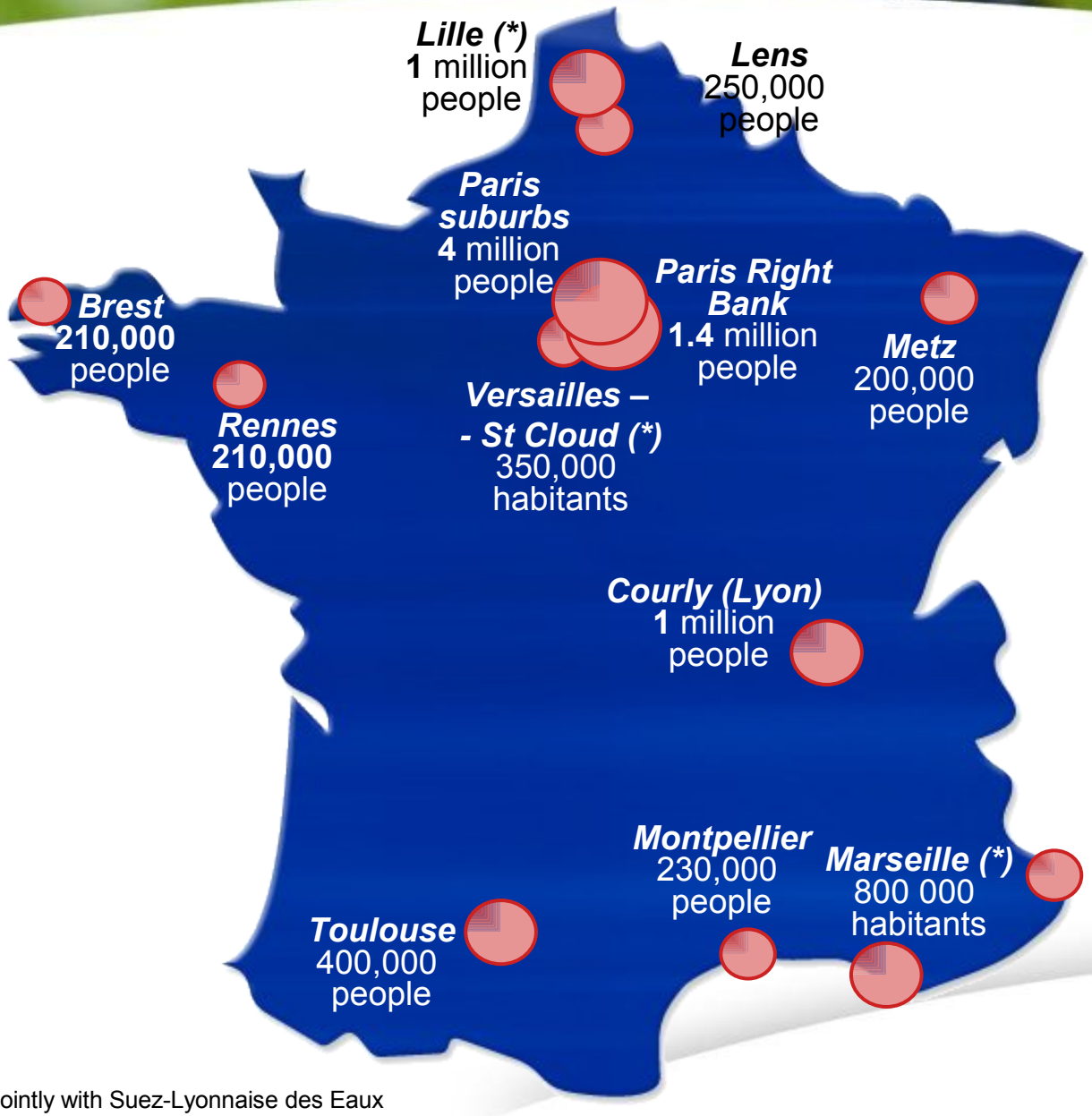
Selected international references



Main municipal contracts in France



(*) subsidiary owned jointly with Suez-Lyonnaise des Eaux

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R&D

The R&D Department applies its expertise to promoting environmental and health advances by developing innovative and economical solutions.

Environmental Analysis Center (Saint-Maurice, France)

Kompetenz Zentrum (Berlin, Germany)

Anjou Recherche (Maison-Laffite, France)

CREED (Limay, France)

Adelaide (Adelaide, Australia)

- ☑ **600 researchers worldwide**
- ☑ **Over 3,000 patents**
- ☑ **Anjou Recherche: Water and wastewater treatment research centre**

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Veolia Water approach to good water management

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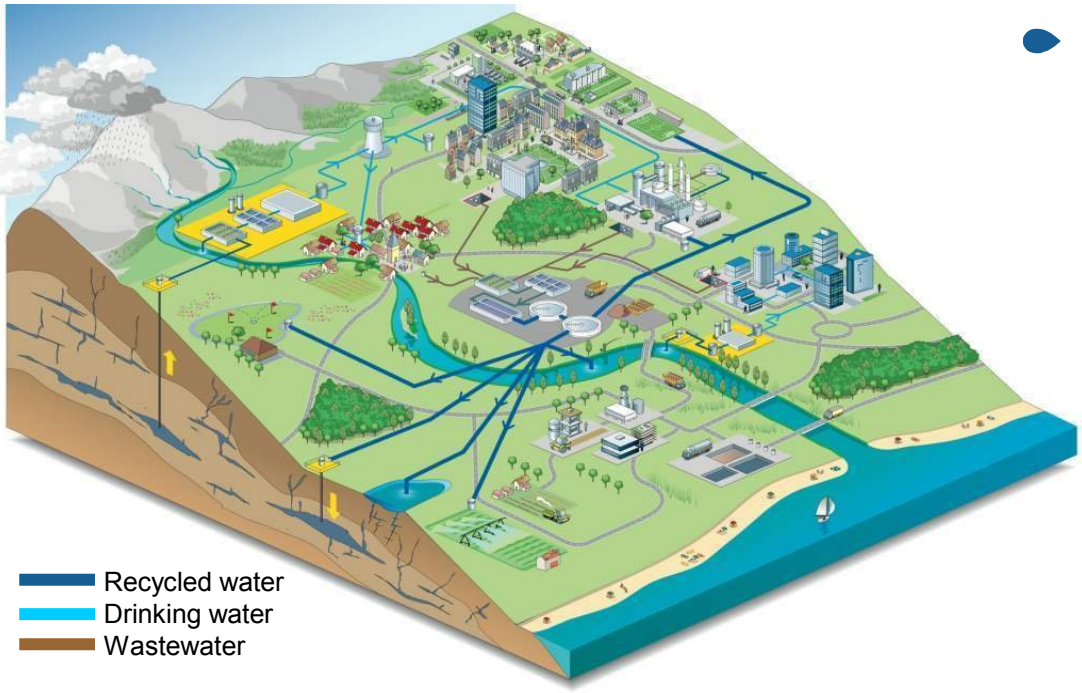
Sustainable water management

- **Drinking water production and distribution, wastewater collection and treatment are all key steps of the same water cycle. Drinking water and wastewater services deal with a common issue : a sustainable water management**

- **A better protection of surface water and groundwater resources requires an understanding of the complexity of man's influence on the water. We must regard the human influence on the global water cycle. Overexploitation and pollution of water and an incomplete wastewater treatment have huge consequences on the quality and quantity of water resources**



- **Sustainable water management must take into account the new developments in both drinking water and wastewater services. We must also move past the historic dividing line between drinking water and wastewater processes by developing innovative and alternative technologies, such as wastewater recycling.**

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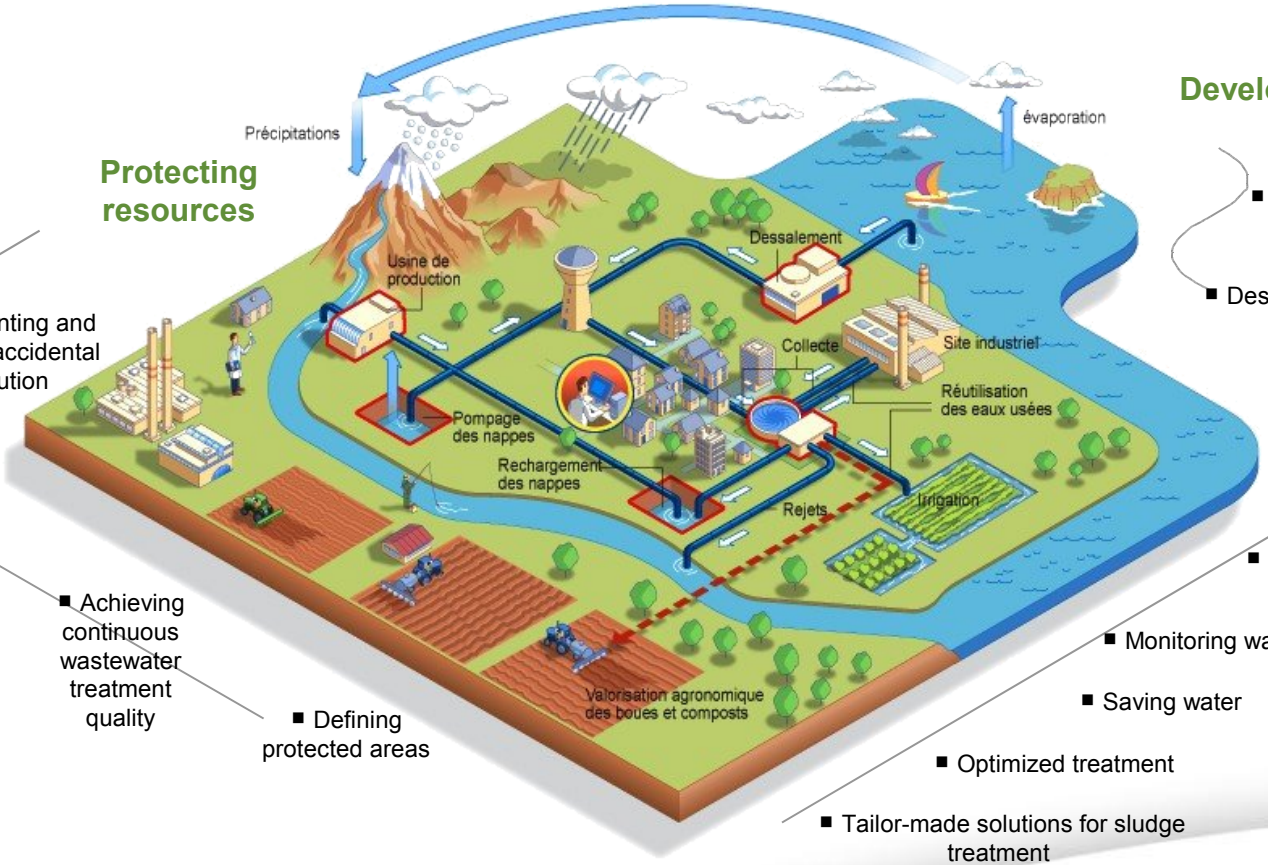
Sustainable water resource management

Reuse is the main component of sustainable water resource management.



Protecting resources

- Preventing and fighting accidental pollution
- Coping with on-going resource deterioration
- Achieving continuous wastewater treatment quality
- Defining protected areas

Developing alternative resources

- Reuse of treated wastewater
- Desalination

Optimizing management

- Managing water extraction over the long term
- Monitoring water resources
- Saving water
- Optimized treatment
- Tailor-made solutions for sludge treatment

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Managing water & wastewater services

Expertise

- Partner capable of applying worldwide expertise for cost-effective solutions
  - Local team : technical expertise and knowledge of the context
  - Central team : best practice and experience from other projects
  - The public water service is Veolia's key target sector

Cost reduction & Target Organization

- Optymalization solutions are based on key
  - Social harmony for employees
  - Implementing effective organizational structure
  - Improving employee productivity

Quality of service

- Ensure safety of personnel
- Ensure legislative compliance
- Bring best practice & know-how

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Sustainable water management – Drinking water

- **Management of drinking water services has become an integral part of our policy on integrated water cycle management. It is not just a question of producing and distributing drinking water, but also optimizing the entire water management process, from source to tap. To reach theses objectives, Veolia Water is committed to supplying high-quality drinking water by implementing concrete local actions to improve the services offered by the plants it operates**

- **Two decisive issues: quality and quantity**
  - Today's hostile or unpredictable climate, burgeoning populations and urban concentrations put pressure on water resources. In the past, regulations focused on water quality and wastewater treatment, which were improved at a significant but reasonable cost. Now, we are facing a bigger challenge: making sure there is enough water to go around.

- **Towards sustainable drinking water management**
  - Water follows a cycle: the sanitary safety of the water we produce and distribute begins at the source. For this reason, we must pave the way for a healthy future for our water sources. To do this, we must curb the short and long-term threats to raw water resources.
  - We must implement both preventive and curative measures at every step of the water cycle, from the source to the faucet. Creating innovative solutions and establishing new practices are the only ways to permanently guarantee quality water services. Resource management has become an integral part of Veolia Water's business, and we feel that consumers must be closely involved in our approach

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Veolia Water's approach to sustainable water management – Drinking water

- **Understanding water resources and working to protect them**
  - A better understanding of water resources is necessary to preserve them. Aquifer and rivers monitoring, vulnerability studies, surveillance network, etc.
  - Catchment protection zones must be put in place.
  - Extend & improve wastewater services : ensure effective wastewater collection, improve efficiency of wastewater treatment plants and manage storm water during wet weather
  - Veolia Water also aims at dealing with the chronic deterioration of water resources by protecting them from accidental pollution, identifying potential risks and developing prevention and emergency plans.
- **Optimizing water management by improving drinking water production and distribution**
  - We should better use our resources. For example, more reliable technologies and more efficient treatment processes to purify water resources could be developed
  - Specific actions on the distribution network must be launched to optimize the network performance levels and reduce the leaks.
  - By reducing its consumption, public could also participate to our action and increase water savings

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Veolia Water's approach to sustainable water management – Drinking water

Diversifying resources and proposing alternatives

- Alternative solutions allow us to reduce water stress: wastewater recycling, seawater, rainwater recovery, etc.
- Veolia Water benefits from a deep knowledge to set up innovating and alternatives solutions (industry, watering, irrigation, aquifer recharge, etc.). Water quality defined depends on the final use of water. Veolia is actively researching and developing ways to continuously increase efficiency and reduce the costs

Veolia Water experience for water reuse

Veolia Water recycles daily 2 million cubic meters of water, in more than 100 plants, that is 10% of worldwide production, with experience over more than 20 years.

Seawater desalination

As seawater represents 97% of the earth's water, as a quarter of world's people lives less than 25km from a coast, Veolia Water developed strategic competencies in desalination. Veolia Water's credentials in seawater desalination represents now 4 million cubic meters a day of installed capacity, using thermal and membrane processes.

Ashkelon seawater desalination, Israel

While Ashkelon faces severe water shortage, over-exploitation of resources and a growing demand for water, desalination enhances the region's autonomy for water supply and boosts its economic development.

Veolia Water and its 2 Israeli partners built and operate the largest membrane desalination plant worldwide, at a very competitive price. Ashkelon desalination plant serves one third of Israeli population

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Sustainable water management – Wastewater

- **Sustainable water cycle management demands complete control of wastewater treatment processes. By proposing a sustainable approach to optimize wastewater system operations, Veolia Water helps public authorities to develop and reach their environmental objectives**

- **Wastewater treatment is essential to achieve a sustainable water management**
  - Treatment of wastewater requires implementing effective optimization tools for wastewater and rainwater depolluting.
  - It also contributes to improved wastewater treatment security (protection of water resources, swimming and bathing water quality) and constitutes an advantage for the physical safety of populations via flood prevention and network overload controls.
  - Local economic development is boosted by fulfilling a wastewater treatment potential that meets industrial and urban development and by anticipation of changes in territorial and urban development, agriculture and in the local economy.

- **Taking a long-term approach to wastewater treatment**
  - Wastewater treatment facilities must evolve to keep pace with Cities growth. Rain impacts the volume and quality of collected wastewater, causing decreasing wastewater treatment system efficiency.
  - Veolia Water works with a dynamic approach that will allow the company to consistently anticipate and improve wastewater treatment systems. This approach combines wastewater treatment management with territorial development and guarantees that the investments made and the systems built will remain efficient in the long run.

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Veolia Water's approach to sustainable water management - wastewater

An expert's eye, a duty to spread the word

- **Understanding** how wastewater treatment systems work and optimizing facility operations
- **Planning**, in order to anticipate the impact today's evolving cities have on the wastewater treatment system
- **Promoting** across-the-board cooperation between urban development and wastewater treatment services
- **Acting** first and foremost on discharges that have the greatest impact on the environment

A targeted action plan, a commitment to performance

- Restricting volumes of water collected when it rains
- Enhancing flood protections
- Developing efficient rainwater treatment
- Controlling the wastewater treatment system's impact on natural habitats
- Enabling to develop water-related recreational activities
- Assisting public authorities when it comes to manage extraordinary events

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Efficient water and wastewater services by PWiK TG

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Veolia Water in Poland

☑ Water & wastewater management

- Provision of water services for the 85.000 population of Tarnowskie Góry, Miasteczko Śląskie and Woźniki

☑Water cycle management

- Fazos (FAMUR Group)
- Chemical Factory in liquidation in Tarnowskie Góry

☑ Effective technological solutions

- Supply, design, build and realization of water and wastewater installations/plants for communal and industrial clients

(„Czajka” Treatment Plant, Włocławek Treatment Plant , PKN Orlen, …)

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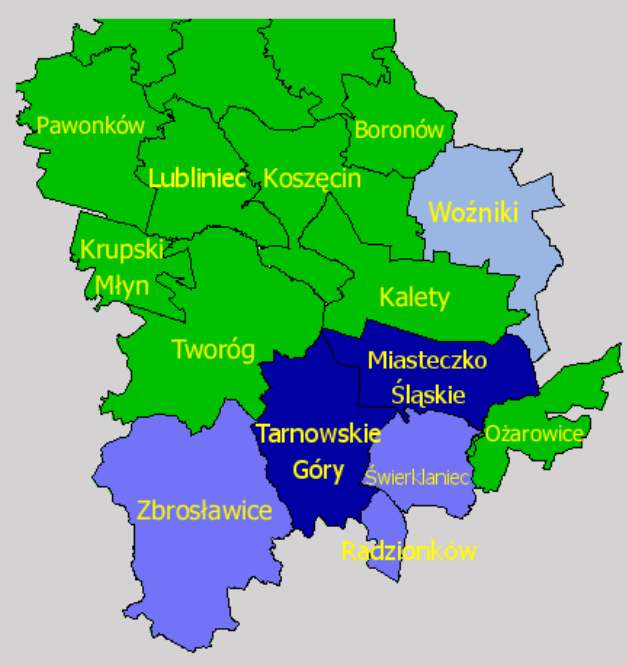
Water services managed by PWiK Tarnowskie Góry

SERVICE AREA & KEY DIGITS



Population – 85.000

Revenue **€ 5.5 M**

Sales

Water	**2.837.131 m3**
Wastewater	**2.092.452 m3**

Networks

Water	**513 km**
Wastewater	**217 km**

key service area

neighbouring Municipalities

lease

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Water solutions to Tarnowskie Góry Strategy

- **The City Development Strategy – Strategic goals**
  - CS1 Human, cultural, historical and environmental potential of the City converted into common attractive offer for tourists, investors, potential inhabitants and institutions supporting local development
  - CS2 New developing commercial functions including: medical , social, cultural and educational services, tourism, recreation and logistics and commercial functions

- **PWiK activities**
  - Provision of water services at high quality (ISO 9001:2000)
  - Realization of the Cohesion Fund Project together with the City
  - Cooperation with investors in providing water services to new investment and housing areas

- **Environment Protection Plan – priorities**
  - Restoring good quality to surface and underground water, rationalization of water consumption

- **PWiK activities**
  - Continuous upgrade and renewal of water and wastewater networks and of treatment plants
  - Industrial water cycle management (Chemical factory, FAZOS)
  - Elaboration of long-term plan on supplying water to the City
  - Educational activities promoting rational water consumption (children and youth competition etc .)

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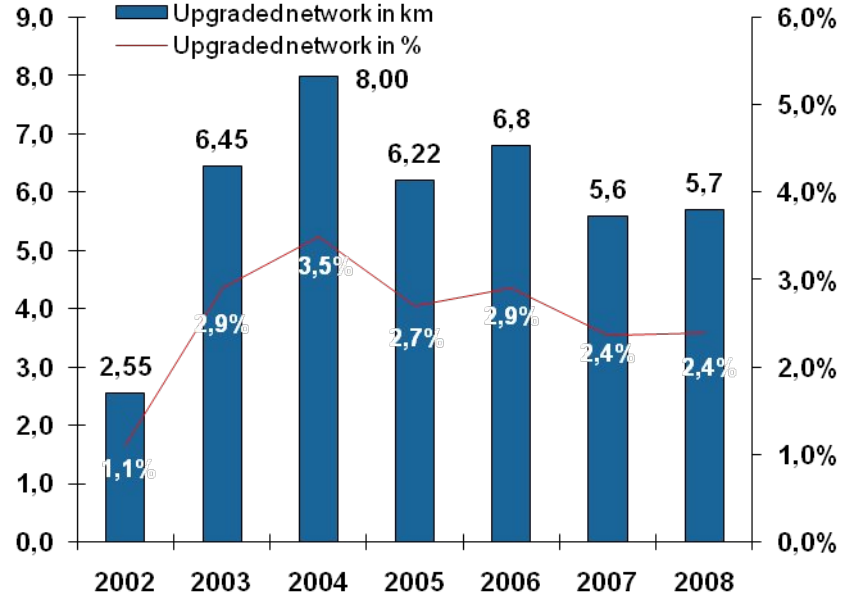
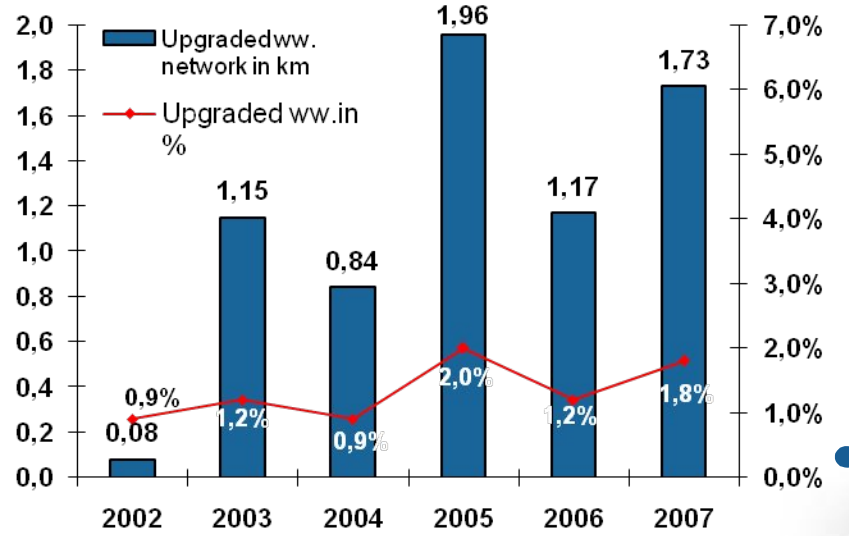
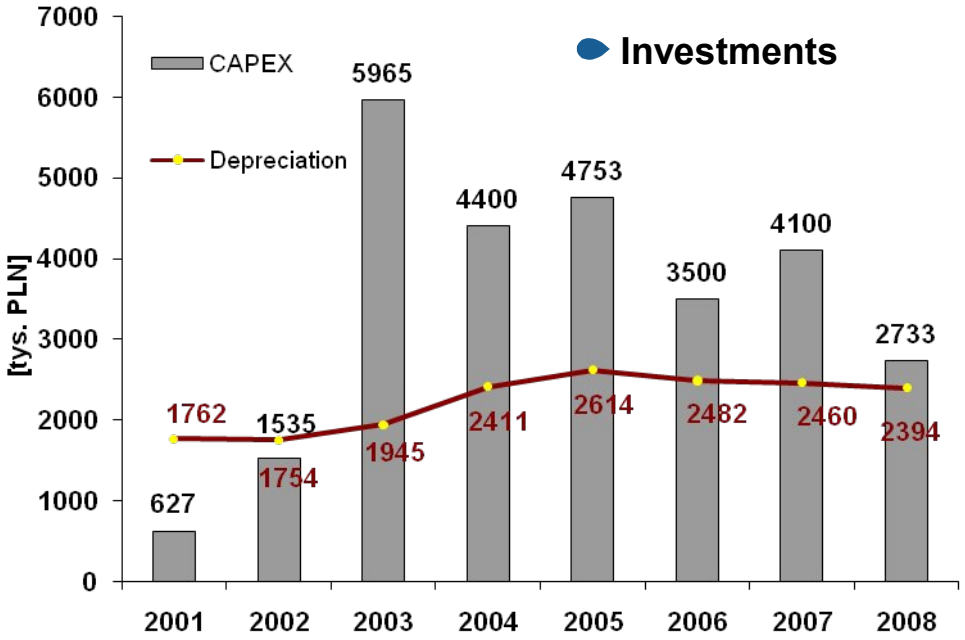
Investments supporting effective water management

Water network





Investments



Wastewater network

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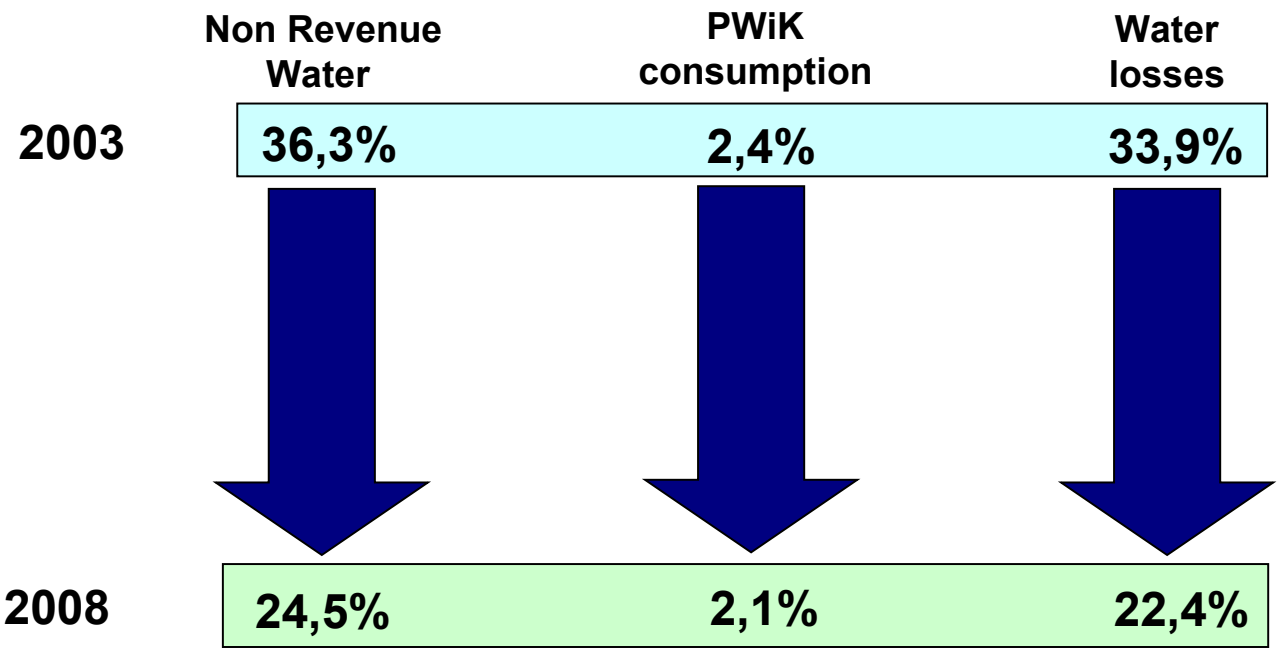
Protecting water resources

Reduction of NRW



	2005	2006	2007	2008
Water losses $m^3/km/d$	12,14	12,10	12,00	9,60

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Protecting water resources – Cohesion Fund Project

☑ Scope of Project includes construction of :

- sanitary wastewater network : 21,6 km
- combined wastewater network : 13,0 km + upgrade of 3,5 km
- storm water network : 10,5 km
- wastewater treatment plant : 4.500 m³/d

☑ Financing: € 32,8 million

☑ Milestones

- Positive Appraisal Report of EU Commission (November 2005)
- Engagement letter issued by NFOŚiGW to support financing of the Project to Tarnowskie Góry Municipality (May 2007)
- Preferential loan from NFOŚiGW & WFOŚiGW granted (May 2008)
- Draft EU Commission decision for the Project (December 2008)

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Conclusions

- Good water management is sustainable water management
- Sustainable water management concerns management of water resources, water and wastewater services
- Sustainable water management can succeeded provided all stake holders are involved and committed: decision makers (e.g. local communities), end – users (inhabitants & industrials with tertiary sector) and the water company itself
- Creating innovative solutions and establishing new practices are the only ways to permanently guarantee quality of water services
- Optimization of water services (operational performance on environmental, social and economic aspects) is the corner stone of sustainable water management
- Dedicated technical and management competences and solutions are needed to answer water management challenges of municipalities

A competent water partner is a must to work hand in hand with a municipality to solve its water problems in the long run

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Thank you for your attention!

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