

Environmental Report 2006

This Environmental Report provides an overview of the environmental impact of the activities of AS Tallinna Vesi and also describes what the Company is doing to reduce this impact.

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Chairman of the Management Board

CHAIRMAN'S STATEMENT

In 2006, our Company has again improved its performance – its operating performance, with a very high water quality level and a treated effluent quality now compliant with all EU standards; its customer service performance with the full deployment of a new customer relationship management and billing software; its financial performance with a strong set of results.

CLOSER TO CLIENTS 2006 has seen the full deployment of our new client relationship and billing software. The new system gathers in one place information that was stored previously in different databases.

This enables a much more complete and accurate overview of each client's information, and thus a much more accurate and diligent response to any client's request. This new system brings a lot more possibilities to interact with the client in a friendly and effective way. The web interface gives the possibility for each client to have access to their own information and easily engage in dialogue with the Company. In addition, new billing functionalities e.g direct debit and e-invoice, are offered to clients.

The Guaranteed Standard Scheme ('Our Promises') implemented in 2006 was very well received by our clients. This scheme, in which we pay a monetary compensation in case we fail to deliver on our promises, demonstrates how far we are engaged to continuously improve the quality of our service.

OPERATIONAL EXCELLENCE AS AN OBJECTIVE An extensive investment programme of 246.5 mln kroons was carried out, to renew, upgrade and develop the asset base of the Company. The main areas of investment were networks and water

quality (182.8 mln kroons), and treated wastewater quality (43.7 mln kroons). In 2005 the Company invested 223.1 mln kroons overall of which 130.7 mln kroons was in networks and water quality, and 30.4 mln kroons in treated wastewater quality. This ongoing investment programme is a key contributor to the good level of operational performance in 2006. The water quality has been 100% compliant for microbiological standards and 99.55% compliant for all standards. With this level of quality, the Company is already delivering compliance with the new standards that came into force on the 1st of January 2007. The leakage level stands at 19.3%, more than 6% below contractual target, and continues to be closely monitored.

WE PRESERVE OUR ENVIRONMENT

The Company has been heavily investing in different projects. The nitrogen project, total investment of 54.7 mln kroons, which aimed to reduce the amount of nitrogen discharged to the Baltic Sea was successfully completed. As a result, Tallinn was removed from the HELCOM hotspots list. This international recognition is a great achievement for the Company, the City of Tallinn and Estonia. The construction of 13 hectares of composting fields, which enable us to turn all our sludge production into a good quality soil conditioner used for greenery works and reforestation, is now almost completed and already in use. On the clean water side, the biomanipulation project to improve the condition of lake Ülemiste continued.

OUR EMPLOYEES AS DRIVERS OF PERFORMANCE Our employees drive the performance of the Company and they deserve credit for what has been achieved in 2006. The strong cost control culture of the Company enabled a good set of

financial results to be achieved in a situation where the cost pressure was significant. The shift from a production culture towards a service culture is underway however there is more to be done to achieve the level of excellence we desire. A full review of the human resources strategy has been started and the outcome will be implemented in 2007, providing to all our employees an environment in which they can develop their full potential.

Our health and safety performance, whilst still at a good level, has fallen compared to the previous years. Focus on this key area will be enhanced in 2007.

OUR ENGAGEMENT TOWARDS THE COMMUNITY

As we provide one of life's essential services, we have a very special responsibility to the Community. The Company is well aware of this fact and has been focusing on the quality of product delivered and the quality of service provided to its clients. In addition we have pursued our investment and our support into several educational and social projects.

DEVELOPING THE COMPANY

Our outperformance in delivering the Services Agreement in Tallinn gives us a strong market position and we are well positioned to build on our current success. Focusing on our core activity, water and wastewater services, we have expanded our service area: a way to maximise the use of excess capacity of our assets and share our

economy of scale with the municipalities surrounding Tallinn. We will continue to focus on our core activity, and seek to expand geographically. In addition, a review of potential routes for growing the Company in activities closely related to water and wastewater, has been undertaken. The growth prospects are promising.

COMMITMENT TO SHAREHOLDERS

The Company has in 2006 delivered a strong set of financial results achieved in a challenging environment. Revenue, supported by the strong economic growth of the country, has grown year on year. A growth in volumes of water and waste water sold was recorded, originating from a moderate increase in consumption in the main service area of Tallinn and from a very sharp increase in the new contracts signed with other municipalities. Despite pressure on labour costs, increases in environmental taxes, more stringent consents that have triggered an increase in chemical consumption, and the high level of inflation, the Company has succeeded in improving its profit after tax to 248.0 mln EEK.

ROCH JEAN GUY ANTOINE CHÉROUX

Chairman of the Management Board
CEO



Photograph by Soen Miller, water treatment

THE COMPANY'S VISION

We will be a Role Model for Every Service Providing Company and Employer, Exceeding the Expectations of our Customers, Employees and Owners and setting a Benchmark for Environmental Behaviour in order to Improve the Quality of Life.

THE COMPANY'S MISSION

We create a better life with pure water



THE COMPANY OVERVIEW

COMPANY OBJECTIVES FOR 2007

A review of the strategy established the 4 strategic objectives aligned with our vision:

- To deliver Customer Service Excellence
- To deliver Operational Excellence
- To Grow the Activity of the Company and through these
- To deliver Shareholder Value

The 2007 Company's objectives, with a strong emphasis on improving performance, have been cascaded down through the Company to all departments and individual employees. All align with the Company objectives:

- To increase customer satisfaction
- To keep Our Promises

- To comply with all Levels of Service set out in the Service Agreement and regulatory requirements
- To improve our environmental performance
- To be an Employer of Choice
- To improve healthy & safe work environment
- To enter into new profitable business activities
- To expand the network in the Company's main service area
- To be a responsible member of community
- To ensure trustworthy relationships with all key stakeholders
- To increase our year on year operating profit
- To improve our internal processes

FULFILMENT OF COMPANY OBJECTIVES FOR 2006

Improve Customer Satisfaction by:

- Implementation of "Our Promises"
- New payment options for customers
- Web-based services
- Maintaining good co-operation with all stakeholders
- Meeting all our Levels of Service set out in the Service Agreement

The Guaranteed Standards scheme of 22 "Our promises" was launched in May 2006, in several cases monetary compensation has been paid. The functionality of the Customer Information System was completed in 2006. New payment options such as direct debit, payment plan, e-invoice are in place and also customers may use web-based services. An independent customer satisfaction survey was carried out during 2006 that enables the Company to benchmark itself nationally and globally against other service providers.

All outstanding issues have been resolved by mutual agreement. The company was voted second best in investors relations by Tallinn Stock Exchange.

Protect environment by:

- Successful completion of Nitrogen project
- Fulfilling all our environmental goals.
- Delivering all our Levels of Service set out in the Service Agreement.

Nitrogen project was successfully completed, Tallinn was removed from HELCOM hotspots list. Regarding the achievement of other environmental goals please see the page 14. Full level of service compliance was achieved except for two interruptions to water supply

exceeding the 12 hour service requirement due to technical and geological reasons.

Improve employee commitment by:

- Developing and motivating them
- Providing company's support to achieve their goals
- Better work environment.
- Meeting H&S targets.

Employee opinion survey was carried out focusing on feedback regarding employee commitment. The methodology of the survey was changed, providing us with an opportunity to compare ourselves to other similar companies both in Estonia and elsewhere in the world. Based on survey results further actions were planned. The discussions about the new human resources strategy started.

In 2006, employee's participation in trainings was on average 4,5 training days per employee. Employees rotated jobs internally as part of their personal development plan. To improve the work environment the requirements of a health and safety management system, OHSAS 18001, was started to be implemented. The number of work accidents increased to 9 work accidents in 2006. Each accident was thoroughly investigated with recommendations and training given in order to improve the performance and prevent further recurrence. No accidents to contractors working on our sites or network occurred during 2006.

To enhance shareholder value by:

- Delivering a Strategy for Growth.
- Increasing revenues by 2%.
- Saving 3% on budgeted operating costs by efficient cost management.

A new growth strategy was established. Although the budgeted revenue was increased by less than 2 %, the cost management was efficient and the company's net profit was 248 million EEK. The share price, at the end of the year, increased compared to 2005.

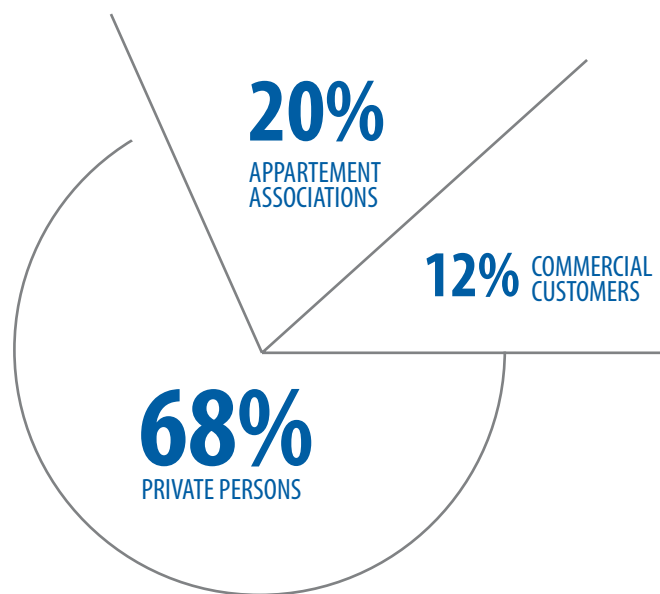


GENERAL FACTS

- 90% of Tallinners' drinking water is produced at Ülemiste, 10% comes from bored wells.
- 97 levels of service are required to be complied with according to the Service Agreement concluded between the City of Tallinn and the Company.
- 2006 revenue: 693,2 million EEK
- 2006 net profit: 248 million EEK
- average 320 employees;
- on June 1st 2005, AS Tallinna Vesi shares were listed on the main list of Tallinn Stock Exchange. The largest shareholders are

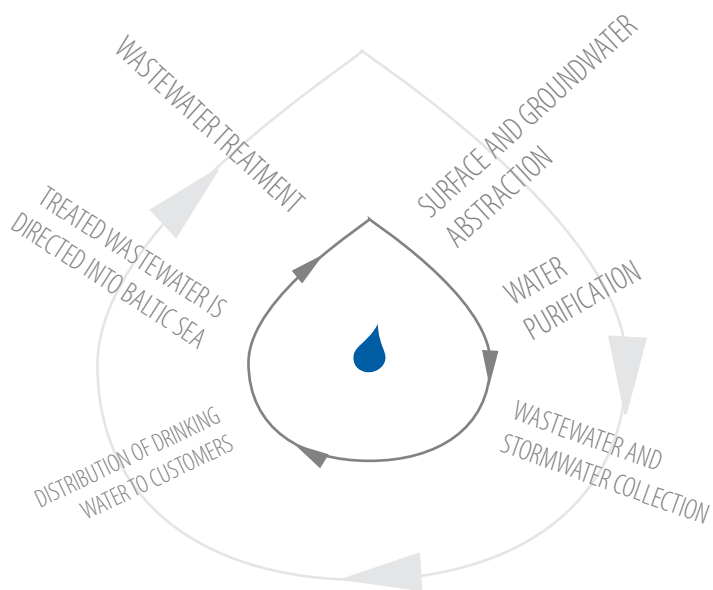
areas. Private customers and private households form a major part of the company's customer base. The number of private households is ca 13 100. Other larger group of customers are apartment associations (ca 3800 customers) and different business entities (ca 2400 customers). The company provides most customers with both water and wastewater service, however there is a proportion of customers who just use either water or wastewater service.

DIVISION OF CUSTOMERS IN 2006



THE BUSINESS STRUCTURE

Business activities cover entire water value chain.



Service and technical support services such as Laboratories, Asset Management, Development and Construction Services as well as Corporate and Commercial Services. The organisation chart is shown in Annex 1.

The main process is supported by the activities of the Customer

OUR CUSTOMERS

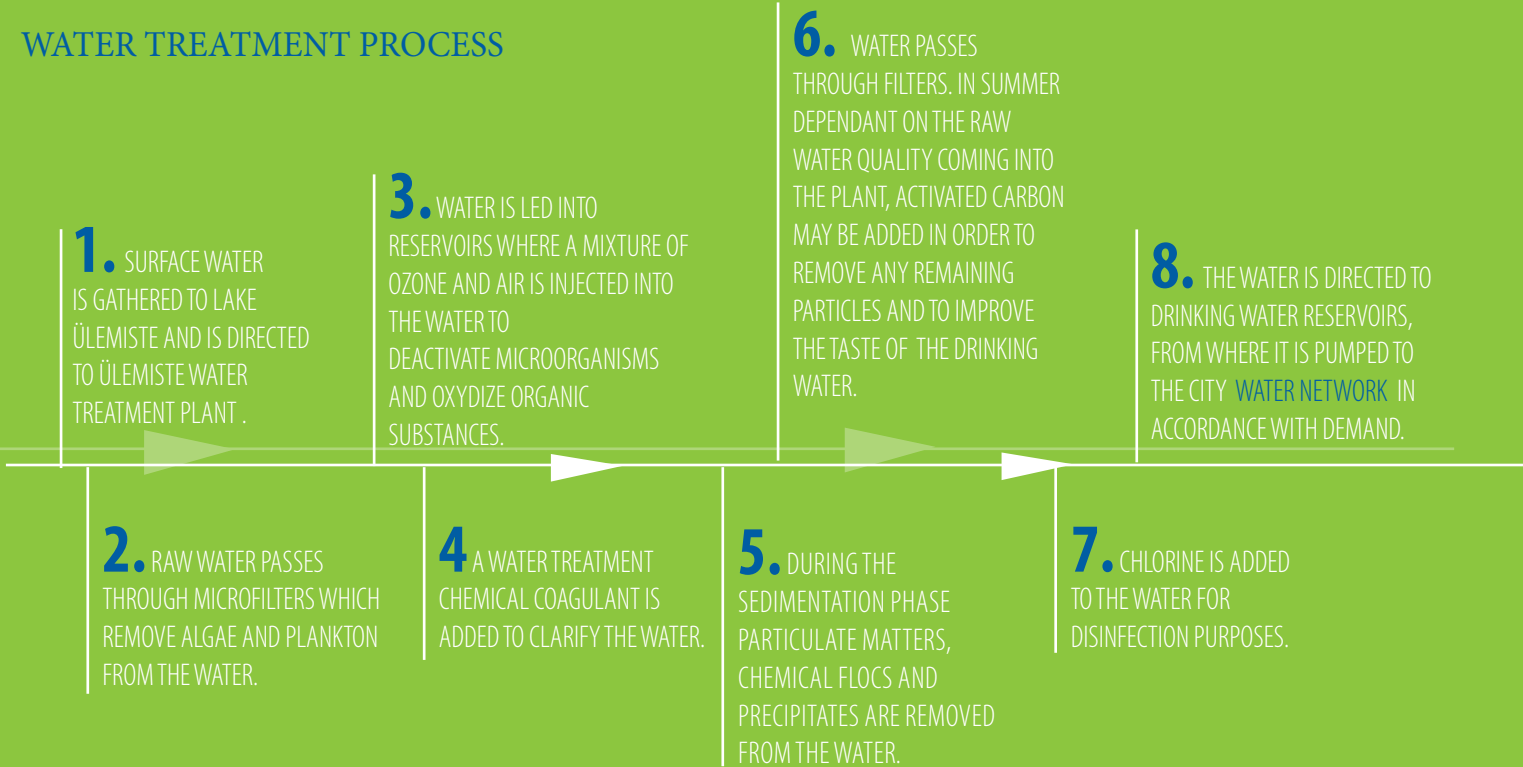
In 2006, AS Tallinna Vesi provided water and wastewater services to ca 19 300 contractual customers and to over 400 000 people in Tallinn and its surrounding

OPERATIONAL SITES

- Head office, Customer Service, Networks and support services in Ädala 10.
- Networks operational sites situated through the service area
- Catchment area ca 1800 square kilometers in Harju and Järvamaa counties
- Ülemiste Water Treatment Plant, Water and Microbiological Laboratory in Järvevana Road 3
- Paljassaare Wastewater Treatment Plant, composting fields and Wastewater Laboratory in Paljassaare Road 14.
- Sludge composting and experimental site in Liikva village, Harju County.

CORE ACTIVITIES

WATER TREATMENT PROCESS

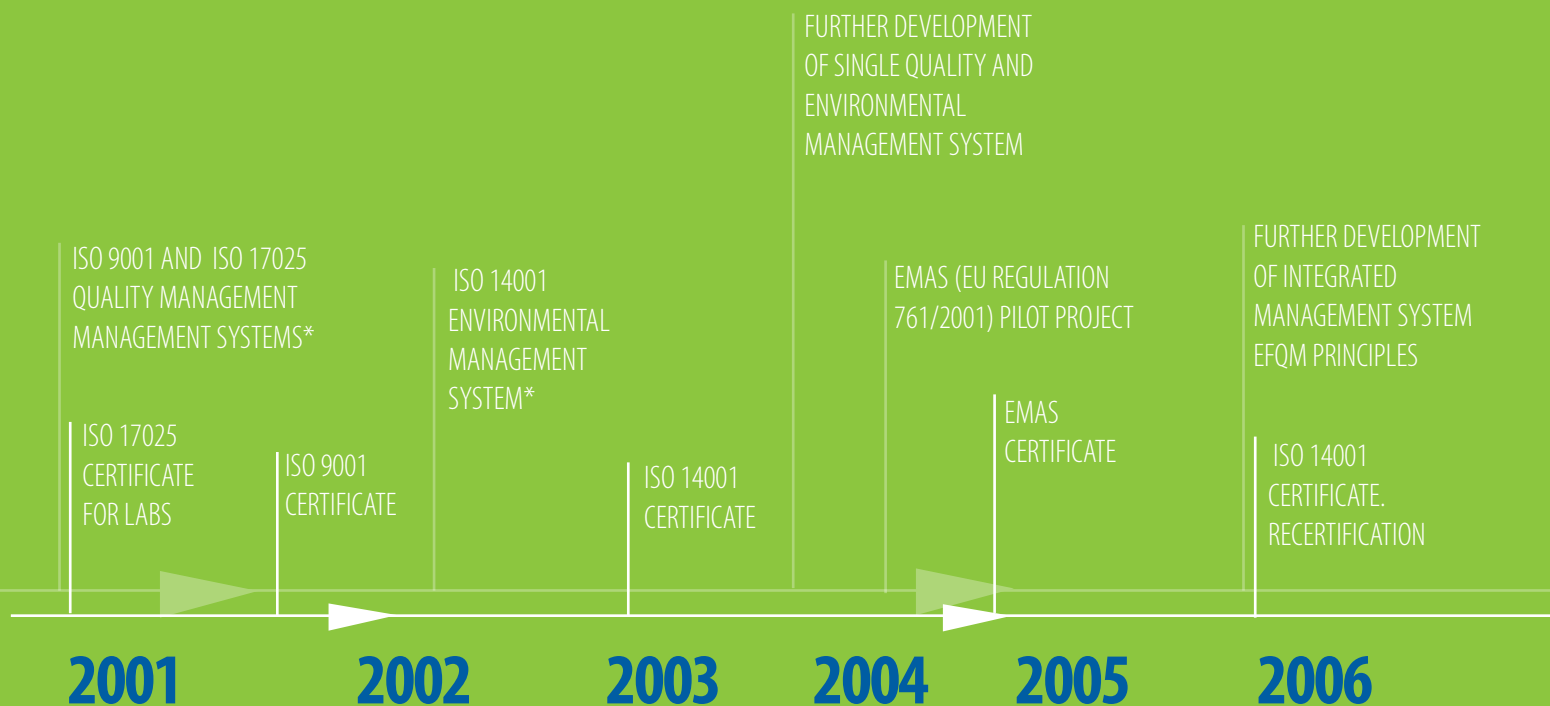


WASTEWATER TREATMENT PROCESS



ENVIRONMENTAL MANAGEMENT SYSTEM

HISTORY OF THE ENVIRONMENTAL MANAGEMENTS SYSTEM



* required by the Service Agreement concluded between the City of Tallinn and the Company

ENVIRONMENTAL POLICY

The environmental policy follows the vision and the mission of the Company, the principles for the

sustainability of the environment and the need to reduce pollution of the environment, the specifics of the Company's operation, the obligation to act in accordance with relevant legislation and other requirements recognised by the Company and the objective to continuously improve the operation of the Company.

The environmental policy has been approved by senior management.

The policy is available to all employees in Estonian, Russian and English. Employees as well as the wider public also have access to the environmental policy on the Company's homepage

www.tallinnavesi.ee.

OUR CONTRIBUTION TO CUSTOMERS AND THE COMMUNITY

- OUR CUSTOMERS ALWAYS HAVE PURE DRINKING WATER AND THE POSSIBILITY TO DISCHARGE AND TREAT WASTEWATER AND STORM WATER ENVIRONMENTALLY WISELY.
- WE UNDERSTAND AND TAKE RESPONSIBILITY FOR OUR IMPACT ON THE HEALTH AND QUALITY OF LIFE OF OUR CLIENTS AND RESIDENTS.
- OUR CUSTOMERS CAN COMMUNICATE WITH US CONVENIENTLY.
- BY OPEN COMMUNICATION WE WILL SHAPE THE ENVIRONMENTALLY CONSCIOUS WAY OF THINKING OF OUR CUSTOMERS AND CONSUMERS.
- WE USE NATURAL RESOURCES SPARINGLY.
- WE ENSURE OUR COMPLIANCE WITH ALL APPLICABLE LEGAL ACTS AND OTHER REQUIREMENTS ACKNOWLEDGED BY THE COMPANY.
- TO INCREASE CUSTOMER SATISFACTION AND AVOID ENVIRONMENTAL POLLUTION WE ARE ACTIVELY SEEKING FOR BETTER SOLUTIONS AND CONTINUOUSLY IMPROVE OUR WORK.



SCOPE OF THE SYSTEM

The objective of the environmental management system is to at best avoid or at very least minimize environmental pollution via effective environmental activities, whilst the elements of the environmental management system are integrated into the everyday activities of the Company.

Both the international ISO 14001 standard as well as the European eco management and auditing system EMAS establish similar requirements which a company has to meet in order to systematically organise its environmental management and improve effectiveness, thus contributing to avoiding environmental pollution.

The environmental management system of the Company covers all core activities and functions on the basis of the principle of continuous improvement:



SIGNIFICANT ENVIRONMENTAL ASPECTS

The basis for the environmental management system is the identification of the environmental aspects and impacts and defining the significant aspects for the Company on the basis of a predetermined system. That enables us to prioritise environmental activities.

The significance of an environmental aspect is defined with the help of the following criterias on the scale minor, average, great or extreme:

- The probability of the aspect occurring;
- The scope of the impact;
- The duration of the impact;
- The seriousness of the consequences for different parts of the natural environment, public health and life quality, relationships with interested parties and of the business
- Link to legislation requirements.

Significant aspects are those different facets of activities of the Company, which may have the most serious consequences to the natural environment, life quality and to the business. The environmental aspects regulated by a legal act, shall definitely be treated as significant despite of the severity level of consequences.

In 2006, the common system of managing the Company's risks, including environmental risks, was established. The implementation of improved risk management system will continue in 2007.

SETTING ENVIRONMENTAL OBJECTIVES AND TASKS

To influence the impact of significant environmental aspects in the desired direction, environmental objectives and tasks are set by the management according to the general objectives of the company. Managers of structural units ensure the preparation and carrying out of the actions plans necessary for the delivery of environmental objectives and tasks. The managers of structural units shall ensure the awareness of their subordinates of the environmental objectives and tasks and of their responsibility in achieving these objectives. The environmental performance is regularly monitored by the management team. A detailed overview of the fulfilling objectives and tasks in 2006 is provided in the chapters below. The overview of environmental objectives and tasks for 2007 is given in Annex 5.

COMPLIANCE WITH ENVIRONMENTAL LEGAL ACTS

The minimum requirement of the environmental management system is to ensure the compliance

with environmental legal acts. Improvements of environmental management system have to be in accordance with the requirements and restrictions set out in applicable legal acts.

To a large extent the Company's environmental activities are regulated by requirements arising from EU and national legal acts, the latter include state and local. Fourteen different national environmental legal acts apply to everyday operations of the company, of which the Water Act, Public Water Supply and Sewerage Act, Waste Act, Chemicals Act, Ambient Air Protection Act and regulations adopted on the basis thereof have the most significant impact on the Company.

The following environmental permits have been issued to the Company by the Harju County Environmental Service, the main environmental licensing authority for the Company:

- 4 water permits for special use of water (please see more detailed on page 16);
- 2 waste permits (please see more detailed on page 46);
- 2 air pollution permits and 1 special permit for air pollution (please see more detailed on page 50)

In 2005 legal due diligence of the Company was carried out by law office Raidla & Partners which confirmed the Company's compliance with, among others, environmental legal acts. In the legal due diligence Report Raidla & Partners outlined some areas for improvement and the Company has put together an action plan on the basis of the findings presented. The action plan is being followed in 2006.

Additionally, since 2005 the Company has had a comprehensive system for monitoring and reporting on the relevant changes in environmental legislation. On a monthly basis, changes in environmental legislation are being identified, sorted based on the impacted areas of Company's activities and reported to the managers responsible for the relevant areas. The compliance with environmental legal acts is also checked during the environmental management system audits.

INVOLVEMENT OF EMPLOYEES

Management of the quality and environmental system has been put in place in accordance with the organisational chart of the Company (please see Annex 1), on the basis of which the principle responsibility for implementing the system rests with the Management Team and the managers of structural units.

Unit managers are respectively involving their employees in performing the tasks. Evaluation of the productivity of the environmental activity of key employees is linked with the company's performance related pay system.

Environment related activity is a natural part of the company's daily work, different issues related with the company's activity, in-

cluded environmental ones, are solved by cooperation. The main work formats are:

- Meetings on different management levels;
- Work groups, project groups, where specialists are involved;
- Informing employees about important environment related events via monthly issued internal newsletter INFOTILK, also via internal computer network and e-mails.
- Training of employees. In 2006 there were on an average 4,5 training days per employee, which included management,

professional and environmental training;

- Employees from different units and management levels are involved in conducting internal audits. 40 employees have been appropriately trained as environmental and quality system internal auditors both at managerial as well as specialists' level. In 2006 internal auditors were specially rewarded by the chairman of the board.

In 2006 we organised an environment related photo competition, in which 22 employees participated. The best photographers were recognised at the Company's Christmas Party. Pictures from the photo competition have been used for illustrating the present Environmental Report.

Photograph by Elmo Kortel, asset maintenance
Photograph by Elmo Kortel, asset maintenance

ENVIRONMENTAL MANAGEMENT SYSTEM AUDITS

Regular internal audits for evaluating the functioning of the quality and environmental management system and compliance with legislation were carried out in the Company during 2006. Internal auditors described 75 findings, including 26 nonconformities and 49 proposals, providing a good source for the managers to improve the management system.

Environmental findings were related to defining of environmental aspects, improving of crisis management system and interpretation of legal requirements.

A regular external audit was carried out in the Company in 2006 by the accredited certifier Det Norske Veritas in order to evaluate

the continued compliance of the quality and environmental management system with ISO 9001, ISO 14001 standard requirements and with EU (EMAS) regulation 761/2001.

As a result of the external audit an audit report was prepared in which Det Norske Veritas confirmed the validity of certificates and issued a new ISO 14001 certificate for next 3 years. Three nonconformities were discovered, related to the system of continuous improvement, and all three have been corrected.




























Also 13 observations were made and 4 improvement possibilities were found during the external audit and all of these have been taken into account in improving the management system.



Helle, Leet, Ivo, Heli, Jaan and Triit
Internal auditors Helle, Leet, Ivo, Heli, Jaan and Triit

ENVIRONMENTAL OBJECTIVES AND TASKS FOR 2006

SIGNIFICANT ASPECT	IMPACT	OBJECTIVES AND TASKS	RESULTS BY THE END OF YEAR
Too high water level in Lake Ülemiste	Floods in the adjacent areas, shore erosion, decline in life quality	Minimise the risk of floods caused by too high water level in Lake Ülemiste  Continue with the construction of shore -protective structures of Lake Ülemiste	+, see page 56 +, see page 56
Quantity of water caught from rivers and directed into channels	Disturbing the natural balance of the river in emergency situation, i.e. not ensuring required minimum flow rate	Ensure the constant monitoring and optimal regulation of water regimes  Ensure the compliance with the requirements for the permit for special use of water  Reconstruct the Pirita-Ülemiste channel	+, see page 18 +, see page 18 +, see page 56
Breakdown of water catchment facilities in case of natural disaster or vandalism	Floods in the adjacent areas, damage to water biota, danger to population's health, decline in life quality	To improve the response time to significant disturbances in the surface water catchment  Finish remote surveillance project  Reconstruct the Kaunissaare dam	+/-, see page 19 +/-, see page 19 +/-, see page 19
Polluted surface water in Lake Ülemiste	Great danger to life quality, disturbances or disruptions in supplying people with drinking water. Environmental pollution.	Continue and foster cooperation with undertakings who can affect the condition of Lake Ülemiste in order to minimise risks of emergency  Develop communication with companies in the airport  Develop the Suur-Sõjamäe and Rae municipality storm water scheme	+, see page 57 +, see page 57 +, see page 57
Abstraction of surface water (use of water resources)	Use of water as a natural resource in large quantities, danger of wasting.	Use the surface water resources economically  To ensure the compliance with requirements of water permits	+, see page 17 +, see page 17
Measured and consumed drinking water	Overview of use of water (natural) resources (+)	 To improve water metering procedures, all water meters installed to customers within 5 work days from receiving the application  To install or replace 7500 pcs of water meters a year	+, see page 21 -, see page 21
Stopped treatment process	decline in life quality, danger to population's health, danger of environmental pollution	Ensure uninterrupted treatment process and sufficient drinking water supply  To find possibilities to prevent pollution in Ülemiste Lake  To construct surface and ground water connections according to ASTV 12 year development plan	+, see page 26 +, see page 57 +, see page 57
chlorine leakage (formation of dangerous chemicals)	Danger to population's health, damaging the biota	No chlorine leakages harmful to the population and environment  Practice the implementation of the emergency plan	+, see page 42 +, see page 56
Compliance of treated water with requirements	Retaining and improving the life quality (+)	Continue to ensure and improve the quality of drinking water flowing out of Ülemiste Water Treatment Plant	+, see pages 25,26
Noncompliance of treated water with standards	Danger to population's health, abrupt decline in life quality	 Continue water quality surveys on the pilot device  Continue biomanipulation project	+, see page 26 +, see page 23
Water leakages on main pipes	Inefficient usage of water resource, waste	Reduce the level of leakages  Continue the zoning programme  Liquidation of leakages in 2,5 days  Rehabilitation or replacement min 5 km of existing water mains	-, see page 21 +, see page 21 +, see page 21 +, see page 28
Abstraction of ground water (use of water resources)	Decrease of the non-recoverable natural resource	Use ground water economically  Renewing the automation of Merivälja booster pumps	+, see page 20 +, see page 48
Compliance of drinking water at consumers	Retaining and improving life quality (+)	Reduce iron content and turbidity in tap water  To install iron and manganese removal devices  To continue pipelines cleaning programme  To rehabilitate or replace minimum 5 km of existing water mains each year	+, see page 28 +, see page 27 +, see page 28 +, see page 28
Polluted ground and drinking water at consumers	Danger to population's health	No long-term water supply cut at the mains dangerous to population  To develop of a more specific project of ASTV 12 year development plan in cooperation with the City	-, see page 29 +, see page 57
Long term emergency at the basic pumping stations	Decline in life quality, danger to population's health in case of long-term water supply cut		

Extensive stormwater floods due to lack of capacity in the system	Polluting the ground and damage to the property of population	To improve the storm water network system in critical areas  Develop the Suur-Sõjamäe and Rae municipality storm water scheme	+ , see page 35 + , see page 57
Stormwater outlet not complying with standards	Deterioration of natural environment (sea, bog)	Decrease the amount of pollutants discharged to the environment with storm water  To construct storm water traps	+ , see page 37 + , see page 37
Emergency discharge of untreated sewage into the sea	Deterioration of the condition of bathing water	Minimise discharge of untreated waste water into the sea  To acquisition of spare equipment to reduce risks	+ , see page 37 + , see page 57
Discharged wastewater that does not comply with standards	Deterioration of the condition of seawater	Decrease the nitrogen level and ensure the high level of other quality indicators for waste water  Finish nitrogen project test year according to the agreement to withhold the pollution charge	+ , see pages 33,34 + , see page 34
Ordinary waste-sludge	Potential pollution of the environment with waste	Recycle of all sludge  To reconstruct the sludge process plant	+ , see pages 44,45 + , see page 45
Consumed refurbishing soil	Reducing waste, improving the surface and natural environment (+)	 To finish the construction of composting field  To increase the sale of refurbishing soil	+ , see page 45 + , see page 44
Improvements of Environmental Management System	Contributing to avoiding pollution, reducing waste impact (+)	Find alternative possibilities for the waste reduction, sorting or recycling  To look for possibilities to reuse excavated soil  To look for possibilities to wash desanding system sediments and screenings before transporting to landfill  To look for possibilities of more efficient oil removal in Wastewater Treatment Plant  To collect waste management improvement proposals	+/- , see page 44 +/- , see page 44 +/- , see page 44 +/- , see page 44
Opportunity for connection to water network	Ensuring life quality and population's health (+)	To extend the water network and public sewerage areas  To construct water and sewerage network extensions in existing service areas	+ , see pages 28,35,38 + , see pages 28,35
Opportunity for connection to public sewerage system	Improving life quality and condition of the environment (+)	 To construct connections in neighbouring municipalities and development areas	+ , see page 38
Connections to public sewerage system	Retaining or improvement of life quality and environmental condition (+)	To make connection process of customers to water network and public sewerage more convenient  To improve connections related procedures using the possibilities of the new customer information system	+ , see page 37,38 + , see page 38
Non-compliance with technical requirements	Danger of decline in environmental condition	 To ensure at least 80% connection contracts signed within a year from receiving the usage permit for street pipes  To ensure all connection projects submitted for coordination reviewed within 10 workdays from the submission of project	+ , see page 38 + , see page 38
Available contractual service	Retaining and improving the life quality and environmental condition (+)	 To ensure all service contract projects submitted to customer within 5 workdays from receiving the correct application	+/- , see page 38
Overpollution caused by customers	Deterioration of environmental condition, danger to population's health	To influence customers to control their level of pollution  To strengthen the Activity programme for the waste water inspectorate by using new customer information system	+ , see page 36 + , see page 36
Charge for overpollution	Convincing customers to retain and improve environmental conditions (+)	 Compiling invoices to all identified overpolluters	+ , see page 36
Environmental issues raised by customers	Increased awareness of environmental problems, opportunities to solve or prevent problems	Reduce the number of complaints related to the environment  Specifying the classification of complaints and reporting in new customer information system	- , see page 54 + , see page 54
Not calculated environmental aspects of the site	Danger of deteriorating the environmental condition in future	Increase environmental awareness of subcontractors operating on most important sites of ASTV  Improvements of bidders qualification system	+ , see page 51 + , see page 51
Environmental non-compliances on the site	Polluting the air, spoiling of greenery, decline in life quality	 Organising information day for subcontractors	+ , see page 51
Electricity consumption	Contributing to environmental pollution caused by generation of electricity, reduced natural resources	Reduce consumption of electricity and make it more effective  To increase the usage of biogas  Equipment energy efficiency criteria in procurements	- , see pages 47,48 - , see page 48 + , see page 48
Fuel consumption	Decrease of non-recoverable natural resource, its waste	Reduce consumption of fuel  To limit the usage of fuel through reduced budget	+ , see page 49 + , see page 49
Emission of exhausts	Polluting the air	To minimise air pollution  To ensure compliance to the Air Pollution Permits	+/- , see page 50 + , see page 50
Urgently available crisis information	Contribute solving emergency cases (+)	Improve crisis communication procedures  To organise crisis communication training for key persons	+ , see page 56 + , see page 56

Available environment related information	Improvement of the public's environment related awareness (+)	Provide regularly information on important environmental events to public and stakeholders	+, see page 54
Exchanging important environment related information with interested parties	Making cooperation between the interested parties more efficient (+)	<ul style="list-style-type: none"> To ensure at least once per quarter neutral/positive media appearance of environment related events To carry out 3-4 significant environment related events per year for interested parties To verify and publish EMAS environmental report 	+, see page 52 +, see page 53 +, see pages 54,63
Non-compliance with environmental legal and other contractual requirements	Danger of environmental pollution, decline in life quality, danger to population's health	Renew ISO 14001:2004 and EMAS certificates <ul style="list-style-type: none"> To ensure the fulfilment of Level of Services To ensure ISO 14001:2004 recertification process To get new water permit for Pillado 	+, see page 9, 63 +/-, see page 6 +, see page 9 +, see page 16
Improvements of Environmental Management System	Contributing to avoiding pollution, decreasing environmental risks and decreasing environmental costs (+)	Improve the of environmental performance evaluation system <ul style="list-style-type: none"> To improve management and operational environmental performance indicators To improve the risk management system 	+/-, see page 11 +/-, see page 11 +, see page 11

SPECIAL USE OF WATER

The activities of a water undertaking in using water resources are regulated by the Water Act and its implementing provisions. Pursuant to the Water Act, to operate as a water undertaking, AS Tallinna Vesi must have a permit for special use of water and the Company must pay a charge for the water resource used.

The permit for special use of water defines different activities, for instance the amount of water that the Company may extract, water quality monitoring requirements, requirements set for accounting

for water extracted, the permitted limits of pollutants contained in effluent, pollutants monitoring requirements, and measures reducing the impact of special use of water.

The following table contains descriptions of the Company's current valid permits for special use of water. In 2006 all requirements of the permits for special use of water were met.

PERMIT	VALID UNTIL	DESCRIPTION OF SPECIAL USE OF WATER
Water Permit no. HR0679 (L.VV.HA-19537)	31.10.2008	Saue town, Harju County Extraction of ground water from boreholes opening Cambrian-Vendi and Ordovician-Cambrian aquifers. Supplying Saue town with domestic and industrial water across the entire licensed operating area. Collection of wastewater and directing wastewater to Paljassaare Wastewater Treatment Plant.
Water Permit no. HR0549 (L.VV.HA-13579)	31.03.2008	Tallinn public water supply and sewerage system main licenced operating area, Tallinn surface water catchment system facilities area in Harju and Järva County. The usage of ground water from the Ordovician-Cambrian and Cambrian-Vendi aquifers, discharging storm and drainage water into Tallinn bay and Kopli Bay, Mustjõe stream and Männiku wetland, discharging biologically treated wastewater into Tallinn Bay.
Water Permit no HR0455	31.12.2006	Tiskre village, Harku borough Extraction of ground water from borehole opening Cambrian-Vendi aquifer. Directing all wastewater to Paljassaare Waste Water Treatment Plant
Water Permit no HR0961 (L.VV.HA-138050)	31.10.2011	Harku village, Harku borough Extraction of ground water from borehole opening Cambrian-Vendi aquifer. Directing all wastewater to Paljassaare Waste Water Treatment Plant

FEE FOR SPECIAL USE OF WATER

Pursuant to the conditions of the permit for special use of water the Company must pay a fee for special use of water for using Lake Ülemiste surface water and the ground water from boreholes. The

fee for special use of water is paid for the water taken into Ülemiste Water Treatment Plant and the water pumped out of the aquifers at the ground water pumping stations. Of operating costs the fee for special use of water made up 3,6 %.



Photograph by Lare Niiberg, water treatment

USAGE OF WATER RESOURCES

Using water resources sparingly is an important goal for the Company. Thus, it is important to monitor and manage the amounts of water extracted from the water bodies in order not to disturb flora and fauna. The main condition is to meet the requirements of the permit for special use of water.

USAGE OF SURFACE WATER RESOURCES

The Company receives surface water from an extensive water catchment system (please see in Annex 2), which encompasses the river basins of Pirita, Jägala, Soodla and Pärnu River with a total area of ca 1800 km², covering mostly the Harju sub-basin. The water catchment system consists on hydropoints (catchment points) constructed on rivers and of water reservoirs and the connecting channels. The most significant water reservoir of the system is Lake Ülemiste with a net volume of 15.8 million m³. Additional water reserves for dry periods have been accumulated to Paunküla water reservoir on the headwaters of River Pirita (9,9 million m³) and to Soodla water reservoir on River Soodla (7,4 million m³).

ASSESSMENT OF WATER RESOURCES

The size of the water resource in Tallinn's surface water catchment system primarily depends on the amount of precipitation and its distribution over the year. The basis for calculating and assessing

the system's water resource is a year of poor precipitation with 95% probability, i.e. a water balance based on a long series of monitoring results and compiled on the basis of a distribution of calculated flow amounts of a water economy year.

On that basis we can say that at the present level of water consumption the surface water resource is sufficient in a year of poor precipitation with 95% probability. In a year of average rainfall approximately 50% of the possible water resource in the system is used.

2006 is characterised by a dry April and May, causing the spring flood to recede quickly, and warm and dry weather over the summer, as for July example was the driest in the past 40 years, resulting in the reduction of the flow amount in Jägala and Pirita rivers to the sanitary minimum level and below that already by the end of June.

Thus only the Soodla and Paunküla water reservoirs could be used for increasing the water reserve in Lake Ülemiste, whereas we used up almost the entire permitted volume from Soodla water reservoir by the beginning of September, as allowed by the special use of water permit.

The water resources situation improved only with the precipitation in November. Still, in 2006 the requirements of the permits for special use of water were met.

Surface water usage from Lake Ülemiste compliance with water permit HR 0549 in m3.

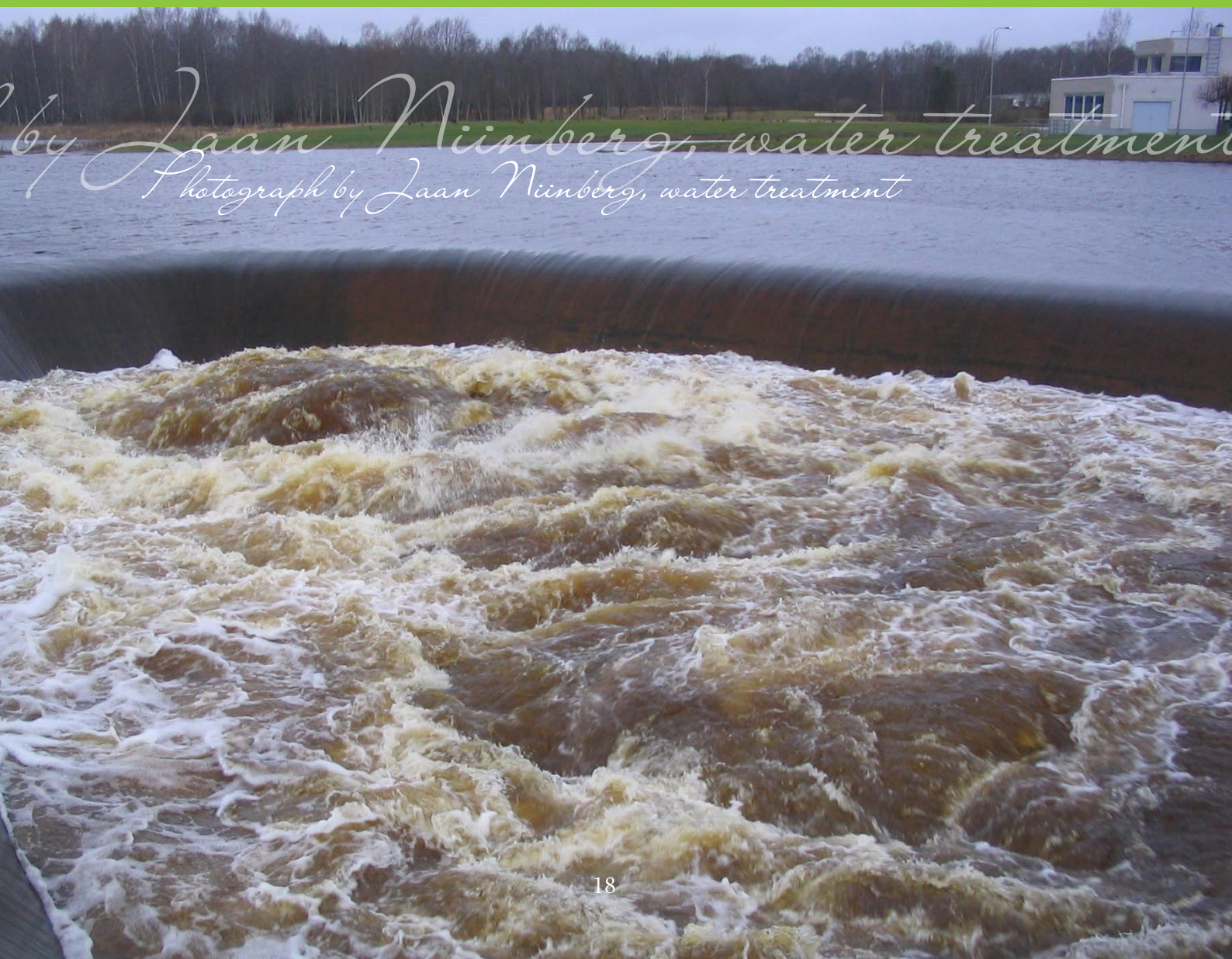
	2003	2004	2005	2006
Actual usage	27 276 080	23 522 647	22 764 462	23 012 270
Max amount allowed by water permit	47 500 000	47 500 000	47 500 000	47 500 000

REGULATION OF WATER REGIMES

The basis for regulating the water nodes at hydropoints are the hydrological measuring results such as the water levels in water reservoirs, flow amounts in rivers and channels, requirements foreseen with the special use of water permit such as the permitted water extraction, sanitary flow amounts in rivers, water reservoirs water level regulating band, water quality indicators and the need to increase the water resources in Lake Ülemiste.

In order regulate water resources in an optimal and precise manner, water metering points were constructed to all hydropoints between 1999 and 2005, allowing the measurement of both the flow amounts directed into canals as well as the so-called sanitary flow amounts remaining in rivers. Measuring is carried out on a regular basis, following the requirements of the special use of water permit.

A continuous overview of the flow amounts makes it possible to use natural water resources in a more sustainable way.



by Jaan Niinberg, water treatment
Photograph by Jaan Niinberg, water treatment

SURVEILLANCE OF CHANGES IN NATURAL WATER REGIMES

In order to get timely information about any possible sudden changes in natural water regimes, a remote surveillance project of hydropoints is being implemented. In 2005 the technical preparations for carrying out the respective procurement were completed and in 2006 the first stage of the procurement – negotiations with potential bidders, pre-qualification of bidders and the finalisation of the tender documentation – took place. Project is ongoing and will be finished in 2007.

To ensure better surveillance, also the reconstruction of Kaunissaare dam was planned. In 2006 preparation works were done and the contract with the construction company was concluded. The construction works will start in 2007.

OTHER ACTIVITIES ON THE CATCHMENT AREA

The damming of rivers and the availability of a vacant water resource in years of average precipitations have created the preconditions for the pro-

duction of hydro energy – a hydro power plant operates on Kaunissaare water reservoir barrage since 2003 and in 2005 an agreement was concluded for also planning a hydro power plant to the barrage of Soodla water reservoir. Contracts for the Soodla scheme have been drawn up and will be signed in 2007 and construction is expected to start in the same year.

As a result of establishing water reservoirs, local governments have gained an additional opportunity for developing tourism and recreation, primarily in the surroundings of Soodla and Paunküla water reservoirs. The surroundings of reservoirs are meant for public usage in those parts that do not constitute sanitary protection area.

Free movements on bank and shore areas is restricted only on the water catchment facilities belonging directly in the sanitary protection zone, such as the dams and water regulation facilities. AS Tallinna Vesi supports development of organised and arranged recreational activities, which on one hand would offer recreational facilities to people and on the other hand would keep the surroundings of water reservoir protected.



Photograph by Toar Pajumaa, business development
Photograph by Toar Pajumaa, business development

USAGE OF GROUND WATER RESOURCES

Approximately 10 % of the drinking water of Tallinn citizens is obtained from groundwater, which is extracted from the Cambrian-Vendi and Ordovician-Cambrian aquifers.

AS Tallinna Vesi regularly measures ground water levels in order to continuously control the state of Tallinn's ground water resources. In all the operating ground water facilities belonging to the Company, automatic hydrostatic pressure sensors have been installed, which enable the measurement of both the static and the dynamic level of the ground water. Measurement of the static water level in boreholes shows a continuous increase of the ground water resource in all areas of the city during last 10 years.

Conditions of groundwater usage have been determined by the terms and conditions of the permit for special use of water HR0549, HR0679, HR0455 and HR0961, which establish the requirements for permitted water extraction, in order to reduce the impact of special use of water to the groundwater layer. Although the usage of ground water is limited by the water permits, it is possible to cover the ground water demand and still still have sufficient reserve to replace some of the surface water supply in case of a problem of supply from Ülemiste Water Treatment Plant.

All terms and conditions of the permit for special use of water have been complied with in 2006.

Ground water usage compliance with water permits HR0549, HR0679, HR0455 and HR0961 in m³

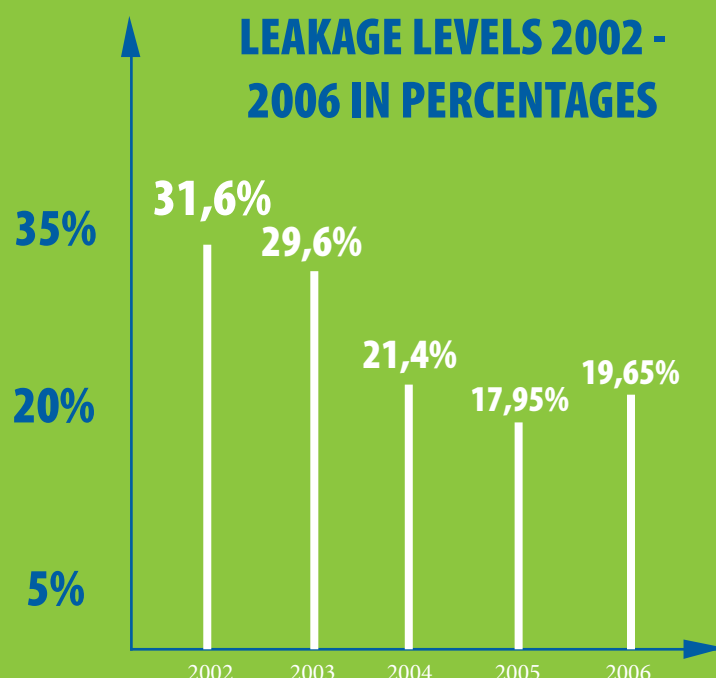
	2003	2004	2005	2006
Actual usage of ground water in Tallinn	3 026 800	2 736 157	2 532 519	2 447 792
Cambrian-Vendi aquifer	2 693 109	2 395 645	2 246 809	2 130 310
Ordovician-Cambrian aquifer	333 691	340 512	285 710	317 482
Max amount allowed by water permits	6 880 250	6 880 250	6 880 250	6 880 250
Actual usage of ground water in Saue	244 889	213 124	207 102	249 298
Cambrian-Vendi aquifer	225 938	196 790	183 261	221 389
Ordovician-Cambrian aquifer	18 951	16 334	23 841	27 909
MAX AMOUNT ALLOWED BY WATER PERMIT	460 250	460 250	460 250	460 250
Actual usage ground water of Cambrian-Vendi aquifer in Pillado			5 720	33 266
MAX AMOUNT ALLOWED BY WATER PERMIT			65 700	65 700
Actual usage ground water of Cambrian-Vendi aquifer in Harku village (starting from July 2006)				20 810
MAX AMOUNT ALLOWED BY WATER PERMIT				51 100

LEAKAGES

Another important aspect of water usage is to reduce the water losses in the network. The company had a contractual requirement to reduce the annual level of leakages to 26 % by the end of 2005.

However, the company outperformed this target and achieved the level of 19,65 % by the end of 2006.

Compared to 2005 the increase in 2006 was due to the difficult weather conditions in January when very low temperatures without snow caused rapid fall of ground temperature, which resulted in a larger number of leakages than normal caused by vertical and horizontal movements in the ground disturbing many pipes.



Even though we have exceeded the contractual requirement, we continue to maintain and improve the achieved level of leakage.

ECONOMIC LEVEL OF LEAKAGE

The level of leakage at which it would cost more to make further reductions than to produce the water is known as the economic level of leakage. In the calculation of economic level of leakage factors such as the cost of detecting and repairing leaks and the cost of producing the water are taken into account. The calculation of the economic level of leakage has been undertaken for Tallinn and it seems that a 15 - 18 % level of leakage is appropriate for our situation.

In the UK in 2004-2005 the average economic level of leakage rate was estimated at 16.8 %. Our level of 19,65 % is calculated in the same way and is close to this figure. The figure compares well when considering the nature of the situation in Tallinn. In Tallinn all supplies are metered and this tends to reduce the consumption and thereby makes any leakage a larger percentage of the volume supplied. In addition the severe winters compared to the UK and subsequent thaw causes larger ground movements which may damage the network and result in bursts and water loss.

In United Utilities International group, to which AS Tallinna Vesi belongs together with Sofia Water and Manila Water, our results compare very favourably. Sofia Water had leakages level of ca 43% and Manila Water of ca 35% in year 2005.

Good results were achieved due to different actions such as reducing time period to liquidate leakages and continuing the district meter area project.

REDUCING TIME PERIOD TO LIQUIDATE LEAKAGES

In 2006 the quick response capability of the Networks Department was similar to 2005, The networks team has managed to maintain the average leakage elimination time in 2,2 days in 2006 compared to 2,14 days in 2005.

Everyday work is supported by the updated water supply networks monitoring system. This is a software program in which the information on the entire water and sewerage network of the city has been entered. The leakage teams have specific equipment for leakage location, enabling them to locate possible water leakages on the network more quickly via a remote reading system.

DISTRICT METER AREAS

In 2004, a district meter areas project was launched, enabling the division of the network into sections of more optimum length and a consequent improved monitoring of the network. The employment of district meter areas has made possible to significantly reduce the leakages discovery period within a pressure zone. In 2006, investments in installing the remote reading equipment on the water metering wells was done. Since 2004, 41 dynamic remote reading devices have been obtained that along with the systems installed in the pumping stations are at the moment sufficient for analyzing the network condition and immediate leakages detection.

WATER METERS Replacement of water meters contributes to a more accurate accounting of water resource. In 2003-2004 AS Tallinna Vesi carried out a water meters testing programme, which compared class B and

C accuracy, single and multi jet water meters. It was decided, on the basis of the testing programme, to invest into replacing the class B water meters by the class C single jet water meters which have a longer useful life and measure more accurately. In 2006 the target was to replace 7500 water meters. In the year ca 6300 were replaced. The target was not achieved and actions to improve this performance have been put in place for 2007.

In 2006, in connection with the implementation of a new customer information system the work procedures related to water metering were significantly simplified, which makes communication with customers easier. The Guaranteed Standard related to water metering - all water meters installed to customer within 5 workdays from receiving the application - was fulfilled.

Thanks to the new database it is also possible to analyse the data about water meters in a better way, for example in 2006 the size of water meters on customers supplies was started to be optimised, ensuring that the meters with the most appropriate size were installed and matched to the consumers consumption.,

Photograph by Kristi Oisurm, Laboratories



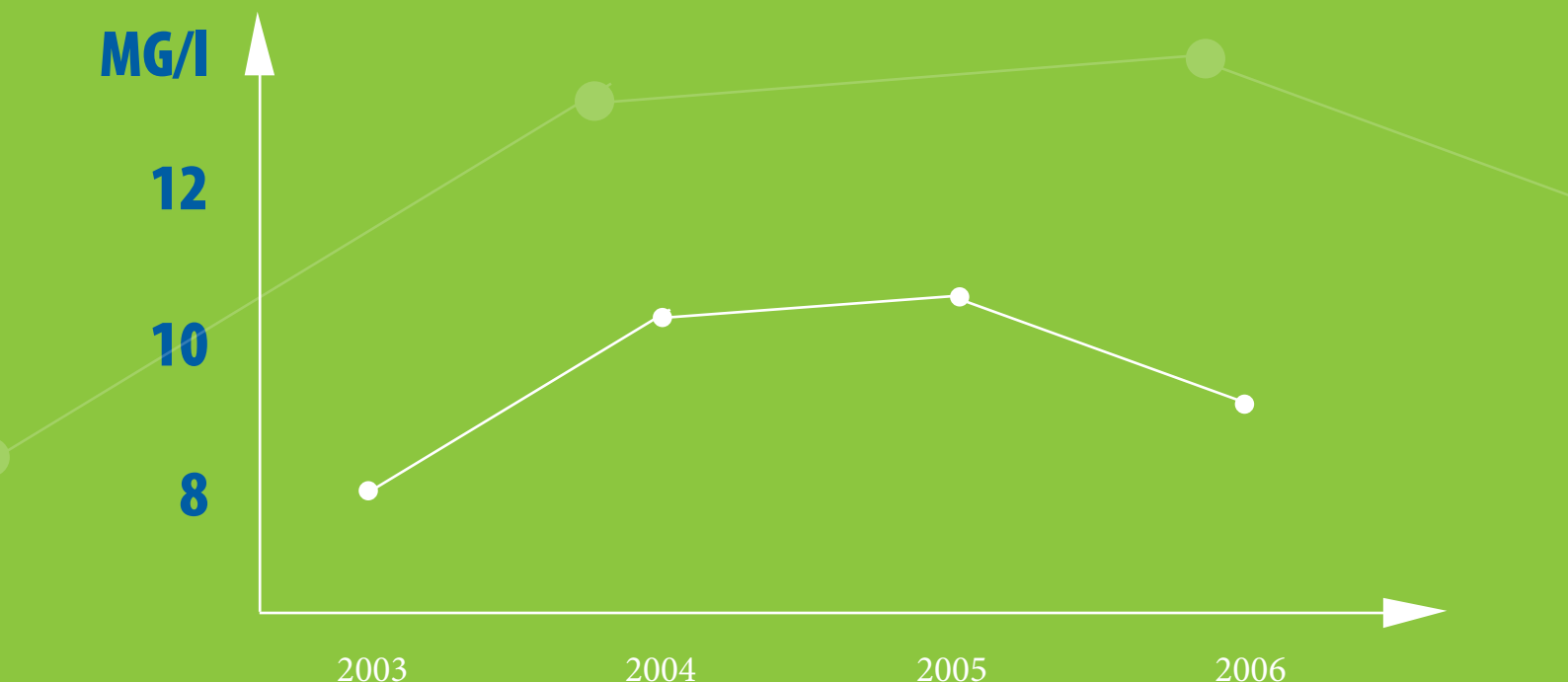
QUALITY OF RAW WATER

SURFACE WATER QUALITY

Raw water quality in the year 2006 at the intake to the treatment system complied with the class A2 requirements of European Council directive 75/440/EC. Since we are dealing with surface water, its quality is dependent on weather conditions - for example rainfall, water from melting snow, but also on the geological conditions of the catchment area - high moors, marshlands, areas of forest, etc. The raw water quality is particularly influenced by the humic substances (a natural organic substance) content

which has a major effect on the colour, permanganate oxidation and chemical oxygen demand of water. Due to the rainy summer of 2004 and the high level of water in January 2005 the colour, permanganate oxidation and chemical oxygen demand values in all catchment area waters and Lake Ülemiste water were higher than in previous years. In 2006 Lake Ülemiste has reduced back to a lower level after the impact of the high precipitation in 2004. The colour and permanganate oxidation of raw water were relatively stable over the year.

PERMANGANATE OXIDATION IN RAW WATER 2003 - 2006 IN MG/L



Raw water quality control analyses are conducted by our accredited water laboratory. Raw water quality is checked at the intake to the treatment system once per day for the technologically necessary indicators. Raw water pollution indicators (total phosphorus and nitrogen) are checked once per week. Additionally a detailed raw water analysis is carried out once per month according the indicators that have been accepted by the Harju County and Tallinn Health Protection Authority.

In order to further improve the raw water quality, the biomanipulation project continued during 2006. The biomanipulation project has been ongoing since 2001.

BIOMANIPULATION The aim of the biomanipulation project is to improve the water quality by manipulating the water ecosystem and establishing a classical food chain. A classical food chain in a body of water is as follows: piscivorous fish – benthic- and planktivorous fish – zooplankton – phytoplankton.

Currently the food chain is out of balance as before the project was started the piscivores only formed 5 % of total

fish resources. Insufficient number of piscivores is not able to “control” the planktivorous fish stock. Planktivorous fish eat zooplankton reducing its weight and the phytoplankton in the end of the food chain grows in masses. There is also quite large number of benthivores in Lake Ülemiste searching for food on the bottom of the lake. While doing that they disturb mud from the lakebed uncovering phosphorus sediment which in its turn fosters the growth of phytoplankton. The great number of phytoplankton causes turbidity and deterioration in water quality. During biomanipulation the excess of benthivores like bream and roach are caught and the reproduction of piscivorous fish like pikeperch and pike is fostered. The named method ensures that the food chain in the lake remains balanced and that the micro algae that could cause deterioration in water quality would not reproduce excessively. As a result of making the food chain more efficient the biomass of phytoplankton decreases, transparency improves, the total phosphorus and nitrogen content in the water decreases. The improvement of all those parameters provides a much better raw water quality.

The reduction of the number of benthivores in the lake continued in year 2006, a total 32 tons of fish were caught. Catches consisted mainly of bream and roach.

Catches of benthivores in 2004-2006 in tons

2004	2005	2006
48	86	32

Intensive fishing has had its effect on the lake and some initial positive results of the project could be seen in 2005 and the same trend continued in 2006. The period of "clear water" in spring has extended, water turbidity decreased during the first half of the vegetation period. Biomass of phytoplankton has reduced and the biomass of zooplankton was twice as large in comparison with the previous years. The concentration of total phosphorus and total nitrogen in the lake have decreased.

The biomanipulation project was completed in 2006 and from now on the main focus will be on monitoring further changes in water quality and analysing the results, with further fish removal from the lake dependant on the monitored results.

QUALITY OF RAW GROUND WATER

Conditions of ensuring groundwater quality have been determined by the permits for special use of water HR0549, HR0679, HR0455 and HR0961, which establish the procedure for monitoring water quality in the water taken from bore wells. In addition to the requirements of the permit for special use of water, the ground water used as a drinking water source is inspected also according to the Drinking water source inspection programme for 2005-2010, accepted by the Harju County and Tallinn Health Protection Authority.

Monitoring includes all quality parameters of decisive importance for assessing the condition of ground water. In all of the bore wells that are in use a water sample is taken at least once a year and a full chemical analysis is made. From the bore wells, which are hydrogeologically situated in a complicated environment, water samples are taken twice a year and from the standby bore wells once a year,

during the validity of water usage permit. In addition to the full chemical analysis required by the water permit the company also studies the content of 12 microcomponents and makes analyses of the water both from the Cambrian-Vendi as well as the Cambrian-Ordovician aquifer. In addition, partially also the substances listed as dangerous to water environment in the Water Act are tested for in ground water, e.g. mercury, antimony, arsenic, cadmium, boron, barium and others.

According to European Council Directive 2000/60/EU (Water Policy Framework Directive), the quantitative and qualitative condition of ground water is differentiated. The qualitative or chemical condition of ground water is considered good, if the concentration of pollutants does not indicate inflow of salty water or other water and does not exceed the respective quality standards. The content of chlorides as one of the most significant quality indicators, which cannot show increasing trends, has remained stable within recent years thanks to the reduction in intensive water extraction.

During the year 2006 there have been no ground water pollution incidents or any potential risks of pollution that required reporting to the City and the Health Authority of Harju County and the City of Tallinn.

The qualitative condition of ground water is closely connected with quantitative condition. To improve measurement of quantitative condition, automatic water level and temperature measurement devices have been installed into all company's bore wells. Inspections of the technical conditions of ground wells are carried out with a professional bore wells videocamera system Fontanus, which is unique in the Baltic countries. All boreholes have a sanitary protection zone. It means that according to the Water Permit catchment maintenance works only are allowed in the sanitary protection zone.

The Company's ground water monitoring data is used in public ground water monitoring for assessing the quality of ground water in the region of Tallinn.

QUALITY OF DRINKING WATER

Tallinners consume an average of 102 litres of water per person per day in 2006. Drinking water quality must comply with Minister of Social Affairs Decree no. 82 from 31 July 2001 "Potable Water Quality and Control Requirements and Analysis Methods" that originates from the Estonian Water Act and European Union Potable Water Directive 98/83/EC. As per the existing regulation the Company will have to comply with a very strict definition of quality requirements, control requirements of drinking water quality and analysis methods requirements. There is an exception for some parameters known as indicators or "soft parameters" (iron, manganese) that are not harmful for health and for which compliance is required from January 1st, 2007.

The Company has a detailed drinking water control program for 2005-2010 accepted by the Harju County and Tallinn Health Protection Authority, which includes

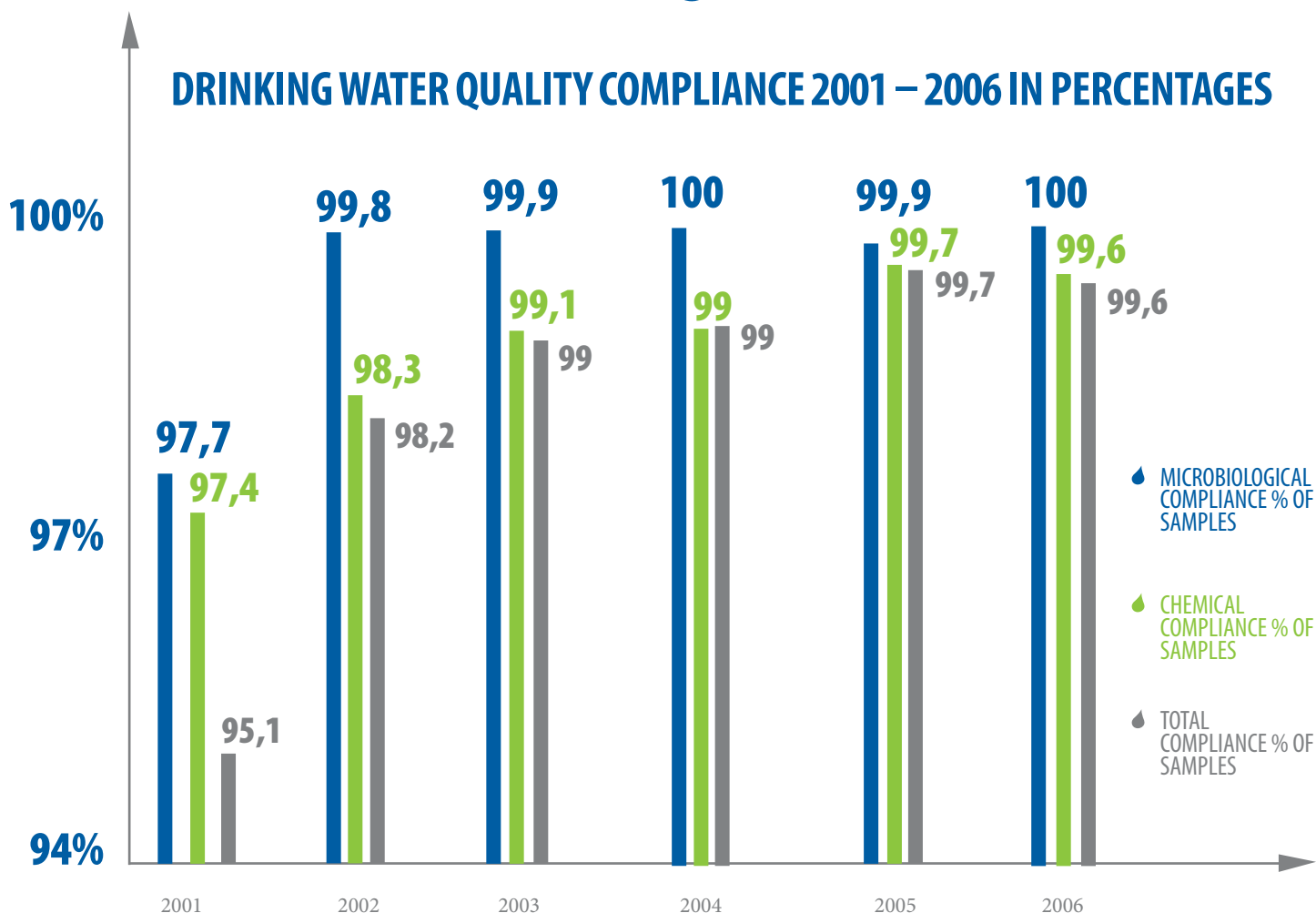
separate quality control for the water treatment plant, the ground water system, and the city network.

To measure the quality of Tallinn's drinking water, the accredited Water Laboratory of the Company takes quality samples from raw water, from the water in the treatment process and from the treated water and from the treated water that has been through the process.

In 2006 the Company reached a high drinking water quality of 100 % microbiological compliance and 99,55 % chemical compliance. The quality of water issued in Ülemiste water treatment plant complies 100% with all requirements. However, the quality of water in the water network and the groundwater quality may be influenced by larger iron or manganese content, due to which 100% chemical compliance was not achieved.

h by Kristi Oisurm, Laboratories
Photograph by Kristi Oisurm, Laboratories





TREATED WATER QUALITY IN ÜLEMISTE WATER TREATMENT PLANT

Ülemiste Water Treatment Plant has been in operation since 1927. The plant capacity is 123,000 m³/day. In 2006 an average of 62 075 m³ of treated water per day were produced.

The attached table Treated water quality in Water Treatment Plant in 2006 in Annex 4 shows that the 2006 treated water quality at the Ülemiste treatment plant has been in compliance with the requirements of the Decree no. 82. Drinking water quality is ensured by the treatment process at Ülemiste Water Treatment Plant, which is even more effective than the established requirements. The treatment process is based on the requirements established based on the quality of the raw water. As mentioned on page 22, chapter Surface Water Quality, our surface water complies with the EU directive 75/440 A2 class quality, in case of which it is prescribed to use physical and chemical processing of surface water to ensure drinking water quality – pre-chlorination, coagulation, settling, filtration, and disinfecting. At Ülemiste Water Treatment Plant the water treatment process uses ozone instead of pre-chlorination

and pre-filtration, which guarantees the high quality of drinking water more efficiently and the process complies with higher demands for raw water.

In 2006, water quality surveys on the water plant's pilot device continued. Mainly the possibilities of usage of ozone in different parts of technological process were tested and studied, in order to find possible alternatives to improve the treatment technology. For example, it was found that using intermediate ozone instead of preozonation, doses of ozone could be reduced to a half. Instead of that the coagulant dose could be increased to improve water quality. As technological improvements require high investments a thorough analysis of alternatives will be carried out before any possible rearrangements.

The use of activated charcoal was also studied at the treatment plant as a possible mean to improve the odour and taste of the drinking water and reduce the organics content during the summer period. No significant change in organic content was detected, but considering the functioning of technological process a positive shift was observed - washing of clarifiers did not bring along as strong odour as usual.

QUALITY OF DRINKING WATER PRODUCED FROM GROUND WATER

In total, the Company's bore well pumping stations produce ca 2,8 million m³ of drinking water per year, which is supplied to Tallinn residential areas in Nõmme, Pirita, Merivälja, Laagri and Tiskre. Ground water is used also in the Saue City and Harku Municipality. The Networks have altogether 57 ground water pumping stations with 87 bore wells, of which 32 pumping stations and 47 bore wells were used in 2006.

The attached table Water quality of bore well pumping stations 2006 in Annex 3 shows that the 2006 water quality in ground water boreholes has shown a compliance with the requirements of the Decree no. 82.

Ground water used for drinking water production is of quality class I-III. Water in I quality category does not require treatment, such bore wells are all the Ordovician-Cambrian water complex bore wells in Nõmme.

The Cambrian-Vendi water complex mostly belongs to the drinking water source II and III quality category, and requires the necessary treatment. II and III water quality category is usually caused by excessive iron-, manganese-, and ammonium content and the non-compliance of colour with the raw water requirements.

The Company uses different ground water treatment methods in order to guarantee compliance with the drinking water requirements. At ground water boreholes-pumping stations 15 pressure filters have been installed for removal of excess iron and manganese, five pressure filters were added in 2006 and preparatory works for installing another four pressure filters in 2007 were completed.

In pressure filters an aeration and filtration of raw ground water takes place, no chemicals are used. In order to improve water quality the mixing of ground water from two aquifer sources is also employed.

To monitor the efficiency of the treatment process, water samples are being taken from boreholes, after filters and

from drinking water tanks before conducting water to the water network. Water samples taken after the filters show that water turbidity, iron and manganese content decrease substantially, colour and stability index improve, and water oxygen content increases.

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QUALITY OF DRINKING WATER IN NETWORKS AND AT THE CONSUMERS PREMISES

The Networks operate close to 900 km of water network, and 14 water pumping stations supply the consumers with drinking water.

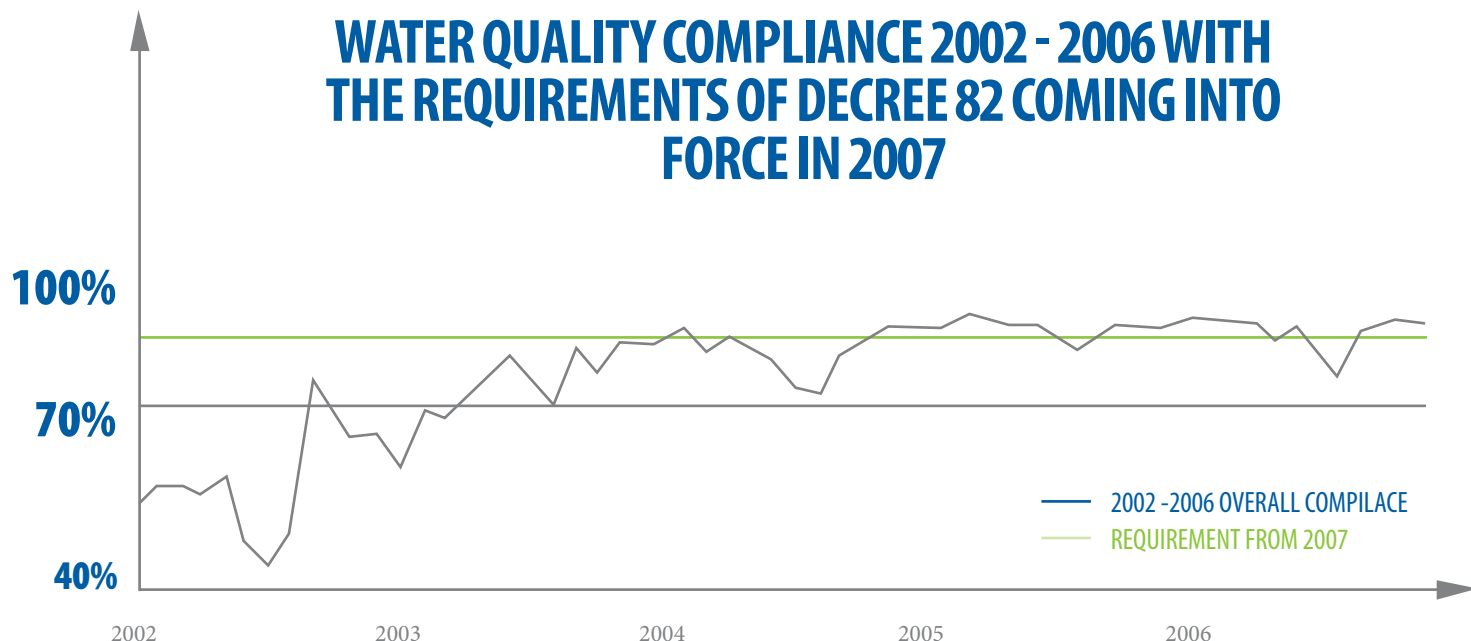
During 2006 the water quality in networks and at the consumers premises has been at high level once again. Taking into account the 0,2 mg/l iron limit content, a "soft" parameter coming into force from January 1st, 2007, the Tallinn city drinking water quality has increased significantly over the past years.

Already at the end of 2004 or two years before the deadline more than 90% compliance with the new requirements had been achieved, in 2006 even higher compliance of 96,7 % has been achieved.

To improve the quality of drinking water supplied to the homes of Tallinners various actions have been taken during the year, mainly flushing and rehabilitation of networks.

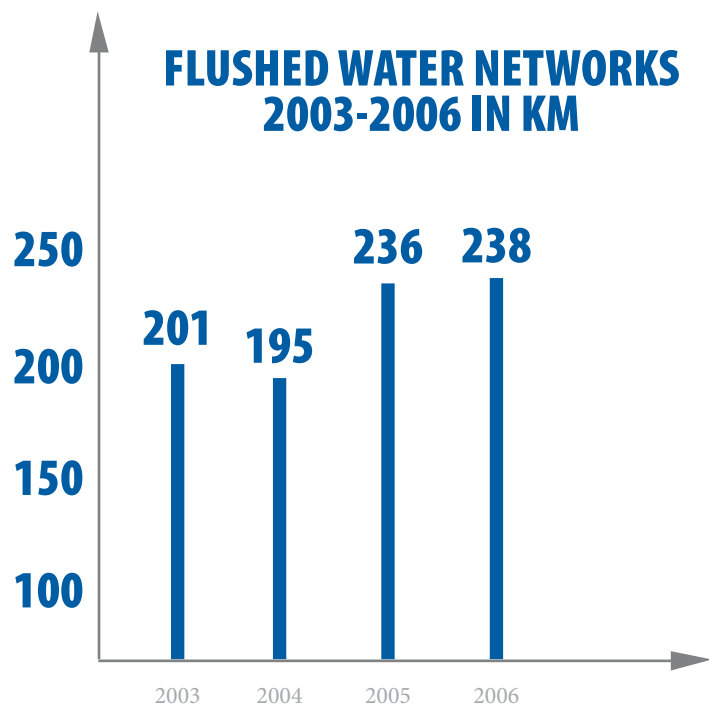
The usage of the new water treatment chemical polyaluminium chloride at Ülemiste Water Treatment Plant in 2003 has had a positive impact on water quality, decreasing the iron content and regulating the pH value in the water.

WATER QUALITY COMPLIANCE 2002 - 2006 WITH THE REQUIREMENTS OF DECREE 82 COMING INTO FORCE IN 2007



FLUSHING NETWORKS

The Networks Department carries out airscouring and flushing works on the networks on a regular basis. The flushing helps to remove the sediment from the walls of water pipes and improves the quality of the water at the customers tap. The length of networks dealt with in this manner has significantly increased over the last two years.



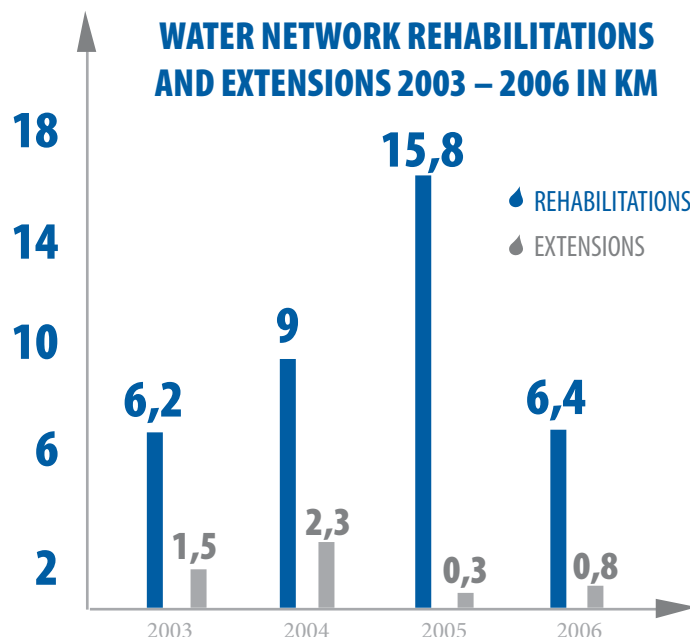
The volume of water used in flushing in 2006 (ca 134 000 m³ per year) is not significant, compared with the benefit gained from the improvement in quality.

WATER NETWORKS REHABILITATION AND EXTENSION

Investments in the replacement of old water pipes and water network extensions have contributed both to the improvement of water quality and more effective usage of water resources.

Reconstruction plans were compiled taking into consideration the City of Tallinn roads asphaltting programme, general condition of pipes and regional perspectives.

In 2006 the bulk of construction of new water network took place in Merivälja, Lilleküla and Mustamäe.



CONTROLLING LONG TERM WATER SUPPLY CUTS

The company has to ensure fast liquidation of emergencies and resolve them in less than 12 hours, in order not to cause a reduction life in quality and endanger the population's health and comply with the required Level of Service.

Despite all the measures taken by the Company, two interruptions to water supply occurred at Soo and Tööstuse streets lasting longer than 12 hrs in 2006, due to emergency repair works on the water network. The company has taken every possible action, but, considering the combined effect of technical and geological conditions, it was not possible to complete repair works on time and restore water supply faster than within 12 hours.

In order to reduce the length of time that customer supplies may be interrupted due to unplanned interruptions, the company has contracts with subcontractors for the use of special equipment, which ensure a quick response in water leakages liquidation.

The Company has special equipment, such as for example suction tank trucks, combined jetting and suction vehicles, pumps of different capacity for removing ground water from the repair site and other necessary equipment.

If the emergency works exceeding 5 hours the Company ensures alternative water supply with a water tank. In some specific situation where it was technically possible, a temporary connection was built to avoid any cut.



Networks
Networks



WASTEWATER TREATMENT

VOLUME OF WASTE WATER

Since 1980 Tallinna Vesi has the operated waste water treatment plant at Paljassaare. The treatment capacity of the plant is 350,000 m³/day. The volume of wastewater treated at Paljassaare Wastewater Treatment Plant in 2006

was equivalent to volume 41, 537 thousand m³, 113, 800 m³/day.

An extraordinarily long dry period caused the lowest flows ever occurred in the Wastewater Treatment Plant.

TREATED WASTEWATER VOLUME 2002-2006 IN THOUSANDS OF M3/YEAR



TREATMENT RESULTS The quality of the water discharged to the sea is set by legal acts and a permit for the special use of water HR0549. To assess wastewater quality, the concentration of pollutants in the sewage received by the treatment plant and in the wastewater coming from treatment, and the efficiency of treatment process are monitored.

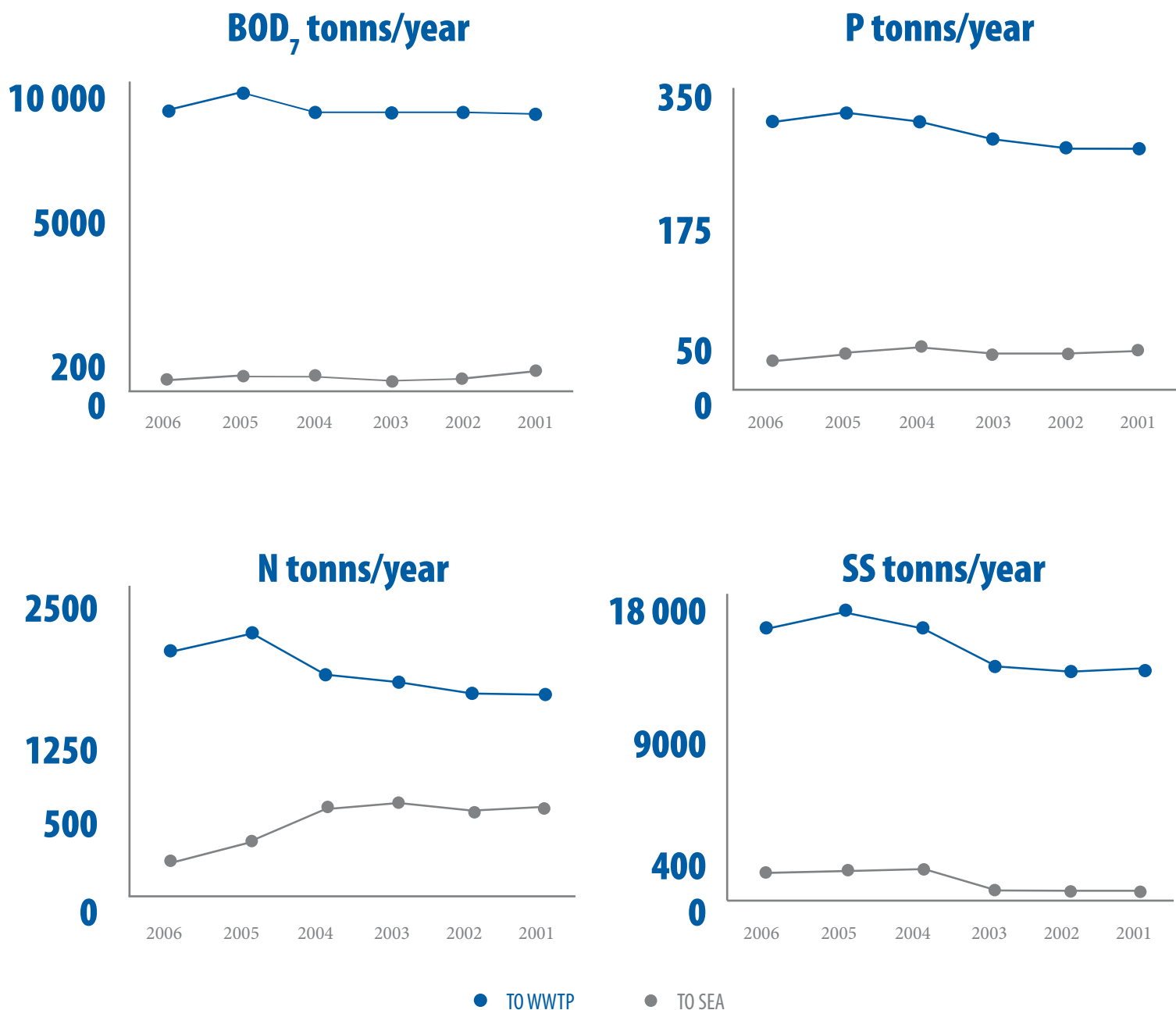
The following are the more significant indicators, whereas the smaller the indicator in the outgoing wastewater is, the less sea pollution is generated:

- Biological oxygen demand (BOD7) shows the amount of oxygen required for the defined biological decomposition of organic material in water in the course of 7 days;
- Total Phosphorus (P) and total Nitrogen (N) are elements included in nutrient salts that increase the

growth of plankton in water. If the content of nutrient salts is too high, such growth can be so strong that the oxygen is used up and a shortage of oxygen arises;

- Suspended solids (SS) shows the volume of solid matter in water which remains in a filter with a mesh of a defined size;
- Oil products show the amount of light (like petroleum) and heavy (like mazut) oils

Due to the considerably lower annual volume of wastewater the concentration of pollutants in incoming wastewater has increased during the last two years. To ensure the compliance with the indicators for the treated effluent, the company has strengthened its efforts in the treatment process.

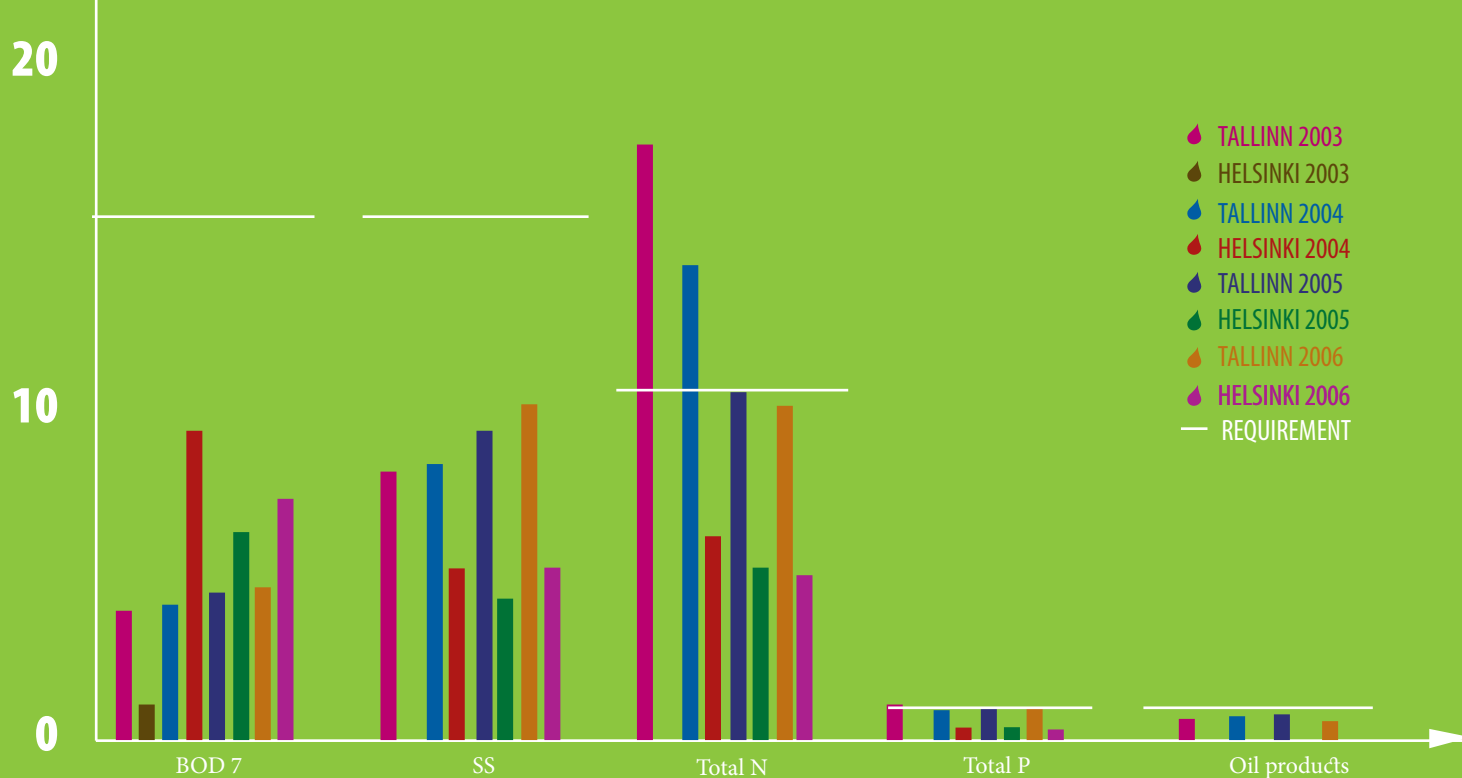


In 2006, the treatment results were broadly similar to previous years, particularly positive results have been achieved in nitrogen removal. In the 3rd quarter a toxic substance of an unknown origin entered the plant and caused damage to the nitrogen removal process. The repair works took ca two weeks and despite of the treatment efficiency higher than usual the nitrogen limit allowed in the effluent for a quarter

was exceeded. Still the requirements of the permit for the special use of water were fulfilled in 2006.

Treatment results are also comparable with the results of our close neighbour water company Helsinki Water and with larger Estonian water companies.

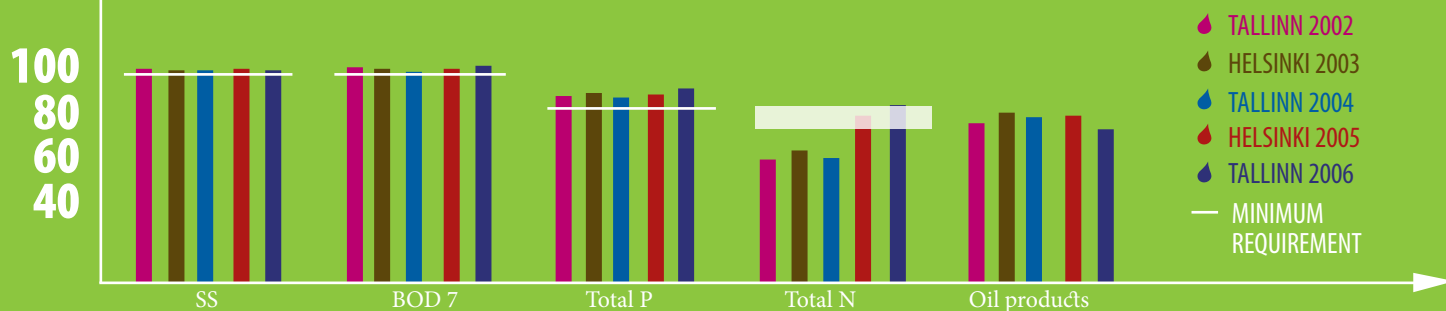
AVERAGE POLLUTION INDICATORS OF OUTGOING WASTEWATER 2003-2006 MG/L COMPARED TO LEGISLATION REQUIREMENTS AND HELSINKI WATER



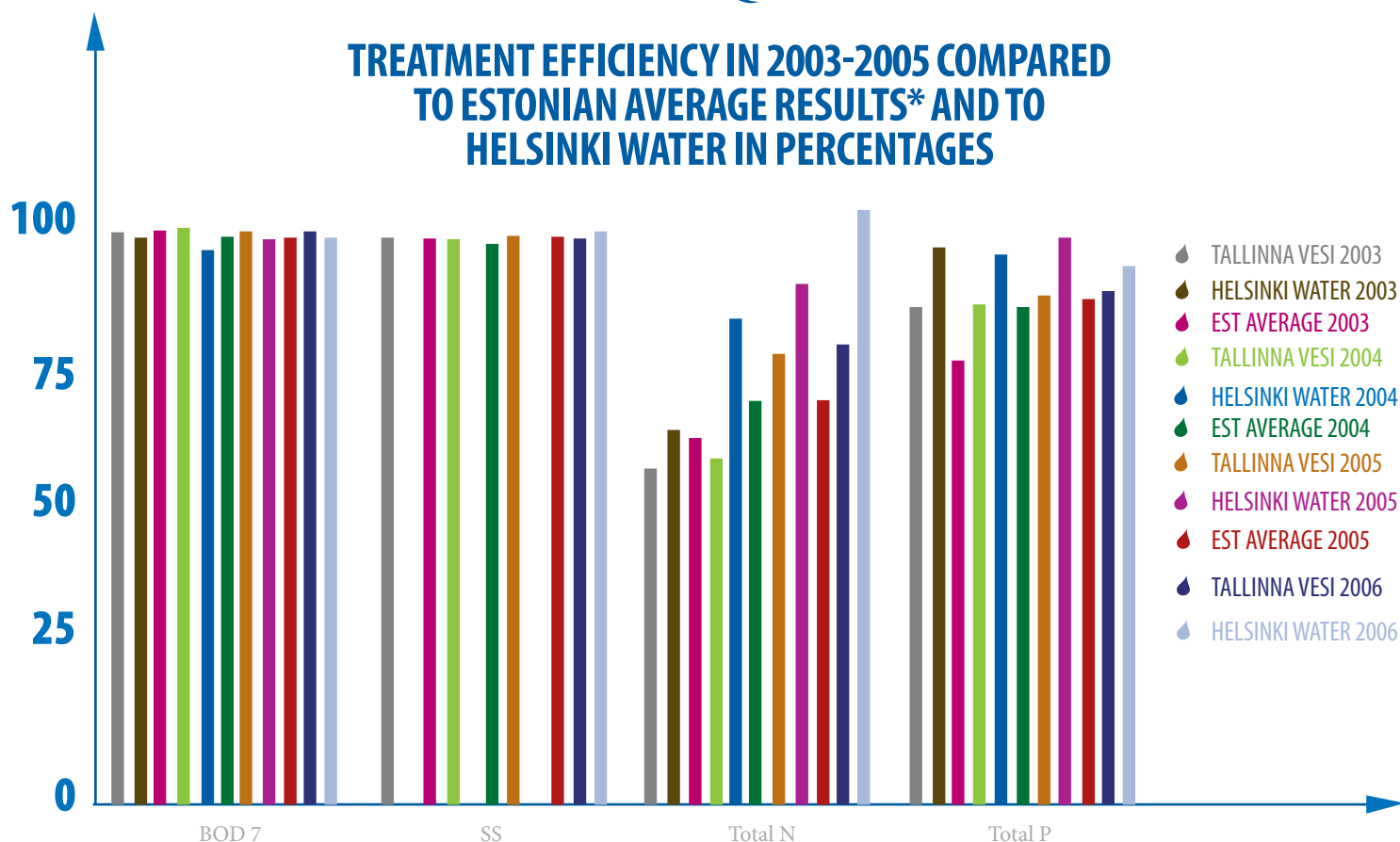
According to the pollution charge replacement contract concluded with the Ministry of Environment and the water permit HR0653 20 mg/l total N was allowed in 2004. By the end of test year (started 01.07.2005) by 30.06.2006

average total N has to be <11,6 mg/l. Starting from April 1st, 2006, we once again operate on the basis of water permit HR0549, which stipulates a total N level of <10 mg/l at wastewater temperatures > 12° C.

WASTEWATER TREATMENT PLANT TREATMENT EFFICIENCY 2002 - 2006 IN PERCENTAGES



TREATMENT EFFICIENCY IN 2003-2005 COMPARED TO ESTONIAN AVERAGE RESULTS* AND TO HELSINKI WATER IN PERCENTAGES



* Latest data of Estonian average available for 2005. Calculation is based on data of five bigger Estonian water companies.

THE NITROGEN PROJECT

As the level of pollution in water directed into treatment plant has increased year by year and also the requirements for the permitted effluent nitrogen content have changed, reaching a high quality of effluent discharged into the environment was more difficult than earlier and thus the modernisation of Paljassaare's treatment process was undertaken.

In 2003, an agreement was concluded with the Ministry of Environment to eliminate the pollution charge, whilst the Company was undertaking extensive works, which would enable a decrease in the amount of nitrogen discharged to the Gulf of Finland by at least by 25% compared to the characteristic of 2002 by 31.03.2006.

The project was started in summer 2003. The project, which is the first of its kind in all three Baltic States, included modification of the aeration tanks, an increase in air production capacity and the construction of a methanol

plant which increases the efficiency of the treatment process.

The test year started from 1 July 2005 to 30 June 2006, during which the results of extensive reconstruction works of technological equipment were be tested. Throughout the whole year, works on re-tuning the technology and optimising various technological regimes in different weather and load conditions took place. Since the steeply increased incoming suspended solids and total nitrogen pollution loads exceeded the designed capacities, the initially planned methanol pumps were replaced with more pumps of a higher capacity, which allow the injection of more methanol.

The objectives set for the test year of 2006 as well as the requirements set with the entire pollution charges contract were achieved and the nitrogen pollution load to the Baltic Sea was reduced considerably as a result of the project.

	CONTRACTUAL REQUIREMENT	ACTUAL OF TEST YEAR
Nitrogen concentration	11,6 mg/l	10,4 mg/l
Pollution load to the sea	540 tons	451 tons
Reduction in pollution compared to the 2002 reference year	25, 2 %	37,5%

HELCOM As the nitrogen concentration in the discharged wastewater decreased to the desired level, the City of Tallinn achieved positive feedback from HELCOM in May 2006 and Tallinn was removed from the list of environmental “hot spots”.

The Helsinki Commission, HELCOM, organizes intergovernmental cooperation between Denmark, Estonia, the European Community, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden in order to protect the marine environment of the Baltic Sea from all sources of pollution. Organising of the cooperation is based on the Baltic Sea environmental protection convention. Based on the convention, HELCOM recommendations 4/2 and 16/9 have been adopted, where inter alia the marginal values of quality indicators of wastewater for wastewater treatment plants have been set. For example, at least 90% reduction of BOD, at most a concentration of BOD in the effluent of the treatment plant of 15 mg/l; yearly average values of total phosphorus below 1.5 mg P/l; 10 mg total nitrogen/l in the effluent water or 70-80 % reduction of total incoming nitrogen.

PREVENTION OF FLOODS The Networks Department operate the waste water network with ca 760 km

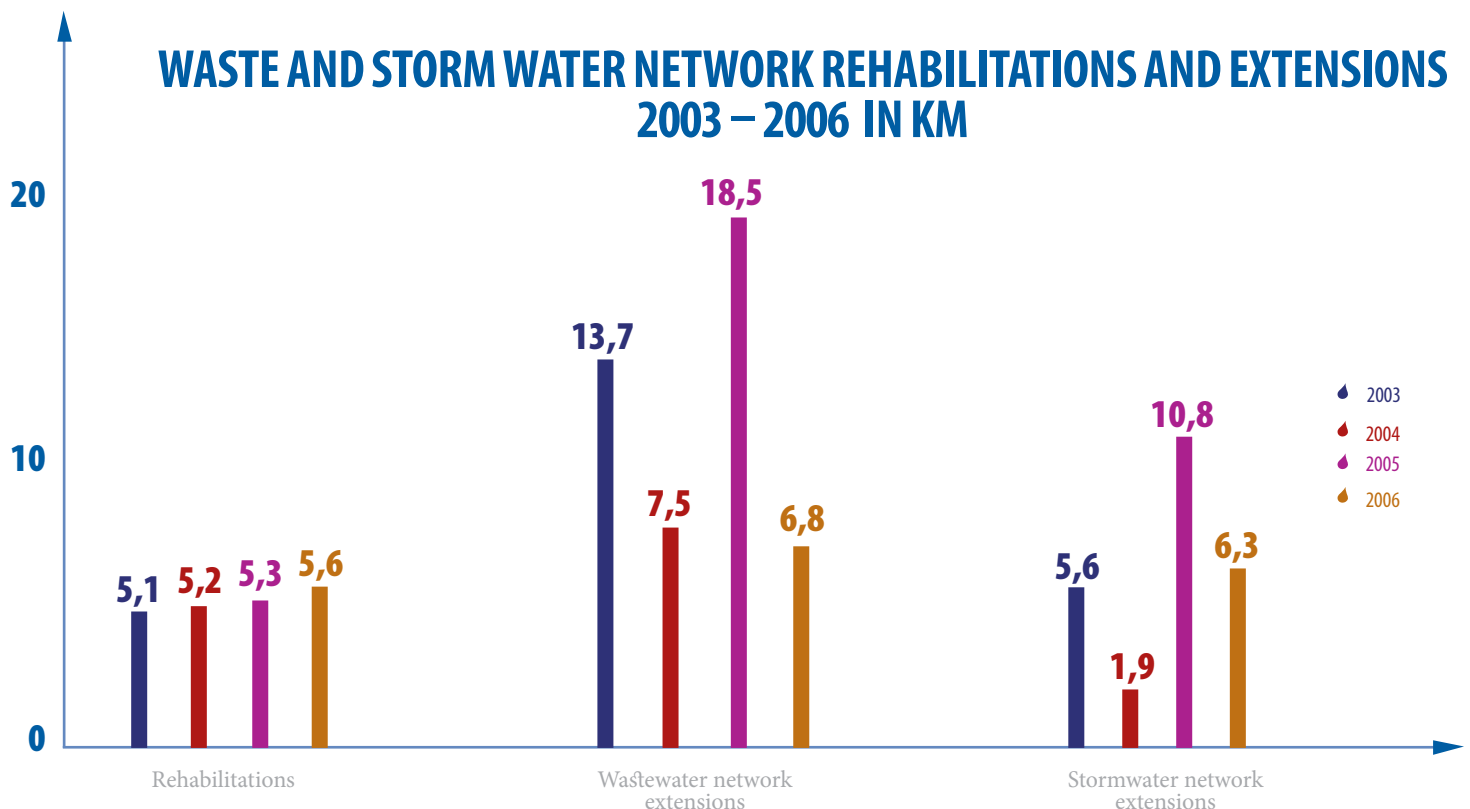
of sewerage network, over 300 km of storm water network and over 80 sewerage pumping stations. The main improvements to prevent flooding and thus to avoid the environmental pollution in streets, are connected to the wastewater and stormwater network rehabilitation and extension and preventive flushing of sewer pipelines.

SEWER AND STORMWATER NETWORKS REHABILITATION AND EXTENSION

During 2006 the Company has been renovating existing wastewater network and building new wastewater and stormwater systems. Reconstruction plans are compiled taking into consideration the City of Tallinn roads asphaltting programme, general condition of pipes and regional perspectives.

The bulk of construction of new sewerage and storm water network took place in Merivälja, Lilleküla and Mustamäe districts. The main improvements to prevent flooding and thus to avoid the environmental pollution in streets, are connected to the wastewater and stormwater network rehabilitation and extension and preventive flushing of sewer pipelines.

WASTE AND STORM WATER NETWORK REHABILITATIONS AND EXTENSIONS 2003 – 2006 IN KM

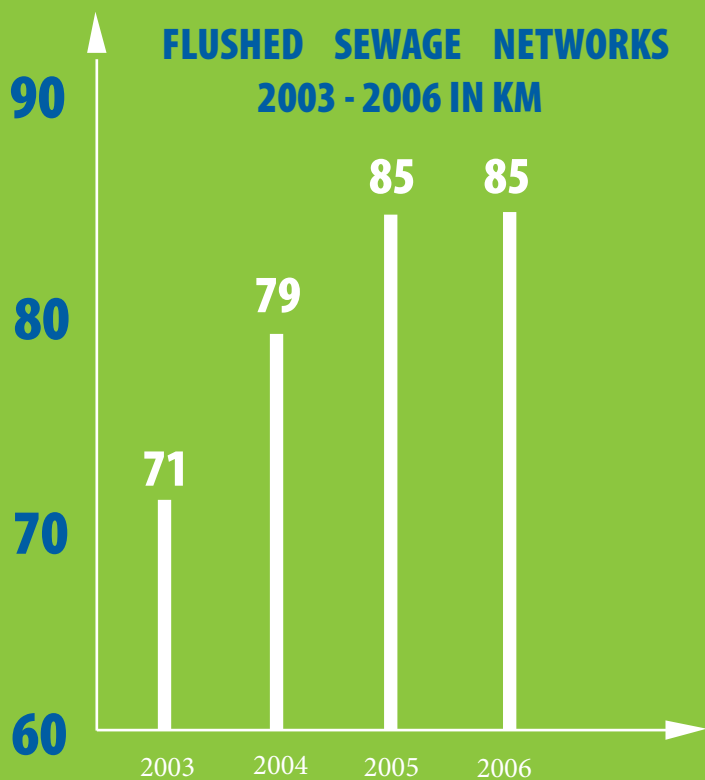


CLEANING OF THE WASTEWATER NETWORK

The aim of the cleaning of the wastewater network is to liquidate blockages and carry out preventive maintenance. Blockages are mainly caused by sediment forming in sewers, the lower water consumption during last years has reduced flow amounts and flow speeds and has increased the risk for blockages.

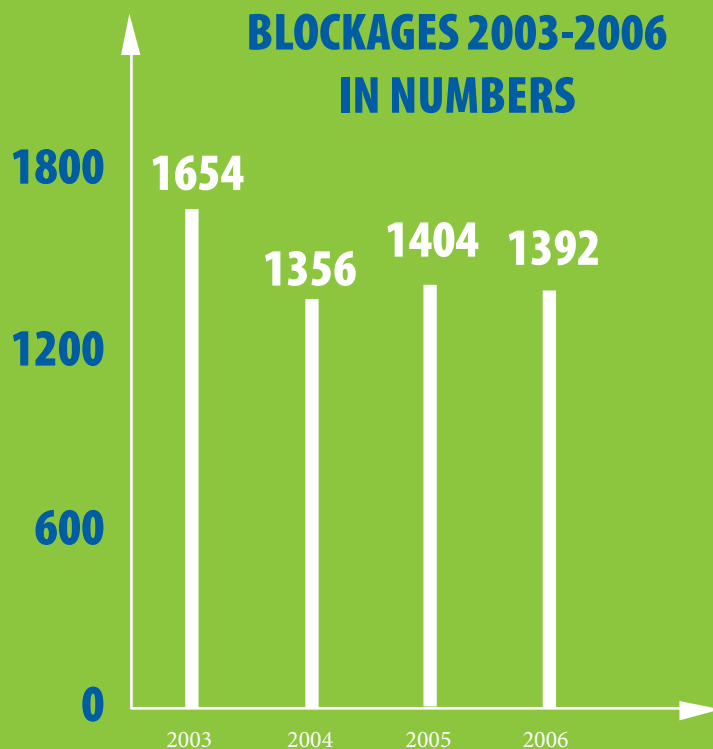
The Company carries out pressure washing of network with combined jetting and suction trucks, where the high pressure creates the flow speed first and the sediment is flushed into the cesspit.

Thereafter the sediment is collected into the pressure wash truck and taken to the wastewater treatment plant. Since network flushing has produced good results, the length of networks flushed has increased each year. The target is to achieve the pressure washing of 12% of the sewerage network. In 2006 actually ca 11 % of the sewerage network was washed. In order to improve the performance, three combined jetting and suction trucks are in constant use and in 2006 the procurement of fourth truck was started.



Although the sewer network serviced by the company has increased by more than 11 % during recent years, due to

flushing the number of blockages has been reduced in recent years.



CONTROLLING OVERPOLLUTION CAUSED BY CUSTOMERS

The Company's Wastewater Inspectorate regularly monitors the sites discharging wastewater into public sewerage system, verifying the compliance to requirements provided in legislation. The Wastewater Inspectorate has the right to take wastewater samples in order to identify over pollution caused by industrial customers.

The average wastewater quality indicators of larger industries are presented also in the Statement which the Company regularly submits to Harju County Environmental Service.

The new Customer Information System, launched in 2006, easily enables to process the results of wastewater samples taken by Wastewater Inspectorate regarding pollution, and invoices for over pollution are automatically sent to all identified over polluters according to the legal requirements and contract concluded with the clients. In 2006, over 700 invoices were issued to 160 customers.

SEWER AND STORMWATER OVERFLOWS

SEWER OVERFLOWS Compared to the year 2005, when ca 131 000 m³ of wastewater strongly diluted with storm water was pumped into the sea without going through the wastewater treatment plant due to extraordinary weather conditions, 2006 was a year of stable flow amounts and all water directed into the combined sewerage system was taken into the wastewater treatment plant.

During the entire year there were five days where heavy rains and thawing of the snow raised instantaneous flow amounts to such a high level that the biological treatment was unable to accept them and after mechanical treatment a small amount of wastewater highly diluted with storm water was directed into the sea via the deep-sea outlet.

Waste Water Treatment Plant flow amounts and overflows 2004-2006 in thousands of m³/year

	2004	2005	2006
Total volume of waste water	53 297	47 523	41 537
Wastewater directed into the sea that has not been through the treatment process.	43	131	0
Partly treated wastewater directed into the sea.	1 564	42	66

STORMWATER OVERFLOWS

In 2006 the Company monitored, pursuant to the requirements set forth in the water permit, 16 stormwater outlets. The largest storm water outlets are the Lasnamäe, Harku and Muštoja outlets. Samples from storm water outlets are taken regularly, 1-2 samples each month. The sampling procedure for outlets is determined for the Company by the special use of water permit HR0549.

In total in 2006, 3 032 757 m³ (compared to 4 206 384 m³ in 2005) of storm water was discharged through the above mentioned outlets. The pollutants discharged to the environment is set out in the following table.

	2004	2005	2006
Suspended solids	90,7	60,1	43,4
Oil products	7,2	4,8	3,4

In order to minimise possible environmental pollution, local treatment facilities like slime and oil catchers have been installed on some outlets.

POLLUTION CHARGE The company is obliged to pay a pollution charge for the pollutants discharged to the water bodies. Pollutants contained in treated effluent and storm water are included in the pollution charge calculations. Depending on the specific outlet the permit for special use of water establishes both the pollutants, the discharge of which is not limited by the permit for special use of water, but for which a pollution charge is charged for (for example SS, total phosphorus, oil products, total nitrogen, depending on the specific outlet) as well as the permitted limits of pollutants (for example in the part of oil products, depending on the specific outlet).

Pursuant to the Environmental Charge Act a pollution fee was paid to the Environmental Fund. The pollution fee rates established by law have increased year-by-year and therefore the water pollution fee made up 4,2 % of the operating costs in 2006 compared to 2,5 % in 2005.

CONNECTIONS TO THE PUBLIC SEWERAGE SYSTEM

By the end of 2006 we had ca 16 000 wastewater connections and ca 19300 existing service contracts. The Company actively encourages customers to connect to public sewerage, which decreases the risk of environmental pollution.

NEW CONNECTIONS IN EXISTING SERVICE AREA

Today ca 97 % of the company's service area in Tallinn is covered with the public sewerage network. In collaboration with the City of Tallinn, the Company is planning to cover the whole City with the public sewerage network by the end of 2010. As a result of the construction works in 2006, the possibility to connect to public sewerage networks was created for more than 160 immovables in Lilleküla, Merivälja and Mustamäe.

CONNECTION FEE COMPENSATION

Through connecting to the public network it is possible for the city inhabitants to improve their living environment. New networks are built in collaboration with the City of Tallinn. The City of Tallinn is providing the customers with a connection fee compensation depending on how quickly the customer is going to connect after the connection possibility became available. The Company's previous experience, however, shows that not all households who have the opportunity to connect with public sewer network with the City's compensation take the advantage of the possibility.

The Company has a target to sign at least 80% of all possible connection contracts within 1 year from receiving the usage permit of street pipes. In 2006, 80 % of potential customers or ca 450 immovables, had connected with the public sewerage. The main reasons for the customers who didn't connect are usually that the potential connectee does not have the necessary resources for constructing the pipeline within the property, and regardless of the benefits some customers may not be interested in connecting to public sewerage.

IMPROVED CONNECTION PROCESS

The new customer information system enables active monitoring of the connection process. Thanks to the reviewed processes we can now send out reminders to customers who have not started their connection process within a set time and we have better control over the information flow between the customer and the Company.

The new information system also allows us to make sure we fulfill "Our promises" on timely project review and service contract signing. In 2006 all the connection projects were reviewed on time within the promised 10 working days. For the whole year only one application for compensation was submitted from customer for not sending the service contract project within the promised 5 working days.

CONNECTIONS IN NEW AREAS

AS Tallinna Vesi has concluded several contracts with local municipalities for the provision of either water supply and/or sewerage services in the areas surrounding Tallinn. Thus, the Company is appointed as water undertaking in Harku and Saue Rural Municipality areas.

In order to provide better service physical connection points have been built at strategic locations at the border with the City which have enabled the municipalities to receive water from the Ülemiste Water Treatment plant and have their wastewater treated at the Paljassaare Wastewater Treatment Plant.





aph by Olga Chislova, laboratories
Photograph by Olga Chislova, laboratories

HANDLING OF CHEMICALS

The Company uses approximately 470 hazardous and less hazardous chemicals in its operating activities.

The largest volumes of chemicals are used by the Treatment Plants, the widest range of different chemicals is used by the Laboratories and the Asset

Management Department.

Chemicals become hazardous first and foremost due to their characteristics which pose a danger to the population and the environment, on the other hand the level of hazardousness depends on the amount of chemical used.

USAGE OF CHEMICALS IN TREATMENT PROCESS

CHLORINE Pursuant to the Chemicals Act and its implementing provisions AS Tallinna Vesi has been classified as a category B company with a risk of a major accident. This is due to large amount of chlorine used in the water treatment process. In the water treatment process water is disinfected, so that the water would be safe to human health. The most common disinfectant in use is chlorine, which is effective and has a longer-term effect in the water distribution network.

As a chemical chlorine is a heavier than air poisonous gas causing irritation and having a corrosive effect, which affects mucous membranes both internally and externally, thus in the case of a chlorine emergency the people in the affected area, who are exposed to the gas, may suffer serious damage to health or die. The usage of chlorine has dropped considerably over the past decade. In 1996, for example, the Company used 251 tons of chlorine annually, but by 2006 the usage had decreased to 49 tons. The main reason for this decrease is the use of ozonization of water instead of pre-chlorination. Ozone is produced on site by the Company in the amounts required, due to a closed process and that no stock held, the hazard to the environment is minimum.

METHANOL Due to the methanol used in wastewater treatment, the Company has been classified as a hazardous company on the basis of the chemicals legislation. Methanol usage was started in 2005 in connection with the nitrogen project (see also page 30) in order to increase the efficiency of the nitrogen removal activities of the bacteria participating in the biological treatment process.

POLYMERS AND COAGULANTS

Due to the methanol used in wastewater treatment, the Company has been classified as a hazardous company

on the basis of the chemicals legislation. Methanol usage was started in 2005 in connection with the nitrogen project (see also page 30) in order to increase the efficiency of the nitrogen removal activities of the bacteria participating in the biological treatment process.

AMOUNTS OF CHEMICALS

The amounts of chemicals used at the Treatment Plants mostly depend on the characteristics and volume of the water coming into the plants, which in turn is influenced by weather conditions in the case of raw water and the pollution level in the case of wastewater.

Looking at the water treatment chemicals usage, it becomes clear that despite very different characteristics of water and very different weather conditions the efficiency of chemicals usage has remained relatively stable.

Usage of chemicals in the water treatment technological process 2003-2006

TYPE OF CHEMICAL	Unit	2003	2004	2005	2006
LIQUID CHLORINE					
Total usage	ton	69	56	51	49
Usage per unit produced	g/m ³	2,5	2,4	2,3	2,1
COAGULANT POLYALUMINIUM CHLORIDE					
Total usage	ton	1019*	1 476	1 577	1419
Usage per unit produced	g/m ³	61,6	62,8	69,3	61,6
POLYMER					
Total usage	ton	2,6	1,7	2,1	1,7
Usage per unit produced	g/m ³	0,1	0,07	0,09	0,07
OZONE					
Total usage	ton	158	173	163	154
Usage per unit produced	g/m ³	6,3	7,4	7,2	6,7

* usage from June, replaced aluminium sulphate

In wastewater treatment considerably more chemicals are used as a result of several factors. On one hand, people are using more chemicals in the household and at the same time are consuming less water, which consequently reduces the volume of wastewater but increases the concentration of phosphorus in wastewater.

In spring 2006, a widespread transfer to concentrated washing powder took place on the initiative of the Estonian Chemical Industry Association, and it takes some time before the population becomes fully aware of this, thus this transfer may be one of the reasons behind the continued high levels of incoming total phosphorus.

On the other hand, the process fine-tuning works continued at the wastewater treatment plant over the nitrogen project test year and some of the equipment was replaced, thus at times the process was operating under overload conditions.

More methanol has to be used also for nitrogen removal from sewage, the concentration of which has been also increasing over the years in the incoming sewage. Increase in the nitrogen level is apparently caused changes in people's eating habits and new food products, which appear as nitrogen in the received sewage. The level of nitrogen may to a degree also be affected by the expansion of the service area.

Usage of chemicals in the Wastewater treatment technological process 2003-2006

TYPE OF CHEMICAL	Unit	2003	2004	2005	2006
COAGULANT					
Total usage	ton	1 453	1 991	2 120	2296
Usage per unit produced	g/m3	32	37	45	55
POLYMERS					
Total usage	ton	37	39	44	52
Usage per unit produced	g/m3	0,8	0,7	0,9	1,3
METHANOL					
Total usage	ton			812*	2078
Usage per unit produced	g/m3			17	50



Photograph by Toar Pajumaa, business development

ACCIDENTS INVOLVING CHEMICALS

The probability of accidents connected with chemicals has been minimized, as the handling systems of chemicals comply with security and safety requirements.

The probability of accidents involving chlorine has been minimised by applying the required safety measures. The technology of chlorine storage at Ülemiste complies with the German design norms and construction with the Finnish norms, as in Estonia there were no requirements for the chlorine storage construction. The construction of the new chlorine storage facility, which is one of the most modern of its kind in Europe, was completed during 2003.

In addition to the above mentioned new chlorine storage, the necessary conditions for chemicals storing and usage have been established for other chemicals in usage, based on information on the safety data sheets of chemicals, legal acts and safety instructions.

The chemicals safety data sheets are available in the Company both in electronic form and in hard copy at usage sites.

The handling sites of important chemicals are supplied with automatic warning and degassing systems for the early detection of the possible leakage and its neutral-

ization. Absorbents and personal protective appliances are available at the usage locations of chemicals. Although the probability of the occurrence of large chemical accidents is small, the consequences of accidents connected with hazardous chemicals used in large amounts – like chlorine, methanol, methane gas (see page 42) – may be severe, if the chemical exits the operating premises. In this case there is a high risk that people's health will be damaged and there will be an environmental pollution.

A chlorine accident, which is defined in the company as a crisis situation, has the most serious potential consequences. In order to be prepared for fast liquidation of the unlikely but still possible chlorine accident, an emergency action plan has been compiled and there are annual chlorine accident trainings in cooperation with Rescue Service.

Possible accidents related with other chemicals are not assessed on the basis of significance, of consequences as a crisis. As a rule these are smaller leakages that do not exit the operating premises customised for that and do not damage the environment and people. Smaller emergencies were liquidated pursuant to the procedures for handling non-conformities, which have been put in place in the Company.

There were no chemicals accidents with serious or minor consequences in 2006, which would have caused damage to people or the environment.



*It nr 11 Photograph by Erik Sait,
Photograph by Erik Sait, IT services*

WASTE MANAGEMENT

AMOUNT OF WASTE The largest amount of waste in the Company is created by the Wastewater

Treatment Plant, followed by Networks, Water Treatment and Asset Management. In 2006 the total amount of waste decreased compared to 2005.

Waste produced 2003-2006 in tons

WASTE PRODUCED	2003	2004	2005	2006
Total waste, included	37169,0	43100,8	43 926	42886,7
Ordinary waste	37154,5	43096,5	43 922,3	42863
Hazardous waste	14,5	4,3	3,7	3,7

HAZARDOUS WASTE Important part of the hazardous waste created in 2006 was old oil, which emerges in the course of maintenance of machines and

equipment. The other large part is made up of lead-plate batteries, these are mainly the old batteries of large means of transport collected and handed over in Paljassaare and Ädala.

More considerable hazardous waste produced 2003-2006 in tons

TYPE OF WASTE	2003	2004	2005	2006
Old oil	1,4	1,2	1,5	1
Lead-plate batteries	1,4	0,5	1,2	0,8
Fluorescent lamps and articles containing mercury	0,2	0,3	0,2	0,3
Oil containing waste	2,1	0	0	0,3
Paints- varnishes	2,7	0,5	0,1	0,1
Devices containing PCB	0,7	0	0,24	0,18
Others	6	1,8	0,4	1
Total	14,5	4,3	3,7	3,7



ORDINARY WASTE Approximately 90 % of ordinary waste is sludge, a byproduct of waste water treatment. The volume of sludge, also waste from screens and sandtraps' sludge are directly influenced by amounts of incoming waste water, the weather conditions and the efficiency of cleaning services in the City.

In 2006 action was taken to look for possibilities to wash desanding system sediments and screenings before transporting them to landfill, in order to decrease the amount of waste going to landfill. In addition, the company also had the task to make oil removal in Wastewater Treatment Plant more efficient in order to ensure further compliance with the water permit.

Since the innovation process related to reducing the amount of waste is linked to a review of the entire mechanical treatment process starting from the main pumping station, this constitutes a large long-term project, which will continue over the coming years. The new sludge handling project foresees the installation of a sludge grid with the later addition of a waste washer.

The other large part of ordinary waste as excavated soil, asphalt, mineral waste, mixed building waste, concrete and bricks is connected to network construction and repair works. Some of the waste, as excavated soil and mineral waste was reused at construction sites in two last years.

Due to some shortcomings in data collection from the subcontractors it has only been possible to make an estimation of the volume of reused waste in the last two years and the company has decided to specify the order of submitting the data required from the subcontractors.

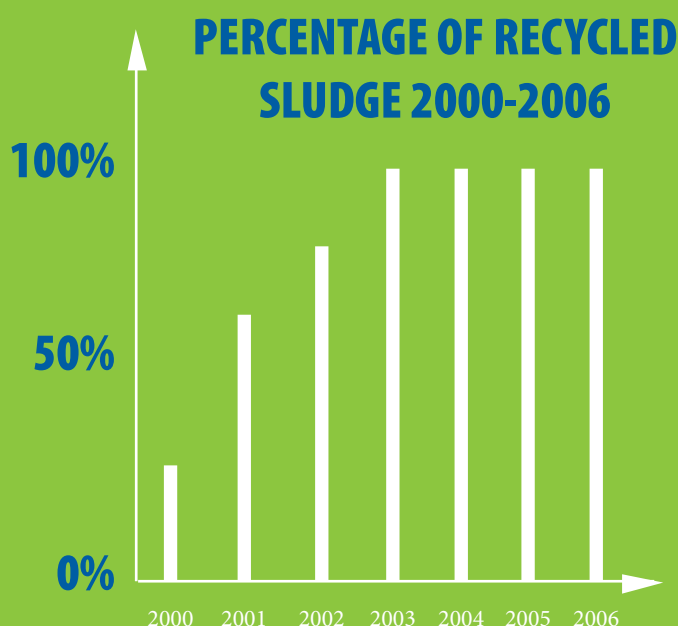
In 2006 the Company continued to separate paper and cardboard, as well as packages (plastic soft drink bottles) from mixed municipal waste, which can be recycled and reused.

TYPE OF WASTE	2003	2004	2005	2006
Mixed municipal waste	221,4	151,2	171,5	149
Paper and cardboard	2,6	12,3	10,5	10,9
Packages	0,6	1,7	0,9	1,4
Waste from screens	107,4	173,9	272,7	279,7
WWTP wastewater sludge	27952,0	35770,0	36404	35434
Sandtrap's sludge	413,2	715,2	312,8	287,5
Excavated stones and soil	7861,0	6125,5	6000*	6000*
Asphalt waste	155,5	83,1	80,8	300,9
Mineral waste	303,2	43,7	491,5	112,5
Mixed building waste				208,7
Bricks				24,6
Concrete	31,6	17,1	33,7	11,6
Metal scrap			102,9	38,7
Other waste	105,9	2,8	41	3,5
Total	37154,5	43096,5	39 541,9	41853

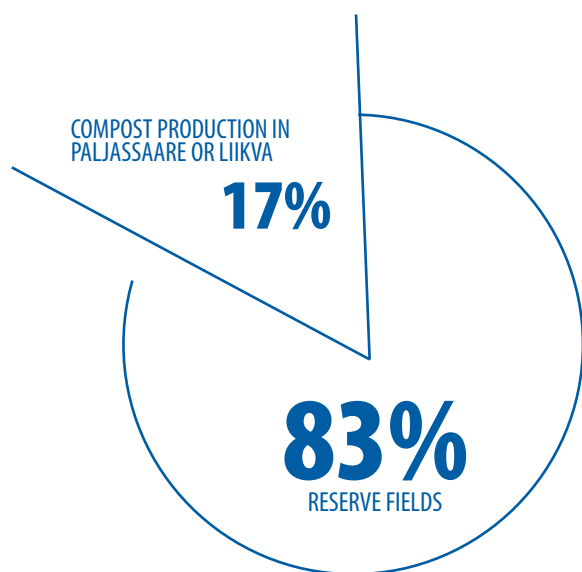
* estimated figures

SLUDGE REUSE The main part of recycled waste was made up of sludge, which the Company stopped depositing to landfill in 2003. In total, 35 434 tons of sludge was recycled in 2006.

Sludge mixed with peat, i.e. the sludge mixture, can be used for landscaping and greening. The Wastewater Laboratory monitors the sludge mixture quality on a regular basis. Our customers value the sludge mixture and the entire produce is used in the above way. In 2006 a significant amount of sludge mixture - 24 000 tons – was sold, this is an increase on the amount sold in 2005.



RECYCLED SLUDGE IN 2006



COMPOST FIELDS As the Company stopped disposing sludge to landfill in 2003 and wishes to use it for soil conditioner production, the need for addition and composting fields arose.

Thus the construction of new composting fields with a total area of 10 hectares was started in 2004. 10 ha of composting fields were completed by 2006 and these have been taken into use by now. Since the sludge amounts have increased considerably with the changes to the treatment process, it was decided in 2006 to also start the construction of the second stage of composting fields, which will result in a total project volume of 14 ha. The intention is to complete the project in summer 2007.

RECONSTRUCTION OF SLUDGE PROCESSING PLANT

In order to increase the sludge processing capability, a reconstruction of sludge processing plant started in 2005.

During 2005 design of the plant was done, in 2006 the public procurement was organised and the construction contract concluded, the process of detailed planning continued and the construction work started. Works will be completed in autumn 2007.

FOREST PLANTING EXPERIMENTATION

In 2002, a study of different possibilities for the use of wastewater sludge was initiated. The main purpose of this study, which was planned to run until 2006 is to evaluate the different options for the use of sludge in afforestation and in recultivation of exhausted and closed quarries and in afforestation of alvars. Also, any environmental impact to surface water and ground water, due to the use of sludge in afforestation, is being studied.

The study is being carried out in two areas – alvar in Liikva village and Rae mire. In order to collect comparative data, different tree species such as Norway spruce, white birch, alder, European larch, poplar, hybrid aspen and European ash have been planted to the trial grounds.

In 2006 the study of sludge usage was completed and the final report was presented. The results of the study indicated the improvement of site conditions for trees both in alvars treated with sludge and peatland. Sludge makes the soils nutritious, the soil reaction becomes neutral and the activity of micro-organisms is activated in the soil. Based on the studies the peat from bogs is the most suitable soil for afforestation.

The tolerance of different tree species against the amount of sludge used differs being higher among bigger plants with a strong root system. In all areas the white birch, common spruce and European larch proved to grow rampantly, in the alvars the ashes were well-adapted. The main factors hindering tree growth in bogs are an insufficient air content of the soil, an excess amount of sludge and also wild animals, for whom the trees in the areas processed with sludge serve as a tasty forage.

The results of the study show a minimum environmental impact to surface water and ground water involved in using wastewater sludge for afforestation. Results of the study has been published also in the publication Forestry Studies issued by the Institute of Forestry and Rural Engineering of Estonian Agricultural University.

In support of the research, the company's employees have been taking part in tree planting actions for the last three years.

WASTE PERMITS

Since sludge reuse qualifies as waste recycling, the Company has obtained waste permits in accordance with the requirements of the Waste Act.

PERMIT	Valid until	Description of waste permit
Waste permit no. L.JÄ.HA-31326	08.09.2009	Issued for recycling of stabilised waste in Paljassaare in the part of stabilised waste, domestic wastewater sludge and biodegradable waste. The first type of waste created is domestic wastewater sludge, which processed, i.e. stabilised in the digesters. After stabilisation we have stabilised waste which is in turn reused – composted by mixing it with peat on the composting fields. Thus the processing of wastewater sludge into compost takes place via two recycling processes.
Waste permit no. L.JÄ.HA-34941	30.12.2009	Issued for recycling of stabilised waste and for transporting waste to Liikva as well as for recycling of biodegradable waste.

The conditions of waste permits related to sludge recycling were met in 2006.

Compliance with Paljassaare Waste Permit L-JÄ.HA-31326 in tons

TYPE OF WASTE	Permit	2004	2005	2006
Stabilised waste	40 000	30244	24547	25935
Domestic wastewater treatment sludge	300 000	35770	36 404	35434
Biodegradable waste	10 000	0	0	0

Compliance with Liikva Waste Permit no L.JÄ.HA-34941 in tons

TYPE OF WASTE	Permit	2004	2005	2006
Stabilised waste	15 000	5526	8 857	9499
Domestic wastewater treatment sludge	3000	0	0	0



Photograph by Marina Prigask, construction services

ENERGY CONSUMPTION

Consumption of electricity 2003-2006 in total kWh and per unit produced in kWh/m³

DEPARTMENT	2003	2004	2005	2006
Water Treatment				
Total usage	12 182 867	11 206 594	10 968 383	10 173 744
Consumption per unit produced	0,45	0,48	0,48	0,44
Wastewater Treatment				
Total usage	16 826 160	16 478 684	17 599 611	18 803 680
Including electricity from biogas	1 250 223	889 560	2 330 691	1 190 978
Consumption per unit produced	0,35	0,31	0,38	0,46
Networks pumping stations				
Total usage	6 126 094	6 000 153	5 554 768	5 636 745
Other consumers				
Total usage	717 319	870 376	981 480	982 193
TOTAL	35 852 440	34 555 807	35 104 242	35 596 362

CONSUMPTION OF ELECTRICITY

The bulk of electricity consumed is used for running the core processes of the company - in the Water and Wastewater Treatment Plants, and in Networks to operate pumping stations and other equipment.

Total consumption of electricity in 2006 increased compared to the previous year, mainly because of the need to uprate the technological process in wastewater treatment. New equipment was added, which has to operate continuously 24h a day, in order to achieve the necessary service quality.

Also the requirements for sludge removal changed and as the sludge treatment project was only in its initial stage of launching, power-consuming temporary appliances were used in 2006 to dewater the sludge. The increase in power demand resulting from the needs of new technology used at wastewater treatment is also illustrated by the electricity consumption per unit treated, which in 2006 was significantly higher than in 2005.

Electricity consumption in Networks increased mainly due to extension of the service area, the number of pumping stations increased. For the power saving purposes and achieving a more optimal pressure regime renewing the automation of Merivälja booster pumps was carried out.

Electricity consumption by other users, such as main office and support services located at Ädala has also slightly increased in 2006 as the Asset Management unit and workshop has moved to Ädala site.

GREEN ENERGY A good opportunity to reduce the demand for externally generated electricity is to use green energy and to utilise as much of the biogas produced at the Wastewater Treatment Plant as possible.

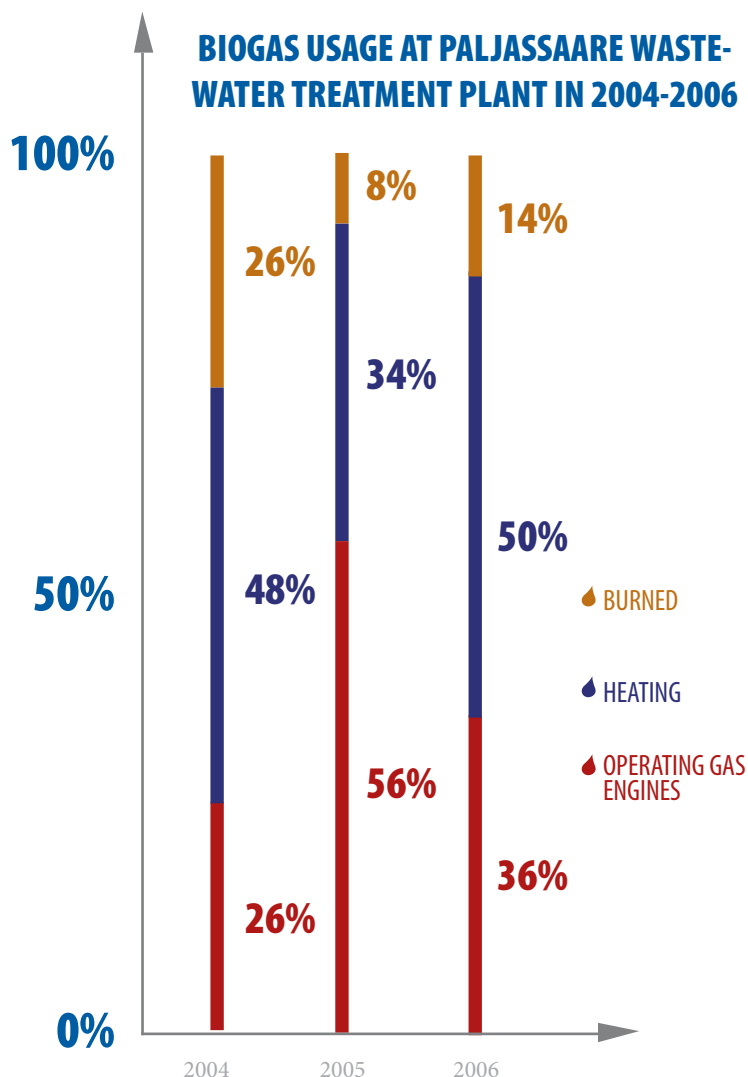
BIOGAS USAGE As a result of the wastewater treatment process, a biogas which contains approximately 70 % methane is produced in the digesters (methane tanks) where the sludge is fermented.

The volume of biogas produced in the digesters at Paljassaare Wastewater Treatment Plant in 2006 was 1,811,161 m³ showing a decrease compared to 2,234,000 m³ in 2005.

In recent winters the wastewater mixed with snow removal chemical that has been collected from the streets has hampered biogas production, it causes disturbances in the digester's fermentation process.

Because of this disturbance the amount of sludge fed to the digesters has at times to be significantly reduced and this disturbs the biogas production. Due to the long winter and dry summer of 2006 rain brought residuals from snow clearing chemical to the plant only in May and the process was disturbed for a longer period of time.

In 2006 86 % (~1 540 700 m³) of the biogas was used to either operate the gas engine or produce heating. Some of biogas was burned because of the planned capital repair of biogas engine and the emergency repair of the blower on top of the engine, due to which biogas could not be used in the process for ca four months.



Methane contained in the biogas is explosive and one of the gases identified that adversely impacts the ozone layer. In 2006, there were no accidents related to biogas.

CONSUMPTION OF FUEL

Altogether the Company has over 140 vehicles for the purpose of carrying out different operating tasks. The biggest group of vehicles (ca 70) is passenger cars and operating vehicles, which include the cars used by foremen, minivans, team vans including leakage labs and asset management vans and team cars with a lifter.

Special purpose vehicles include jetting and suction trucks, tractors, trailers, water tanks and sludge transportation trucks.

Consumption of fuel has decreased compared to 2005. The Company controls fuel consumption through limits set for car users, also the criteria of fuel consumption

was taken into account in the procurement of vehicles.

Although in 2005 we decided not to use the fuel of higher quality and thus more environmental friendly because of not enough evidence of additional efficiency effect, the employees can use it according to the valid contract. The usage of more environment friendly fuel has been almost at same level compared to the previous year.

To ensure accurate reporting, the Company's financial accounting and controlling department corrected and improved the accounting related to the number and fuel consumption of cars for 2004-2006. The updated data is set out in the following table.

Fuel consumption 2003-2006 in litres

	2004	2005	2006
Petrol	117 932	117 483	123 868
Including more environmental friendly fuel	3 721	10 557	10 202
Diesel	248 899	229 224	216 604
Total fuel	366 831	346 707	340 472
Total number of vehicles	134	146	147



Photograph by Kristi Oisurm, laboratories

AIR EMISSIONS

AMBIENT AIR POLLUTION

PERMITS The ambient air pollution permits issued to Tallinna Vesi regulate the amount of pollutants of primary importance, such as

nitrogen dioxide, carbon monoxide, volatile organic compounds, emitted from the boiler houses of Ülemiste and Paljassaare as well as the emitted amount of ozone that is produced for drinking water treatment.

Permit	Valid until	Description of ambient air pollution permit
Pollution Permit no. L.ÕV.HA-21334	31.12.2010	Valid for Ülemiste Water Treatment Plant pollution sources – the chimney of the boiler house and the exhaust pipe of the diesel generator. Establishes the list of pollutants emitted into ambient air and the annual permitted emission amounts thereof.
Pollution Permit no. L.ÕV.HA-48701	termless	Valid for Paljassaare Wastewater Treatment Plant pollution sources – the chimney of the boiler house, exhaust pipes, The chimney of the combined heat plant. Establishes the list of pollutants emitted into ambient air and the annual permitted emission amounts thereof.
Pollution Permit no. L.ÕV.HA-21490	31.12.2010	Valid for a pollution source at Ülemiste Water Treatment Plant - the ventilation system of the ozone production plant. Establishes the list of pollutants emitted into ambient air and the annual permitted emission amounts thereof.

The conditions established with Ambient Air Pollution Permits have been met in 2006. Due to cold weather and more heating in the beginning of 2006, a slight increase in pollutants coming from the boiler-houses has been detected, the amount of pollutants let to the air from the wastewater treatment plant also depends on the production and consumption of biogas which have been various throughout the years due to technological conditions.

Ambient Air Pollution from Water Treatment Plant boiler house 2003 – 2006 in tonnes

	2003		2004		2005		2006	
Substance	Permit	Actual	Permit	Actual	Permit	Actual	Permit	Actual
Nitrogen dioxide	2,4	1,6	2,4	1,6	2,4	1,6	2,4	1,9
Carbon monoxide	2,4	1,6	1,9	1,6	1,9	1,6	1,9	1,8
Volatile organic compounds	0,16	0,1	0,17	0,1	0,17	0,1	0,17	0,12

Ambient Air Pollution from Wastewater Treatment Plant boiler house 2003 –2006 in tons

	2003		2004		2005		2006	
Substance	Permit	Actual	Permit	Actual	Permit	Actual	Permit	Actual
Nitrogen dioxide	31,6	29	31,6	11,3	31,6	26,5	29,8	14,2
Carbon monoxide	216,4	193,8	216,4	73,7	216,4	190,1	210,1	97,9
Volatile organic compounds	14,4	12,9	14,4	4,9	14,4	12,7	14,0	6,8

In respect of ozone (pollution permit L.ÕV.HA-21490) a thermic destructor of the residual ozone has been integrated into the process, in which the residual ozone emitted from the process is burned and the air emitted from the destructor is diluted. 100% of residual ozone was destroyed in 2006.

AMBIENT AIR POLLUTION CHARGE

The Company pays the minimum pollution charge for pollutants emitted into ambient air. In 2006 it made up 0,6 % of the total pollution charge paid.



ENVIRONMENTAL AWARENESS OF SUPPLIERS

Environmental criteria for the qualifying of suppliers have been established in the procurement procedures of the Company. The environmental compliance of bidders is evaluated in the course of procurement through questionnaires completed by the bidders. A bidder who is unable to prove the compliance of its environment related activities with Company requirements will not be accepted to the next stage of the procurement.

The construction works bidders must also confirm that they employ environmental protection measures on site. The environmental activities of subcontractors on the sites are monitored by the construction

supervision staff of the Company. Supervision staff assess the meeting of environment related requirements of subcontractors after the contract has ended and in 2006, an average assessment results of subcontractors were good.

In October 2006 we organised a seminar for our subcontractors introducing our activity, where we talked about the necessity of environmental requirements and significant environmental aspects. Seminar was attended by almost all major suppliers, 20 representatives from construction companies in total. Information about the significant environmental aspects is available at our company's web page, and it has been referred to also in the tendering documents.



ENVIRONMENTAL COMMUNICATION

Tallinna Vesi, due to the services it provides, is within the scope of interest of stakeholders and the general public. Different groups have taken active interest in the Company's activities. Therefore, the Company has evaluated its environment related information and agreed on the significant aspects and tasks deriving from them.

MEDIA COVERAGE ON ENVIRONMENT-RELATED TOPICS

We published ca 35 neutral or positive messages on different environmental aspects during 2006. Tallinna Vesi also continued cooperation with the environmental magazine Keskkonnatehnika which published the Company's articles on environmental

projects. In addition, news about the Company's daily work and overviews about water treatment, construction works, wastewater treatment and community projects were published by different media channels like Eeesti Päevaleht, Postimees, Linnaleht and TV channels. We also supported an awareness campaign aimed at explaining how to dose washing powder in order to reduce pollution caused by usage of chemicals, in domestic households.

In addition, Tallinna Vesi has been publishing the customer information newspaper "Veeleht" ("Water Paper") in Estonian and Russian. Twice a year the newspaper is sent to 130 000 households in Tallinn for the third year in a row.

ENVIRONMENTAL EVENTS INCREASING PUBLIC AWARENESS

The company's experienced specialists carry out regular presentations and tours in the water and wastewater treatment plants. Presentations and visits to introduce the Company, its treatment plants as well as the significant environmental aspects are carried out for many interest groups, partners and press. In 2006 the two plants together hosted about 3500 people on field trips, of whom more than half were schoolchildren and university students. We also introduce water and wastewater treatment technologies and processes to municipal or national public servants or, for example, the Estonian Water Companies Association and their international cooperation.

In addition, wider public interest events were carried out. For example, a run around Lake Ülemiste in August, during which the beautiful territory around the lake, that is usually closed for the public, was opened. In these sport events Company introduces the environmental friendly tap water drinking habit and offers pure drinking water to the participants for free.

In May 2006, Tallinners had an opportunity to see the operation of the Paljassaare Wastewater Treatment Plant during Open Door Day. In addition to the Open Door Day the first rock festival was organised in Paljassaare, where Sõpruse Puiesteen, Dead Next Door and others performed to the fans of heavy music.

A WATER GAME FOR CHILDREN

In order to increase the water-related knowledge of primary school and kindergarten children, we support the creation of a "Water Game" intended for children aged six to nine. The objective of the game is to develop a free interactive learning software package, which helps to raise children's environmental awareness and facilitates environmentally friendly behaviour already in the early years of school.

The game makes gaining new knowledge easier for children, since the innovative illustrated learning tool has a significantly stronger effect on children than a mere text or lecture. The Water Game will result in a student who is more aware of the environment and whom it is easier to get interested in the natural environment surrounding us.

YOUTH TO SCHOOL

AS Tallinna Vesi supports and actively participates in the Youth to School ("Noored kooli") programme. The objective of the Youth to School programme, initiated by the Good Deed Foundation, is to bring a greater number of active and talented young teachers to Estonian schools over the next years.

Tallinna Vesi supports the programme financially and we also participate actively in the substantial activities of the programme with our specialists counselling the young people in the programme via the leadership training programme and mentoring.



REGULAR INFORMATION EXCHANGE WITH STAKEHOLDERS

In order to improve the environmental related information exchange with our stakeholders, the Company took several steps.

One of the Company's key stakeholder is the City of Tallinn. Information exchange with the City of Tallinn and its different offices (City Engineers, Utility Board, Sustainable Development and Planning Office, Environmental Office) is carried out by regular reporting, letter exchange and meetings during which different aspects of the Company's development are discussed. An important point of cooperation is action planning in crisis situations and an operative problem solving during that period.

The Company has a good working relationship with Harju County Environmental Service and the Ministry of the Environment. All regular environmental reporting has been submitted on time in 2006.

Good environmental performance helps to improve communication with customers and helps to reduce

environment related complaints. In 2006, the classification and recording of customer complaints was improved in new customer information system, 166 environment related complaints were handled.

The Company has published special booklets providing an overview of the plants which is distributed to people visiting the plants. To provide an overview of all the Company's environmental activities and performance indicators during the year, the EMAS environmental report is published and it is available on Tallinna Vesi's homepage at www.tallinnavesi.ee

AS Tallinna Vesi is a member of the Estonian Water Companies Association (EVEL) and a senior representative of the company sits on the board of the organisation. Together with EVEL, the Company organises various water and wastewater related seminars and trainings for the members. In addition, cooperation with EVEL enables the Company to be involved in the changing process of the law applying to the water business.

Being a member of the Estonian Environmental Management Association (EKJA) improves collaboration with other businesses interested in sustainable development.



Photograph by Kuno Faberland, services

Photograph by Meelis Enok, waste water treatment







PREPAREDNESS FOR CRISIS SITUATIONS

POTENTIAL CRISIS SITUATIONS

A crisis is an extraordinary situation with a significant negative impact to public health, natural environment or to the business that can affect a large proportion of the service area and that can cause the company to not function properly.

In the Company we have identified the following potential situations as crisis situations because of different reasons:

-  Chlorine emergency in WTP
 - Due to technological failures, chlorination points breakdown, damage to chlorine containers during transport or staff shortage

-  Too high level of Lake Ülemiste
Due to extraordinary weather conditions
-  Long term water supply cuts
Main reasons for that can be long-term extensive breakdowns of the automatic control system, equipment or pumping stations, failures concerning the main pipeline of water supply network and other inadvisable situations, such as raw water pollution in Lake Ülemiste (plain crash, accidents with chemicals etc), fire at the main facilities, long-term electricity cut, chlorine emergencies, terrorist act, bomb threat or staff shortage.
-  Extensive floodings
Because of the collapse of the tunnel sewer or failure of sewerage pumping stations, as a result of which extensive floodings and pollution of environment could happen. Due to extensive floods that are in the

area of ASTV caused by major rainstorms and sudden thaws.

- 💧 Inability to treat wastewater

Main reasons for that can be long-term extensive breakdowns of the automatic control system, main pumping station or other equipment as the blowers, the air mains. Also other inadvisable situations such as extensive fire at main facilities, hazardous chemicals (methanol, coagulant) emergencies, long-term electricity cut; large breaking of sea outlet pressure mains, unfavourable weather conditions (heavy or extreme rainfall), terrorist act, bomb threat or staff shortage.
- 💧 Terrorist act, bomb threat in ASTV territory

Because of extraordinary external situations.
- 💧 Extensive fire

If fire safety instructions are not followed.
- 💧 Work accidents resulting in death or several serious injuries

If work safety instructions are not followed.
- 💧 Staff shortage

Because of pandemic situations, labour market problems

EMERGENCY ACTION PLANS

The Company has put in place the basic principles for crisis situation prevention and preparedness and developed emergency action plans for defined crisis situations. Crisis action plans are reviewed and improved regularly and tested in practical trainings, where possible.

TRAININGS

In 2006 the important trainings related with preparedness in the crisis situations were:

- 💧 Crisis management training with the help of the simulation game;
- 💧 Participation in work group “PANDORA” focused on pandemic situation. Work group was coordinated by the Ministry of Internal Affairs;

- 💧 Fire Safety trainings;
- 💧 Instruction of water treatment specialists about activity in case of chlorine emergency.

IMPROVEMENTS IN PREPAREDNESS FOR CRISES

In 2004 was extraordinary for the Company in the sense that twice, in July and August, a crisis situation was announced in the Company. Extreme weather conditions due to simultaneous rain and thaw brought the Lake Ülemiste water level to the highest level also in January 2005. In 2006 there were no crisis situations

Based on analyses of previous crises several actions continued in order to improve a preparedness for crises and to minimise risks.

CONSTRUCTION OF ÜLEMISTE BANK REINFORCEMENTS

In the high-water season, primarily due to the spring time snow melt with precipitation, there can be a very high outflow from Lake Ülemiste catchment area, which can exceed the Water Treatment Plant consumption for up to ten times. In order to avoid in these periods the risk of bank erosion and flooding resulting from the excessively high water level in the lake, in 2005-2006 the bank reinforcements of the lake were reconstructed for ca 4 km and extended for 1.1 km.

INCREASING THE OVERFLOW OF LAKE ÜLEMISTE

The existing overflow of the lake was reconstructed and additionally a new emergency outlet was constructed from Pirita-Ülemiste channel into Pirita River in 2005. In autumn 2006 Pirita-Ülemiste channel was extensively cleaned and enforced. The repair works will continue also in 2007.

MONITORING POLLUTION SOURCES AROUND THE LAKE

The monitoring of point pollution sources in the area surrounding Lake Ülemiste was carried out in 2006 with the purpose of reducing the impact of the increasing settlement on the lake. Certain improvements in the operation of treatment facilities have been achieved in cooperation with Rae Rural Municipality Government.

TAKING SURFACE WATER CONNECTIONS INTO GROUND WATER AREAS

Based on the Tallinn public water supply and sewerage development directions, the Company has compiled its 12 Year Development Plan, which also determines the activities for ensuring alternative water supply in case of the pollution of Lake Ülemiste. One of the possibilities is to create connections between the surface and ground water pipelines, the investments into which were initiated in 2005 and one such connection has been constructed.

In 2006, the Company presented to the City a more specific crisis prevention plan, where different possibilities of alter-

native water supply were analysed. After the acceptance of the City further activity will be planned for next years.

REMOTE SURVEILLANCE PROJECT

In order to get timely information about possible sudden changes in water regimes, the remote surveillance project is ongoing, please see page 19.

DEVELOPMENT OF STORM-WATER NETWORK

Since 2005, the Company together with the City of Tallinn and local governments have been planning and discussing a storm water scheme for Suur-Sõjamäe and Veskimetsa areas. In 2006, possible alternative technical solutions were presented to the City for approval. The cooperation will continue in 2007. Also in 2006 discussion was held with representatives of Tallinn Airport regarding the storm water.

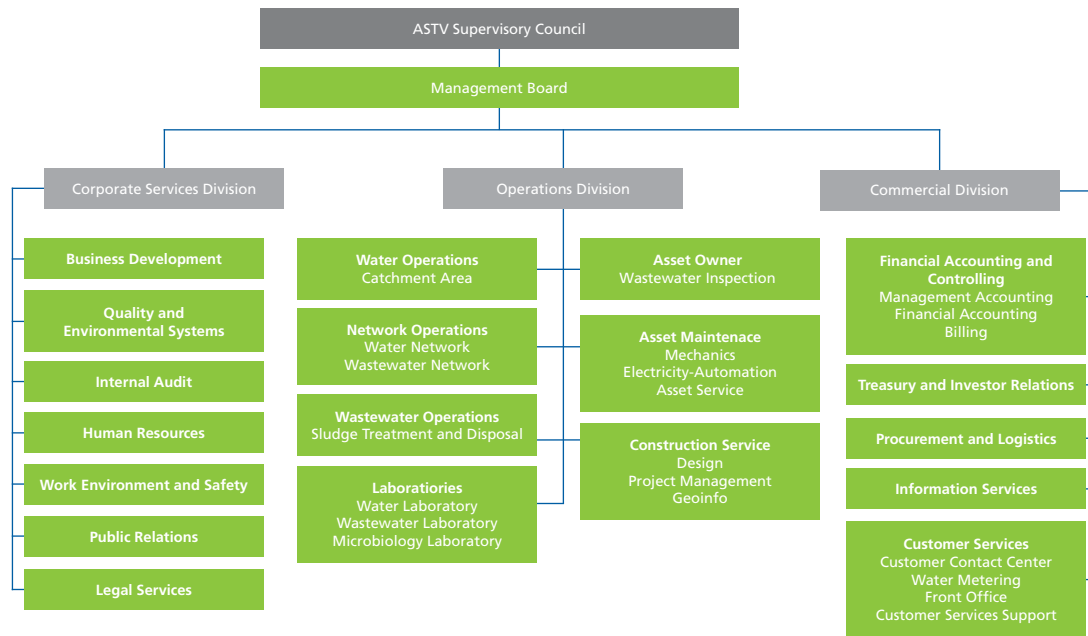
ACQUISITION OF SPARE EQUIPMENT

In 2006 a new list of reserve appliances was compiled for Wastewater Treatment Plant, the appliances will be procured in 2007.



ANNEX

1. THE COMPANY ORGANISATION CHART AS AT THE END OF 2006



ANNEX 2. TALLINN CATCHMENT AREA



h by Dare Niiberg, water treatment
Photograph by Dare Niiberg, water treatment



ANNEX 3. TREATED WATER QUALITY OF BORE WELL PUMPING STATIONS 2004 - 2006

Parameter	Unit	Average results			Decree no 82 and EU Directive 98/83/EC
		2004	2005	2006	
Odour	points	1	1	1,1	Acceptable to consumer
Taste	points	1	1	1	Acceptable to consumer
Temperature	°C	9,1	9,1	9,03	
Colour	mg Pt/l	7,6	7,2	4,98	Acceptable to consumer
Turbidity	NTU	1,88	1,38	0,95	Acceptable to consumer
Dissolved O2	mg/l	4,6	4,6	5,24	
pH	pH unit	8,09	8,03	8,02	>6,5 ja <9,5
Conductivity	µS/cm	590	583	578	2500
Permanganate index	O2mg/l	1,12	1,02	0,7	5
Alkalinity	mg-ekv/l	2,58	2,57	2,55	
Total hardness	mg-ekv/l	3,38	3,33	3,37	
Temporary hardness	mg-ekv/l	0,84	0,8	0,87	
Permanent hardness	mg-ekv/l	2,54	2,53	2,51	
Free CO2	mg/l	2,7	3	2,84	
Total iron Fe	mg/l	0,18	0,13	0,08	0,2
Fluoride	mg/l	0,66	0,69	0,58	1,5
Manganese Mn	mg/l	0,043	0,039	0,034	0,05
Ammonium NH4	mg/l	0,288	0,273	0,202	0,5
Nitrites NO2	mg/l	0,009	0,012	0,014	0,5
Nitrates NO3	mg/l	0,5	0,54	0,55	50
Stability index		0,24	0,18	0,19	
Total organic carbon	mg/l	1,3	1,3	1,2	Without unusual changes
Sulphides, S2-	mg/l	0,006	0,006	0,005	
Dry residue	mg/l	280	286	300	
Calcium, Ca2+	mg/l	48	48	48	
Magnesium, Mg2+	mg/l	13	13	13	
Sodium, Na+	mg/l	32	32	45	200
Potassium, K+	mg/l	6,5	6,3	6,8	
Sulphates SO42-	mg/l	21	23	29	250
Bicarbonates, HCO3-	mg/l	155,1	155,9	155,5	
Chlorides, Cl-	mg/l	100	95,8	90,4	250
Boron	mg/l	0,23	0,18	0,15	1
Aluminium	µg/l	2,53	2,25	1,14	200
Arsenic	µg/l	0,25	0,11	0,09	10
Cadmium	µg/l	<0,09	<0,01	<0,01	5
Chromium	µg/l	0,76	0,47	0,51	50
Copper	mg/l	0,0033	0,0041	0,003	2
Mercury	µg/l	<0,01	<0,01	<0,02	1
Nickel	µg/l	2,35	2,86	1,59	20
Lead	µg/l	0,49	0,37	0,12	10
Antimony	µg/l	0,03	0,03	0,01	5
Selenium	µg/l	1,31	1,17	0,54	10

ANNEX 4. TREATED WATER QUALITY IN ÜLEMISTE WATER TREATMENT PLANT 2004 – 2006

Parameter	Unit	Average results			Decree no 82 and EU directive 98/83/EC
		2004	2005	2006	
Odour	points	1	1	1	Acceptable to consumer
Taste	points	1	1	1	Acceptable to consumer
Turbidity	NTU	0,15	0,17	0,11	1
Colour	Pt mg/l	3	3	2	Acceptable to consumer
Dry residue	mg/l	291	286	287	
pH		7,27	7,30	7,37	6,5 - 9,5
Conductivity	µS/cm	447	441	443	2500
Alkalinity	mg-ekv/l	2,9	2,9	3,05	
Total hardness	mg-ekv/l	4,3	4,2	4,3	
Temporary hardness	mg-ekv/l	2,9	2,9	3,1	
Permanent hardness	mg-ekv/l	1,4	1,3	1,2	
Permanganate index (COD Mn)	mg O2/l	3,3	3,5	3,1	5,0
Total organic carbon (TOC)	mg/l	6,7	6,9	6,3	Without unusual changes
Free CO2	mg/l	16,9	17,8	18	
Carbonates CO3	mg/l	0	0	0	
Bicarbonates HCO3	mg/l	176,9	178,0	188	
Chlorides Cl-	mg/l	26,8	26,1	24	250
Sulphates SO4	mg/l	41,5	38,2	37	250
Orthophosphates PO4	mg/l	0	0	0	
Fluoride	mg/l	0,14	0,15	0,1	1,5
Nitrates NO3	mg/l	3,6	2,5	2,4	50
Ammonium NH4	mg/l	0,002	0,003	0,003	0,50
Calcium Ca	mg/l	72	69,9	71,9	
Magnesium Mg	mg/l	8,0	7,6	8,7	
Total iron Fe	µg/l	0	0	0	200
Manganese Mn	µg/l	4,8	7,5	5,1	50
Aluminium Al	µg/l	108	132	88	200
Sodium Na	mg/l	6,7	6,3	6,7	200
Potassium K	mg/l	2,5	2,6	2,7	
Chromium Cr	µg/l	0,61	0,56	0,53	50
Copper Cu	µg/l	0,6	0,6	0,38	2000
Mercury Hg	µg/l	0,02	0,045	0,02	1
Lead Pb	µg/l	0,03	0,02	0,01	10
Selenium Se	µg/l	0,00	0,09	0,28	10
Zinc Zn	µg/l	0,5	0,3	0,26	
Acrylic Amide	µg/l	0,036	0,028	0,015	0,10
Chloroform	µg/l	23,2	21,6	20	
THM	µg/l	25,6	26,0	25	150
Enterococh	PMÜ/100ml	0	0	0	0
No of nests at 22 C	PMÜ/ml	0	2	2	100
Coli bacteria	PMÜ/100ml	0	0	0	0
Escherichia coli	PMÜ/100ml	0	0	0	0
Clostridium perfringens	PMÜ/100ml	0	0	0	0

ANNEX 5. OVERVIEW OF ENVIRONMENTAL GOALS AND TASKS FOR 2007

TO USE ENVIRONMENTAL RESOURCES SPARINGLY

- To use surface and ground water resources below the water permit limits
- To maintain the level of leakages
- To optimise the use of chemicals

TO MINIMISE EMISSIONS TO THE WATER ENVIRONMENT

- To ensure the high level of other quality indicators for wastewater
- To minimise discharge of untreated wastewater into the sea
- To ensure the control of storm water outlets
- To influence customers to control their level of pollution

TO AVOID EMERGENCIES CAUSING SIGNIFICANT DAMAGE TO THE POPULATION AND NATURE

- To ensure uninterrupted treatment process
- No long-term water supply cut at the mains dangerous to population
- To avoid sewage floods that are causing significant damage to the population and nature
- To continue improving the crisis management

TO USE ENERGY MORE EFFICIENTLY

- To prepare plan to generate and increase the production of green energy
- To increase the effective use of biogas
- To prepare plan to use fuel more efficiently

TO REDUCE THE WASTE PRODUCED AND SORT AND RECYCLE MORE OF WASTE PRODUCED

- To recycle all sludge
- To minimise the production of excavated material
- To look for possibilities of reducing the paper and packages waste

TO INCREASE THE AWARENESS OF MAIN STAKEHOLDERS ABOUT SIGNIFICANT ENVIRONMENTAL ISSUES

- To organise a public Open Door events in Ülemiste and Paljassaare Treatment Plants
- To improve the cooperation with local communities and neighbours

TO ENCOURAGE CUSTOMERS TO CONNECT TO WATER NETWORK AND PUBLIC SEWERAGE

- To proactively manage the network extensions programme
- To continue the planning and construction of connections in neighbouring municipalities and development areas

TO IMPROVE THE ENVIRONMENTAL MANAGEMENT SYSTEM

- To maintain ISO 14001 and renew EMAS certificates
- To implement, wherever possible, green procurement principles

TO ENSURE LEVEL OF SERVICES AND REGULATORY REQUIREMENTS COMPLIANCE

EMAS VERIFICATION

DNV Certification Oy/Ab has an accredited verifier (FIN-V-002) examined the environmental management system and the information given in the 2006 environmental report of Tallinna Vesi.

It has been initially verified on June 11, 2005, reverified on May 26, 2006 and on June 7, 2007 that both the environmental management system and the environmental report fulfil the requirements of EU Council Regulation 761/2001 of Eco Management and Audit Scheme EMAS:

The environmental report is available on the website at www.tallinnavesi.ee
Next report will be published before the end of August 2008.



EMAS

**Validated
information**

REG.NO. EE - 000001

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