

**PRAGUE WATER SUPPLY
AND SEWERAGE COMPANY
IN 2012**



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Background

Name:

Pražské vodovody a kanalizace, a.s.

DATE OF INCEPTION:

1 April 1998

EMERGENCE:

Pražské vodovody a kanalizace, a public company limited by shares, is the legal successor of the state-owned enterprises Pražské vodárny a Pražská kanalizace a vodní toky to the extent specified in the privatisation proposal.

LEGAL FORM:

Public company limited by shares

COMPANY NO.:

25656635

SHARE CAPITAL:

CZK 792,276,360

SHAREHOLDER:

VEOLIA VODA S.A. 100 %

REGISTERED OFFICE:

Praha 1, Pařížská 11

The company does not have any organisational units outside the Czech Republic.

Bodies of the Company as at 31 December 2012

BOARD OF DIRECTORS

Philippe Guitard, Chairman
Rostislav Čáp, Vice-Chairman
Etienne Petit
Eva Kučerová
Milan Kuchař
Petr Mrkos
Martin Bernard

SUPERVISORY BOARD

Květoslava Kořínková, Chairperson
Ivo Sušický, Vice-Chairman
Marcela Dvořáková
Josef Šverma
Marie Abrahámová
Alena Březinová

MANAGEMENT BOARD

Milan Kuchař, Chief Executive Officer
Petr Mrkos, Deputy CEO, Chief Financial and Sales Officer
Petr Slezák, Deputy CEO, Chief Personnel Officer
Petr Kocourek, Chief Operating Officer
Radka Hušková, Chief Technical Officer
Marcela Dvořáková, Chief Communication and Marketing Officer

Facts and Figures

Turnover: CZK 5.3 billion

Profit: CZK 436,710,000

Number of employees: 1,045

Number of people supplied: 1.24 million [in Prague], and 200,000 residents of the Central Bohemian Region and the Vysočina Region

Water production: a total of 118,997,000 m³, of which 117,868,000 m³ of drinking water

Quantity of treated wastewater: a total of 121,243,000 m³

Length of the operated water supply network, including supply pipes: 4,322 km

Length of the operated sewerage network, including drain pipes: 4,551 km

Number of contract customers: 87,099

OUR SERVICES

We provide comprehensive services for our customers

The year 2012 was successful for Pražské vodovody a kanalizace, a.s. (PVK). In addition to its core business, high-quality drinking water production and distribution and wastewater drainage, and wastewater treatment, the company provided its customers with a number of additional services such as laboratory analyses, the laying of supply/drain pipes, surveys and measurements in the sewer system, rodent control, etc.

Expansion of customer services continued; the company continued to perform the commitments that match the European standards of its parent group, Veolia Voda. It placed emphasis on customers' comfort.

In 2012, PVK successfully retained the certification of its quality, occupational health and safety, and environmental protection management systems (ČSN ISO 9001:2009, ČSN OHSAS 18001:2008, and ČSN ISO 14001:2005). PVK obtained its first quality management certificate as early as 2003 and has since been continuously improving its implemented management system and extending it to include additional operations and services provided to its customers.

In 2012, PVK also put in place a risk management system, the purpose of which was to map risks, thereby preventing the negative events that may cause in particular economic damage, or at least limiting the consequences thereof.

WATER PRODUCTION

PVK supplies drinking water to 1.24 million Prague residents and another approximately 200,000 residents of the Central Bohemian Region and the Vysočina Region. The Želivka, Káraný a Podolí water treatment plants produce drinking water.

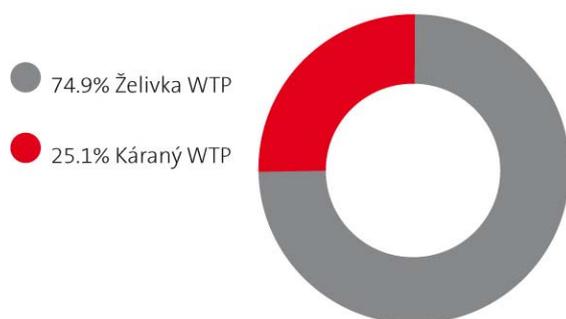
Since 2002, the Podolí water treatment plant has only been a back-up capacity.

Water production in 2012 (m³)

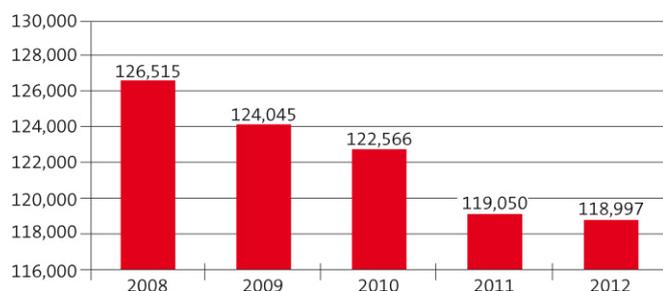
| | m ³ |
|-------------------------------|----------------|
| Želivka water treatment plant | 88,298,294 |
| Káraný water treatment plant | 29,569,816 |
| Podolí water treatment plant | 0 |
| Total drinking water | 117,868,110 |
| Industrial water main | 1,128,943 |
| Total production | 118,997,053 |

A total of 118,997,000 m³ of water was produced in 2012. Of this amount, **117,868,000 m³ was drinking water** (99.05%) and 1,129,000 m³ was non-potable water (0.95%).

Share of drinking water produced at water treatment plants in 2012



Total water production between 2008 and 2012, in thousands m³

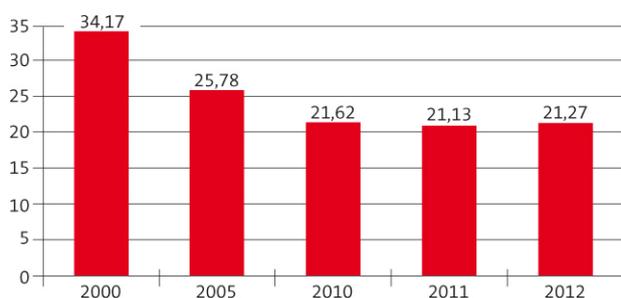


Water business between 2008 and 2012 (in thousands m³), drinking water + the industrial water main

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------------------------------------------------|---------|---------|---------|---------|---------|
| Total production | 126,515 | 124,045 | 122,566 | 119,050 | 118,997 |
| Water supplied to other operators | 16,525 | 16,327 | 15,827 | 16,135 | 16,686 |
| Water received from other operators | 0 | 0 | 0 | 0 | 0 |
| Water intended for supply | 109,990 | 107,719 | 106,738 | 102,915 | 102,311 |
| Total water billed in Prague | 85,964 | 83,845 | 82,517 | 80,257 | 79,528 |
| Unbilled water | 24,026 | 23,873 | 24,221 | 22,659 | 22,783 |
| Percentage of loss of water intended for supply | 20.84 | 20.99 | 21.62 | 21.13 | 21.27 |

In 2012, water production declined again, by 53,000 m³. A major drop of 729,000 m³ occurred in water billing. Average water consumption per person per day in Prague also declined from 112 to 109 litres.

Water losses between 2000 and 2012 (%)



Water losses have amounted to about 21% in recent years. They have also been kept at this stable level thanks to periodical preventive checks of the water supply network. In 2012, 2,812 km of the water supply network was subjected to checks, revealing 377 hidden water leaks. It will be very difficult to cut the percentage of losses even more without carrying out replacements in the water supply network at the recommended rate.

| | |
|--------------------------------|------------------------|
| Length of water supply network | 3,541 km |
| Length of supply pipes | 781 km |
| Number of supply pipes | 109,971 |
| Number of water meters | 108,727 |
| Number of reservoirs | 73 |
| Volume of reservoirs | 949,600 m ³ |
| Number of pumping stations | 47 |

Water Meters

Water meters intended for billing, of which there were 108,727 as at 31 December 2012, measure drinking water consumption. Walk-by reading of water meters takes place for 1,641 water meters.

For 157 billing water meters, remote readings are taken using the VEOLIA SMART system, where the counter's value is transmitted over fixed telephone lines to PVK's web application. In relation to these billing water meters in the fixed network, remote readings are also taken from 1,528 home water meters.

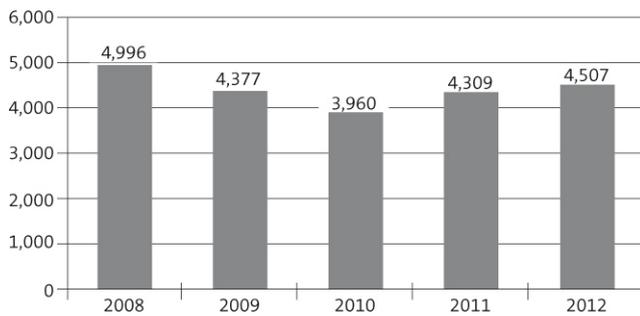
Primarily because of the expiry of the validity of verification, 19,049 water meters were replaced in 2012. Repair and verification of 10,025 water meters and 1,040 official tests of water meters were commissioned from an external supplier.

Accidents in the water supply network

In 2012, the number of accidents in the water supply network increased. A total of **4,507 accidents**, i.e., 198 (4.6%) more than in 2011, were tackled in the water supply network. In particular the number of complicated and extensive accidents rose significantly as a result of extreme weather. The average supply interruption time per failure was 10 hours and 39 minutes.

Of the total number of accidents, the company repaired 2,306 failures on water mains and supply pipes. In 94 cases these were large-scale, or category 1, accidents (a significant increase by 48 events, i.e., 104.3% over the preceding year), which are accidents entailing a disruption in supply for more than 1,000 residents and/or those that have impacts on medical or other important facilities. 243 accidents were medium-scale, or category 2, events and 4,170 were small-scale accidents of category 3. The most frequent cause of the accidents was corrosion of materials, 2,845 accidents (63.1%) and land movement, 1,358 accidents (30.1%).

Number of defects in the water supply network repaired between 2008 and 2012



WASTEWATER COLLECTION AND TREATMENT

| | |
|----------------------------------------------|-------------------------------|
| Total length of sewerage network | 3,599 km |
| Length of sewage drain pipes | 952 km |
| Number of sewage drain pipes | 116,733 |
| Number of pumping stations operated | 306 |
| Number of sewage treatment facilities | 21 Branch WWTP + CWWTP |

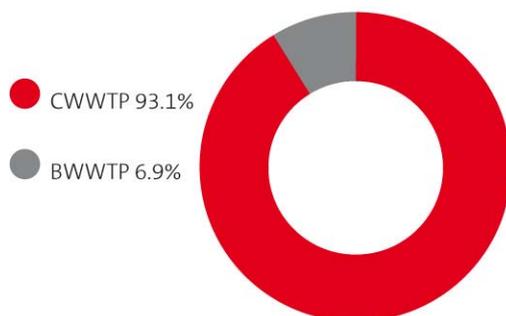
In 2012, 1.22 million people were connected to the sewerage network in Prague. Its overall length, including sewage drain pipes, was 4,551 km. The central part of the city has in place a combined sewerage system, which drains sewage together with rainwater to the Central Waste Water Treatment Plant (CWWTP). The outskirts of Prague have separate sewer networks that divert rainwater separately.

In 2012, PVK operated 21 branch waste water treatment plants (BWWTP) in addition to the CWWTP: in Běchovice, Březiněves, Horní Počernice - Čertousy, Dolní Chabry, Holyně, Kbely, Koloděje, Kolovraty, Klánovice, Královice, Lochkov, Miškovice, Nebušice, Nedvězí, Sobín, Svěpravice, Uhřetíněves - Dubeč, Újezd nad Lesy, Újezd u Průhonic, Vínův, and Zbraslav.

Quantity of wastewater treated in 2012 (m³)

| | m ³ |
|--------------|--------------------|
| CWWTP | 112,921,029 |
| BWWTP | 8,321,477 |
| TOTAL | 121,242,506 |

Share in wastewater treatment in 2012

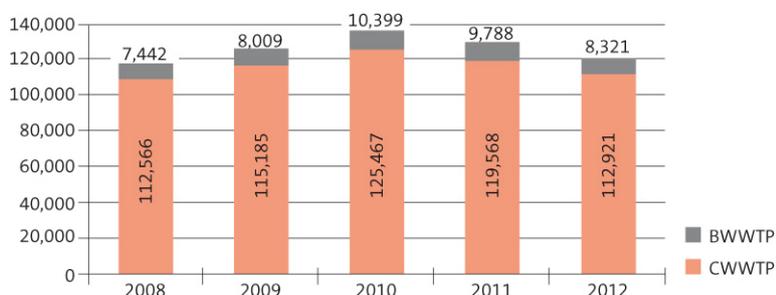


PVK treated altogether 121,242,500 m³ of wastewater, which was 6.3% less than in 2011. The largest part of wastewater, 93.1%, was treated at the CWWTP, and the remaining wastewater was treated at BWWTP.

The reason for the low wastewater inflow was probably weak rainfall, which influences wastewater amounts on a long-term basis.

The quality of the wastewater released from the CWWTP and BWWTP complied with legislation and none of the monitored variables was exceeded.

Quantity of wastewater treated at CWWTP and BWWTP between 2008 and 2012 (thousands m³)



Sewerage Network Surveys

Preventive surveys of the sewerage network help to detect accidents and failures, which are then repaired. In 2012, 153 km of sewers were surveyed and 2,094 access shafts and other installations in the sewerage network were inspected. The checks helped to detect 27 defects. For the purpose of repairing the defects detected in the sewerage network, 137 proposals for the repair of defects were drawn up and delivered for inclusion in the plan of repairs and investments.

Accidents in the Sewerage Network

In 2012, the number of accidents in the sewerage network markedly increased. A total of 3,779 accidents in the sewerage network, which was 590 (18.5%) more than in 2011, were repaired in 2012.

| Type of facility | Number of failures | % |
|--------------------------------------|--------------------|----------------|
| Sewers | 987 | 26.12% |
| Drain pipes | 1,883 | 49.83% |
| Shafts, chambers, reservoirs, aprons | 617 | 16.33% |
| Other | 292 | 7.73% |
| Total | 3,779 | 100.00% |

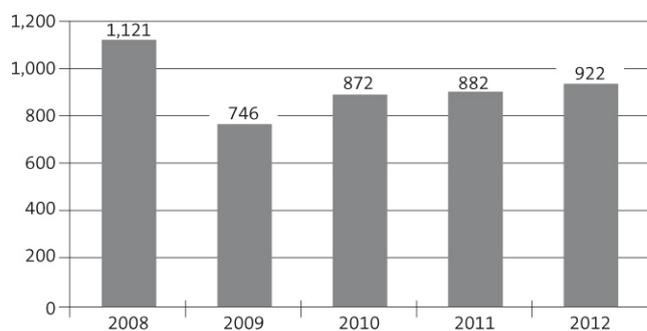
Drain pipe accidents accounted for almost one half of the total number of accidents.

In terms of the type of damage (accident), the company repaired **3,011** blockages (79.68%), and 304 damaged or missing sewer shaft lids (8.04%). The other causes of accidents included pipe deformation, destruction, damaged wall masonry, cracks, mechanical damage, etc.

Equipment breakdowns

The number of equipment breakdowns also increased. In 2012, the company tackled altogether 922 equipment breakdowns, which was 40 (4.54%) more than in 2011, which saw 882 such breakdowns.

Number of equipment breakdowns between 2008 and 2012



Water Quality

Drinking and waste water quality is monitored by PVK's accredited laboratory on a regular basis. The accreditation covers the entire range of the laboratories' activities: sampling and analysis of drinking, bottled, surface, raw, ground and waste water, water from intermediary process stages (inter-stage water), sludge, and water for swimming, including waste sampling and analyses of process chemicals used in water treatment.

Drinking Water

Throughout Prague, drinking water is wholesome, and it completely meets the Czech and European standards in physical, chemical, microbiological and biological terms. Its quality is systematically checked throughout the process of drinking water production and distribution, down to the tap at the consumers' premises.

Drinking water quality is monitored under the Czech Republic's Regulation No 252/2004, as amended, which lays down the requirements for drinking water and hot water and the scope and frequency of drinking water checks, which is in line with the EU's requirements for drinking water.

As in previous years, in 2012 PVK's laboratories monitored drinking water quality on almost **6,000 samples**. **Water quality was compliant for 99.6%** of the samples. Of these, 72% were taken from the Prague distribution network and the other samples from the Želivka and Káraný water treatment plants. The distribution network was checked at reservoirs, penstocks and pumping stations, and at consumers.

Wastewater

PVK's laboratory monitors the quality of wastewater from the CWWTP and its process equipment, including sludge and biogas, and also wastewater from BWWTP, industrial producers, sewerage networks, and drainage points operated by PVK, on a regular basis. Liquid waste delivered to the CWWTP and BWWTP by external entities is also checked. The scope and frequency of monitoring complies with the applicable legislation on wastewater. The main reason for wastewater quality monitoring is to ensure compliance with the prescribed limits on released wastewater with a view to preventing damage to the environment. In 2012, the concentration limits that are subject to charges were not exceeded at the CWWTP in Prague in respect of any variable. In 2012, PVK's wastewater laboratory processed **15,483** samples, of which **9,463** samples of wastewater, sludge, liquid waste and biogas from the CWWTP.

EXTERNAL SERVICES

Co-operation with ČEZ

The co-operation with ČEZ, a.s. ('ČEZ') was started in 2011 and continued successfully in 2012. At the beginning of the year, the scheme was extended to include the Ledvice power station, at which PVK began providing the maintenance and repair of the installations in its water and sludge management systems. In mid-2012, the company won another major power station, Tušimice. At present, maintenance and repair are therefore provided on eight sites, at Dětmárovice, Počerady, Mělník, Tisová, Hodonín, Poříčí and Dvůr Králové, Ledvice, and Tušimice. The company's own workshop capacities were also significantly boosted during the year.

ČEZ holds a favourable view of this partnership, and not only because it has found a key and strategic partner providing care for its water management installations but also because our company has helped it to stabilise its annual costs of these services. ČEZ highly appreciates our approach to the development of annual maintenance plans from the perspective of the target price while observing all the principles of statutory rules and environmental protection. Quick servicing interventions influence the operability of the installations. The feedback, and the co-operation with field personnel in enhancing the reliability of the installations and reducing the costs of the various repair intervention, elicit expectations that PVK will be able to take an active part in the expansion of this recently started co-operation.

Wastewater Measurements

In respect of official measurements and monitoring in the sewerage network and at wastewater treatment plants, 2012 saw several projects. The main project is *Check of Systems That Measure the Volumetric Flow Rate of Wastewater Discharged into Surface Water*, carried out for Státní fond životního prostředí ČR [the State Environmental Fund of the Czech Republic], and also another approximately 300 official measurements of water flow rates as part of an assessment of fitness for purpose of systems that measure the flow rate of waters released from wastewater and water treatment plants.

Other measurements of hydraulic and hydrological variables were related to the following projects: The Master Drainage Plan for the City of Ostrava, The Master Drainage Plan for the City of Český Těšín, The Master Drainage Plan for the City of Velká Bíteš, Monitoring on the Sewerage Network of the City of Brno, The Second Detailed Phase of the Master Drainage Plan for the City of Prague – Redesign of Backbone Sewer A, The Second Detailed Phase of the Master Drainage Plan for the City of Prague – Redesign of Backbone Sewer D, The Water Management Policy for the City of Olomouc, Assessment of the Hydraulic Function of Inverted Siphons in Plzeň, and The General Drainage Plan for the Municipality of Mikulčice.

Flood Control Pumps

Since the end of 2011, PVK has been responsible, under a five-year contract with the City of Prague, for the safekeeping, maintenance and operation of mobile pumps as part of the protection of the sewerage network and the Čertovka stream against floods. This entails 11 mobile motor generators that drive the submersible pumps at the flood-control pumping stations, and 34 mobile lift pumps. Periodically, in the spring and in the autumn, operating tests are carried out on the flood-control pumping systems that serve for the protection of the Prague sewerage network and the city against floods. The checks include the operability of pumping installations, and also the whole process of coordinating all the PVK organisational units involved. Some 100 PVK employees have been trained in the operation of flood-control pumps. At present, the Prague flood control measures are ready for the flood situation from 2002, with a 30 to 50 cm safety margin of the water table.

Rodent, Pest and Infection Control

Most of the external services involved large-scale rodent control in the Prague sewerage network. This project consumed 2,975 kg of baits, and included the disinfestation of 2,975 sewer access points between April and October 2012 in line with the schedule of work. Another 57 rodent control contracts were performed for other customers. It was similar with pest control, which was also carried out for 57 customers, and a disinfection intervention was carried out for one customer.

Cleaning of Drain Gullies

In 2012, PVK again cleaned street gullies in certain parts of Prague. Gully cleaning is most frequently done in coordination with the periodical planned road cleaning in the various sections of the city, whereby PVK adjusts to the timetable notified by the city's road manager, TSK (Technická správa komunikací hl. m. Prahy a.s. [Prague Road Management Company]). PVK also carries out emergency interventions, i.e., it cleans street gullies and sewerage installations in the case of defects in road water drainage and street gullies in continuous operation.

CUSTOMERS

Being a customer-focused company, PVK strives for a high quality of the services it provides and for its customers' satisfaction. The company has therefore adopted **Customer Service Commitments**, which have helped to improve its customer services. These commitments have resulted in a reduction in the time taken to handle customer's requests and enquiries. The company itself warns customers of increased water consumption (in the case of an increase in water consumption by more than 50% or by 50 m³ of water) and helps customers in difficult situations. Observance of the commitments was also reflected in the high level of customer satisfaction in 2012, as shown in the periodical **satisfaction survey** conducted in September and October 2012 by International Business and Research Services (IBRS).

The telephone poll included 700 respondents from Prague; they were owners of family houses, managers of residential buildings and housing cooperatives, and industrial customers and firms.

Overall, 94% of the respondents are satisfied with the services offer by PVK in Prague, well above a long-term average of 88% in similar market segments. The highest general satisfaction is on the part of corporate customers (96%), whose satisfaction rose by 2% compared with the previous year.

92% of the respondents were satisfied with the quality of the supplied water. This is also reflected in the use of tap water for drinking: 86% of the respondents said that they drink tap water. It bears out the success of the activities organised by PVK in support of tap water drinking. The most successful of them is the *Fresh Tap Water? Just Ask!* scheme designed to help return tap water to our restaurants. Three years into this scheme, more than 400 restaurants in Prague have joined it.

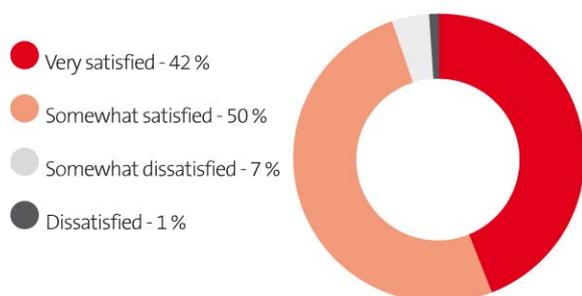
Only one percent of the respondents experienced water supply disruption at some time; this implies a very high level of satisfaction with water supply continuity. **As many as 99% of the respondents were satisfied with the continuity of water supply.**

The survey also confirmed extreme satisfaction with PVK employees' professionalism. 97% of the respondents who have had some contact with PVK employees are satisfied with their professionalism. As many as 99% of the respondents are satisfied with water meter readers' behaviour and conduct. In addition, IBRS registered a slight increase in satisfaction over the preceding year in respect of these variables.

How satisfied are you in general with the level of the services provided by your drinking water supplier?



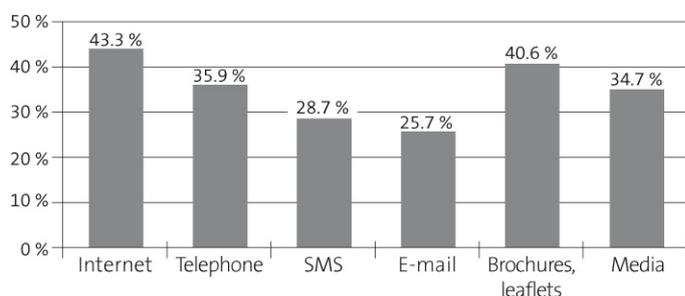
How satisfied are you with the drinking water quality?



How satisfied are you with the employees' professionalism?



What information channel do you use?



Online Services

PVK uses all modern tools for its communication with customers. The company increasingly posts information on **PVK's website (www.pvk.cz)**. Its monthly visiting rate is some 25,000 persons on average. Frequently sought information includes that on accidents and water supply shutdowns. The application that displays accidents and planned water supply shutdowns in maps was launched in the preceding year, but continues to meet with a great response on the part of consumers. Prague residents can find their location directly in the map or by the address. Complete water analyses, which the company posts every month, are also important and sought-after information.

Contract customers can also find their **personal customer account** on the website. The account enables customers' continuous access to information and control over their expenses. Thanks to their secured personal account, customers are kept posted about their water consumption, bills and readings of water meters in their properties, and can also notify changes in their contract details, amount of advance payments, their own readings of the water meter, etc. In 2012, personal accounts were set up by 5,504 customers. Via the website, customers can also **book a meeting** on contract matters at a customer centre. In late 2012 the service was extended to include the booking of meetings at the technical department.

Call Centres

In 2012, PVK's **customer service line** handled 91,329 calls. Of these, for example, 31,043 enquiries concerned drinking water supply and 15,059 enquiries concerned billing. The average service level was 87%. Customer service line operators also reply to e-mail messages from customers. In 2012, they handled 20,300 of such messages. In addition to handling customers' telephone and e-mail requirements, the operators also help to promote the services provided, register customers for the SMS INFO service, and offer billing via e-mail and the activation of on-line customer accounts.

The customer care centre in Dykova Street was visited by 32,569 customers, which was 20% less than in 2011. This is a logical development; customers can find more and more information on the company's website or by calling the customer service line, and limit their personal calls on the customer centre.

Customers also had an opportunity to pay their water and sewerage rates directly at the cash counter at the customer centre. Almost CZK 45 million was collected in this way. At the customer centre, the visitors could arrange everything related to contractual relationships, and also deal with all technical requirements, including technical documentation. Contractual and technical matters can be arranged from 8 a.m. to 6 p.m. on Monday to Thursday. Friday opening hours are from 8 a.m. to 3 p.m.

As part of the project for the regionalisation of customer care centres operated by the Central Bohemian companies in the Veolia Voda ČR Group, last year PVK's customer centre was also visited by 129 customers of Středočeské vodárny, a.s. and 1. SčV, a.s. Similarly, Prague residents could make arrangements at the contact centre operated by Středočeské vodárny, a.s. and 1. SčV, a.s.

| | |
|---------------------------------------------------------|----------------|
| Number of contract customers | 87,099 |
| Number of water meters for billing | 108,727 |
| Number of people registered for SMS Info | 18,895 |
| Number of text messages sent as part of SMS Info | 611,408 |
| Number of justifiable complaints and claims | 334 |

In 2012, PVK received and handled 579 complaints, but only 18% of them, i.e. 102, were justified. As regards claims, 648 cases were handled, and 36% of them, i.e. 232, were justified.

Other Services

In 2012, the service of **bill payment via SAZKA's terminals** was resumed. Between March and end-2012, SAZKA's terminals were used for the payment of 7,972 bills, totalling CZK 27.19 million. PVK's customers can pay bills at any of the 4,300 SAZKA terminals (with the exception of the terminals at Czech Post offices). SAZKA's on-line terminals are easily accessible – at supermarkets, convenience stores, betting offices and fuel filling stations open in the evening or round the clock. It is enough to present the bar code on the bill to make the payment. Another unquestionable advantage of this service is a fee of only CZK 15, which does not even increase with the amount of the payment, unlike the postal fees.

The **Services beyond the Water Meter, and More** scheme, which PVK started to offer in 2011, continued in 2012. Under the scheme 1,931 repairs were requested and 1,884 actually made. Other requests concerned repair of failures on indoor water and drain pipes and the service helped to cope with 102 of such cases.

Another service offered by PVK is **bills sent via electronic mail**. The bill, in the pdf format, is sent to the specified electronic mail address as an attachment to an e-mail message. In 2012 the company distributed 8,513 pdf bills.

The demand for the **SMS INFO** service, i.e., text messages with information about water supply, accidents, and water supply interruptions/disruptions, including the expected date of service resumption, again increased in 2012. As many as 18,895 Prague residents signed up for this service, which PVK had been offering since late 2007. Registered customers receive, free of charge, important

information about water via text messages transmitted to their handsets. Last year, 145,164 text messages were distributed and altogether 611,408 text messages have been distributed since the launch of this service. Customers also used the option of withdrawing cash through their Komerční banka payment cards. The cash-back service was set up at the customer centre in December 2009.

New Mobile Application

In 2012, the company began developing a new application for smart phones with iOS or Android, called **My Water^{Plus}**, which will provide customers with immediate and secure access to their electronic customer accounts. Customers will readily see their contracts and bills, water prices, and their consumption. The application has tags called My Account, Bills and Readings, Requirements, and Change of Details, which will enable them to easily and quickly see the current information and details and arrange the following matters:

- Report water meter readings
- See the invoices, payments, and issued billing
- Change contact details and invoice payment method
- See water accidents and planned water supply interruptions in the town and city of interest for the customer at any time
- Monitor their water consumption
- Register for electronic invoice sending
- Book meetings at a customer centre as convenient for the customer
- Send requirements and watch the progress in their handling

The application was planned for launch in mid-February 2013.

Information Brochures and Magazines

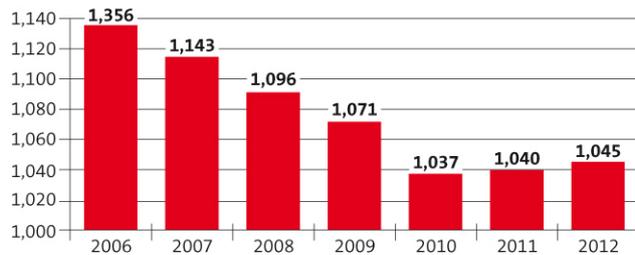
During the year, PVK produced a range of information material and brochures for customers, for example, *Kapka po kapce [Drop by Drop]*, a brochure in which future and current customers can find all the information they need, and information fliers on water quality, service pipe laying, etc. A number of offer sheets, promoting PVK's paid services, such as *Measurements in the Sewerage Network* and *Remote Readings of Water Meters*, and also PVK publications were produced in 2012. In December, the **Voda pro Vás [Water for You] customer magazine** was published and distributed together with all the major daily newspapers, as had become a tradition. PR campaigns in daily newspapers, advertising, and periodical communication with the media also helped to promote PVK's services.

CORPORATE SOCIAL RESPONSIBILITY

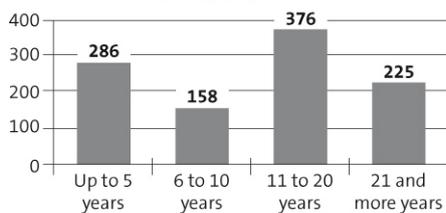
Responsibility to employees and customers

Pražské vodovody a kanalizace is a company that takes a responsible approach to its customers and employees. Its corporate strategy includes both social and environmental aspects, and the company complies with ISO and OHS standards. The company observes its Environmental Code that lays down the key principles of environmental conduct.

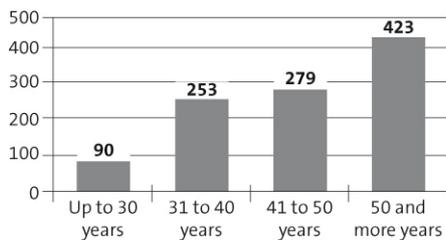
Number of employees by year



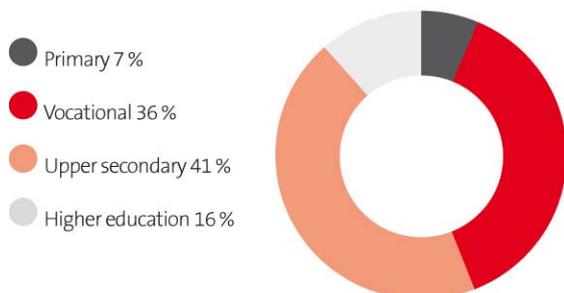
Employee structure by length of service at PVK



PVK employee age structure



Employment structure by level of education



Employees

The company's employees have above-standard conditions for their work. PVK is one of the stable employers who raise wages on a regular basis. PVK regards social dialogue and co-operation with the trade union as a basic precondition for open communication with the employees. One of every year's highlights is the signing of the higher-level collective agreement by the Chairman of Svaz zaměstnavatelů Malá voda ČR [The CR Small Water Employers' Association], an association of employers in Veolia Voda Group, and the Chairman of Odborový svaz pracovníků dřevozpracujících odvětví, lesního a vodního hospodářství [The Trade Union of Workers in the Woodworking Industry, Forestry and Water Management]. PVK's collective agreement, which provides for a number of employee benefits, is then based on the above collective agreement.

The situation in PVK's **human resources** stabilised in 2012. As at 31 December 2012, the company had 1,045 employees. During the year, 61 employees left the company, while 66 employees joined it. The total number of employees increased by five, i.e. 0.5%. This slight headcount rise was caused by a further expansion of the unit for project outsourcing, which is in charge, among others, of the contract for the operation of water facilities at some of ČEZ's power stations, and a further increase in the staffing of the technical support and metrology unit in connection with the development of new technologies – remote water meter readings and metrology activities at Veolia Voda. Employee turnover was therefore 5.8%.

In 2012, the average employee age stayed at 47 years; going forward, the aging of the workforce will be a major aspect which the company will be compelled to address, in particular with regard to the transfer of operating know-how.

The headcount as at 31 December 2012 was 1,045 employees, of whom 753 were men (72%) and 292 women (28%). The company employed 20 people with changed capacity for work (2%).

Despite the very tight financial result, the wage-related covenants in the Collective Agreement were honoured. In 2012, the average wage rose 3.4%; employees' average income was also boosted by increasing the employer's contribution to their non-state pension schemes/life policies by CZK 150 per month.

Employee Benefits

CZK 7.5 million went to social expenses in 2012; the largest part of these funds was dedicated to contributions to the trade union's activities: from these funds, the trade union also contributed to children's recreation, CZK 2.5 million, sport, culture and rehabilitation, CZK 1.7 million, and to personal and professional anniversaries, CZK 0.7 million. Funds were also provided for social assistance, CZK 0.19 million. Employee loans of CZK 1.3 million absorbed the balance of the social fund.

Personal non-state pension schemes are a major employee benefit and are used by 8% of the employees. With an average monthly contribution of CZK 900 paid by the employer, the company spent CZK 9.5 million on these schemes. At the end of 2012, the range of employee benefits was extended to include the option of **employees' life assurance**, which is provided in co-operation with the MARSH brokerage firm and the insurance company Kooperativa. This offer has been accepted by 22% of the employees. The employer's average monthly contribution to these policies amounted to CZK 950 and the company contributed altogether CZK 2.8 million.

Information for Employees

Internal communication influences the entire company's functioning. The company seeks to build mutual trust between the company's management and employees. Employees receive information via various communication channels and tools such as internal magazines, intranet, employees' get-togethers at various social events, sport games, events for children, and periodical training sessions and meetings at all levels, where feedback can also be heard.

Employees receive the latest and quickest information via the **intranet**, which posts news in real time, thereby supporting employees' immediate responses. It uses a SharePoint release that supports faster searches and logical connections between feature columns. Intranet is updated on a regular basis.

The **Pévékáčko in-house quarterly magazine** brings information to employees in printed form. Employees are kept posted about the current developments in the company and in the Veolia Voda Group thanks to other periodicals such as **Voda je život [Water is Life]**, **Planeta Veolia [The Veolia Planet]** and **La Lettre**.

Employee Training

Employee training and development is one of the important missions in human resource management. A systematic approach to education brings a number of advantages and enhances employees' motivation and stability.

Employee education is mainly provided by the Group's own institute, **Institut environmentálních služeb, a.s.** (IES), with its broad-ranging offering of courses and training programmes, many of which are accredited with the Ministry of Education (MŠMT): general courses, seminars and practical training, including a number of special periodical training sessions; tertiary and secondary education programmes; and vocational training.

PVK's training costs totalled CZK 5.3 million. The largest share, 73%, of these expenses was spent on increasing professional qualifications, 14% was earmarked for mandatory training and special skills training, and 13% was spent on improving the employees' language skills.

The most important training projects provided by IES include, on a long-term basis, a bachelor's course in water management at Moravská vysoká škola Olomouc [Moravian College Olomouc]. In 2012, three PVK employees successfully completed their course in Company Economics and Management and another nine employees were enrolled in tertiary education courses while working, which helped to increase the share of employees with higher education to 16.3%. The share of employees with secondary education was 41%.

2012 also saw the courses of long-term technically oriented study programmes such as Operator of Water Supply and Sewage Systems, attended by ten employees; 13 employees completed a new two-semester development programme called Technology-Water-Environment, run in co-operation with the Faculty of Civil Engineering of ČVUT in Prague.

In the latter half of 2012, induction training was made accessible for new employees on the IES educational portal. As part of induction training, employees become acquainted with the company they have joined and its organisational structure, the systems of training and remuneration, preventive medical care provided by the employer, arrangements for meals, the system of benefits, etc. The training contains the most important information that every current and new employee should know in general.

Occupational Health and Safety

As a responsible employer we give attention to the health and safety of our employees. In excess of mandatory trainings, all employees take a practical course in first aid once every two years. The OHS topic plays a major role in internal communication. We have long focused on reducing the number of occupational injuries and have been achieving good results in this area.

Together with employee education, occupational health and safety is the second strategic point in employee care. The key OHS rules contained in the Labour Code and ISO standards are explained to employees in the company's internal **Occupational Safety Charter**.

Since January 2007, the company has held an occupational health and safety certificate under the ČSN OHSAS 18001 standard, and in 2009 PVK was successfully recertified under the ČSN OHSAS 18001:2008 standard for the subsequent period. In November 2012, the company successfully defended its integrated management system certificates in a surveillance audit.

Reducing the number of occupational injuries is one of the long-term objectives in the OHS area. In addition to technical training, employees also take courses in first aid. Two of our employees have used the first aid basics from these courses to save human lives in recent years.

The criteria for the **prevention of occupational injuries** and for the protection of employees' health are assessed on a regular basis. As a result, the company has maintained a respectable occupational injury rate. In 2012, nine less serious occupational injuries occurred, resulting in a total of 305 days of incapacity for work. None of these injuries required long-term hospitalisation.

PVK provides for medical examinations of its employees over and above the mandatory checks. In co-operation with a contract partner, Salubra, admission and preventive checks were arranged for employees, including the vaccinations set out in the Collective Agreement, and other statutory examinations. A general practitioner's office serves the employees and their family members in the Hostivař precincts. The sickness rate remained very low, accounting for 2% of working time, which is comparable with the previous year.

Environmental Protection and Corporate Social Responsibility

Public education

Pražské vodovody a kanalizace has long been engaged in public education, which it mainly gears towards school children. In 2012, the company created a new **teaching aid**, work sheets intended to highlight the need to protect the environment and water resources, sort wastes, refrain from wasting water and energy, etc. The company also organised a **competition**, this time for secondary schools, called *I love kohoutková [I Love Tap Water]*. The purpose of the competition was again to enhance students' environmental awareness, but also to promote drinking water supplied through water mains. All such events encourage environmental protection and ecological behaviour.

Klub vodních strážců [Water Guards Club], which brings together children aged 6 to 16 and has been in existence for 14 years, seeks to instil an interest in nature and the environment in children in an entertaining form. With a view to broadening their knowledge children receive a magazine twice a year and are invited to club meetings. Children had an opportunity to live a day full of Indian adventures in the Botanical Garden in Prague-Trója and to listen to angler Jakub Vágner's narration of his adventures in Africa. The club also operates a website at www.vodnistrazci.cz.

The company operates **Muzeum pražského vodárenství [Prague Waterworks Museum]** in the Prague-Podolí water treatment plant. The museum's displays contribute to knowledge of the capital's history in drinking water production and distribution and are extended to include new exhibits every year. In 2012, more than 10,500 visitors from the Czech Republic and other countries saw the museum. Primary school children visit the museum on a regular basis since these tours help them master their curriculum. In 2012, twenty new information panels with updated and extended information were mounted in the museum. The museum's collections were extended to include three new collection items, and chlorinators obtained for the collections from the water reservoir in Praha 8 that had been shut down, were put on display at the museum. Most of the visitors come to the museum on **Open Days**, which are held in the spring and autumn of every year; the museum was also open on the occasion of the *Primátorky [Mayoralty]* rowing races. In 2012, PVK also continued tours of the Podolí water treatment plant as part of **Incentive Tourism**. The plant was visited by 537 people. PVK will also offer tours of the water treatment plant and museum in 2013.

Fresh Tap Water? Just Ask!

Environmental benefits and great success: this is the ***Fresh Tap Water? Just Ask!*** project, which was launched in 2009 and which had been joined by more than 400 restaurants in Prague by the end of 2012. Restaurants are given free carafes and use them for serving tap water, suitable for a healthy lifestyle and also environmentally friendly. Tap water drinking is supported by a website at www.kohoutkova.cz, which also posts a list of the restaurants that offer tap water. For iPhone users, a mobile application has been prepared, which will direct them to the restaurants offering tap water. More than 3,000 iPhone users have already downloaded this mobile application. The company also promotes tap water at many other events, where it uses a water bar connected directly to a hydrant. Visitors can refresh themselves and they also receive a lot of valuable information about drinking water from the tap and its quality.

Co-operation with Veolia Foundation

As a socially responsible company, Pražské vodovody a kanalizace closely cooperates with Veolia Foundation, which was set up by the parent company, Veolia Voda. Its main purpose is support for social projects, which is directed towards particular individuals or towards organisations. An important position is also held by support for environmental projects intended for improving the quality of the environment. PVK supports its employees' leisure time volunteering for the public benefit. PVK employees regularly join the Foundation's grant programme called MiNiGRANTS – a scheme that requires a good heart and a drive to work for others. Under the programme, publicly beneficial projects in which employees engage in their leisure time are financed. In 2012, PVK supported 27 projects of its employees, who received CZK 706,000. They mainly helped disabled and socially underprivileged people.

Since 2008, PVK and the Foundation have been organising **corporate volunteering days**, in which usually whole work teams engage. This was also the case in 2012. Within normal working hours, employees have opportunities to help the needy to improve the quality of life at a particular place. These events are organised as teamwork. In 2012, forty PVK employees joined corporate volunteering and worked altogether 320 hours. One of the major events was a volunteering action at Centrum Paraple [a facility for paraplegics] in the autumn, which was held for three full days. PVK employees helped to clean and trim the garden of Centrum Paraple. PVK volunteers also helped to paint and wash the widows of the Sue Ryder Home and gave blood at the Královské Vinohrady Hospital.

Traditionally, the company supports **Dům na půli cesty „Maják“ [The “Beacon” Halfway House]** in Praha 4, in which 12 young people found shelter after leaving children’s homes. PVK wants to help these young people to integrate within society and overcome the complicated period after leaving children’s homes.

PVK also participated in the **Water for Africa** project which helps to raise funds for building and repairing water resources in Ethiopia through sales of water carafes. It was for the third year that PVK and Veolia Foundation organised charity sales of carafes that featured an African motif. The proceeds from the sale of this third edition of crystal glass carafes in 2012 totalled CZK 375,000 and will again be used for repairing a water well in a village in Ethiopia. **The three editions of the project have helped to collect as much as CZK 1,310,000 for the benefit of the Real Help public fundraise organised by Člověk v tísní [People in Need].**

Another project in which PVK is involved is a **five-year project for saving the populations of common trout and grayling** in our rivers. The project is organised in co-operation with **Jakub Vágner**, a world-renowned angler. He is also the star of the scheme called *Návrat přírody do škol* [Nature Returns to Schools], the gist of which is the organisation of lectures. In 2012, some 2.5 tonnes of truttaceous fish was released again into Czech rivers to help renew their populations.

PVK as a Partner of the City and Its People

Every year, PVK supports a number of events intended for Prague residents and cooperates with the Municipality of Prague and the various municipal districts. In 2012, the company contributed to various cultural and sport events, for example, the Letní Letná, Bohemia Jazz, and Ladronka festivals, the *Primátorky [Mayoralty]* rowing races, the ice rink in Ovocný trh in Praha 1, the New Year fireworks, etc.

Environmental Protection

The company’s business is closely related to the environment. PVK is increasingly implementing in its practice, control and monitoring processes supporting environmental protection, even over and above compliance with the legislation in force. In 2012, many activities were geared towards environmental issues, above all use of renewable energy sources and reductions in the environmental impacts of its operations. The targets set for 2012 were met. The above includes, for example, increasing the company’s own electricity generation from biogas, recycling more than 900,000 m³ of treated wastewater, primarily for cooling in the Prague CWWTP, planned reduction in electricity demand in the water supply network, and preventive camera surveys to detect hidden water leakages over more than 130 km of the sewerage network. Continuous improvements to operating activities, which mitigate impacts on the environment, have become a regular part of the annual targets in the integrated management system and of the related monitoring and analysis of data on the company’s environmental performance.

In late 2012, the company successfully passed, after three years, a re-certification audit under ČSN EN ISO 14001:2005.

PVK employees adhere to the Environmental Code, which lays down the key principles of the company’s environmentally responsible conduct. It mainly covers areas such as waste sorting, efficient travelling, and water and electricity consumption, and document printing.

Waste Management

In 2012, PVK produced 164,700 tonnes of waste, of which only 20 tonnes was hazardous waste. The company is successful in reducing the proportion of hazardous waste; in 2010, its share was 1.9%, in 2011 the figure was 0.03%, and for 2012 the result is even more favourable as the **proportion of hazardous waste** in PVK's total waste production was only 0.01%.

All PVK buildings have containers for waste sorting; the introduction of the reverse collection of scrapped electrical devices, fluorescent tubes and lamps, batteries and accumulators, etc. has also proved its worth. The company buys out liquid wastes at its operations. The CWWTP bought the largest amount of wastes, specifically 12,780 tonnes, followed by the Kbely and Čertousy BWWTP. PVK also operates mobile waste collection for schools, kindergartens and hospitals, and services and repairs oil traps.

PVK promptly responded to the methanol affair that broke out in the Czech Republic in the autumn of 2012 and offered to process the harmful alcohol suspected of containing methanol at the Prague CWWTP. PVK obtained the required permissions from the Municipality of Prague and the Prague Public Health Office and then carried out this service for the public, both individuals and businesses, free of charge. By the end of 2012, fifty entities made use of this opportunity and delivered approximately 1,000 litres for disposal.

As in preceding years, the company ran the annual checks of the disposal of PVK's wastes at the customer, Marius Pedersen, a.s., which takes the waste from the wastewater treatment process, and at the contract partners thereof. The checks confirmed compliance with the agreement in place and with the rules laid down in the law on wastes.

Successful co-operation within Veolia Voda Group continued, specifically with Severočeské vodovody a kanalizace, a.s. (SčVK) in the provision of services related to the sampling of the wastes produced by PVK and their complete analyses to PVK's requirements.

In the area of waste management, an EMS surveillance audit was carried out and confirmed that all the processes in place complied with the law.

Quality of Released Wastewater

The quality of treated wastewater discharged into the river Vltava was in accordance with the limits set out in the applicable water management decision. In 2012, the regulatory authorities did not impose any penalties on the Prague CWWTP for breaches of regulations. The average quality of treated water stayed continuously below the chargeable threshold in respect of all parameters, and the CWWTP therefore does not have to pay any charges for pollutant emissions for 2012.

In co-operation with the public area development department of the Municipality of Prague, nine inflows of sewage into streams and reservoirs in Prague were detected and PVK helped to eliminate them. PVK thereby helps to improve the quality of surface water in Prague, especially small water streams, where the elimination of even only one pollution source means significant improvement.

In 2012, the area of Praha 11 – Křeslice was surveyed. A smoke test helped to detect 11 cases of unauthorised connections of rainwater drains to the separate sewage draining network. A similar survey was also carried out in Praha 9 – Koloděje, where 15 such cases were detected. The smoke testing covered 14 km of sewers. PVK thereby seeks to remove unauthorised rainwater inflows into the sewerage network, because they result in accidents and the overloading of wastewater pumping stations and branch wastewater treatment plants, which in turn produces impacts on water streams (the content of the biological stage of treatment is washed out into the receiving water stream) and on the population (flooding of properties).

As part of the effort to identify the sources of surface water pollution with wastewater from rainwater drainage networks, in 2012 the company detected 9 cases of incorrectly drained properties, which caused pollution of water streams with wastewater. Administrative proceedings were initiated with all owners of the identified properties with a view to remedying the defective situation. The survey was conducted simultaneously in 10 catchments of the separate rainwater draining network.

Carbon Footprint

Veolia Voda Group's companies seek to mitigate the environmental impacts of their operations in all areas. In 2010, the Group put in place a comprehensive evaluation of its companies in terms of their carbon footprint. The scheme covers the water companies' operations, and also their equipment and products. The main areas under review include improving energy efficiency and reducing energy demand, and use of renewable sources (for example, biogas). For reducing the company's carbon footprint, and therefore its impact on the environment, the most important aspect is efficient energy use and achieving energy savings.

PVK evaluates the carbon footprint in the following areas: production, distribution, wastewater treatment, and aggregate output. A new aspect is evaluation of the carbon footprint relates to the use of chemicals. Environmental engineering is therefore an essential component of PVK's services, especially as regards the amount of greenhouse gas emissions, including indirect emissions (produced in the generation of the energy that is consumed within PVK).

In 2012, PVK's carbon footprint increased to 38,370 t CO₂ equivalent from 36,530 t CO₂ equivalent in 2011, which was caused by the climatic conditions in relation to wastewater treatment. The drier weather in 2012 caused higher concentrations of wastewater and heavier BOD load on the Prague CWWTP compared with the preceding year, resulting in a higher consumption of energy for operating the plant. The carbon footprint in the wastewater treatment process increased from 8,430 to 11,020 t CO₂ equivalent. On the other hand, the carbon footprint in water production decreased from 16,250 to 15,600 t CO₂ equivalent.

In 2012, direct CO₂ emissions increased from 3,450 to 3,470 tonnes, while indirect emissions (related to electricity and heat consumption) rose from 33,080 to 34,900 tonnes. On the other hand, the company reduced its fuel consumption.

INNOVATIONS

PVK seeks the best solutions that help to improve technology and equipment. Modern innovation trends help to improve and accelerate work, thereby bringing financial benefits. The company implements new IT systems that improve its internal efficiency, which also has favourable effects for its customers. A number of measures concern energy savings and mitigating environmental impacts.

Water Treatment Plants and Refurbishments

The purpose of refurbishments is to increase occupational safety for the employees, improve working conditions, or improve water quality. At the **Želivka water treatment plant**, the replacement of the original electrical wiring in the feed building, which had been there since the construction of the plant and had to be replaced, was completed. Electrical wiring was also replaced in the ozonation building, including the installation of some modern components. The most challenging project was to repair the walls and ceiling of the canal and ozonation tanks in the filtration section.

November 2012 saw an extensive refurbishment of the filtration section and pumping station at the **Káraný water treatment plant**, specifically at Sojovice. The refurbishment consisted of modifying the draining system of six filters, replacing the single-layer filter medium with a double-layer medium (sand + anthracite), and installing new pumps for wash water and filtered water and a turbo-blower, including the related electrical parts and a control system. Following completion, trial operation was started to check that the Sojovice water treatment plant would also have the capacity to reliably treat lower-quality raw water prior to its infiltration into the underground, thereby smoothing out the operation of the entire artificial infiltration.

At the **Podolí water treatment plant**, an upgrade of the automatic control system was completed; it is now able to control an additional part of the process equipment from the main control room, which helps to make the plant's operation clearer and more reliable. Rubber expansion joints were replaced in the bottom pipe that feeds clarified water to the filtering station. This replacement has increased the reliability of the Podolí plant, as a stand-by treatment plant, should it have to be put into operation again.

Refurbishment of Pumping Stations and Branch Wastewater Treatment Plants

Installation of new equipment helps to improve the operating reliability and efficiency of drinking water pumping. In respect of **drinking water pumping stations and reservoirs**, 2012 saw the start of the third stage of the refurbishment of the Bruska pumping station, entailing the replacement of the water mains in the precincts and of the equipment in the valve house of water reservoir 2. Refurbishment of the Bruska pumping station helped to restore the full serviceability of the building, improve its appearance, and, above all, enhance the reliability and efficiency of drinking water distribution. The station is less demanding in operating and financial terms, fully automated, and unmanned. Compared with the comparable preceding period it features 30% savings of electricity for water pumping.

The first stage of the refurbishment of the Flora pumping station, entailing the replacement of the metering shaft on the feed from the Podolí water treatment plant, was also carried out. Equipment of valve houses on outlet from water reservoirs 1 and 2 at Kopanina was overhauled, and a 20 kW photovoltaic plant was built at the Cholupice water reservoir.

Refurbishments also included the Stromovka **waste water pumping station** and the Pod Vysílačkou pumping station in Prague-Zbraslav.

In respect of **branch wastewater treatment plants** three final sedimentation tanks at the Klánovice wastewater treatment plant were cleaned, and landscaping was carried out there.

Electricity Savings

In 2012, PVK and Česká voda – Czech Water installed economy outdoor lighting fixtures on some of the facilities operated by PVK.

The old sodium fixtures were replaced with economy LED fixtures at

- the Kozinec pumping station
- the Chodov pumping station
- the Čertousy BWWTP

Judging by the measurements taken, the savings in the operation of public lighting will be around 80% and the investment payback period will be three years.

Refurbishment of public lighting in the Hostivař precincts was started in 2012. Its completion was planned for the first half of 2013.

At the **Cholupice water reservoir**, a photovoltaic plant was installed and put into operation. The system uses an installation comprised of 86 photovoltaic panels with dimensions 1,640 x 992 mm and a rated capacity of 230 Wp. Installed capacity of the panels is 19.780 kWp. The photovoltaic system is connected to the electricity grid. The connection works in the mode of surplus electricity supply to the distributor's network and is eligible for green premiums (i.e., government support for renewable electricity).

For an insolation of 1,000 W/m², annual output is planned at 20,000 kWh. Given the current amount of green premiums and the future development of prices, the payback period for the photovoltaic plant is 5 to 7 years.

In 2012, the **CWWTP** processed sludge continuously and without any major problems. Altogether 81,348 tonnes of sludge was produced, and directly from the CWWTP 77,077 tonnes of mechanically dewatered digested sludge was exported, while 4,271 tonnes of dried digested sludge was exported from the Drasty sludge field. Overall, sludge production was higher than in 2011. In 2012, a total of 18,397,330 Nm³ of biogas was developed in sludge digestion tanks, which is approximately the same amount as in 2011. Biogas was then used for energy generating purposes, and its surpluses were burned in tail gas burners.

The CWWTP's own electricity production from biogas totalled 32,835 MWh for 2012, and all of this electricity was immediately consumed directly at the plant. This was topped up by purchasing another 12,297 MWh from the public grid. The CWWTP therefore achieved a self-sufficiency of 72.75% in electricity demand. In respect of process heat, the CWWTP in Prague has been 100% self-sufficient for a long time.

Tests of New Technology at the Prague CWWTP

The Prague CWWTP tested ANITA™ MOX, Veolia Group's patented technological solution that helps to significantly increase the efficiency of the conventional method of nitrogen removal from concentrated wastewater (industrial effluents, sludge).

The Prague CWWTP ran the very first model trial of the AnitaMox process in the Czech Republic, which was made possible thanks to the co-operation of AnoxKaldnes and VWS Memsep. For testing purposes, a mobile pilot unit was designed and made. The unit is a universal apparatus that can also be used in various configurations at other wastewater treatment plants (in the Czech Republic, VWS Memsep carries out these projects).

The mobile unit was installed at the CWWTP in the latter half of 2011, and it was put into operation in early 2012. The presented results were obtained during 2012, when the deammonification process was tested on mixed liquid digestate composed of about 50% of liquor from the thickening of surplus activated sludge and about 50% of liquor from the dewatering of anaerobically stabilised sludge. The company has recently been able to separate the two liquors, and the unit therefore works only with the liquor from the dewatering of stabilised sludge.

The results of the pilot operation unit and the first reference installations carried out to date make it clear that this technology has evident advantages compared with the other technologies for nitrogen removal from sludge water, primarily in terms of operating cost savings, which is reflected in the entire operation of wastewater treatment plants. The key technological features and benefits include the following:

- Lower oxygen demand compared with conventional nitrification / denitrification (up to 60% less)
- Absence of sources of organic carbon (Anammox instead of heterotrophic denitrification)
- Lower energy consumption: 1.4 to 1.7 kWh/kg of removed N_t (2.5 kWh/kg N for conventional N/DN)
- Retaining AOB and Anammox cultures in the system thanks to the attached culture
- Fast start up of deammonification by inoculating colonised carriers from a “biofarm”

Refurbishments in the Sewerage Network

In the sewerage network, the company refurbished two combined sewer overflows at Chotkova (Hradčany) and at Voctářova (Libeň). Both overflows were fitted with overflow water pre-treatment devices – tilting trash racks. This element reduces inflow of load (floating debris) from the combined sewerage network into the receiving water stream, the river Vltava in both cases.

Accident Monitoring of Installations in the Sewerage Network

In connection with PVK’s maximum emphasis on occupational health and safety and environmental protection, 2012 saw the launch of a fully-fledged accident monitoring scheme for selected key installations in the sewerage network, operated during the construction and subsequent operation of these installations.

The accident monitoring scheme is part of the continued development of a permanent network of measuring sites in the Prague sewerage network, with 11 permanent flow measurement sites, 5 permanent wastewater level measurement sites, and 23 permanent rain gauging sites.

PVK also focused on the monitoring of the areal distribution of precipitation. In co-operation with partners, primarily ČVUT in Prague, a grant application was submitted to TAČR [Technology Agency of the Czech Republic] for a project called Precipitation Monitoring Using Microwave Links of the Telecommunications Network of Mobile Operators (TeleMAS).

Water Consumption Metering

Since the latter half of 2012, PVK has been providing the VEOLIA SMART commercial service of remote meter readings in the fixed line network. Veolia Smart is a service enabling remote readings of counters over the fixed line network and the presentation of the readings via PVK’s web application. Remote readings are used for 157 billing water meters with the help of this system.

The VEOLIA SMART service makes it possible to, primarily,

- evaluate water consumption on a daily basis,
- check the operability of all measuring elements in the system on a daily basis,
- see monthly overviews of the drawdown on advance payments for water,
- send out alarms that water consumption has exceeded a certain level, and leakage signalling,
- reduce the differences between the readings taken from billing water meters (on the property boundary) and the household (secondary) water meters.

A new project, MULTICOLOR, addressing the transmission of data from remotely read water meters through the telecoms operator, was launched in co-operation with Telefonica Czech Republic, a.s. in 2012. The main purpose of the project, the pilot phase of which is being carried out in the area of the Káraný water treatment plant, is to optimise the technological infrastructure of remote readings and to develop technological standards for remote readings.

Information Technology

Co-operation with the subsidiary company Veolia Voda – Solutions and Services a.s. in IT services continued and further evolved.

The implementation of additional modules of the Technical Information System, connected with Pražská vodohospodářská společnost's Asset Records information system, was completed in 2012.

The company also continued to develop the WEB GIS application and, above all, the Offline GIS application for use in mobile devices with the Android operating system. This system helps field personnel to retrieve detailed and current information about the entire water supply and sewerage network operated by PVK, which improves the organisation and efficiency of work.

The new release of the System Centre Configuration Manager application for the management of end stations is operated from the data centre of Veolia Voda ČR for all affiliates. The data transmission lines to several PVK sites were reinforced; their purpose is to enhance the accessibility of the applications at those sites. The Avamar backup system, which was bought in 2012, will support a faster backup of the databases of the customer and financial systems. As in the preceding years, the virtualisation of servers continued in 2012 with a view to enhancing the accessibility of applications and cutting the costs of hardware operation and maintenance.

On the Ke Kablu and Hradecká sites, internal Wi-Fi networks were put into operation for connecting mobile PVK users and for visitors' secure internet access. In co-operation with Solutions and Services, a system of new VPN was put into operation to enable employees' and servicing organisations' access to PVK's applications.

New Applications Improve Performance

In 2012, the **project for the digitisation of document circulation** was completed as part of the Helios Green centralised system, primarily as regards the generation and transmission of information for billing and the subsequent generation and distribution of the bills; this process is now fully electronic. Thus, the purpose of the project was met, i.e., improve the efficiency and transparency of the work procedures entailed in document circulation in the company. The results include financial savings related to document printing and circulation and, primarily, simplification and acceleration of the whole process.

The company also made significant progress in the project for the **implementation of the Technical Information System as part of the Helios Green system**; in this respect, the entire accident management agenda was put into operation; this entails keeping operating records of accidents on the operated facilities and installations and subsequently tackling such situations, including the supporting processes such as accident reporting, supply interruptions, emergency water supply provision, etc. In the planning module, the agenda of repair and investment planning was put into operation and further development was achieved in respect of technical asset records, which were connected to the information system of Pražská vodohospodářská společnost a.s. for the purpose of data exchanges.

With a view to improving the efficiency of various processes, in 2012 the company carried out some additional, smaller development and optimisation in various modules of the Helios Green system, such as import of material suppliers' price lists, a system for approving purchase orders for material and storing the follow-up documents in PVK's central document repository in the SharePoint environment,

etc. Last year also saw the beginning of preparations for the implementation and optimisation of additional modules in the Helios Green system, for example, those for implementing a module for the processing of business trips and a module for vehicle booking, implementation of electronic processing of reports on vehicle operation with the help of GPS reports, optimisation of the keeping of records of contracts, and optimisation of the administration and development of additional ways of use of the central list of organisations.

The Basic Data Model of Precincts (ZDMA) category was modified and extended in PVK's geographical information system in 2012. This category carries detailed information about the precincts operated by PVK. It contains information about installations and networks which does not directly serve for public needs but is essential for the operation, repair and maintenance of the installations and networks.

As the network data for public needs, the ZDMA is interconnected with the technical information system (TIS) maintained in Helios Green and retrieves the code lists of buildings and rooms from TIS. This link facilitates and speeds up the identification of the assets operated within various precincts.

Institut environmentálních služeb, a.s. in 2012



Shareholders:

| | |
|----------------------------------------|-----|
| Campus Veolia Environnement France | 40% |
| Pražské vodovody a kanalizace, a.s. | 30% |
| Dalkia Česká republika, a.s. | 20% |
| Veolia Transport Česká republika, a.s. | 10% |

| | |
|------------------------------------------------------|-----------------------|
| Turnover: | CZK 32,922,000 |
| Number of employees: | 12 |
| Number of educational events held: | 1,579 |
| Number of training days: | 4,911 |
| Number of training hours: | 125,412 |
| Number of participants in educational events: | 12,345 |

In 2012, Institut environmentálních služeb (IES) celebrated its 10th anniversary. Despite the drop in its turnover, caused by the lower education budgets of some of IES's shareholders and customers, and rising rents and costs of energy and other services, and despite the fact that since 2008 IES had not increased the prices of its educational products and services, IES was able to maintain its positive bottom line and ensure the sustainable development of this educational organisation. This is attributable primarily to a further broadening of the range of educational products and services and earnings from foreign customers in Veolia Environnement Group and from customers outside this group, and also to enhancing the efficiency of IES's operation and its own austerity, organisational and personnel measures. Each of IES's educational centres and offices in Prague, Ostrava, Banská Bystrica and Teplice successfully contributed to all of these processes. Provision of comprehensive services in the form of outsourcing, including personnel agenda in education, proved its worth again.

IES's major educational projects in 2012 included the already sixth study group that was put together for the Economy and Management bachelor's programme in co-operation with Moravská vysoká škola Olomouc [Moravian College Olomouc], and the follow-up master's programme in co-operation with Univerzita Tomáše Bati [Tomáš Baťa University] in Zlín, and also the continuation of the Personnel Management development programme in co-operation with Charles University. Great success was registered by the Technology–Water–Environment, in co-operation with ČVUT's Faculty of Civil Engineering, and Energy Machines, in co-operation with VŠB–Technical University in Ostrava, development programmes.

The range offered by eCampus (IES's educational portal) was extended again to include a number of new e-learning courses, in particular induction training for new employees in VE's various divisions and companies. IES continued delivering the contract for the training of Sdružení vodovodů a kanalizací (SOVAK, Water Supply and Sewerage Association of the Czech Republic) member companies' employees, totalling CZK 4 million. A new information system, IES EduBase, was implemented; its purpose is to improve the efficiency of IES's internal processes. In 2012, IES's educational centre in Prague also organised a number of events for VE's international customers, many of which operate on the global scale.