

# CITYNET

## Yokohama Congress 2009

Harmonious Cities for Our Future



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# Anticipate to better meet the urban challenges

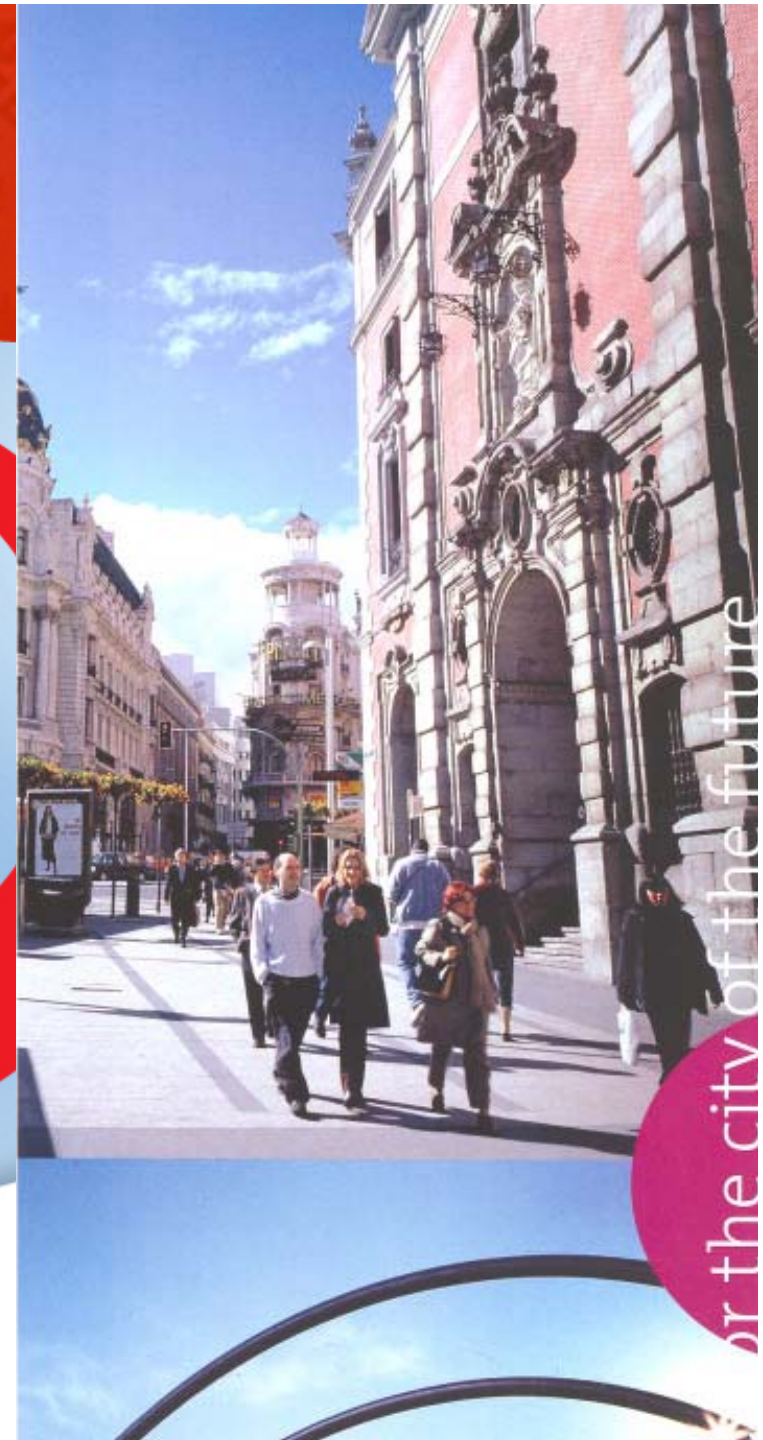
To provide environmental services that will meet both current and future challenges, Veolia Environnement implements an active policy of partnerships and forward thinking.

## Provide expertise on the changes taking place in cities

The Veolia Observatory of Urban Lifestyles, which was set up in 2007, helps public and organizing authorities with their thinking on how to keep in step with change and identify ways of meeting challenges at the local government level ([www.observatoire.veolia.com](http://www.observatoire.veolia.com)).

The Foresight Committee of the Institut Veolia Environnement works to foresee economic, environmental and social trends in order to nourish the company and its partner cities' long-term vision ([www.institut.veolia.org](http://www.institut.veolia.org)).

In 2008, the Observatory carried out its first survey (with Ipsos) of 8,500 people in 14 cities.

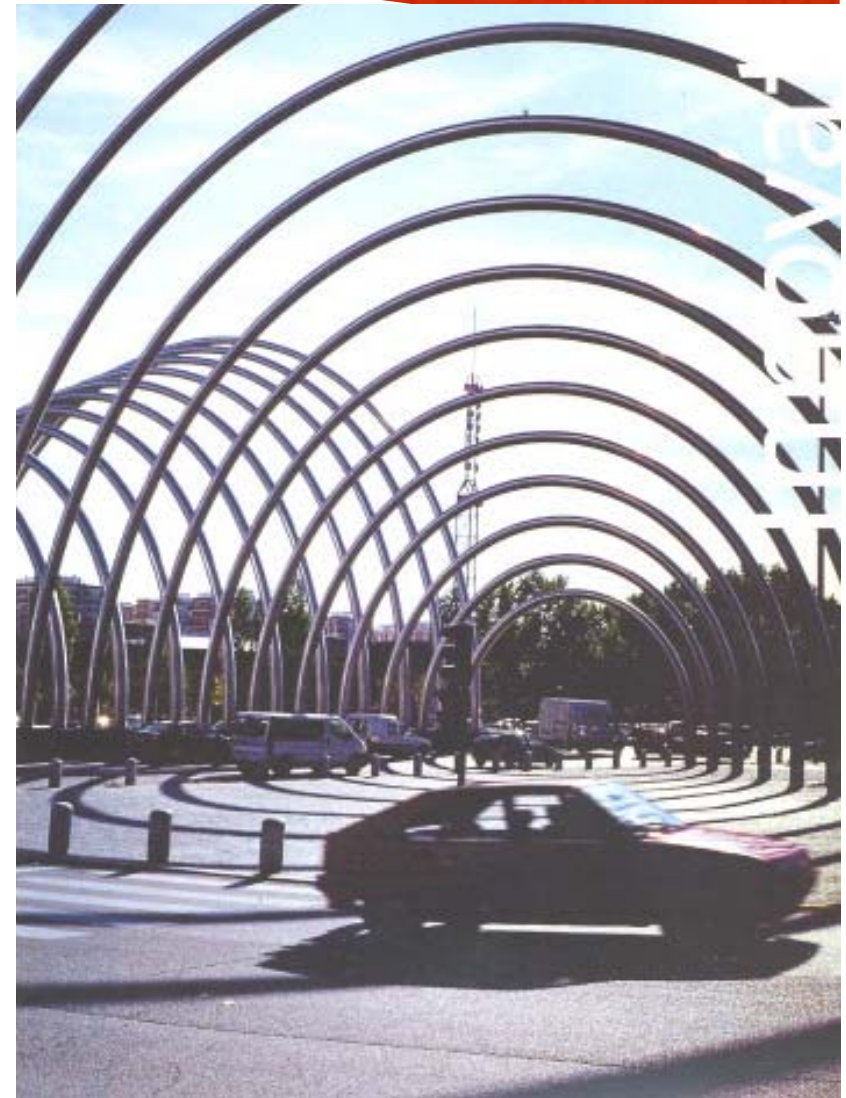


## Reinforce international partnerships

The company collaborates regularly with international organizations to make its expertise available with the aim of meeting the Millennium Development Goals (MDG).

Three types of actions are given priority:

- participation in the "access to essential services for all" initiative headed by UN Habitat;
- support for decentralized aid through partnerships with cities, in particular in Asia (the CityNet network);
- strengthening of local skills through an active partnership with UNITAR to help local decision-makers around the world improve the quality of urban services.





## Shanghai / Pudong - CHINA

### Water production and distribution

**The first public-private partnership in China covering the entire drinking water service**

#### Contract facts

##### OPERATOR:

Pudong Water Corporation, owned 50% by Veolia Water

##### CONTRACT START:

2002

##### CONTRACT DURATION:

50 years

#### ➔ Challenge

The Shanghai municipality awarded in 2002 Veolia Water the contract to manage its water services in a joint venture.

In this city, network losses were around 35%. This is why the primary challenge was to **improve water quality and pressure** throughout the entire production and distribution system. The second challenge was to **reinforce staff's managerial and technical skills**.

#### ➔ Objectives

- **Improving water quality**, the way it is distributed and monitored, as quickly as possible.
- **Better managing limited water resources** so as to face up to growing consumption needs.
- **Developing a human resources policy** anchored in local culture.
- **Optimizing customer relationship management** and improving satisfaction.

## Key figures

### POPULATION SERVED:

2.65 million inhabitants

### PRODUCTION VOLUME:

386 million cubic meters/year

### DRINKING WATER NETWORK:

3,000 km

### INSTALLATION:

6 water treatment plants,  
8 pumping stations,  
10 reservoirs,  
950,000 water meters

### WATER CONSUMPTION:

1.1 million cubic meters/day

### STAFF:

1,210 employees

## ➔ Veolia Water's solution

### Technical innovations

- Advanced computerized **network modeling and control** systems ensure that network renovation and extension work performed is optimized.
- Implementing **new techniques for overall network management** based on satellite imaging, the SCADA system, network water flow modeling and implementing a "Geographical information System".
- Reducing network losses to **27% in 2007**.

### Social initiatives

- Setting up an **intensive training program** (dedicated training center, mentoring, multimedia teaching tools).  
In 2006, more than 90% of staff received training (more than 30 hours per staff member, per year).
- Improved staff health and safety conditions.
- Improving staff welfare provisions.

### Environmental commitments

Deployment of the **Environmental Management System** to reduce the environmental impact of operations.

### Effective customer service

- A **single service unit** combining the customer call center, the Modern Management of Water Control and the Analysis Central Laboratory ensures **optimum reactivity in case of emergency** (water quality alerts, pipe failure or leakage).
- Special attention is paid to **customer satisfaction**: satisfaction



surveys, customer services charter, call center (800 calls per day with an average wait time of six seconds).

2008



# Hong Kong - CHINA

## Quality waste management services

**Support Hong Kong as a world-class city**

### Contract facts

#### OPERATOR:

VES Hong Kong

#### CONTRACTS START:

Hazardous Waste Treatment Centre

1993 (for 15 years)

SE New Territories Landfill

1994 (for 23 years estimated closure), plus 30 years' aftercare

West Kowloon

Transfer station: 1997 (for 15 years)

Grease Trap Waste Treatment Facility: 2006 (for 6 years)

### ➔ Challenge

In the late 1980s, the Hong Kong Government mapped out long-term municipal solid waste and hazardous waste disposal strategies for the city. Not only was a complete set of control on hazardous waste introduced, but the plan to **build an integrated treatment centre** of international standards was also drawn up. A program to phase out old municipal waste facilities and **develop cost-effective new facilities of higher operational and environmental standards** was also established. Veolia Environmental Services was selected as **one of the few partners for such a challenge**.

### ➔ Objectives

- **Provide quality services throughout the whole waste management chain:** operating treatment plants, transfer stations and landfills, waste collection, composting and grease trap waste treatment.
- **Increase the recycling and recovery rate of materials** (on copper, mercury, landfill gas, food waste, construction waste, metals, wood and paper).
- **Innovate in new projects implementing environmental friendly solutions** (such as bulk waste reduction through thermal combustion, sludge and medical waste treatment).

## North Lantau

Transfer station: 1998 (for 15 years)  
Composting unit for Disneyland  
2006 (for 4 years)

Waste collection:  
Wong Tai Sin, Tsuen Wan and  
Eastern Districts:  
2006 (for 5 years)

Yuen Long and Wanchai Districts:  
2007 (for 5 years)

### Key figures

**VOLUME OF WASTE COLLECTED:**  
1,420 tons/day

**VOLUME OF WASTE  
TRANSFERRED:**  
2,650 tons/day

**VOLUME OF WASTE TREATED:**  
Municipal waste:  
5,500 tons/day  
Hazardous waste:  
Land-based: 15,800 tons/year  
MARPOL: 31,400 tons/year

**STAFF:**  
662 employees

## ➔ Veolia Environmental Services' solution

### Operating competitive and modern services

- **Hazardous waste treatment centre: only facility of its kind in Hong Kong.** Major processes being incineration, physical/chemical treatment, oil/water separation and stabilization; offers a one-stop service from sampling, collection, treatment and disposal to emergency services and recovery of usable materials.
- VES also provides **uninterrupted services** of solid and liquid waste collection to local districts.



### High quality and environmental facilities

- **Secured sanitary landfill:** with modern systems such as highly impermeable liners, leachate collection and treatment systems; comprehensive gas produce 11,933 MWh of electrical power.
- **2 transfer stations by marine vessels:** highly effective processing plants that receive and compact waste into containers; marine vessels **reduce the environmental impact of an equivalent of 880 trucks.**
- **Grease trap waste treatment facility:** recovers an alternative fuel, Lipofit®, by industrial boilers and furnaces; reduces the emission of sulfur oxides and landfill loading by minimizing the disposal of grease trap waste; saves fuel cost and flue gas treatment reagent cost.

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 **VEOLIA**  
ENVIRONNEMENT



# Ho Chi Minh City - VIETNAM

## Optimized lighting point management

### Innovative technologies serving enhanced public lighting management

#### Contract facts

##### OPERATOR:

Citelum, a Veolia Environnement and EDF subsidiary through Dalkia

##### CONTRACT START:

2006

#### Key figures

##### LIGHTING POINTS MANAGED:

12,000 lighting points

##### INDIVIDUAL BULB POWER:

250 W

#### ➔ Challenge

In a context of rising oil prices and a shortage of hydroelectricity, power outages are frequently affecting public lighting in major cities in Vietnam, hence the government's decision to implement a plan to reduce energy consumption.

City authorities in Ho Chi Minh City selected Citelum, after an international call for tenders, to optimize public lighting management in four city center districts, involving 12,000 lighting points.

#### ➔ Objectives

- Optimizing the quality and continuity of the public lighting service.
- Reducing the amount of power consumed by each lighting point.
- Improving network management and maintenance along with equipment maintenance so as to anticipate failures and detect intrusions affecting installations.
- Building a public lighting control and management center.



## ➔ Citelum's solution

### Transfer of expertise

Transferring expertise so that the city can benefit from the latest technological progress in energy optimization and installation maintenance.

### Efficiently controlling every lighting point

LUXICOM, developed by EDELCOM (a Citelum subsidiary), handles the control and management functions for the public lighting network from a central control station equipped with computerized management tools for every lighting point. A dynamic map display allows control of every source.



### Improved installation management

VIGIEWEB, a computerized installation operating assistance and maintenance solution developed by CITEGESTION (a Citelum subsidiary), provides information on characteristics, forecast failure durations and technical

work being carried out on the equipment. The solution is based on a census of all lighting installations and the network grid.

### Result

*Coupling computer based technologies with a census of the equipment installed base:*

- *Enables reductions in energy consumption of as much as 30%;*
- *Improves lighting quality of service with reduced failure rates;*
- *Optimizes maintenance thanks to predictive service call management and a detailed knowledge of network grid layouts.*

2008