Serving Municipalities

Turning waste into a resource

VEOLIA
ENVIRONMENTAL
SERVICES

N°.2 worldwide in waste management and cleaning services

Veolia Environmental Services is the world's second largest waste management company, with 71,000 employees in 34 countries. We have a revenue of €6.2 billion.

Veolia has united its water, waste, energy and transportation services under the one common name. Onyx has therefore become Veolia Environmental Services. The logo has also evolved: the new version is softer and rounder, evoking continuity, alliance and protection.

Veolia Environmental Services is the only company that handles all forms of waste, at every step in the waste management process. We manage liquid and solid, non-hazardous and hazardous waste*, from collection to disposal and recycling, for both the public and private sectors.

Our upstream waste management and logistics services include waste collection, pipe system maintenance, cleaning of public

areas, offices and factories, maintenance of production equipment, soil remediation and waste management at industrial facilities.

Downstream, we carry out both basic and complex waste treatments.

- We sort and prepare the raw materials in waste so that they can be reintroduced into an industrial process: this is called recycling or materials recovery.

- We convert organic matter into compost, for reintegration into the soil: this is called composting or agricultural recycling.

- We treat waste in the most environmentally friendly way we can, through landfilling or incineration.

- We produce electric power or heat from landfilled or incinerated waste: this is called energy recovery.

* Except for radioactive waste

01 Collection of municipal and non-hazardous industrial waste

Veolia Environmental Services collects household waste from curbside or from waste recycling banks and also picks up commercial and non-hazardous industrial waste.

02 Urban cleaning services

Veolia Environmental Services cleans streets and sidewalks, removes graffiti from walls and treats ground surfaces to remove paint, solvents, oils, chewing gum and other pollutants.

03 Collection of green waste

Veolia Environmental Services removes dead leaves, hedge and lawn clippings, and tree prunings. We also keep green spaces clean.

04 Pipe systems maintenance

Veolia Environmental Services maintains, repairs and cleans water and wastewater pipe systems. We also pump and transport liquid waste.

05 Hazardous waste collection

Veolia Environmental Services collects hospital and laboratory waste, oil residues from ships, gas stations, drilling platforms, etc. and dispersed hazardous waste. We intervene on an emergency basis to help clean up pollution spills.

06 Waste management at industrial sites

Veolia Environmental Services partners with its clients at their industrial sites to manage the sorting of hazardous and non-hazardous waste and packaging flows. We oversee the handling, storage and labeling of waste. We make sure that environmental regulations are complied with. We recycle raw materials from production waste and implement solutions to reduce process waste volumes.

07 Industrial and tertiary sector cleaning

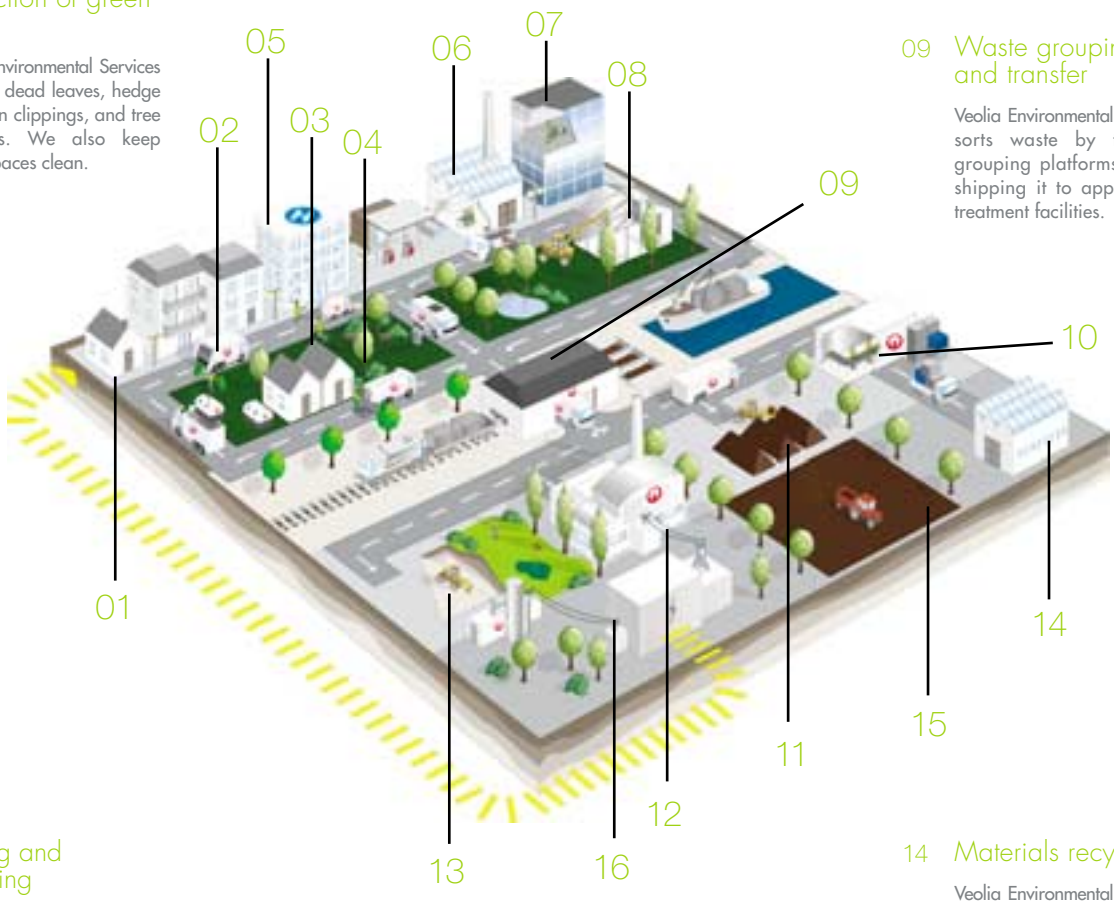
Veolia Environmental Services cleans rail stations, metros, airports, museums, shopping centers, offices and factories. We clean and maintain industrial equipment.

08 Soil remediation and deconstruction of industrial sites

Veolia Environmental Services deconstructs industrial buildings and decontaminates the soil around decommissioned factories and active facilities, to bring them into compliance with standards.

09 Waste grouping and transfer

Veolia Environmental Services sorts waste by type at grouping platforms before shipping it to appropriate treatment facilities.



10 Sorting and recycling

Veolia Environmental Services treats waste so that it can be reincorporated into an industrial production cycle. We sort used materials (paper, plastic, glass, etc.), dismantle WEEE, neutralize sand waste and bottom ash, extract the metal from industrial baths and components, regenerate solvents and make alternative fuels.

11 Composting

Veolia Environmental Services converts organic waste, including green waste, food waste and treatment sludge, into fertilizer, for landscapers and communities.

12 Waste-to-energy

Veolia Environmental Services treats waste in specialized incinerators called waste-to-energy plants or energy recovery facilities. Some are devoted exclusively to municipal and non-hazardous industrial waste; others take in only hazardous waste.

13 Landfilling

Veolia Environmental Services treats waste in specialized landfills. Some are devoted exclusively to municipal and non-hazardous industrial waste; others take in only hazardous waste, which has been previously stabilized in physical-chemical treatment plants.

14 Materials recycling

Veolia Environmental Services supplies new raw materials from recycled waste to manufacturers, including paper mills, plastic factories and steel mills.

15 Agricultural recycling

Veolia Environmental Services supplies compost to farmers, landscapers, municipalities and private parties.

16 Energy recovery

Using the heat generated by waste thermal combustion and the methane released by landfill waste, Veolia Environmental Services produces energy for district heating networks or electricity.

Serving municipalities

Whether for a company or a municipality, an SME or an automobile manufacturer, a rural community in Sussex or a large city in China, an autonomous port authority or a shopping mall, we provide each of our clients with solutions closely tailored to their specific needs. Our services are provided under contracts using facilities and equipment that, in most cases, belong to the client, but which may also be designed and built by our experts. When we look at a project or launch a process, we take into consideration its long-term viability, making sure that while being realistic in economic terms, it also complies with environmental standards. Through more than 150 years of partnership with thousands of companies and municipalities, we have developed expertise in recycling, composting, and energy recovery to turn waste into a resource.

As a waste expert, our prime commitment is to the environment. Our mission is to transform waste from human activity so that it can be reincorporated into an economic circuit or treated in the most environmentally friendly way possible. Doing our job well means limiting the impact of our own treatment processes on the various environments where we operate, extending our field of vision beyond short-term commercial interests, and fully exploiting waste as a resource by expanding recycling and composting, and providing sources of renewable energy.

By keeping cities clean and treating pollution, we improve the conditions for a decent and healthy life for city-dwellers while also helping to protect the environment. As we go about our business, we are also attentive to those who are closest to us: the employees of Veolia Environmental Services and the people who live in the areas where we work. As a good corporate citizen, we are duty bound to assist society's disadvantaged and support the environmental cause to help bring about a change in attitudes and behavior in favor of greater respect for nature and human health.

Integrated management

An expert at the service of sustainable development

Waste management and cleaning services are essential to preventing health risks and contributing to an attractive urban environment. Whether for a historic town center or a suburban residential area, a national capital or a rural community, we adjust our human resources, equipment, logistics and scope of services to suit the municipality's needs. We can even provide 24/7 service in areas with a high population density. We use onboard computer systems to optimize collection rounds, ensure vehicle traceability, improve the performance of our services, and provide real-time information to our clients. We support their communication actions to help inform residents about our services or to educate them in the importance of sorting waste at the source.

We help you comply with the recommendations of waste management plans

Oakland County, **Michigan** (United States), is not planning to renew its landfills as they arrive at their end of life. Instead, the County is going to develop a network of transfer stations. The city of **Pontiac** has adopted this plan and awarded us the collection, transfer and treatment of its municipal and commercial waste. In 2007, its current landfill will become a transfer station from where the municipal waste will be trucked to our Arbor Hills landfill 50 km away. We will combine this solution with more thorough source-separated collection.

In New Caledonia, the city of **Noumea** has signed a 30-year contract with us for the collection of municipal waste (120,000 metric tons per year), and the management of a green waste composting facility and a 45-hectare landfill.

The emergence of large cities: *the need for sustainable development*

In Egypt, **Alexandria** signed a contract with us in 2000 that is unique in terms of its scope: cleaning streets, beaches, bus shelters, monuments, parks and fountains in this city of 5 million people. Each day, our teams collect 2,400 metric tons of municipal waste. To help carry out our task, we modernized three organic waste composting facilities, which produce 600 metric tons of compost a day.

In terms of communication, the main priority is education: with the government, we have launched a campaign to generate awareness among our employees of the importance of the environment, and to ensure they pass this message on to the general population. This action is backed by a billboard campaign and the distribution of a brochure in schools. As a result, the city is cleaner, more welcoming, and health and living conditions have improved.

Design, build and operation of industrial facilities for municipalities

In the United Kingdom, many counties and municipalities have entrusted us with the integrated management of their municipal waste. They have thus lowered their costs and developed efficient industrial facilities.

To reduce the volume of waste landfilled in East Sussex (population of 750,000), we created a 70,000 metric tons/year composting facility, an 81,000 metric tons/year materials recovery facility, and a 225,000 metric tons/year waste-to-energy plant.

Starting in 2006, 40% of municipal waste will be recycled in Hampshire thanks to a unique project based on a network of composting facilities, transfer stations, and sorting and waste drop-off centers. The municipalities of Bromley, Sheffield, Brighton, and Hove, Portsmouth and the county of Nottinghamshire have also outsourced the integrated management of their municipal waste to Veolia Environmental Services.

Our commitment for the long term

Our activity in Reunion began in 1985 with a staff of 26. Twenty years later, we have more than 340 employees and a fleet of around 100 vehicles. We serve half the island's population. This long-term partnership is based on a set of complementary services: source-separated collection and management of a composting facility in Sainte-Rose, and the Saint-Etienne River landfill.

R&D

Transfer of expertise

In Rabat-Hassan (Morocco), Veolia Environmental Services has recruited 260 people to collect household and green waste, clean streets, the King's palace, the medina and the beach. We supplied around 30 collection and cleaning vehicles, and trained these employees in safety and quality.

In Oujda, we are working with elected officials to assess their local needs. We collect 110,000 metric tons of household and green waste each year. Here again, some of the municipal staff were taken on and given training to improve their professional skills.

Focus on…

…integrated waste management in Hampshire (UK)

At the end of the 1980s, Hampshire County (population 1.2 million) was facing a serious waste management crisis. Its landfills were nearing saturation, the incinerators built in the 1970s no longer complied with European Union regulations and the volume of waste generated was steadily increasing.

In 1993, the Hampshire County Council and the 13 district councils surveyed the local population about the best way to manage the problem of waste. This consultation led to the implementation in 1995 of the "Integra Project," an integrated approach to waste management outsourced to the private company Hampshire Waste Services, a subsidiary of Veolia Environmental Services UK.

Three goals were set under this integrated approach:

- Reduce waste production.
- Promote materials recycling, composting and energy recovery systems.
- Restrict the amount of waste landfilled.

Today, the county's recycling rate is above 28%, compared with 18% for the rest of England. More than 90% of Hampshire households have direct access to source-separated sorting systems.

Key figures

- **35%** of our revenue is generated with municipalities
- **50 million** people benefit from our collection services

Solutions for cleaner urban environments

Feel good in the city

Keeping cities clean is not just a question of public health - it also promotes a positive and attractive municipal image. As a partner, Veolia Environmental Services applies the full extent of its expertise to advising municipalities and providing them with integrated waste management solutions.

- Collection of municipal waste
- Logistics and transfer
- Urban cleaning services
- Pipe systems maintenance
- Soil remediation

WASTE COLLECTION

First stage in the waste cycle

The main challenge where collection and sort-at-source is concerned, is to separate waste as early as possible and direct it to the most appropriate treatment process.

Veolia Environmental Services provides logistics suited to each type of waste: household waste, non-hazardous industrial waste, green waste, bulky waste, paper, glass, household hazardous waste, and so on.

To obtain high-value-added services, our clients can count on the professionalism of our teams, the performance of our vehicle fleet and our technical expertise. With state-of-the-art information technology, we can provide our clients with rationalized rounds, immediate traceability, precise information and exceptional response times.

Working together with municipalities, we increase public awareness of the need for everyday source separation and encourage the use of waste recycling banks.

Clean-fuel transportation solutions

…to breathe more easily in the city

In Paris, six districts are fully or partially serviced by 104 natural gas vehicles (NGV) for curbside collection of household waste and public waste bins. These new vehicles do not emit any fumes, odors or particulate matter. They make only half the noise of diesel-powered vehicles, and emit half the amount of nitrogen oxide.

…to adapt to specific situations

In Portsmouth (UK) as in Paris some narrow streets require the use of special vehicles.

In Reunion, Cirque de Mafate has no road or rail connection. We have introduced a regular waste collection service by helicopter for the 700 people who live in this remarkable natural site.

…to reduce the number of collection rounds

In Warringah, Australia, we use dual compartment waste collection vehicles to avoid the pollution and extra costs of additional rounds. In this city with a population of 120,000, as in London and several French rural and semi-rural communities, we also use automated side loader (ASL) waste vehicles operated by a single person. ASLs considerably improve collection safety. They can also be used for the collection of non-hazardous industrial waste from fixed containers with a capacity of 1,800 to 3,200 liters.

Another way of reducing the number of rounds is to optimize their management using information technology systems. This is the case in Norway and in Paris, where we have fitted an ST SAT system on board our vehicles. Drivers are guided along their route and, in the event of a difficulty, can find an alternative itinerary by consulting the system's screen.

We promote source-separated collection as an economical and ecological solution

In Norway, to reduce treatment costs paid by our clients, we focus on materials and energy recovery from waste. We distinguish between up to 40 categories of dry waste: treated, untreated or painted timber, opaque glass, clear glass, etc.

In Great Britain, the Tendring District is targeting 24% recycled household waste in 2006, up from 16% in 2003. We have therefore introduced a source-separated curbside collection service: the population of 64,000 is requested to place their recyclable waste in green bins. We have developed a similar solution for Trafford with the aim of raising the recycling rate from 7.5% to 30% by 2011.

Training

Source-separated collection: a matter of education

In Antony (Paris region), the source-separated collection of household waste had focused on glass and newspapers since 1995. It has now been extended to include recyclable packaging. Awareness-raising campaigns have been run in schools, at the market in the town center, and in street parades used to promote the launch of this new service.

In Portsmouth (United Kingdom), to raise people's awareness of source separation, our campaign was run in all local community languages, and we held an open day for schools at our materials recovery facility. We also addressed the special needs of people with disabilities

R&D

Software to improve our quality of service

The Optitour software has been introduced at 20 of our largest agencies in France. It optimizes collection rounds by analyzing data such as particularities about clients and their waste, pickup points, and the type of collection equipment.

The Opticoll software optimizes municipal waste collection rounds, reducing both the distance traveled and the resources used. It is designed to integrate contractual and technical parameters and makes use of traceability systems (GPS, onboard weighing, container identification, and lift sensors).

Croqui is used in Nantes (France). It provides the municipality and our drivers with a clear and regularly updated map of collection rounds. For example, it shows collection sector boundaries and localizes waste recycling banks and waste drop-off centers. Coupled with an onboard system, such as Acquido, which records collection data during rounds, Croqui can also be used to analyze our service performance.

Focus on…

…collection with single-operator automated side loaders (ASL)

ASL vehicles are used in North America, Oceania and Scandinavia for curbside collection. In Italy, Spain and Latin America, municipalities use them for collection from waste recycling banks or for grouped municipal waste. They can also be used for the collection of non-hazardous industrial waste from fixed containers with a capacity of 1,800 to 3,200 liters. Some manufacturers have models with a removable container, avoiding the need to transit via a transfer station.

The use of single-operator ASLs makes collection safer by avoiding having two operatives handling containers on the roadside. The vehicles also lift the level of skill required by the driver who needs greater dexterity to operate more complex machinery. The level of productivity is at least equal to conventional collection.

When combined with source-separated collection, ASLs avoid the additional pollution and costs of extra rounds. When used for curbside collection, the system requires a good level of cooperation from residents, who have to position their bins correctly and accessibly. We use this type of collection in several rural or semi-rural communities in France, as well as in London (United Kingdom) and Warringah, Sydney (Australia). As a matter of course, we are trying to promote this type of collection.

288

Key figures

- Veolia Environmental Services has 288 collection and cleaning agencies
- 433 waste drop-off centers are managed by Veolia Environmental Services
- We serve 50 million people in 21 countries

WASTE TRANSFER

A logistics solution

Transfer stations are used to group waste by type before it is routed to the appropriate treatment. Grouping quantities for transportation results in economies of scale and reduces fuel consumption. We are expanding the use of multimodal transportation: rail and waterways are ideally suited to the transport of large tonnages over long distances. They are more environmentally friendly than road transportation.

Rail

A single rail freight car carries fives times the capacity of a road truck. In **Sydney** (**Australia**), we handle 400,000 metric tons of waste a year at our transfer station. We then rail the non-recyclable waste to a landfill, 250 km from the state capital. We therefore avoid the pollution that would be caused by 35,000 truck trips a year. In addition, we have equipped our transfer center with noise barriers and systems to treat emissions and odors. The result is zero impact on the city center.

In **Wisconsin** (**United States**), our Cranberry Creek landfill is open to the entire Middle West, and beyond. With its own rail spur and unloading bay, it takes delivery of rail piggyback containers carrying foundry sand, bottom ash from thermal power plants, paper mill and other industrial waste.

Waterway transportation

One barge carries the equivalent of 15 trucks. The district authorities of **Lens-Liévin** and **Hénin-Carvin** (**France**) opted for this solution when awarding us the contract to compost their 400,000 metric tons/year of green waste. Sixty barge trips have replaced 1,600 trips by 25-metric-ton vehicles.

Waste from **Paris** is grouped, compacted and then placed in sealed containers at our transit center in the port of **Gennevilliers**. These are then transferred by barge to a port located near our **Claye-Souilly** landfill. This system reduces road traffic and transports waste in bulk. Its advantages include improved road safety, lower energy consumption, and less air and noise pollution. At present, the two barges replace 25 round trips by semi-trailers to transport 500 metric tons per day of waste.

In **Hong Kong** we manage the two maritime transfer stations of **West Kowloon** and **North Lantau**. They handled 2,875 and 650 metric tons/day of waste respectively in 2004. Using specific machinery, we compact more than 15 metric tons of waste into 6-meter long sealed containers. These containers are then easily and rapidly loaded onto ships that transport them to dedicated treatment sites.

URBAN CLEANING

The city in its best light

We apply our expertise and sophisticated techniques to keeping cities clean and pleasant. Our teams operate vehicles with onboard GPS systems, helping them keep noise and visual pollution to a minimum.

We are committed to expanding preventive maintenance and developing new mechanized equipment.

Maximum availability for top-class service

In Singapore, where cleanliness standards are the most stringent in the world, our teams work seven days a week. Thanks to the GPS system on board each of our vehicles, the National Environment Agency monitors their location and the progress of the cleaning schedule in real-time. We also clean the 42 km of beach and rock using highly mechanized equipment and adjust our operations to suit the season, maritime traffic and people's use of the beach.

In Westminster (UK), our 453 agents and 233 vehicles provide 24/7 cleaning services. With 1 million visitors a day, Westminster was recently singled out for the Cleanest City award in the United Kingdom by the British Cleaning Council. Our teams operate around the clock, ready to respond to special events such as the overnight clean-up of the tons of flowers laid for the Queen's Jubilee or the funeral of Princess Diana.

For the Tendring District Council (UK), we clean 330 square km of streets and 43 km of beaches. We also provide cleaning services for the town during events that attract thousands of visitors, such as the Radio One Roadshow or the Clacton Air Show.

In Marseilles, we have been responsible for cleaning the city center for the past 10 years. Cleaning in the city's third district (population 40,000) is covered by a five-year contract with performance guarantees. To optimize rounds, our vehicles are equipped with GPS.

Tailoring our services for exceptional events

During its Féria, Nîmes (France) attracts 1 million tourists. For the city to remain as clean as usual, we boost our services by 30% to 50% for the duration of the event. This city of 150,000 people has 328 waste recycling banks and we have introduced on-demand collection of green waste. The telephone service also takes requests from bars and restaurants for glass. Some 20% of our fleet runs on electricity or low-sulfur Xeol™ fuel.

During the three days of the Teknival in Crucey-Village (France) 45,000 teknivalers invaded the fields of the local sheep farmers. To collect the great quantity and variety of waste left behind, and return the fields to their initial state, we employed an onsite team for two weeks.

Armada Week in Rouen attracts more than 5 million people. Each day, Veolia Environmental Services cleans the 5 km of quays and participates in the collection of 120 metric tons of waste. We also pump out the 2,500 metric tons of liquid waste from the ship bilges and toilet blocks.

The full-service contract between the Futuroscope theme park in Poitiers (France) and Veolia Environmental Services includes complete cleaning services 7/7. Our teams clean the park and its 6,000 square meters of offices, maintain the infrastructure, empty bins and collect waste. The service is boosted during the high season that runs from April to October.

For Disneyland Hong Kong, with its daily capacity of 5 million visitors, more than 14 metric tons of non-hazardous industrial waste and 6 metric tons of organic waste is collected for recycling and composting every day by Veolia Environmental Services.

PIPE SYSTEMS MAINTENANCE

Health and quality of life

We are specialists in the maintenance and repair of wastewater and drinking water pipe systems, thereby contributing to the prevention of health risks. We use computer and video systems to provide optimum pipe inspection: by rationalizing preventive maintenance operations, we limit having to dig up roads and sidewalks and extend the life span of these pipes. Our activities also include emptying liquid waste from independent wastewater systems.

Solutions to limit disruption and lower costs for municipalities

No trenches and water cuts lasting no more than one day: these were the promises made for the rehabilitation of 75 km of water pipes in **Rennes** and **Brest** (**France**). Faster, simpler and costing one-third the amount of the traditional method, our solution involves applying an epoxy resin on the pipe walls after cleaning them with a rotating tool. It puts a stop to corrosion and rusty water, returns the pipes to their original capacity, and extends their service life.

3D technology for high-quality services

We use 3D cameras to assess pipe condition and prevent the risk of pollution. This technology provides 360-degree images that can be stored and processed on a computer. Thanks to this technique, we were awarded contracts in **Canada** for the repair of the **Toronto** and **Laval** wastewater systems, and for the maintenance of the **Quebec** wastewater system.

High-tech innovations for the environment

In collaboration with the CREED research center, we have developed a test vehicle for draining and recycling the contents of septic tanks. It refills tanks with settled and filtered water. By reducing travel and volumes transported and by making outfalls more reliable, this process improves the environmental performance of this operation.

SOIL REMEDIATION

A public health issue

We deconstruct buildings, decontaminate the soil around abandoned factories and rehabilitate polluted ground. Our work in this area paves the way for urban renewal projects or continued production, and helps eradicate environmental black spots.

We can treat the soil of a production plant that is still active to bring it into compliance with environmental standards. We also provide emergency services to clean up accidental soil and water pollution.

From the rehabilitation of industrial wasteland to the decontamination of aquifers

Cleaning up private waste disposal areas, soil remediation and the decontamination of aquifers, cleaning and deconstructing buildings, removal and treatment of polluted equipment… Our range of services is very broad.

For example, Škoda awarded us a contract for the full rehabilitation of its Czech site in Plzen. After 150 years of industrial activity, this 30 square km site was one of the largest remediation projects ever undertaken in Central Europe.

In Mexico, in partnership with ERM, we extracted batteries buried at a site. We then treated the 20,000 metric tons of hazardous waste at our facility in Mina. On a former industrial site in western Paris, we treated groundwater polluted with persistent chlorinated compounds. As the groundwater could not be decontaminated in situ, we installed a pump and odor-free treatment unit.

In the Antarctic, we are helping rehabilitate the former dump that has polluted the sediment in Browns Bay. We have also signed partnership agreements with France, Chile and Australia to evaluate the environmental consequences of the 300,000 metric tons of waste abandoned by scientific expeditions.

We treat polluted soil for reuse

Most polluted soil is 95% recyclable. In Lyons, we opened France's first thermal treatment center for soil contaminated by hydrocarbons, which is subsequently used as backfill.

We clean up accidental spills

In New Jersey (United States), our teams treated a stormwater system and the surrounding ground that had been polluted by a leak from an oil and xylene tank. In compliance with Environmental Protection Agency (EPA) procedures, we installed confinement barriers downstream, removed the product in pump trucks, excavated the contaminated soil and dug a drainage trench. We also implemented air and water quality surveillance. We responded in a similar manner in West Virginia when a stormwater system and a tributary of the Ohio River were polluted by a tar oil spill.

Focus on…

…the list of polluted sites

In the United States, the Environmental Protection Agency (EPA) estimates that there are over 350,000 sites that require remediation. In the European Union, the figures vary between 300,000 and 1.5 million, depending on whether potentially or effectively polluted sites are taken into account, and because the notion of polluted sites varies from one country to another. The cost of remediation for these sites is estimated at $250 billion in the United States.

R&D

Using plants to treat pollution

With CNRS, France's national scientific research center, we are experimenting with a phytoremediation process for soil polluted by the land application of sludge. This process involves the use of plants to trap toxic products such as heavy metals.

Solutions to treat your waste and recover resources

We organize long-term treatment processes

We commit to the long term with our clients. Our logistics and waste management services are part of an integrated waste treatment and resource recovery process. When we look at a project or launch a treatment process, we take into consideration its long-term viability, making sure that while being realistic in economic terms, it is also respectful of the environment and human health. The facilities we operate comply with the most stringent standards in force. We are continually developing our recycling, composting and energy recovery capabilities to turn waste into a resource.

- Recycling
- Composting
- Waste-to-energy
- Landfilling

RECYCLING

From source-separating sorting to materials recovery

Recycling is now essential if we are to conserve natural resources. It involves recovering materials from waste and returning them to the production process.

The viability of recycling largely depends on source separation by consumers in their homes, at work or at waste drop-off centers.

It also depends on the potential environmental benefit: if the recycling process is highly polluting or energy consuming, it is preferable to landfill the waste or send it to a waste-to-energy plant.

In this rapidly growing sector, we are building modern and increasingly mechanized materials recovery facilities. We sort waste materials, sell them locally and in international markets; we are positioning ourselves in new segments such as tires, timber, end-of-life vehicles, WEEE, batteries, and so on.

We are mechanizing our materials recovery facilities to optimize operating costs and ensure the best quality output. Our increased treatment capacity means we can sell the recovered products at more competitive prices.

Design, build and operate "new generation" materials recovery facilities

The new **Thaon-les-Vosges**, **Nanterre** and **Rillieux-la-Pape** (**France**) facilities combine productivity with safety and treatment quality using Computer-Aided Production Management. "TriEst" (**Thaon-les-Vosges**) is the first facility in Europe able to recycle an annual 70,000 metric tons of waste paper and cardboard, and supply a very high quality product to transformation industries (papermakers).

The city of **Sheffield** (**UK**) has set a target of recycling 18% of its waste in 2005. Our facility is helping it achieve this goal by treating 25,000 metric tons/year of paper and cardboard. We use the latest technology to sort the waste collected from curbside operations: separation of cardboard by size from a computer workstation, optical sensor to differentiate by color, forced air to extract paper, etc.

Veolia Environmental Service's new generation materials recovery facility in **Alton**, **Hampshire** (**UK**), was officially opened by the Duke of Gloucester. Its 85,000 metric tons/year capacity and the high level of technology used make it one of the most advanced in Europe. It is equipped with the

latest innovations for the mechanical sorting and recycling of materials from source-separated collection: optical sorting, magnetic separator, and even an Eddy-current separator.

SYCTOM, the waste authority for greater Paris, contracted us for five years to operate the new materials recovery facility in Nanterre (France). This facility sorts packaging and newspapers and magazines collected from almost 1 million residents. Its workstation ergonomics and its treatment capacity of 40,000 metric tons/year make it a model of its kind.

In Mackay (Australia), in close cooperation with the municipality, we have opened the region's first household waste recovery and recycling center. Mechanical equipment (screens and magnets) has been installed at the process inlet to remove undesirable waste and ensure optimum manual sorting.

In France, we manage and participate in the operation of more than 600 waste drop-off centers and provide full-service solutions: user information centers, organization of the various areas, flow management, management of waste from tradespeople, and changes to the types of waste accepted to reflect regulations. Safety and access control along with site and equipment maintenance are a constant priority.

The responses to new treatment processes: WEEE

In France, we already handle a large proportion of waste electrical and electronic equipment (WEEE) through our industrial and bulky waste collection operations. With our 12 transfer stations and three treatment plants, we provide our clients with comprehensive services covering logistics, treatment and recycling while also ensuring traceability. For manufacturers, we provide a range of services that can be national or even international in scope.

In the United Kingdom, our clients can order our WEEE collection and recycling services via our Web site or by telephone.

In the United States, our subsidiary has a 24% share of the WEEE recycling market. In Washington State, we work with Staples (office supplies and electronic equipment) and several environmental organizations to dismantle computers, recycle the recoverable materials and safely dispose of the hazardous waste.

In Australia, where there is no particular WEEE legislation in force, we have launched the first recovery and recycling process in conjunction with the Sims group.

Our contract with the Norwegian government for 2005 and 2006 covers 45% of that country's market. Our proposal included using the shredder residue as fuel in cement plant furnaces, recycling the glass and, in cooperation with insurance companies, optimizing the parts resale system.

Boost public awareness of sorting

The opening of the first waste sorting and recycling facility in Mackay (Australia) was preceded by a campaign run jointly with the municipality to boost awareness among the residents of the importance of careful source-separation operations. In Rillieux-la-Pape (France) visitors are made aware of the importance of separating at the source through an entertaining and informative virtual visit of the facilities.

R&D

Turning greasy food wastes into fuel

In Rishon LeThion (Israel), Veolia Environmental Services recycles greasy food wastes collected from restaurants, and waste oil from service stations, garages, bus companies, etc. Each year, our facility treats 12,000 metric tons of mineral oil using the Lipoval process. The resultant product, Lipofit, is a fatty concentrate used as a replacement for fossil fuels in boilers and industrial furnaces.

R&D

Safe recycling processes

Controlmax® is an innovative system patented by the CREED research center. It detects toxic and undesirable waste that is incompatible with treatment processes.

Focus on…

…the development of recycling: a growth strategy

The rapid growth of China and India is creating tensions in international markets: global demand is now outpacing the supply of virgin raw materials. The scarcity of raw materials is driving prices up and there is growing interest for recycled materials. The price for the latter is also rising sharply, except for recycled paper, which is a particularly well-organized segment.

Global consumption of scrap metal and recycled paper—close to 500 million metric tons and 200 million metric tons respectively today—is expected to rise by around one-third as much again by 2010. Recovery rates will have to rise to keep apace with this demand.

The sources of these materials exist in the more industrialized countries, which are high waste producers. Faced with the problem of sharing natural resources, it is essential to exploit these resources better to underpin continued growth. More use of recycling will also reduce the economic and environmental impacts of growth: through lighter investments and more economical processes, the products manufactured from recycled materials will be cheaper. Less energy is consumed for their manufacture, so this will help preserve fossil fuels and limit the emission of greenhouse gases (GHG).

219

Key figures

- 2 million metric tons: the quantity of cardboard and paper we recycle
- 1.1 million metric tons: the quantity of building materials we recycle
- 14%: the recycling rate of non-hazardous waste treated in our 219 materials recovery facility

COMPOSTING

Back to nature

The transformation of organic waste into fertilizer helps revitalize soil. Our compost is of interest to farmers, but also municipalities and their residents. Municipalities see composting as a useful solution for the treatment and recycling of their green waste.

To guarantee the quality of our compost, we provide assistance to our clients to improve the facilities we operate. Our advice covers the quality of the incoming waste, sorting processes, fermentation, maturation and refining. Standards certification of our composting facilities and product quality labels reflect our focus on quality, safety and traceability.

Build and operate composting facilities

In the **Nord-Pas-de-Calais** region (**France**), we have set up a pilot methane production unit in an ISO 14001 certified facility that makes compost out of wastewater treatment sludge and green waste. This process uses the waste to produce an organic soil conditioner and generate electricity from the biogas given off by the fermentation process. The site, supported by ADEME, the French environment and energy management agency, and the European Union, will enable us to measure the technical, economic and environmental potential of this new technique.

The **Narbonne** (**France**) composting facility has now entered service. SEDE Environnement produces its Bio Terra compost (12,000 metric tons/year) from vegetable waste and a selection of wastewater treatment plant sludge. This product meets the specifications of standard NFU 44-095.

The compost produced at the new **Launay-Lantic** (**France**) facility exceeds the requirements of the future French standard NFU 44-051.

This performance has been achieved through the local residents' application of source separation of waste, the modern facilities and control of the entire process: waste preparation, ballistic separation, screening, and magnetic sorting to remove glass, metal, objects and plastic film measuring more than 10 mm, plus the addition of green waste and green algae during the fermentation stage.

A tracking sheet is kept for each batch of compost. At the end of the line, 70% of the organic matter in the treated waste has been transformed and recycled into compost. The entire 7,000 metric tons/year of compost produced is sold.

Compost to order

We produce organic soil conditioners to order: for salad grower Vitacress (UK), we have developed a product that suppresses weed growth when spread as topsoil.

Our compost production subsidiary in (France) has developed an organic fertilizer called GUANO DE POISSON that is sold across Europe. Unique in terms of its origin, composition and its action, this fertilizer is an ideal response to the needs of integrated farming and dovetails perfectly with our quality approach.

Certification for quality compost

The quality of our compost has been recognized by nine European ecolabels. We have been awarded the European Ecolabel for compost produced at our Billy, Noirmoutier, Nantes and Thonon (France) facilities. This label covers the quality of the finished product and the production process. It certifies that the compost contributes to the fight against soil and water pollution.

In Dandenong (Australia), our facility has been awarded certification by the Australian Greenhouse Office. At this facility, we produce a superior quality compost from waste from local food processing companies and garden waste. We sell the compost to organic horticulturalists.

In the United Kingdom, the quality of our compost made from green waste, Pro Grow, has been recognized by an award from the BCE (Business Commitment to the Environment).

In France, our Biodiv service collects more than 30,000 metric tons of vegetable waste from retail outlets and food processing businesses. This waste is converted into compost that complies with French standard NFU 44 051.

Focus on…

...2 billion hectares of depleted soil

According to the FAO(1), human activity has damaged 15% of the emerged land surface. Over the past 30 years, the drive to increase food production has been the main source of this deterioration. Soil erosion is the number one threat: it affects 84% of depleted soil. Almost one-quarter of useable land is so impoverished in organic matter that its productivity is seriously impaired.

Organic matter—plant and animal organisms that live in the soil and their residue—is essential to maintaining soil stability, fertility, and its ability to retain water, and filter and store carbon. By returning to the soil the organic matter that has been exported from the countryside to the city, the composting of biodegradable waste helps improve soil. Quality compost helps preserve water resources, as a humus-rich soil retains moisture better. It also acts as a filter: by retaining polluting substances, it protects surface and groundwater resources. Lastly, the addition of compost helps combat the greenhouse effect by fixing in the soil the carbon in the atmosphere.

(1) United Nations Food and Agriculture Organization.

Sludge recycling

WASTE-TO-ENERGY

From incineration to energy recovery

Thermal treatment is an effective recovery solution for waste that cannot be recycled. The first advantage is that it divides the volume of waste by 10. It also provides an alternative source of energy that can replace fossil fuels to generate heat for district heating networks or electricity fed into the local grid. It saves natural resources and limits greenhouse gas emissions.

We are bringing our plants up to the most recent standards. We test and implement processes to minimize the environmental impact of our municipal waste-to-energy (WtE) plants. We are also seeking ways to increase their thermal output by fitting them with electricity and heat cogeneration systems. We recycle the bottom ash as backfill and stabilize the flue gas residues. We pay particular attention to integrating new facilities into their natural surroundings.

Design and operation of WtE plants with emissions control

In the UK, we have improved the combustion in our SELCHP energy recovery facility to cut nitrogen oxide emissions in compliance with the European directive. We have modernized its flue gas treatment system, which has resulted in less consumption of lime. We have carried out a similar operation at the waste-to-energy plant for the Vancouver region (Canada). We also installed a 25 MW turbo alternator, in addition to the steam generator system. The ecological benefits of this investment are estimated at 59,000 metric tons of CO_2 equivalent avoided.

In France, we provide semi-continuous monitoring of the dioxins at the municipal waste incineration plants where we are in charge of investment. At the other plants we operate, we encourage the municipality to implement this type of monitoring, which is in addition to regulatory measures. The continuous sampling in a filter cartridge is read monthly. At the Vaux-le-Pénil waste-to-energy plant, the waste is unloaded and stored in a closed depot to avoid odors and dust. The process water and flue gases are treated and the dioxin and furan emission levels are checked monthly by external agents.

In the United States, the Miami-Dade waste-to-energy center treats 1.4 million metric tons of waste a year in compliance with strict

91%

Key figures

- 91% of our municipal waste incineration plants are equipped with energy recovery systems
- 5.6 million MWh: the energy generated at our waste-to-energy plants. This is the equivalent to the electricity consumed in the homes of 1.5 million French people

environmental regulations. Each year, we recover 3,000 metric tons of aluminum, 36,000 metric tons of steel and metals, and produce almost 80,000 metric tons of compost along with 76 MW of renewable energy that powers the plant and 45,000 households. This facility has received numerous awards for its environmental performance.

We have signed a nine-year contract with the city of **Dunkirk** (**France**), for the design and operation of a municipal waste-to-energy plant. To be commissioned in 2007, this plant has a furnace with a capacity of 12.5 metric tons/hour. It will be fitted with a wet-method flue gas treatment system and the Innova von Roll system. Eventually, it will process 86,000 metric tons/year of waste.

Meeting the growing energy needs of large cities

Asia's energy needs to fuel its growth are enormous. In **Taiwan**, our teams have won many contracts for the maintenance, operation or construction of waste-to-energy plants. For example, we manage the **Tai Chung** plant (220,000 metric tons/year of municipal waste). In **Shanghai** (**China**), we provided assistance for the delivery of the **Puxi** waste-to-energy plant, the largest in China with a capacity of 1,500 metric tons/day. We are also responsible for its operation and maintenance. We also operate the **Likeng** waste-to-energy plant near **Guangzhou** (**China**), which has a capacity of 1,000 metric tons/day of municipal waste and generates 21 MW.

Architectural plants that blend into their environment

The **Nîmes** (**France**) waste-to-energy plant treats the non-hazardous waste from 57 municipalities (SITOM Sud Gard waste authority). The plant is unique in terms of its innovative architecture and the performance of its flue gas treatment system, which yields emissions levels 75% below the regulation thresholds.

Our **Marchwood** (**UK**) waste-to-energy plant is also remarkable for its architecture. Commissioned in 2005, it treats 165,000 metric tons/year and generates electricity for more than 14,000 households. We have also focused on aesthetic design principles for our plants in **Vaux-le-Pénil** and **Valène** (**France**) to ensure they blend with their environment.

Focus on…

… dioxins

Dioxins are chlorinated compounds that are mainly emitted by waste incineration plants and by certain industrial activities. The atmospheric effects of these pollutants can persist for several years in the soil, contaminating both flora and fauna. Dioxins are transmitted to humans through the food chain.

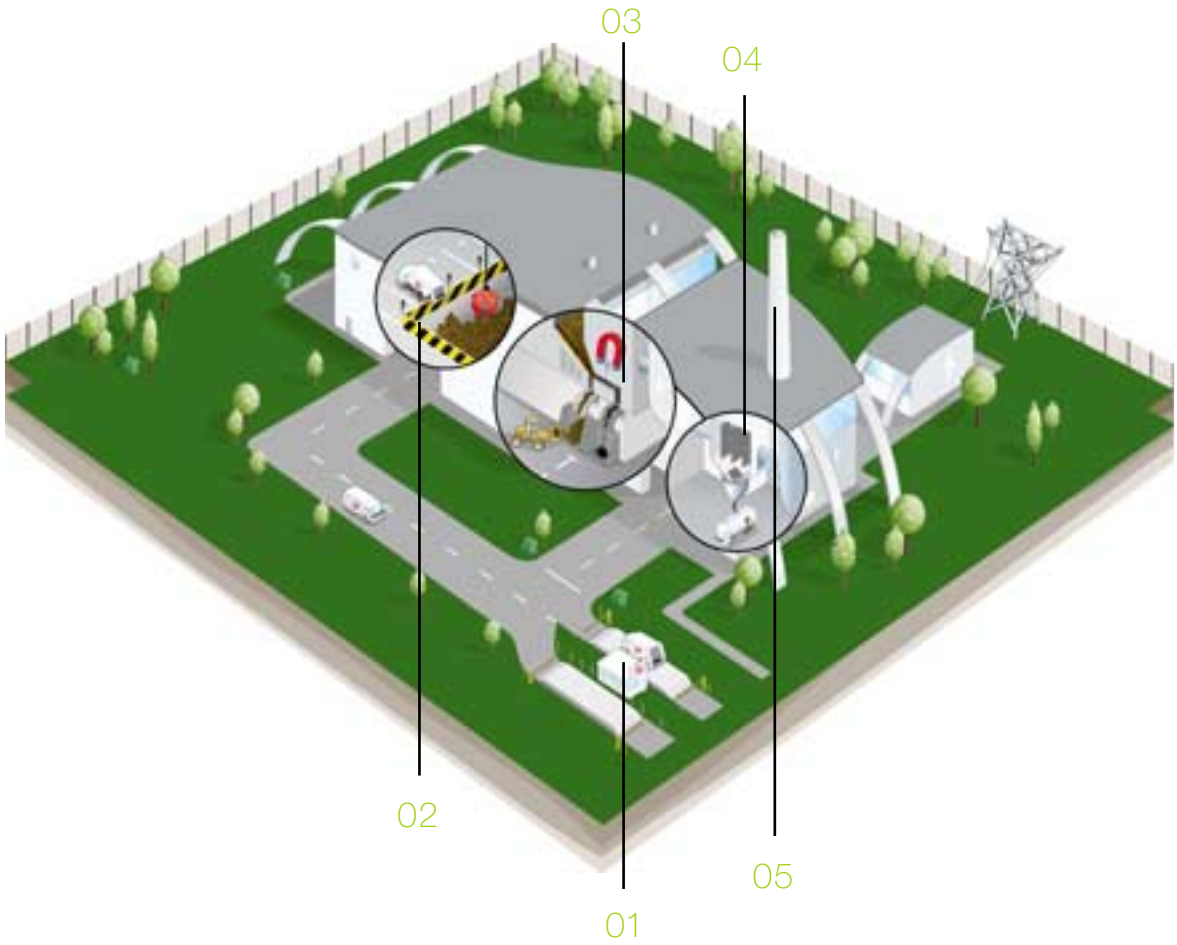
Dioxin emissions have fallen sharply in highly industrialized countries since the adoption of more stringent regulations. In France they have fallen by almost 80% in 12 years. The application of the European standard setting the dioxin threshold at less than 0.1 ng/Nm^3 for incineration plants became mandatory on December 28, 2005. At the end of 2004, the French Committee for Prevention and Precaution estimated that an incineration plant that complies with the new European standard will present a cancer risk of nil to negligible for people living nearby.

42%

Key figures

- 42% of our bottom ash is used as backfill or as road base layer
- 203,000 metric tons of metals are recovered from incinerated waste

Waste-to-energy plant



01 Vehicle inspection on entry and exit

Identification of the type of waste, vehicle weighing and detection of radioactivity condition waste acceptance and circulation.

02 Unloading the waste

Before being incinerated, the waste is unloaded into a pit from which it is fed into the furnace by a grab crane.

03 Waste incineration, energy production and materials recovery

Waste incineration enables steam to be produced in a heat recovery boiler. The steamis used to supply district heating networks and to generate electricity fed into the national grid.

The bottom ash is recovered after combustion of the waste. It is treated and then used in road construction. The treatment process extracts ferrous and non-ferrous metal, which is used as a recycled raw material.

04 Flue gas treatment

The pollutants in the flue gases are captured and neutralized. Fly ash is collected in a filter; the acid gases are neutralized by chemical agents; the heavy metals, dioxins and nitrogen oxides are also captured and treated. The fly ash and all reaction by-products from the flue gas treatment are then neutralized and sent to a hazardous waste landfill.

05 Continuous monitoring of emissions into the environment

All emissions from the waste-to-energy plant are continuously monitored; the readings are used to adjust the plant's operation.

R&D

Listening to the residents

Veolia Environmental Services and the CREED research center have measured the odors emitted by the St Aubin en Charolais (France) landfill, and formed a panel of local residents. By comparing the data collected with weather data and operation parameters, we have mapped the site's odors and identified the main sources of odor pollution. In so doing, we have been able to develop solutions for its reduction. We have also provided residents with a voice server connected to a weather station and mapping program.

LANDFILLING

A highly industrial activity

Given today's consumption habits, it is not possible to achieve zero waste. Landfilling is the final link in the waste management chain. It also provides a source of green energy: the landfill gas emitted by fermentation can be treated to generate heat or electricity.

Municipalities are very interested in this treatment method. It is easy to understand: they are the source of the waste, and also have landfills located within their boundaries.

Our landfills use techniques that protect the soil and groundwater and limit the emission of greenhouse gases. We are working toward treating all leachate and landfill gas at all landfills where we are in charge of capital investment by 2006.

Build and operate landfills to high environmental standards

Leaktight membrane liners, leachate collection and treatment systems, landfill gas recovery, rigorous environmental control: we provide our clients with the latest technology available.

In China, we have made Guangzhou-Xingfeng that country's first landfill to comply with international standards. We are implementing a similar approach at the Foshan (population 5.6 million) and LaoGang landfills where we are in charge of investment, design, build, operation and maintenance. Financed 45% by the World Bank, and with a capacity of 80 million metric tons, the LaoGang landfill will be the largest in China.

In Chrzanow (Poland), we opened the first landfill built to European Union standards.

Since 2003, we have been operating the Effeh landfill, the largest in Israel with a capacity of 50 million metric tons in phase 1. Its great depth (50 to 70 meters) optimizes landfilling costs, while the low rainfall (70 mm/year) limits the amount of leachate and the subsequent cost for its treatment. Another advantage of this site is its close proximity to the terminus of Israel's north-south rail line. A neighboring factory plans to use the landfill gas recovered. Effeh will be able to process one-third of Israel's municipal waste by 2008.

Focus on…

…The Kyoto Protocol: Veolia Environmental Services is a CDM partner.

Veolia Environmental Services signed a CDM (Clean Development Mechanism) contract with the Netherlands for the project to recover landfill gas from the Tremembe (Brazil) landfill. Under the Kyoto Protocol, the CDM enables industrialized countries to achieve their greenhouse gas emission targets by financing clean industrial facilities in developing countries. Our project should avoid the discharge of 700,000 metric tons of CO_2 over 10 years.

Production of renewable energy to combat the greenhouse effect

In the European Union, 21% of all electricity consumption in each Member State must be generated by renewable energy sources by 2010. The French government has therefore called for tenders to build by 2007 electricity power plants using biomass or landfill gas. Our landfill gas project, the only one adopted, consists in raising to 27 MW the capacity of our facility at the Claye-Souilly landfill. This will prevent the emission of 42,000 metric tons/year of greenhouse gases equ. CO_2. In Montreuil-sur-Barse, we equipped the landfill with a gas conversion unit that produced almost 5.4 GWh of electricity in 2003 from the 4 million cubic meters of landfill gas recovered.

In the United States, we manage numerous landfill gas recovery facilities. The Saint Louis County landfill prevents the annual emission of 25,000 metric tons of greenhouse gases equ. CO_2. We have identical facilities in Eau Claire and Horicon in Wisconsin.

Our Ti Tree (Australia) landfill is the first in that country to be fitted with a bioreactor, or Écométhaniseur®, that injects the leachate back into the waste. According to US experts, this system multiplies landfill gas production by 10 and increases the landfill capacity by 20% to 30%. It also reduces the post-closure care period. The recent Woodlawn bioreactor treats 400,000 metric tons/year of waste. It is expected to generate 20 MW of green electricity.

In La Vergne (France), we have undertaken a research program to measure the technical, economic and environmental benefits of this new method of landfill operation on an industrial scale.

Protection and rehabilitation of the environment during and after operation

In Graulhet (France) our hazardous waste treatment and landfill center uses the most advanced technology. It's design blends with the traditional architecture of the local tanneries, and protects the surrounding flora and fauna. In La Glacière we carried out a study on the impact of our landfill on the surrounding flora and fauna, and adjusted the schedule of our earthworks and development operations accordingly. In Lapouyade, in agreement with the local forest owners, we backfill sites with the earth extracted from our landfill. The sites are then planted with pines that help drain the soil and assist with reforestation.

In Wisconsin (United States), near the Glacier Ridge landfill in Horicon, we participated in the remediation of 95 hectares of prairies and wetlands to restore the original ecosystem. We are developing an increasing number of biodiversity programs in conjunction with local partners with a view to protecting endangered plant and animal species or to reintroducing those that had vanished from the region.

Key figures

- 96% of our landfills have a leachate collection and treatment system
- 84% growth in thermal energy production at our landfills

Non-hazardous waste landfill

01 Vehicle inspection on entry and exit

Identification of the type of waste, vehicle weighing and detection of radioactivity condition waste acceptance and circulation.

02 Active and passive leaktightness of the cells: soil protection

A landfill is made leaktight by lining the cells with layers of very low permeability clay, covered with synthetic leaktight geomembranes.

03 Leachate collection and treatment: groundwater protection

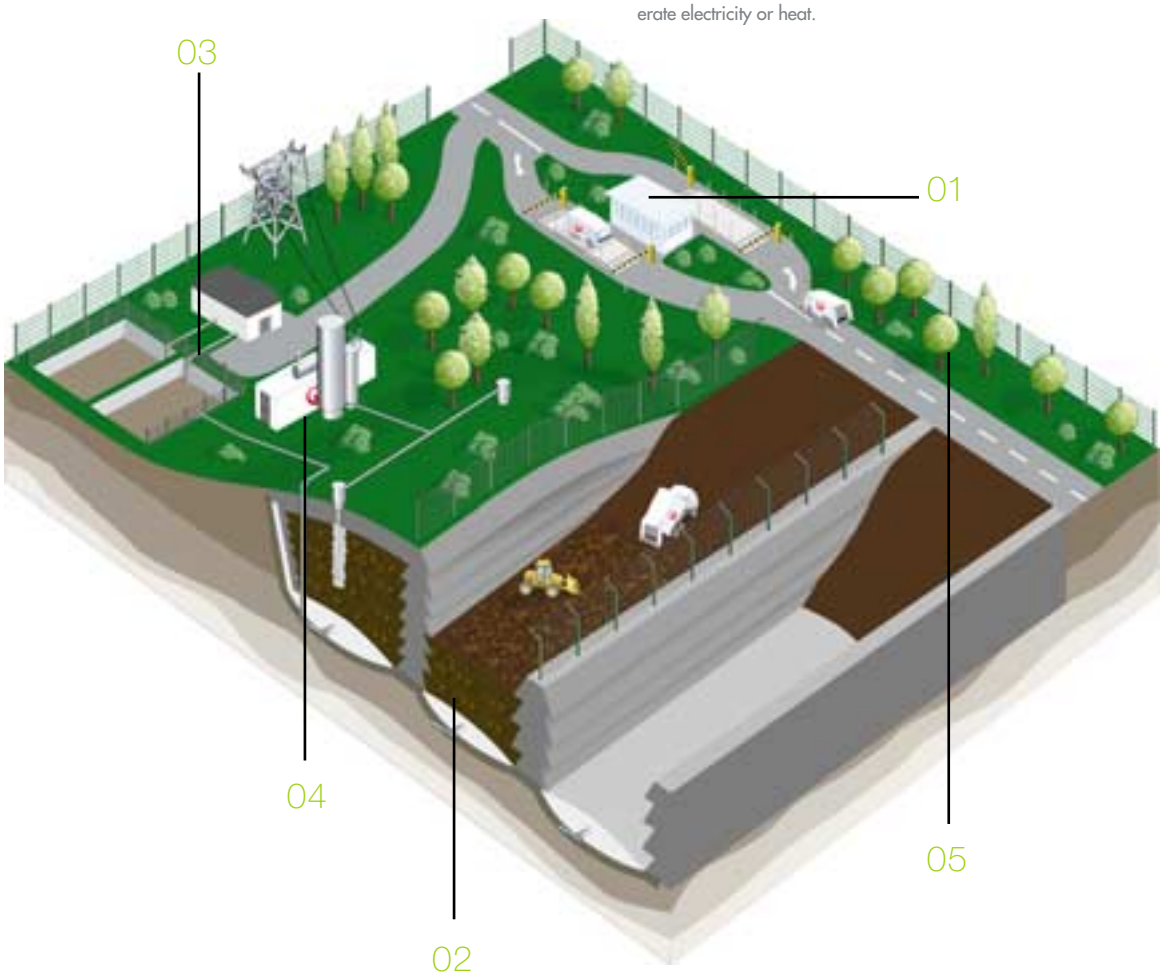
Produced by rainwater draining through the waste, leachate is rich in organic matter, heavy metals and salts and cannot be discharged directly into the natural environment. It is carefully collected through pumping wells distributed across the site. After collection, it is treated in a local treatment plant.

04 Landfill gas collection and energy conversion: reduction in GHG emissions

Generated by the natural degradation of the organic matter in household waste, landfill gas contains methane and is a major contributor to the greenhouse effect (21 times more than CO_2). It also creates odor problems. Veolia Environmental Services has become the industry expert in the collection of landfill gas, which is then burnt in flares or recovered in the form of energy. This renewable source of energy can be used to generate electricity or heat.

05 Landscaping and post-closure care

Final landscaping of the site reintegrates the landfill into its natural environment depending on its future use (farmland, park, golf course, etc.). Rigorous post-operation care (continuous monitoring of the operation of treatment units) guarantees the sustainability of the facilities.



Focus on…

… biomass-to-energy conversion

Waste is an abundant source of biomass(1). Agricultural plant waste, effluent from breeding operations, untreated timber waste, byproducts from livestock feed and agribusiness, and the biodegradable portion of household waste are all potential sources of renewable energy. It can be recovered in three ways:

- production of biofuel. In France, our wood process supplies fuel for boilers in partnership with Veolia Energy (Dalkia).
- generation of electricity and thermal energy from the gas emitted by the aerobic fermentation of waste. Our landfills produce 705,000 MWh/year, or the equivalent household electricity use of 195,000 French consumers; 28% of these landfills are equipped with a landfill gas conversion system.
- electricity generation from methane production systems using the gas emitted during anaerobic fermentation of waste. We are studying the characteristics of this process in an industrial-scale pilot unit that also produces compost.

(1) Biomass refers to organic matter excluding hydrocarbons and their derivatives

Glossary

Bioreactor Bioreaction accelerates the production of landfill gas by recovering leachate and reincorporating it into the waste mass. Adding moisture and nutrients to the bacteria at work in the mass accelerates the breakdown process, facilitating the recovery of methane usable for energy. Collecting and recovering methane offers both environmental and economic advantages: it reduces methane's greenhouse effect and is a significant source of energy.

Bottom ash Bottom ash is the slag and solid residue left after waste combustion and recovered from the bottom of furnaces. A distinction is made between municipal waste bottom ash and hazardous waste bottom ash. Current regulations divide the former into three categories: recyclable, treatable and storable. "Recyclable" bottom ash that meets specific technical requirements can be used to build roads. Special industrial waste bottom ash is treated in landfills or recycled in some cases.

Composting A biological process that accelerates the breakdown of organic waste by introducing air, producing compost. The chemical reactions involved in composting release heat, which sanitizes the compost, i.e., eliminates the pathogenic agents in the incoming waste. Compost can be used as an organic amendment, to improve soil structure, or as a fertilizer to nourish plants.

Dioxins The generic name of a family of chlorinated organic substances that are a byproduct of combustion processes. Dioxins are created by the combustion of products containing chlorine. Sources include cement plants, herbicide and pesticide manufacturing, paper pulp bleaching, foundries, manufacturing of metals, steelmaking, waste incinerators, etc. They can also be produced by hard-to-evaluate natural sources such as forest fires and volcanic eruptions and by scattered sources such as open-air burning, i.e., garden, chimney and pit fires. Of the 210 existing dioxins, 17 are considered toxic.

Flue gas treatment residues Incineration of municipal waste produces flue gases that are chemically treated to reduce pollution. They become solid residues able to be collected. Treatment combines neutralization and filtration and can purify over 98% of municipal waste incineration flue gases. Targeted pollutants include acid gases and particulate matter, heavy metals, nitrogen oxides and dioxins, which are treated using supplementary processes. Flue gas treatment residues that consist primarily of fly ash are stabilized before being disposed of in hazardous waste landfills.

Green waste Residual plant waste from gardening and green space maintenance. Garden waste, which is produced by individuals, is distinguished from municipal green waste, which is produced by community parks and engineering departments.

Greenhouse effect Greenhouse gases are gases that absorb a portion of the sun's rays, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), CFCs and HCFCs; synthetic gases that attack the ozone layer; and CFC substitutes, such as HFC, PFC and SF_6. Veolia Environmental Services emissions consist chiefly of CO_2 and CH_4. The latter has a greenhouse gas impact 21 times greater than CO_2.

Hazardous waste In France, any waste listed in the April 18, 2002 decree concerning the classification of environmentally polluting waste. Generally, hazardous waste is waste that poses a health or environmental threat and requires appropriate treatment.

Landfill An installation designed to treat and store waste under optimal safety conditions. The European Union recognizes three classes of landfill: stabilized hazardous waste landfills, called class 1 in France; landfills that take in municipal and similar waste, called class 2; and inert waste, or class 3, landfill sites.

Landfill gas (or Biogas) Produced by the biological breakdown of organic matter in the absence of oxygen. It contains a high proportion of methane (50%) and thus has a high calorific and energy potential. In our industries, gas is produced in landfills, methane production units and the sludge digesters of wastewater treatment plants. It must be collected to prevent pollution and environmental damage, specifically odors and heightened greenhouse effect. Landfill gas can be recovered and used as a renewable energy in place of fossil fuel.

Leachate Stored waste subject to the combined action of rainwater and natural fermentation produces a liquid fraction called "leachate." Rich in organic matter and trace elements, leachate cannot be returned directly to the natural environment and must be carefully collected and treated.

Methane (CH_4) A gas that helps create the greenhouse effect (see landfill gas and Greenhouse effect).

Organic waste (or biodegradable waste) Residual waste of plant or animal origin that can be broken down by microorganisms, which use it as a source of food.

Sites whose investment we control Tracking indicators for Veolia Environmental Service's quantified targets to reduce dioxin and methane emissions and treat leachate apply only to sites whose investment we control. These are sites we own or are contractually obligated to invest in as an operator.

Waste-to-energy plants (or energy recovery facilities) Waste incineration plants that generate electric power or supply a heating utility.

WEEE (Waste Electrical and Electronic Equipment) Electrical and electronic equipment accounts for an increasing amount of the waste managed by cities. It consists of brown (TV sets, radios, phones, etc.), white (appliances, etc.) and gray (IT) products. The quantity of WEEE is growing constantly. Electronic waste can harm the environment if it is not adequately treated first.

Abbreviations

ADEME:	The French Environment and Energy Management Agency
AFNOR:	The French Standards Association
CH_4:	Methane
CECOP:	A public opinion polling institute
CO_2:	Carbon dioxide
CREED:	Veolia Environnement's research center for the environment, energy and waste
ELV:	End-of-Life Vehicles
EMS:	Environmental Management System
GHG:	Greenhouse gas
GWh:	Gigawatt hour
ISO:	International Standards Organization
ISO 14001:	Environmental management systems
ISO 9001:	Quality management systems
OHSAS 18001:	Occupational health and safety management systems
MRF:	Materials recovery facility
MWh:	Megawatt hour
MWIP:	Municipal waste incineration plant
NGO:	Non-government organization
NGV:	Natural Gas Vehicles
OHSAS:	Occupational Health and Safety Assessment System (see ISO)
QHSE:	Quality, Health, Safety, Environment
R&D:	Research and Development
SRF:	Solid Recovered Fuels
WEEE:	Waste Electrical and Electronic Equipment

Key figures 2005

- 6.6 billion euros in revenue
- 55% of revenue generated outside France
- 63% of revenue in the private sector
- 465,000 partner companies
- 37% of revenue with municipalities
- 73,000 employees in 33 countries
- 45 million people benefit from our waste collection services
- 34 million metric tons of waste collected
- 53 million metric tons of waste treated
- 310,000 metric tons of polluted soil remediated
- 2.28 million metric tons of CO_2 equivalent greenhouse gas emmisions avoided
- 6,190 million GWh of energy sold through waste-to-energy and landfilling
- 13% materials recovery rate for treated waste
- 659 treatment facilities

Financial indicators

Change in revenue
(in millions of euros)

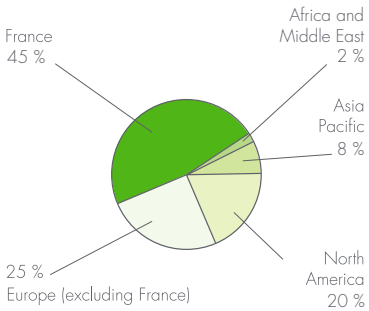
2005 revenue was up 6.5% over 2004

Change in operating margins
(in millions of euros)

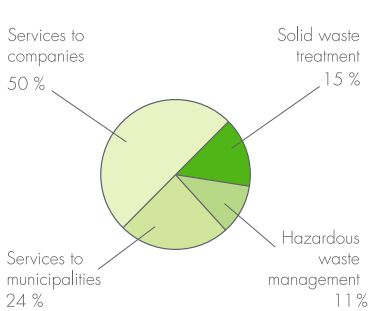
2005 operating margin was up 12.3% over 2004

As European Union law on accounting standards for listed companies changed in January 2005, consolidated financial statements before 2004 were not established in accordance with the International Financial Reporting Standards (IFRS); that is why we only present the figures for 2004 and 2005.

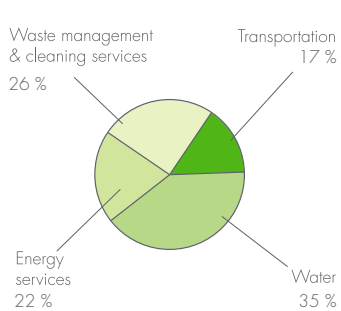
Breakdown of Veolia Environmental Services revenue by geographical area



Breakdown of Veolia Environmental Services revenue by activity



Breakdown of Veolia revenue by division



Presence in the world

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