

Direction de
l'environnement et du
développement durable

2009 Highlights

Sustainable development awareness: up

Recyclable materials recovery rate: up

Rehabilitation of the CESM site: in progress





The mission of the **Direction de l'environnement et du développement durable** is to improve the quality of life and living environment of citizens of the Montréal agglomeration, by raising public awareness about environmental issues, by promoting and monitoring the quality of the physical environment, by providing responsible management of the territory's resources and residual materials, and by monitoring the quality and safety of food with respect to wholesalers, restaurants and retailers. In addition, the Direction assumes an advisory role for municipal services, boroughs, related municipalities and other authorities in the area of sustainable development. To this end, it develops policies, programs and action plans.

This document was prepared using the reports submitted for 2009 by the division heads of the **Direction de l'environnement et du développement durable**, under the supervision of Chantal I. Gagnon, director.

Anne-Marie Bernier-Brière
Expertise technique

Sylvain Dansereau
Administration

Pierre Gravel
Gestion des matières résiduelles

Roger Lachance
Complexe environnemental de Saint-Michel (CESM)

Annick Le Floch
Planification et suivi environnemental

Danielle Lussier
Équipe de coordination – Développement durable

Michel Raby
Contrôle des rejets industriels

Christine Vézina, D.M.V.
Inspection des aliments



Message from the director

Working as a team

With these *2009 Highlights*, I am pleased to present an overview of the many awareness and training, planning, support and monitoring activities carried out over the past year by the Direction de l'environnement et du développement durable in order to give concrete expression to a vision that is as inspiring as it is essential: to make Montreal a "sustainable metropolis." Thanks to the continuous efforts of employees in the Direction's eight units, as well as the participation of other municipal departments, an ever-growing number of partners and Montrealers themselves, the year saw undeniable progress in this direction. Here are a few examples.



The actions outlined in *Montréal's First Strategic Plan for Sustainable Development* were completed and a second Plan was established, this time for the 2010–2015 period. Exchange networks continued to develop. Citizens were encouraged to recover rainwater. A campaign on reducing waste at the source led 15% of Montrealers to consume differently during the holiday season.

Programs aimed at improving air, water and soil quality resulted in several improvements in the physical environment and to the identification of corrective measures to be taken. A by-law aimed at reducing fine particles caused by residential wood heating came into effect.

The *Plan directeur de gestion des matières résiduelles de l'agglomération de Montréal 2010-2014*, Montréal's Waste Management Master Plan, was adopted unanimously by the agglomeration council — a decisive step on the environmental front. Recovery of recyclable materials is on the rise. The start of a ten-year contract for sorting these materials and disposing of non-recyclable materials led to major savings for the Montreal community, totalling \$5 million in 2009 alone.

Other highlights include the work underway to set up two new ecocentres, the end of landfill activities at the Complexe environnemental de Saint-Michel and the progressing transformation of this site into a major urban park, ongoing work in the area of food inspection and technical analyses, and the complete overhaul of the Direction's website.

Such a list of accomplishments only inspires us to do more. In fact, our entire team continues to question its own daily actions, with a view to becoming a more sustainable entity. In this regard, I invite you, as well, to contribute to building this new Montréal.



Chantal I. Gagnon, MBA
Director
Direction de l'environnement et du développement durable

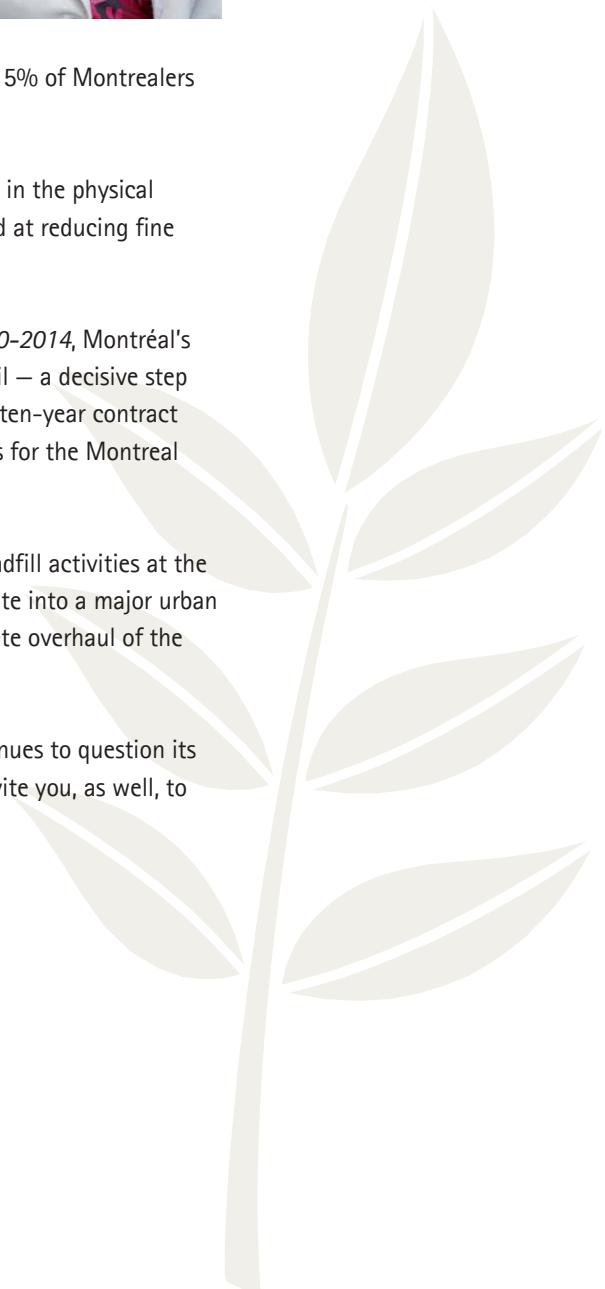






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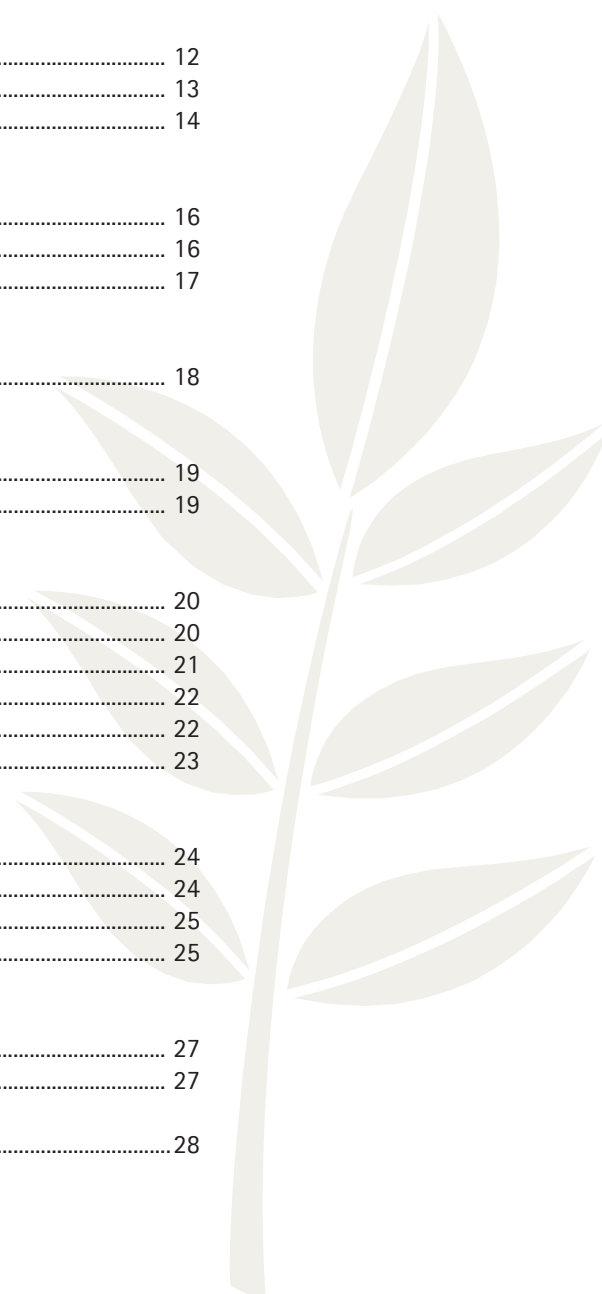
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The Direction de l'environnement et du développement durable

In its desire to lead by example in the area of sustainable development, the Direction had implemented in 2008 a management system that continuously incorporated environmental considerations into its activities, including waste management, energy consumption, purchasing and transportation. In 2009, it expanded and intensified its commitments to this effect.

The Direction is composed of eight units that work in close collaboration. The organization chart on the following page presents their respective mandates, number of employees and budgets for the year 2009.

ENVIRONMENTAL MANAGEMENT SYSTEM: IMPLEMENTATION STRENGTHENED

The Direction added to its responsible practices the management of putrescible materials, oil recovery and adherence to Allégo, a project of the Agence Métropolitaine de Transport aiming to promote alternative choices to single-occupancy vehicle trips. It also invested new efforts in management of its vehicle fleet, regulatory compliance, energy and water management, and procurement – efforts that will translate into more than 40 projects by 2011. In addition to improving the Direction's environmental performance, this new action plan applies the principles expressed in the Ville de Montréal's various policies: green policy for fleet management, sustainable procurement policy, climate protection corporate action plan, etc.

Here are some objectives of this new phase of the Environmental Management System (EMS):

- By 2011, reduce greenhouse gas (GHG) emissions attributable to employee transportation by 6% (compared to 2006) and reduce the consumption of printing and photocopy paper by 15% (compared to 2008).
- Reclaim 100% of residual and hazardous materials (i.e. divert from disposal).
- Ensure that all of the Direction's operations meet environmental standards and requirements.
- Draw up a portrait of water use within the Direction and identify ways to reduce its consumption.
- Adhere to the energy savings plan that the Direction des immeubles intends to implement

in order to achieve annual savings of \$2.2 million by 2013 (compared to 2007).

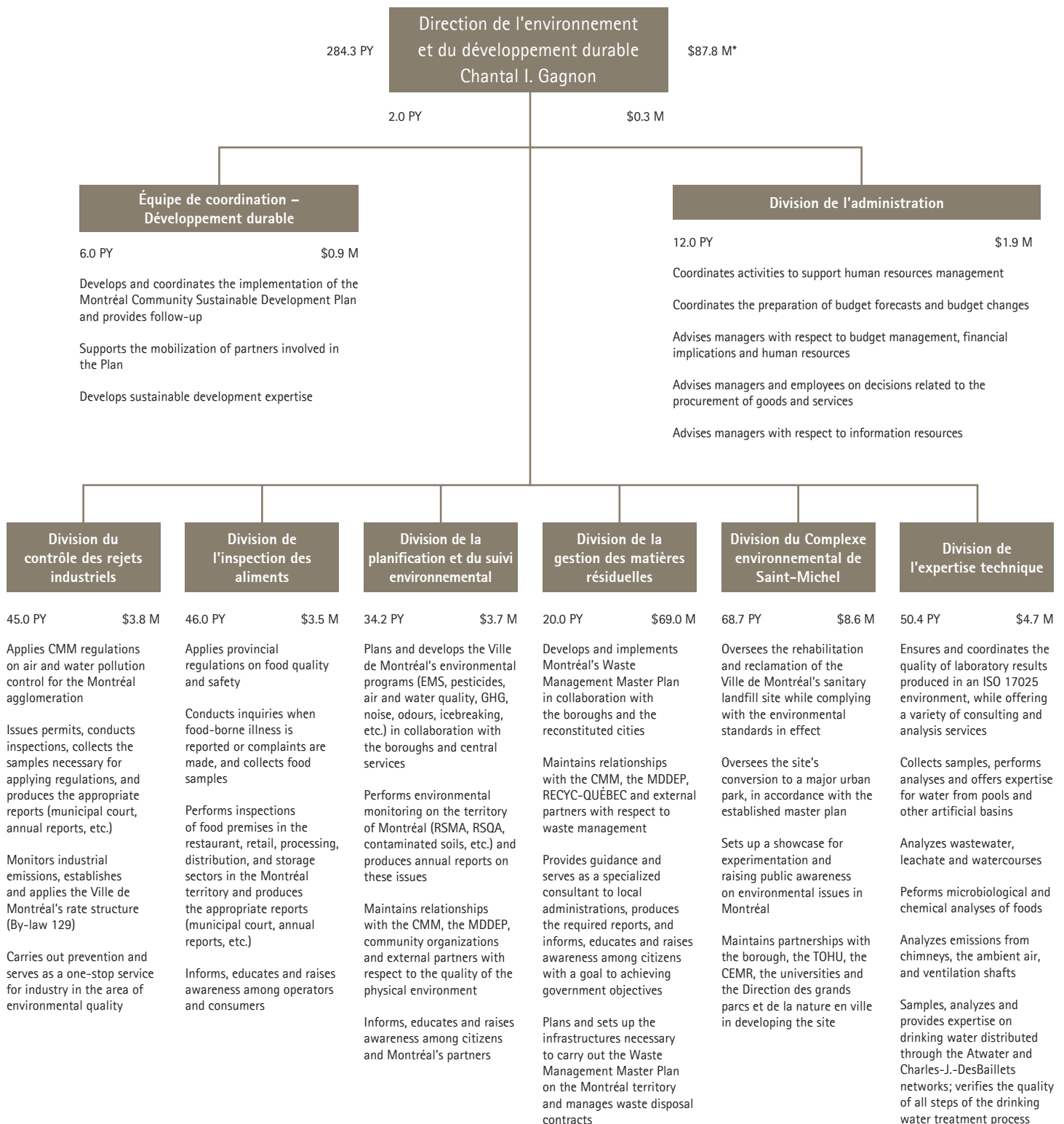
- Introduce a green purchasing program within the Direction and, to this end, offer personnel training prepared by the Direction de l'approvisionnement.
- Ensure continuous follow-up of the actions planned and integrate environmental performance criteria into manager evaluations.

The Direction's employees have overwhelmingly agreed, in writing, to make the EMS a reality.

They attended an inspiring talk on the topic given by the director of Granby Zoo, who explained how her institution had been determined to "go green." Among other accomplishments, the zoo succeeded in radically reducing its water consumption. It was a clear demonstration of how change is possible; the zoo's actions even encouraged other organizations in the region to follow suit.



2009 Organizational Chart



* This amount includes the \$8.6 M allocated as a post-closure reserve for the CESM in order to finance the activities of the division concerned in 2009.



Promoting Sustainable Development

Whether it was drawing up a new strategic plan, increasing the number of partners, sharing expertise with other departments and stakeholders in the field, or raising awareness among Montrealers of all ages about reduction at the source and recovering rainwater, the Direction worked all-out to promote sustainable development and to educate people about environmental issues.

The Sustainable Development Plan now rallies 178 Montréal companies and institutions.

THE MONTRÉAL COMMUNITY SUSTAINABLE DEVELOPMENT PLAN

TAKING STOCK AND PLANNING AHEAD. The Direction produced the **2008 report** on *Montreal's First Strategic Plan for Sustainable Development, 2007-2009*, and devoted significant efforts to defining a **second plan targeting the 2010-2015 period**. Partners were consulted in order to identify the focuses of intervention and actions to take, and experts were met so as to put figures to the proposed objectives in terms of GHG, drinking water, etc. Reflection on the Plan was also sustained by the evaluation of the *First Strategic Plan* and of the Quartiers 21 program, and by identifying available economic instruments, including fiscal tools offered to Québec municipalities to encourage their transition toward sustainable development.

STRATEGIC PLAN CONTINUES TO GAIN NEW PARTNERS. A total of 178 companies and institutions in Montréal have now joined the Strategic Plan — a 7% increase over 2008. New members include the Société du parc Jean-Drapeau, Tennis Canada and the École de technologie supérieure.

MULTIPLE EXCHANGES. Two thematic meetings enabled partners of the **Exchange Network**, led by the Direction, the Conférence régionale des élus de Montréal and the Conseil régional de l'environnement de Montréal, to discuss the *First Strategic Plan*. The frequency of the **DOMINO electronic newsletter** was increased once again, going from 11 to 12 issues. Finally, the **third edition of the Gala for the Environment and Sustainable Development** was highly successful, attracting a record 600 participants.



SHARING AND COMMUNICATING EXPERTISE

GREATER COLLABORATION WITHIN THE MUNICIPAL ADMINISTRATION. The Direction was called on to participate in the **municipal analyses of urban projects** for the Bellechasse sector, the Turcot Complex and Griffintown, to accompany municipal services in developing environmental management plans and to take part in the work of the **Bâtivert committee** in charge of developing Montréal's *Politique de développement durable des bâtiments de la Ville de Montréal* (policy on the sustainable development of buildings), which will gradually be applied to all municipal buildings. As well, the Division de l'expertise technique participated in meetings on securing the water intakes of the Atwater and Charles-J.-Des Bailleurs plants, worked with the NSERC Industrial Chair in Drinking Water Treatment of the École polytechnique de Montréal on studies relating to lead, and offered some fifty employees of the various boroughs training on water quality in pools and other artificial basins.

SUPPORTING EMERGENCY MEASURES. Four of the Direction's units (Contrôle des rejets industriels, Planification et suivi environnemental, Gestion des matières résiduelles and Administration) took part in a vast concerted civil safety planning exercise in case an event occur calling for emergency environmental protection measures (air, water, ground). According to the plan thus defined for the essential infrastructures of the Montréal community — and equally applicable to local administrations — the Direction, under the responsibility of Chantal I. Gagnon, would see to providing, as quickly as possible, sampling services, technical support and any other interventions necessary to assess the environmental impacts of the event and to maintain the quality of the physical environment.

REFLECTING ON PRACTICES. At the 5th **World Environmental Education (EE) Congress**, held in Montreal in May, the Direction and two of the Ville de Montréal's other administrative units (Direction des grands parcs et de la nature en ville and the Nature Museums), helped organize and finance **EE and Urban Challenges**, one of twelve thematic niches at the congress. Some 350 of the 2,000 congress participants attended the presentations or participated in the workshops offered, and the orientations that emerged from the event drew considerably from the documents prepared by the Direction's professionals in collaboration with their colleagues in the other departments. Another significant occasion for reflection took place in the fall, when the Direction participated in an **EE leadership workshop**, the first to be held in Quebec, organized by the Association québécoise pour la promotion de l'éducation relative à l'environnement (AQPERE) and Environment Canada's Biosphere.

EE TRAINING AND OUTREACH. Training sessions on adapting to climate change, focusing specifically on heat islands and managing rainwater, were organized for Éco-quartier resource persons. Young French interns, who came to discover how

the concept of sustainable development is taking concrete shape in Montreal, also enjoyed two presentations on these topics.

RAISING PUBLIC AWARENESS AND PROVIDING INFORMATION

THE ÉCO-QUARTIERS, organizations present in 11 of Montréal's 19 boroughs, continued to provide citizens with support and expertise in the area of waste management. The **Regroupement des Éco-quartiers** represented the Direction at the Great Gardening Weekend and during the green waste collection information days held in Montréal's public markets.





PROMOTING REDUCTION AT THE SOURCE.

As part of the Semaine québécoise de réduction des déchets, the Direction was one of the main partners of **Expo 3R**, presented at the Montréal Science Centre, a choice location for an environmentally flavoured family activity. In addition, during the holiday season, a **major campaign**, carried out in the newspapers, on buses, on Montréal's website and on street columns, invited citizens to **give the gift of culture** — an attractive way to raise awareness about responsible consumption. According to a survey, 40% of Montrealers were aware of the campaign, 75% of them understood that this type of gift does not produce any waste, 83% understood that they need to reduce the amount of garbage they produce, and 86% considered the campaign necessary. Finally, no less than 15% of respondents modified their gift choices accordingly.

THREE EE PROJECTS IN THE FIELD were sponsored by the Direction to encourage citizens to take action.

- All summer, for a fifth year in a row, the **Green Patrol** was present in public spaces in 14 boroughs and 7 reconstituted cities: about 50 young patrollers travelled the streets and parks to encourage Montrealers to manage their waste responsibly and to recover rainwater. The patrollers also set up kiosks in their respective boroughs during



two thematic days. On July 9, they distributed 2,828 copies of the "*Petit guide pratique du compostage domestique*" and 670 guides on vermicomposting to 5,898 people; on August 1, they talked to 3,002 citizens about recovering rainwater. In addition, more than 4,500 "Recovering Rainwater" pamphlets were distributed and about sixty rainwater collection barrels sold.

- Also as part of the Direction's training and monitoring activities, teams worked all summer and fall in Montréal sectors where **rainwater recovery** is possible, to raise homeowners' awareness about the importance of this resource that falls from the sky — and to encourage them to set up deflectors or rainwater collection barrels at the foot of their gutters so they can use it.

- Finally, the **Zero waste day camps** pilot project enjoyed a second summer of success. Since a dozen of the 24 participating camps from 2008 successfully met this second challenge, it was decided that the program should be continued. Already, 25 camps have submitted applications for 2010.



HIGHLY POPULAR TOURS AT THE CESM.

Awareness activities carried out jointly by the Direction and the Tohu on the site of the Complexe environnemental de Saint-Michel (CESM) were once again a resounding success with Montréal families. No less than 10,289 people received guided tours of the site. Presentations on the rehabilitation underway and on climate change were also given. During the spring and summer breaks, a wide variety of fun activities — from tube sliding to acrobatic kite demonstrations — gave parents and children the opportunity to become aware of the site's gradual transformation into a large urban park and to already begin enjoying it.

NEW ONLINE RESOURCES. The **Répertoire des adresses du réemploi** (reuse directory) was updated so that citizens, at just the click of the mouse, can find out where to go to obtain or get rid of objects. As well, redesigning of the Direction's website continued; the new version is scheduled to go online in 2010.

Improving air quality

Each time Montreal citizens take a breath, they are exposed to elements polluting the urban air. In 2009, the Direction continued to closely monitor the quality of ambient air and to make sure that applicable regulations were respected, in particular regarding fine particles resulting from residential wood heating — a major source of atmospheric pollution — and volatile organic compounds.

THE RÉSEAU DE SURVEILLANCE DE LA QUALITÉ DE L'AIR (RSQA)

In 2009, fine particles were responsible for 67 of the 68 poor air quality days in Montréal, the results of the 68th day being due to sulphur dioxide. As well, there were 32 days of smog in the Montréal region. These data are very similar to those recorded in 2008.

REAL-TIME DATA. At all times, the population and the media were able to check the air quality status for the Montréal area: the index is updated on the www.rsqa.qc.ca website every hour.

BENZENE LEVELS DOWN ONCE AGAIN IN THE EAST END. The average benzene concentration in the Rivière-des-Prairies-Pointe-aux-Trembles borough was 1.80 µg/m³. That's roughly a 14% drop in this pollutant compared to 2008, and the lowest average level recorded in this area since measuring began in 1989.



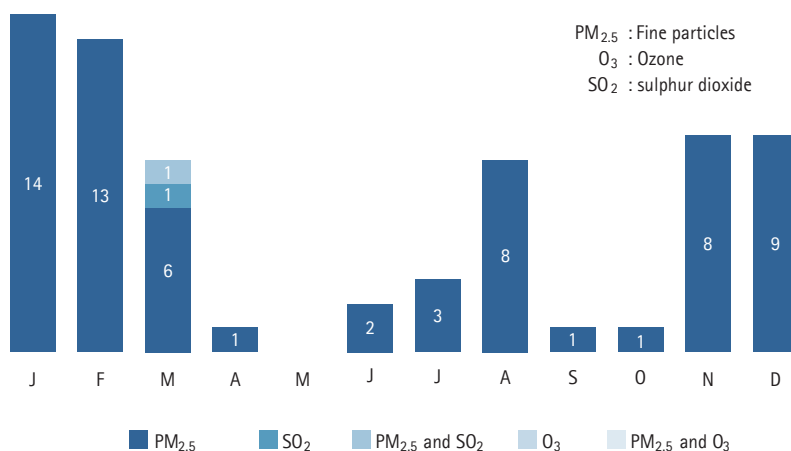
AT THE DIVISION DE L'EXPERTISE TECHNIQUE

- More than 7,800 analysis results sent to the RSQA

LIMITING POLLUTION FROM WOOD HEATING

As confirmed once again by data collected by the RSQA, fine particles released by wood heating equipment are among the main pollutants affecting Montréal's air quality. On April 29, 2009, the Council adopted a by-law that prohibits the installation of solid-fuel-burning equipment within a new or existing construction, with the exception of EPA certified pellet-burning stoves or equipment used to prepare food for commercial purposes. A fall radio campaign publicized the new by-law.

Poor air quality days in Montréal in 2009





CONTROLLING INDUSTRIAL EMISSIONS

EFFECTIVE INTERVENTIONS. Responsible for applying by-law 2007-42 enacted by the Communauté Métropolitaine de Montréal (CMM) relating to the emission of **volatile organic compounds (VOC)**, the Direction targeted **40 printing companies using flexographic and gravure printing** – processes that release VOCs into the atmosphere – in order to verify their compliance with standards in effect. Sixteen companies were found non-compliant and notified that they must submit a corrective action plan. As well, following numerous complaints (smoke and odours) concerning four restaurants that **cook food in wood or charcoal ovens**, several interventions were carried out in these establishments.

IMMEDIATE ANALYSES. In December, a truck was acquired and equipped with continuous gas analyzers, in addition to the usual measuring equipment. In this way, it will now be easier to determine, on site, the nature and concentrations of gaseous organic compounds released by an industry, and to quickly assess the effectiveness of its treatment systems.

CONCERTED PLANNING

The Direction participated in preparing the Ville de Montréal's brief on the Turcot interchange reconstruction project. It also took part in the work of the Air Management Committee of the Canadian Council of Ministers of the Environment, working on a strategy to reduce acid rain and reviewing Canadian standards for mercury, benzene, dioxins and furans.

AT THE DIVISION DU CONTRÔLE DES REJETS INDUSTRIELS

COMPLAINTS, LEGAL ACTIONS AND PENALTIES

- 1,046 complaints made by citizens, compared to 983 in 2008
- Average verification time for these complaints: 3.8 hours
- 483 notices served and 41 legal proceedings initiated
- 10 companies convicted for a total of \$98,700 in fines

PERMITS ISSUED

- 98 permits issued for air purification projects (investments totalling \$7.7 million)
- 389 temporary permits issued for construction and renovation

COLLECTIONS AND SAMPLES

- Samples of atmospheric emissions from industry: 109 characterizations to ensure compliance with CMM by-law 2001-10 norms; 70 days devoted to characterization monitoring
- 38 samples of petroleum, oils, and lubricants collected from establishments on the island. No cases of sulphur content exceeding standards set out in by-law 2001-10 were found.

AT THE DIVISION DE L'EXPERTISE TECHNIQUE

- 870 analyses related to industrial air emissions

An adjustment to current regulations seeks to limit the emission of volatile organic compounds (VOC) – the primary uncontrolled industrial source on the Montréal territory.



Improving water quality

The 2009 summer season was particularly dry, with average precipitation levels at their lowest in thirteen years and yet, at times, abnormally high water levels. Although this situation is somewhat worrisome, it was overall favourable to water quality on the island of Montréal, as shown by the results of the Réseau de suivi du milieu aquatique's ongoing monitoring.

THE RÉSEAU DE SUIVI DU MILIEU AQUATIQUE (RSMA)

Each week during the summer, samples were taken at 116 points to verify the **bacteriological quality of shoreline water (QUALO)**. Of this number, 102 points (87.9%) received the QUALO rating, which authorizes the practice of water contact activities. This is the highest rate seen since the program began in 1999.

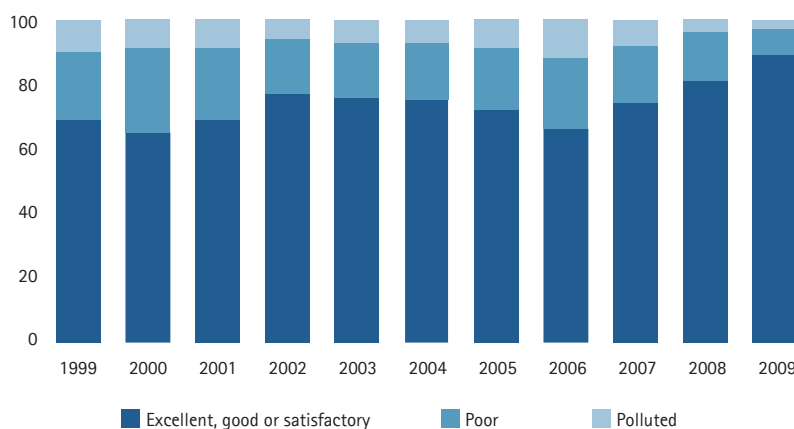
The **quality of interior lakes and streams (RUISSO)** has improved too, as evidenced by the analyses of 26 physico-chemical parameters performed on the samples taken at more than 58 points in 25 water bodies. The proportion of sampling points recognized as excellent, good or satisfactory went from 38% in 2008 to 52% in 2009



Finally, the study on the reversed connections responsible for the contamination observed in about thirty storm drains around the island continued under the **PLUVIO program (water from storm sewer networks)**. The presence of poor connections was detected in 168 sectors, where there are more than 3,300 buildings. A more intensive examination will identify the exact spots where corrections are required. Moreover, about sixty of the 170 storm water sewers that feed into streams show signs of bacterial contamination.

ONLINE INFORMATION. Highly appreciated by the general public, **maps of water quality** on and around the island were updated online each week at www.rsma.qc.ca.

Changes in shoreline water quality since 1999



WASTEWATER

The Division du contrôle des rejets industriels, with the help of two other units of the Direction, planned the implementation, over a three-year period, of the **new regulations on wastewater disposal** that will come into effect progressively by January 1, 2012 (by-law 2008-47 of the CMM and by-law RCG 08-041 of the Ville de Montréal). The employees concerned received the appropriate training, and companies that must carry out a characterization of their effluents for April 30, 2010, as required by the by-law, were identified.

The Division also intervened several times during major spills on the island of Montréal. Each time, samples were collected in order to identify the source of the spill and a monitoring program was set up to prevent the situation from recurring.



CESM LEACHATE. More than 544,269 m³ of leachate (water that comes from waste) were treated and then discharged into the sewer system in accordance with applicable regulations. The air injection treatment process brought the average concentration of sulphur compounds from 28.6 mg/l at the bottom of the landfill to just 0.32 mg/l at the sewer drain (standard: 5 mg/l).

AT THE DIVISION DU CONTRÔLE DES REJETS INDUSTRIELS

A GREATER NUMBER OF COMPLAINTS

- 149 complaints made by citizens compared to 115 in 2008
- Average verification time: 3.1 hours
- More than 176 notices served, 5 legal proceedings initiated and 9 charges laid before municipal court, for a total of \$78,500 in fines

PERMITS ISSUED

- Seven permits issued to companies authorizing the discharge of effluent into municipal sewers
- 119 projects approved, representing \$1.4 million in investment

SAMPLING

- Nearly 480 visits to about 275 establishments and more than 600 samples taken in order to verify compliance with the effluent standards set out in by-law 2001-9 of the CMM
- Equivalent of 76 work days in the field to carry out network testing, with more than 373 samples taken and identification and reduction at the source of metal discharges from industrial sources exceeding the standards prescribed in by-law 2001-9
- Revenue generated through the application of by-law 129 respecting the rate structure relating to the treatment of industrial wastewater: \$4.4 million
- Service fees collected for wastewater discharge characterizations: roughly \$240,000

A new regulation on wastewater discharge will be introduced gradually between now and January 1, 2012.

AT THE DIVISION DE L'EXPERTISE TECHNIQUE

- About 840 analysis results related to the environmental monitoring of the Demix and CESM landfill sites

ADVANCING REFLECTIONS

The Direction assessed, for the Ville de Montréal, various water-related projects from higher authorities:

- With regard to Environment Canada's proposed notice regarding pollution prevention planning in respect of mercury releases from dental amalgam waste, the Direction suggested that territories already subject to bylaws of a severity equivalent to that of the Ville de Montréal be exempt from submitting declarations confirming the preparation and implementation of a prevention plan since they already fulfil the requirements proposed by this project.
- The Direction participated in provincial-level exchanges on the Canada-wide Strategy for the Management of Municipal Wastewater Effluent, a topic on which it had submitted comments to the authorities concerned in 2008.
- An opinion was obtained from the Ville de Montréal's Legal Department on its dispute over overlapping jurisdiction with the Ministère de Développement durable, de l'Environnement et des Parcs (MDDEP) regarding the approval of sewer network management projects on the island of Montréal and on the application of article 32 of the *Environment Quality Act*.
- As part of Quebec's Bill 45 granting the Ville de Montréal greater rate-setting powers, comments were submitted regarding the possibility of charging fees for some of the Direction's interventions.

AT THE DIVISION DE L'EXPERTISE TECHNIQUE

ANALYSES CONDUCTED FOR THE RÉSEAU DE SUIVI DU MILIEU AQUATIQUE

- More than 25,000 results produced under the QUALO, RUISSO and PLUVIO programs

WASTEWATER ANALYSES

- Close to 17,000 analysis results relating to the Wastewater Treatment Plant
- Acquisition of a mercury analyzer with a detection limit of 0.0005 mg/l, which is 20 times more sensitive than the former method, meeting an important need of the Wastewater Treatment Plant
- More than 25,000 results produced under the application of CMM by-law 2001-9 on the control of wastewater disposal
- More than 5,000 results obtained under the application of by-law 129 respecting the rate structure relating to the treatment of industrial wastewater



AT THE DIVISION DE L'EXPERTISE TECHNIQUE

DRINKING WATER ANALYSES

- Some 34,000 chemical analyses (inorganic and organic) and 30,000 microbiological analyses to monitor the quality of water from the Atwater and Charles-J.-Des Baillets treatment plants and from the drinking water distribution system (100 sampling sites each week)
- Sampling campaign to monitor lead in tap water: for 50 homes visited from July to September, sampling protocol for determining lead levels at various times in the water flow; verification of new lead detection equipment (to identify lead service connections); about 1,100 lead analyses in total
- Monitoring of the quality of water issuing from the drinking water reservoirs, including those under renovation; 575 sampling visits performed (compliance with standards confirmed)
- For a third consecutive year, preventive monitoring of cyanobacteria (blue-green algae) and their main cyanotoxins at the raw water intakes of the island of Montréal's seven drinking water production plants
- Analyses performed at the Charles-J.-Des Baillets treatment plant to validate the proper functioning of filters following the replacement of certain mechanical components (including sluice gates)
- Monitoring of water transmittance to the Des Baillets and Atwater treatment plants in order to validate the sizing of the UV sterilizers that will be added to treatment operations (just before chlorination of the water)
- Monitoring of drinking water quality at Cap-Saint-Jacques and at the Montréal Botanical Gardens

SWIMMING WATER ANALYSES

- More than 1,200 visits to 201 facilities, leading to 400 laboratory analyses; measurements taken on site (pH, free chlorine, total chlorine, chloramines, conductivity and temperature) in accordance with the *Regulation respecting water quality in swimming pools and other artificial pools*, adopted in 2007 by the Government of Québec
- Analysis of 85 samples from Cap-Saint-Jacques and Île Bizard





Adapting to climate change

Among the Direction's objectives for 2009: prepare to update the corporate inventory of greenhouse gas emissions and find strategies to deal with the drainage problems that are occurring in some parts of the agglomeration during sudden torrential rains.

REDUCING GREENHOUSE GAS (GHG)

BIOGAS CAPTURE AT THE CESM: INCREASED RECOVERY OF METHANE. As the organic materials present in buried waste decompose, they produce a gaseous mix that contains methane. It is important to recover this gas before it is released into the atmosphere, because its global warming power is 21 times greater than that of carbon dioxide (CO₂). In 2009, 92 million m³ of biogas were recovered from the CESM garbage mass, corresponding to 472,000 tonnes of CO₂eq. Rebuilding of the capture network continued as well. Thus, the average methane concentration was 34.2%.

AT THE DIVISION DE L'EXPERTISE TECHNIQUE

- Exhaustive biogas characterization, in particular through the measuring of 67 volatile organic compounds (VOC)

PROCESSING GHG DATA EFFECTIVELY. A preliminary study on different computer software options was carried out in preparation for updating the corporate inventory of greenhouse gas emissions. A model for processing GHG emissions data from the island's former landfill sites was also studied.

CONCERTED TARGETING. The Direction wrote a brief on the Québec target for GHG emissions reductions by the year 2020.



KEY PROGRAMS

CLIMATE PROTECTION CORPORATE ACTION PLAN. The Energy Fund of this plan, which offers interest-free loans to support **energy efficiency initiatives in Montréal's municipal buildings**, has \$3 million in capital available. Since its creation in 2008, a total of \$1,931,520 have been granted to eight projects, with a resulting GHG emissions reduction estimated at 789 tonnes of CO₂eq. Nine more projects are in the planning stage, for a total of \$5,334,000 in requests.

DISCUSSIONS were held between the Direction and related municipalities in order to prepare an island-wide application for financial assistance under the **Québec government's Climat municipalités program**. The Direction also continued its participation in the work of the **Alliance for Resilient Cities**.



IMPROVING URBAN DRAINAGE

STRATEGIES UNDER STUDY. Thanks to funding from the Fonds sur l'infrastructure municipale rurale of the Ministère des Affaires municipales, a comparative study of response strategies for urban drainage for one Montréal sector was carried out in collaboration with the Institut national de la recherche scientifique and the Ouranos consortium.

RECOVERING RAINWATER. A pilot project funded by the Institut national de la santé publique du Québec aiming to recover rainwater by disconnecting gutters from homes and installing rainwater recovery barrels and deflectors — thereby reducing the volume ending up in the storm sewer network — was implemented in Notre-Dame-de-Grâce and Cartierville, two residential neighbourhoods, in collaboration with the Société de verdissement du Montréal métropolitain (SOVERDI).



Improving soil quality

Studies of land decontamination projects, assistance provided in preparing grant applications, increased accessibility to data — all these actions pursued the objective of fostering the rehabilitation of the agglomeration's contaminated soils.

REDUCING CONTAMINATION

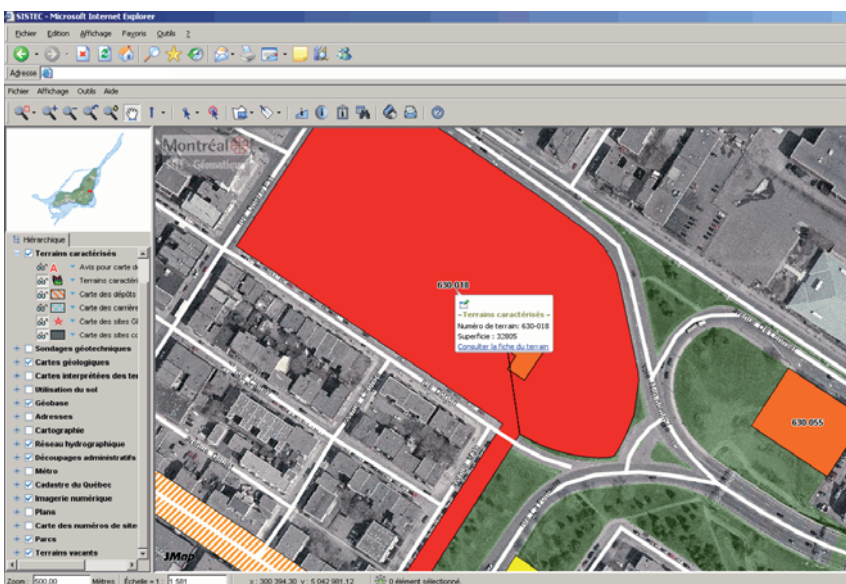
AN AUDITOR'S REPORT ON THE MANAGEMENT OF CONTAMINATED SOILS was completed and an action plan was established to implement the report's fifteen recommendations. Five of these were implemented in 2009.

CLIMATSol. This MDDEP program, launched in 2008 with a budget of \$25 million, aims to rehabilitate contaminated sites while maintaining or creating plant surfaces and integrating green building technologies into construction projects. In 2009, 45 applications were studied, representing a commitment of \$5.4 million. A total of \$9.3 million in subsidies have been provided to date. This includes the decontamination of soils on the site of the future LaSalle ecocentre.

At the PEPSC. The Montréal Center of Excellence in Brownfields Rehabilitation (MCEBR), a non-profit organization, submitted its report titled *Analysis, identification and recommendation of solutions for collecting and treating groundwater and floating-phase hydrocarbons in the Pointe-Saint-Charles business park* (PEPSC) to help Montréal develop solutions to rehabilitate this site.

PROVIDING EXPERTISE. The contaminated soils team received about sixty new requests for support from boroughs and central services. It also helped authorities in preparing 33 applications to the ClimatSol program and commented on development agreements containing clauses on contaminated soil management (Bassins du Nouveau Havre, development of the CN Shops).

MORE ACCESSIBLE DATA. As part of its environmental monitoring mandate in the area of contaminated soils on the Montréal territory and to disseminate information to the boroughs and central services, the Direction, in conjunction with the information systems department and the Division de géomatique, has put the SISTEC program (Système d'Information sur les Sols et Terrains Caractérisés) online, an Intranet version of the database of contaminated soils. It contains information on more than 1,800 sites.



Countering pesticide use and pests

Five years ago, the Ville de Montréal adopted a by-law prohibiting the use of pesticides on its territory, except in clearly defined cases. Working with the 19 boroughs and other authorities, the Direction continued to coordinate the application of this by-law. It also worked on developing pest control methods that are both effective and safe for human health and the environment.

BY-LAW ON PESTICIDE USE

SUPPORT AND PROMOTION. In 2009, a **work plan** was developed to support boroughs in applying the by-law on pesticide use. **Awareness campaigns** were set up to reach not only citizens, but also the companies concerned: more than 59 garden centres, nurseries and box stores were visited to explain the by-law and encourage them to offer their customers alternatives to pesticides. **Training programs** were offered to the employees responsible for applying the by-law and for managing green spaces. Finally, a **look-out position** was created to monitor implementation of the by-law on the Montréal territory and of the corrections requested in 13 notices of violations served in 2008.

APPLICATION GUIDE UPDATED. Municipal employees called on to intervene to ensure the application of the by-law on pesticide use can now refer to an **entirely revised guide**. In particular, the guide draws on experience gained over the years with respect to infractions and penalties, as well as annual reports, which can now be produced using computer software.

SHARING EXPERTISE. The **Table des inspecteurs**, a place for the boroughs and reconstituted cities to discuss pesticide issues, held five meetings.

INTEGRATED PEST MANAGEMENT

RESEARCH PARTICIPATION. Soap sprays, light traps and very fine mesh screens were all tested as means of reducing the fall intrusion of hackberry nippegall psyllid into homes. A pheromone and floral scent trap was tested to capture the females of Japanese beetles before they lay their eggs; the larvae of this species are harmful to lawns. Several experiments were also planned to find ways to better control sand wasps.





Improving waste management

In this major area, 2009 saw, among other achievements, the agglomeration council's unanimous adoption of the Waste Management Master Plan and the end of landfill activities at the Complexe environnemental de Saint-Michel.

The residual materials recovery rate is now 53% — not too far from the 60% target set by the Québec Policy.

A KEY EVENT: ADOPTION OF THE NEW WASTE MANAGEMENT PLAN

THE *PLAN DIRECTEUR DE LA GESTION DES MATIÈRES RÉSIDUELLES DE L'AGGLOMÉRATION DE MONTRÉAL 2010-2014 (PDGMR)*, the Montréal agglomeration's Waste Management Master Plan for 2010-2014, was adopted unanimously by the agglomeration council in August. This new plan marks a determining step with respect to sustainable development on the island of Montréal, because it now closely integrates the environmental dimension. Drafting of a regulatory framework began immediately to ensure consistency among the respective intervention plans being prepared by the boroughs.

OPEN DISCUSSIONS. A first information and exchange meeting was held on the Waste Management Master Plan on November 24 bringing together representatives from the Direction, the boroughs and the reconstituted cities. More are planned in order to disseminate pertinent information, share results, evaluate processes and ensure the continuous and fruitful collaboration between local delegates and those from the central Montréal.

2007-2008 PROFILE. The biennial profile of waste management on the Montréal territory was established for the years 2007 and 2008 based on data provided by the boroughs, the related municipalities and central services. The report presents the evolution in the recovery and disposal of residual materials from 2004 to 2008 and serves to compare municipal performance from year to year with respect to the recovery objectives of the *Québec Residual Materials Management Policy*,




1998-2008. Of note is the **increase in recycling materials collection**: the amount of materials recovered has gone up 37.5% since 2004.

RECYCLING

THE *RECYCLABLE MATERIALS SORTING CONTRACT* granted in 2008 by call for tenders for the period 2009-2018 came into effect in January. Thus, for the next ten years, Montréal will not have to pay any sorting costs.

MANAGING AN UNPRECEDENTED CRISIS. Several steps were taken to make it through the crisis caused by the substantial drop in the resale prices of recyclable materials. The sorting contract was modified to ensure the continuity of operations at the sorting centre, and recyclable materials were temporarily stored in order to prevent them from being sent to a landfill. In addition, the Direction played an active role in the work of certain committees set up by RECYC-QUÉBEC to find solutions to such situations.



SHARED RESPONSIBILITIES. The year 2009 marked an opportunity for the agglomeration to take on full responsibility for sorting recyclable materials; the boroughs and the related municipalities are, for their part, in charge of collecting these materials and transporting them to the sorting centre.

RECYCLING MADE EASIER. January 1st saw the start of **mixed recycling collection**: from now on, citizens no longer have to separate their paper and cardboard from their containers in their recycling bins.

TRIAL RESULTS. Close to 3,000 prototypes of the **new Montréal recycling bin** were distributed in three boroughs and tested by citizens in winter 2009-2010. In light of the overall positive comments and suggestions for improvements then received through a survey, the Ville de Montréal has put the Direction in charge of continuing to develop this bin over the coming months with designer Claude Maufette and the Laboratoire design et proximité of the École de design (UQAM).

A BETTER PROTECTED OZONE LAYER. The **recovery of refrigerant gases** (halocarbons) from household appliances thrown out by citizens was greater than ever: these gases were removed from more than 1,600 appliances, most of which had been brought directly to the ecocentres.

ECOCENTRES AND REUSE

TWO NEW ECOCENTRES COMING SOON. Construction of the LaSalle ecocentre, scheduled to open in the fall of 2010, began. As for the future Saint-Laurent ecocentre, a contract was granted to develop the concept, plans and specifications, and to monitor the work.

REUSE. An evaluation of the reuse activity carried out in the ecocentres led to two corrective measures: to stop accepting or selling articles that could pose health or safety hazards, and to assess the possibility of sending reusable articles elsewhere. A pilot project over two seasons was launched in two ecocentres: articles brought in by citizens will be given to **non-profit companies** in the field; these companies will sort and sell or distribute the articles within their own networks. Ecocentres will therefore no longer sell items, and thus return to their fundamental mission of transferring materials.

DISPOSAL OF MONTRÉAL'S COMPUTER EQUIPMENT. In an effort to manage its computer equipment responsibly, the Ville de Montréal has signed an agreement with a recovery organization which, while fostering young people's reinsertion into the job market, encourages the reuse of reconditioned computers by giving or selling them at lesser cost to schools, non-profit training organizations and childcare centres. Computer items that cannot be reused are ecologically recycled.





RECLAMATION OF ORGANIC MATTER

FOR INCREASED COMPOSTING OF FOOD WASTE.

A three-year contract was granted for the treatment and composting of 5,000 tonnes of food waste per year, the equivalent of food waste produced by 50,000 households. The executive committee ratified the eligibility criteria with a goal to prioritizing the implementation of additional food waste collection projects in sectors that have excellent recovery rates of other materials. Thus, some 35,300 households will be added to the 14,700 already served in Côte-Saint-Luc, Pointe-Claire and Westmount and in a section of the Plateau-Mont-Royal borough — households that produce 1,470 tonnes of such waste each year.

GREEN WASTE COMPOSTING. Dead leaves collected in bulk and treated at the CESM composting site produced 4,347 tonnes of compost, while those treated by a separate company generated 5,180 tonnes, for a total of 9,527 tonnes.

1,654 TONNES OF COMPOST OFFERED TO CITIZENS.

In addition to being organized on the CESM site, compost distributions took place in 19 locations in the spring and in 10 locations in the fall, to the great satisfaction of citizens. Another first: the CESM's fall distribution took place in the very spot where the materials are composted, giving citizens a chance to see how the process works.



BANNING ORGANIC MATTER FROM LANDFILL SITES.

On November 16, the Minister of the Développement durable, de l'Environnement et des Parcs presented a draft for the renewal of the *Québec Residual Materials Management Policy*, accompanied by a 2010-2015 action plan. Because diverting organic matter from landfill sites and reduction of GHG emissions were among the top priorities of this plan — and in light of the objectives of the 2006-2012 Climate Change Action Plan — the government has set up a program to fund the infrastructures necessary for the biological treatment of organic matter through biomethanation (anaerobic digestion) or composting. Meanwhile, the 2010-2014 Waste Management Master Plan adopted by the agglomeration council foresees the annual reclamation of more than 200,000 tonnes of organic matter, once such infrastructures are made available.

DISPOSAL

THE PILOT PROJECT TO RECLAIM ENERGY FROM HOUSEHOLD WASTE AND SORTING CENTRE FINAL WASTE PRODUCTS

using mechanobiological treatment led to the identification of optimal conditions for obtaining a by-product that can be used for energy reclamation. These results confirm the pertinence of the approach retained by Montréal in the Waste Management Master Plan: implement a pilot pre-treatment facility.





A TURNING POINT FOR THE COMPLEXE ENVIRONNEMENTAL DE SAINT-MICHEL (CESM)

END OF LANDFILL ACTIVITIES. On January 19, 2009, the CESM stopped burying waste as planned. This site, first exploited in 1895 for its limestone and later known as the "Miron Quarry", was acquired by the Ville de Montréal in 1984 to handle all waste collected on the island. In 1989, the first biogas capture wells were installed, as well as the recycling collection and sorting centre. Then, a master development plan determined the land's progressive reconversion into an urban park — the biggest environmental rehabilitation project ever undertaken by Montréal.

FOR APPROPRIATE ENVIRONMENTAL FOLLOW-UP.

As planned, the CESM's technical agents received the training required for the proper environmental monitoring of the site, that is, sampling adapted

to the environmental hazards associated with a former sanitary landfill site (biogas, leachate, etc.), and steps were taken to extend this training to the superintendents. In addition, the reliability of the nine automated surveillance wells was improved.

ACTIVITIES MAINTAINED. Other than environmental monitoring actions being carried out on the site, the CESM continued to take in excavation materials (earth, rock, concrete, asphalt) and green waste, to recover biogas and leachate and to compost leaves. In 2009, the site received 845,121 tonnes of materials: 5,943 tonnes of dry waste, 459,667 tonnes of soil, 178,606 tonnes of concrete rock and asphalt, 5,609 tonnes of levelling materials and 16,691 tonnes of leaves and other green waste.

COVERING CONTINUES

The final covering and transformation of the CESM's landfill zones into an urban park continue to progress: 7.4 more hectares have been developed using 159,000 m³ of materials (concrete rock, sand and earth). This is in addition to the 25.3 hectares already completed, for a total of 32.7 out of 72 hectares, or 45% of the area to be covered. As well, the cliff faces of the former quarry (north end of the site) have been secured through dynamiting operations, which loosened the stones that were unstable. These stones (5,000 tonnes in all) will be used to build ditches and paths.

BEFORE – May 2005



AFTER – August 2009





Managing food inspection

In 2009, the Division de l'inspection des aliments completed all the actions outlined in the plan to harmonize Montréal's inspection activities with those of the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ).

CONTINUED HARMONIZATION WITH THE MAPAQ

Among the harmonization activities implemented was the standardization of the lower-risk classification scale: establishments in the "low", "low-to average" and "average" risk categories are now inspected at the same frequency as that followed by the MAPAQ in the rest of the province.

The Division also finalized its work plan for implementing its *Programme de gestion des risques supérieurs en sécurité des aliments* (high-risk food safety management program), which includes training for inspectors and developing computer-based monitoring tools. In this way, it can produce reports identifying the interventions already carried out in the establishments concerned, in keeping with the program's strategy, which is to concentrate inspection efforts on establishments that pose the greatest risk to public health and to make them more accountable through targeted, gradual and rigorous interventions. The program also enables inspection intervention to be adapted to the level of control that operators have over their food preparation and service activities and to their degree of accountability.

Meetings were also held with the MAPAQ to develop, by 2010, a common analysis program for samples collected under food safety and quality verification programs or during investigations into complaints and food-borne illnesses.

INSPECTIONS PERFORMED

All commitments related to inspection activities — self-financed by the \$3.68 allocated for this purpose by the MAPAQ — were met, with 14,825 inspections carried out in some 12,000 establishments in the food processing, distribution, storage, service and retail sectors on the island of Montréal, not to mention in the temporary food facilities set up during some 60 public events. There was also an increase in the average inspection duration — an increase begun in 2006, in accordance with the application of risk-based inspection methodology and implementation of the high-risk food safety management program.



TOWARD COMPUTERIZED MANAGEMENT

To secure the data currently managed on Dataflex (a system dating from 1992) and to improve the quality of services offered to citizens as well as to the 12,000 operators of food establishments, the Division in collaboration with the Direction des systèmes d'information continued work to equip itself with a computerized system for managing its inspection activities. In addition, inspectors will be equipped with portable computers, which will help harmonize inspection processes and improve efficiency.

MAINTAINING EXPERTISE

Following some retirements, the Division hired and trained two auxiliary inspectors and appointed a supervisor through a competition. It also held a competition to fill the position of a liaison officer. In light of the many retirements that have taken place or that are to come, personnel in place will have to continue efforts to ensure the maintenance of the expertise required for the smooth running of operations.

In 2009, each inspector received an average of 38 hours of training, focusing in particular on the risk-based inspection process and the high-risk food safety management program. Inspectors also offered some 600 students and food handlers 29 information sessions on good food handling practices and on the Division's activities, and continued to provide the examination service for the accreditation of food managers and food handlers.



AT THE DIVISION DE L'EXPERTISE TECHNIQUE

- 22,467 analyses of food samples
- Application for ISO 17025:2005 accreditation submitted to the Bureau de normalisation du Québec as part of the agreement with MAPAQ
- Introduction of biosafety measures for laboratory certification for level-2 containment



AT THE DIVISION DE L'INSPECTION DES ALIMENTS

INFRACTIONS AND LEGAL PROCEEDINGS

- 2,871 by-law infractions
- 1,247 notices of infraction indicating immediate corrective measures to be taken
- 278 legal proceedings instituted before Municipal Court for refusals of operators to comply with these notices of infraction
- Fines generated by cases resolved: \$291,050
- Ceasing of operations, for five days at most, in 17 establishments where there was an imminent threat to consumer health

COMPLAINTS AND REPORTS OF FOOD-BORNE ILLNESS

- 1,659 complaints processed
- Average intervention time from reception of complaint to inspection of the establishment involved: 37 hours
- In more than 96% of cases, follow-up was initiated within the prescribed time: within 24 hours for complaints directly relating to health, within 48 hours for complaints relating to hygiene or cleanliness, and within 96 hours for those relating to fair practices (e.g. not complying with milk prices, false declaration of food weight, etc.)
- For 76% of complaints, compliance with the objective of returning the plaintiff's information within 10 working days. Cases where it took longer were usually due to having to wait for analysis results or to investigations being carried out by outside parties.
- Investigations into 166 declarations of food-borne illness or allergies involving 671 people

FOOD RECALLS* AND RELATED INVESTIGATIONS

- 121 recall cases processed
- 293 inspections and numerous telephone calls made to operators to make sure the foods in question had indeed been withdrawn from points of sale
- Investigations carried out in some 65 cases at the request of the MAPAQ or the CFIA, requiring 276 inspections

* When a food poses a health risk because of a contaminant or a non-declared allergen, it is the operator's responsibility to withdraw this product from the market or to carry out a recall. The MAPAQ or the Canadian Food Inspection Agency (CFIA) initiate the food recalls, and the Division is then responsible for verifying the effectiveness of the recall procedure.

SAMPLING PROGRAMS

- 5,264 food samples taken by inspectors and sent to the Division de l'expertise technique



LABELLING COMPLIANCE

- 74 inspections to verify compliance of labelling on food packaged by retailers or of other declarations made in menus, posters or other documents made available to the public, in restaurants and among food retailers and wholesalers (objective for 2009 achieved)



Administration

The Direction's operating budget in 2009 was close to \$88 million, with a significant portion (78%) tied to managing the agglomeration's residual materials.

EVOLVING HUMAN RESOURCES

In 2009, the Direction had a workforce of 284.3 person-years, as follows: 22 managers, 2 unionized foremen, 60.9 general and scientific professionals, 157.9 white-collar workers and 41.5 blue-collar workers.

DEPARTURES AND NEW HIRES. Thirteen people **retired** from the Direction: one driver, one mechanic, one laboratory analysis technician, three chemists, two food inspectors, one technical officer—environment, two environmental technicians, one laboratory technical assistant and one section head. With respect to **staffing**, competitions were held to fill 27 permanent positions; 61% of people thus hired belong to groups targeted by the Equal Employment Opportunity Program. Workforce management planning was also carried out.

OCCUPATIONAL HEALTH AND SAFETY. The Direction continued efforts made to date to implement its **occupational health and safety action plan** by offering its employees training activities and by working on a five-year plan for introducing an occupational health and safety management system in each unit.

FOR A RIGOROUS MANAGEMENT OF FINANCIAL RESOURCES

THE BUDGET FOR THE THREE-YEAR CAPITAL PLAN, \$7.5 million, was distributed among four major projects: \$160,000 for the protection and repairing of buildings, \$241,200 for the replacement of vehicles, \$460,800 for the acquisition of computer and electronic equipment, and \$6,6 million for the

construction and rebuilding of waste management infrastructures.

The Division de l'administration also participated in the financial preparation of 62 decision-making briefs intended for superior authorities; developed and implemented with the team concerned an internal procedure for managing ecocentres' inflows; responded, by means of the development of financial tools (spreadsheets, etc.), to the specific and growing needs of waste management operations; and prepared the 2010 forecasts for the operating budget and the three-year capital plan.





For more information

JUST ONE NUMBER TO REMEMBER: 311

TO FILE A COMPLAINT ABOUT WATER, AIR OR FOOD QUALITY

Anyone who witnesses an infraction, or an act or practice that violates the by-laws on water and air quality in effect on the Montréal territory, can register a complaint by calling the Division du contrôle des rejets industriels, at 514 280-4330.

Anyone who becomes indisposed following the ingestion of food or who witnesses unsanitary practices or conditions in a restaurant or retail food establishment is invited to contact the Division de l'inspection des aliments, by calling 514 280-4300.

FOR MORE INFORMATION ABOUT ENVIRONMENT AND SUSTAINABLE DEVELOPMENT IN MONTRÉAL, CONSULT THE FOLLOWING WEB PAGES (IN FRENCH ONLY)

Air quality

ville.montreal.qc.ca/RSQA

Collection schedules

ville.montreal.qc.ca/info-collectes

Contact information for the Éco-quartiers

ville.montreal.qc.ca/ecoquartiers

Directory of reuse addresses

ville.montreal.qc.ca/reemploi

Ecological management of green spaces

ville.montreal.qc.ca/jardinernaturellement

Food inspection

ville.montreal.qc.ca/inspectiondesaliments

General information on the ecocentres

ville.montreal.qc.ca/ecocentres

Home page of the Direction

ville.montreal.qc.ca/environnement

List of contaminated lands

ville.montreal.qc.ca/terrainscontamines

*Montréal Community Strategic Plan
for Sustainable Development*

ville.montreal.qc.ca/developpementdurable

List of contaminated lands

ville.montreal.qc.ca/terrainscontamines

Pesticide-free Montréal

ville.montreal.qc.ca/pesticides

Waste Management Master Plan 2010-2014

ville.montreal.qc.ca/pdgmrr

Wastewater bylaws and permits

ville.montreal.qc.ca/reglementseauxusees

Water quality

ville.montreal.qc.ca/rsma

A large, stylized leaf graphic in a light beige color is positioned on the right side of the page, extending from the bottom towards the middle. It has a central stem with several pointed leaves branching out.

Production

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du développement durable,
Service du développement et des opérations

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