Executive Message

Over the years, Bell Canada has earned its status as an environmentally responsible corporate citizen. Today, our green efforts are an integral part of how we do business. And as you will see, the 2002 Environmental Performance Report is concrete evidence of our long-term commitment to sustainable development – balancing environmental, social and economic objectives.

In 2002, Bell employees continued to lead a wide range of initiatives that minimize the impact of our operations on the environment. For example, the company has now eliminated all PCBs in telecommunications power equipment, as well as Halon 1211, an ozone depleting substance used in portable fire extinguishers. Bell also maintained its successful track record for reducing, reusing and recycling residual materials, which reduces landfill substantially. To support the Kyoto protocol, the company conducted its first assessment of greenhouse gases that will help us evaluate reduction opportunities. Along with developing online training tools, Bell also trained more than 1,000 employees on various environmental issues, bringing the total number to over 10,000.

Working closely with the community last year, Bell participated once again in the Computer for Schools program, which donates surplus equipment to Canadian schools. In line with the vegetation management policy, the company also stopped using pesticides on its properties for aesthetic reasons and is now assessing the use of alternative measures, such as organic lawn care, alternative landscaping and site naturalization.

On the customer products and services front, the company saw a rise in the use of its teleconferencing services, which improve productivity and reduce travel costs and air emissions. In the coming year, Bell will also put a pan-Canadian recycling program in place so that customers can bring back used cellular phones, one of the first programs of its kind in the country.

Ultimately, the diversity of our initiatives in 2002 had one common link – the hard work and commitment of our employees. By relying on their focused efforts, Bell Canada will continue to be recognized for its exemplary environmental initiatives.

Richard Mannion
Chief Legal Officer

Yves Ouimet
Director of
Environmental Services

Profile

Bell Canada is well-positioned with regard to environmental protection because of the very nature of our business – telecommunications. Still, because we run the largest company of its kind in the country, the sheer scope of our operations demands that we minimize our impact on the environment through rigorous management, control and monitoring of our activities.

Whether it's business related to customer products and services or the construction, maintenance and renewal of our network, our company must comply with a wide variety of federal and provincial laws, as well as municipal by-laws, that can range from federal park regulations to rules governing migratory bird paths.

Since 1999, the company has progressively integrated its subsidiaries into the Environmental Management System. This performance report addresses initiatives and program results, when available, for the following subsidiaries: Bell Mobility, Bell Nexxia, Télébec and Northern Telephone.

Company Statistics

- Bell Canada provides a full range of communications services including local and long distance telephone services offered through wireline and wireless, Internet access, high-speed data services and directories. This represents more than 25 million customer connections.

- We serve a wide territory across Canada, largely in Ontario and Québec, with a network comprised of more than:
  - 500,000 kilometres of cables
  - 1,400,000 treated wood poles
  - 65,000 manholes

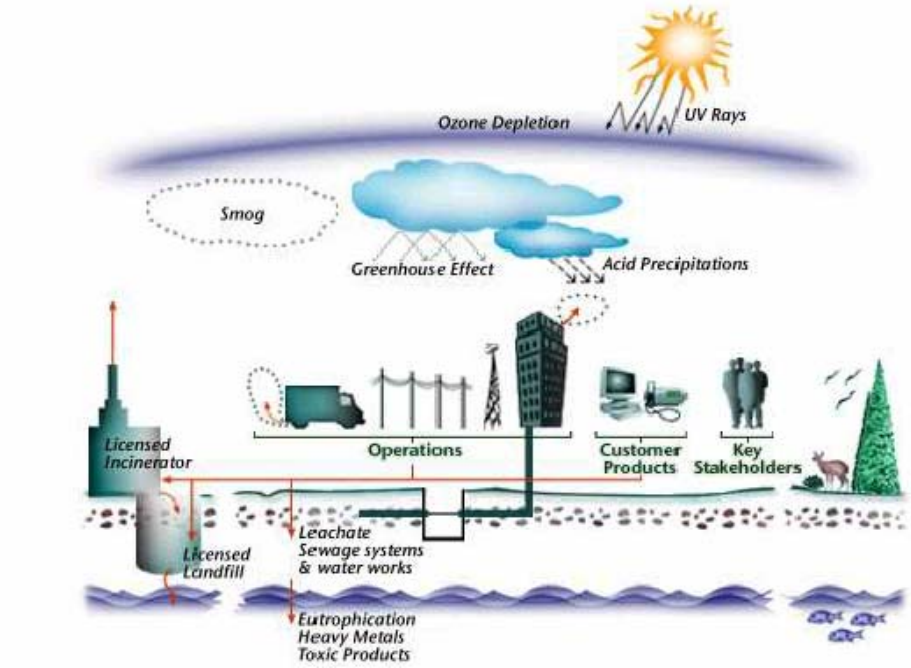
- We maintain:
  - Over 8,500 vehicles
  - Approximately 2,500 real estate holdings

- We consume annually approximately:
  - 150,000 litres of oil
  - 4,700 tons of paper for our operations
  - 29,600 tons of paper for directories
  - 29 million litres of fuel
  - 12,000 refurbished laser toner cartridges

- We purchase annually:
  - Products and services valued at approximately $4.7 billion

Key Priority Areas

The following schematic illustrates how our operations fit into a broader environmental picture:



Put simply, Bell's environmental initiatives are focused on minimizing the impact of its operations as a whole. Key priority areas are selected through an on-going analysis of our operations, current legislative demands and broader governmental objectives, and include the management of:

- Environmental Incidents
- Petroleum-related Equipment
- PCBs
- Hazardous Residual Materials
- Air Emissions
- Site Assessments
- Manhole Effluents
- Poles
- Non-hazardous Residual Materials
- Network Infrastructures
- Energy
- Noise
- Vegetation

Environmental Policy

Bell Canada believes that environmental protection is an integral part of doing business and is committed to minimizing, through a continuous improvement process, the impact that some of its activities, products or services have on the environment.

In support of its commitment, Bell Canada will:

- exercise due diligence in its approach to meet or exceed the requirements of all applicable legislation;
- prevent, control and reduce releases into the environment;
- correct in a timely manner, problem situations which could not be prevented;
- promote and support cost-effective resource and waste minimization initiatives;
- deal with suppliers who seek to minimize their environmental impacts;
- develop and market telecommunications services aimed at providing people and organizations with innovative solutions to their environmental challenges;
- participate with governments, businesses, the public and relevant interest groups to advance environmental protection;
- communicate its environmental initiatives and performance to stakeholders on a regular basis;
- ensure that its employees adhere to this policy and understand their responsibilities in putting it into practice.

Compliance with this policy is every employee's responsibility

- *All environment-related incidents and infractions must be reported to Environmental Services immediately upon discovery;*
- *Non-compliance with this Policy will lead to disciplinary action, up to and including dismissal.*

Policy approved on 1998-12-16

Making our Policy a Reality

Bell supports its environmental policy by working closely with its key stakeholders, developing and marketing customer products and services that meet environmental challenges, and by minimizing the impact that its operations have on the environment.

Environmental Services Team

Environmental protection is an integral part of the way we do business, and all employees in our operations directly contribute to the success of our initiatives. To make sure that our approach is diligent and cost-effective, we've assigned the development, control and monitoring of our green efforts to the Environmental Services team. Specifically, this team is the focal point for all Bell's environmental issues, and is responsible for:

- managing the company's environmental performance;
- preventing, analyzing and resolving problems;
- increasing environmental awareness and competencies; and
- maintaining the corporate link with our external stakeholders on environmental issues.

Awards Recognizing Bell - Milestones

Over the years, Bell Canada's role as an environmental leader has earned us numerous awards or local recognition for our successful green initiatives:

- Bell and four other companies were recognized in 1999 by the École Polytechnique de Montréal for 10 years of continued contribution to research efforts on site assessments and remediation.

- Bell received the Product Stewardship award from the Financial Post in 1998 for its new and innovative way to store circuit cards - the Universal Box.

- In partnership with five other companies, Bell received the "University Industry Synergy R & D Award" in 1996 from the Natural Sciences and Engineering Research Council & the Conference Board of Canada for innovative research on using poles as alternative fuel. As well, the Association québécoise pour la maîtrise de l'énergie awarded Bell an "Énergia 1996" for its creative energy conservation efforts.

- Bell attracted global attention with its presentation to the United Nations Conference on the environment and ethics in 1994. The same year, Zero Waste™ earned two major awards – the "Mérite environnemental" award from the Québec Ministry of the Environment and the "Prix de reconnaissance du mérite environnemental" from the Québec City Conseil régional de l'environnement. The program also prompted a favourable rating in the Canadian Financial Post Top 500.

- The success of Bell's Zero Waste™ program was given national exposure on CBC TV's "Nature of Things" and CTV's "W5" in 1993. The Environment Canada Eco-Action and the Ste. Foy Regional Chamber of Commerce presented Bell with awards for its program. In Ottawa, Place Bell Canada was named Building of the Year for energy conservation by the Building Owners and Managers Association.

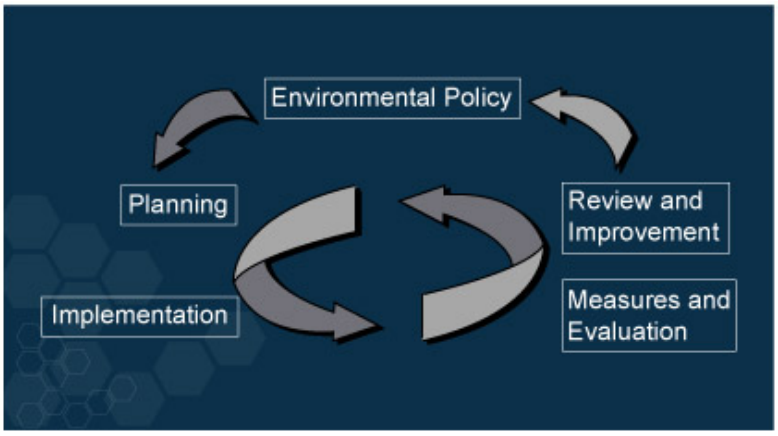
- Bell was bestowed the highest honour in 1992 from the Recycling Council of Ontario –the "Chairman's Award" – for its achievements in waste reduction, reuse and recycling. The company also earned a plaque of recognition from the Ontario Minister of the Environment, and our initiatives were highlighted in an Environment Canada guide book called "Working Your Way to a Green Office".

- Bell was presented the Recycling Council of Ontario award in 1991 for outstanding 3Rs initiatives. The company also received the "Environmental Management Award of Distinction" from The Financial Post.

Environmental Management and Review System

Without a sound management system, it would be difficult to properly monitor and control the company's diverse environmental issues. And that's precisely why we've developed the Environmental Management and Review System (EMRS). The EMRS, which is aligned with ISO14001 guidelines, is an integrated management tool that identifies potential problems or opportunities, reduces risks, ensures continuous improvement through a rigorous feedback process, and controls costs. Moreover, through legal monitoring, which is an integral part of the system, Bell can ensure diligent management of all environmental issues.

Here you can see the essential components of the system:



Environmental Policy

Bell's Environmental Policy, which represents Bell's commitment in terms of environmental protection, has been approved by the Board of Directors, and is regularly reviewed by the Environmental Issues Network (EIN), a committee composed of the company's Officers. Our policy is aligned with the company's daily business realities and demonstrates Bell's high environmental management standards.

Planning

The Corporate Environmental Plan (CEP) is the main management and control tool. Approved annually, the plan details all the environmental activities undertaken by the various business units within the company. The CEP identifies funding requirements, as well as accountabilities and deliverables, and allows for follow-up of the company's progress in meeting its objectives. Results and analysis for improvement opportunities are also presented to the EIN for review and actions.

Implementation

Within the Environmental Management and Review System, Bell has clearly defined each of the programs addressing the company's environmental issues. To ensure each program meets its goals, Bell sets specific objectives, identifies responsibilities and develops procedures.

The programs are presented in the Operations section of this report.

Measures and Evaluation

To ensure our management system and each of the programs run smoothly, Bell has put a number of control points in place. These include:

- The Environmental Performance Evaluation (EPE), which is used to follow up on environmental programs at various sites within Bell.
- The Environmental Risk Evaluation (ERE), which is used to evaluate the environmental performance of some of our services or suppliers.
- The Environmental Questionnaire, which is sent to Bell's suppliers to collect information about their own environmental management and to assist the company in the selection of suppliers.
- Periodic internal and external audits.
- Performance measures related to the Corporate Environmental Plan.

Review and Improvement

Reporting quarterly to the Board of Directors, the EIN has been put in place to ensure that Bell's environmental policy is current, and that the company is taking the necessary actions to comply with its environmental policy.

As well, Bell has implemented various working committees to ensure the programs work in harmony and that they reflect the reality of daily operations.

Environmental Information System

Considering the large scope of the company and the sheer number of employees and sites, Bell has developed the Environmental Information System to help manage its diverse programs. The computerized system gathers information on all issues and has been in place for many years. The company is now developing Web-enabled applications to simplify access to the system for employees.

Environmental Performance Evaluation

The Environmental Performance Evaluation is a process developed internally by Environmental Services (ES) to evaluate and improve the performance of Bell's various environmental programs. The process involves a site visit by a team of ES representatives and employee interviews to determine the state of environmental compliance at specific Bell locations. The information gathered provides essential data enabling our subject matter experts to continuously improve environmental programs.

The selected buildings provide a representative cross section of the environmental issues at Bell Canada. A total of 58 properties have been evaluated, with over 420 employees participating in the interview process since it began in 2000.

Key Stakeholders

Bell's success with its environmental initiatives is linked to building a strong rapport between the company and its key stakeholders, whether it's supporting employees in their on-going efforts, or working in harmony with community groups, industry and suppliers.

Community – Voluntary Initiatives

Computers for Schools Program

Bell actively participates in the Computers for Schools (CFS) and the Ordinateurs pour les écoles du Québec programs, which donate surplus computer equipment and software to Canadian elementary and secondary schools.

All usable donated equipment is tested and refurbished before delivery, and parts of non-usable equipment are used to repair other systems or alternatively are sent to metal and plastic recyclers. Under the program, computer repair workshops provide students and young adults practical work experience.

In February 2002, the Québec division (OPEQ) received a mention of honour for the efficiency of its management system. This was the fifth award in five years won by the OPEQ. In 2001, the organization also received a Silver Innovation Award from Industry Canada for its recycling initiatives.

Thanks to the co-operation of private sector firms, and provincial and federal government organizations, the Computer for Schools program has already distributed more than 75,000 computers in Québec and 141,000 in Ontario. To date, Bell alone has donated more than 10,000 computers, screens and printers. The company assumed the presidency of the Québec organisation, and provided additional resources, such as management and space.

Computers for Schools

University Research Funding

Bell continues to encourage research excellence in universities in Québec and Ontario. Among the funded studies and active participation:

- École Polytechnique (Montréal):
  - Analysis of the impact of in-service utility poles.
  - NSERC Industrial Chair in Site Remediation and Management.

ÉCOLE POLYTECHNIQUE MONTRÉAL

  - Interuniversity reference center for the life cycle assessment, interpretation and management of products, processes and services. (CIRAIG)

CIRAIG

- University of Toronto:
  - A study to assess the characteristics of treated wood poles removed from service.

University of Toronto
Falculty of Forestry

- Université du Québec à Montréal / Station expérimentale des procédés pilotes en environnement (UQAM / STEPPE):
  - A project to track atmospheric releases, evaluate potential sources and develop strategies to quantify results.

Community Curbside Recycling Programs

Bell is involved with the implementation of community recycling programs. For example, the company provides financial and administrative support to Collecte Sélective Québec (CSQ), an organization that promotes curbside recycling programs and brings financial aid to communities.

The Conference Board of Canada

Bell is an active member of the Business Network on the Environment of the Conference Board of Canada. The company has also agreed to chair the committee, which conducts independent research on key environmental issues. The Business Network provides a means to exchange relevant ideas and experiences with the overall objective of helping Canadians and Canadian industries improve their environmental performance.

Strategic Option Process

As a user of treated wood poles, Bell has participated since 1994 in the Strategic Option Process (SOP) related to wood preservation. The SOP committee has been established and is currently chaired by Environment Canada. It adopted a consultative approach to develop management tools for producers and users of treated wood to protect the environment.

Donations

In line with the company's policy to promote the reduction, reuse and recycling principles, during the last five years, Bell donated binders, surplus chairs and assorted office equipment to In-Kind Canada and other non-profit or charity organizations, such the Centre de formation en entreprises et récupération and la Fondation des sourds du Québec.

Québec Environment Foundation

Bell participates on the Board of the Québec Environment Foundation, a non-profit organization that creates awareness of environmental issues in the province through its exemplary initiatives, such as used oil and paint recovery and recycling.

SETAC (Society of Environmental Toxicology and Chemistry)

Bell participates and supports Chapitre Saint-Laurent, an organization affiliated with SETAC. Activities include the organization of annual workshops that bring together specialists in the field of biology, ecotoxicology, health and risk assessments. These specialists discuss environmental management, scientific uncertainties and risk analysis.

Centre d'assainissement des sols

Bell is a member of the Centre d'assainissement des sols (CAS), a non-profit organization that provides a forum on soil management and remediation.

(French only)

Telecommunications Industry - Initiatives

Global e-Sustainability Initiative

Bell Canada is a member of the Global e-Sustainability Initiative (GeSI), which provides a collective voice for Information and Communications Technology (ICT) service providers and suppliers. The initiative is supported by the United Nations Environment Programme and the International Telecommunication Union. GeSI's main objective is to create an open and global forum for reporting and actively promoting ICT solutions that encourage economic and social development and a sustainable environment.

The members of GeSI help to influence government policies and inform the public of their voluntary role in reducing their impact on the environment. Along with managing their own operations in a sustainable manner, members take a leadership role in providing individuals, businesses and institutions sustainable solutions that help maintain a balance between environmental, economic and social objectives.

Communications Environmental Excellence Initiative (CEEI)

Bell Canada is a founding member of the Communications Environmental Excellence Initiative (CEEI), a voluntary effort involving key players in the telecommunications field. In 1999, Bell endorsed the Environmental Charter for the North American Telecommunications Industry that was developed by the CEEI.

The CEEI produced its first report highlighting the environmental performance of the North American telecommunications industry in 2000. The CEEI is now in the process of issuing a second report for 2002, which will address more issues and incorporate data from a larger number of North American telecommunications companies.

In 2002, Bell continued to support the Charter by ensuring that its principles were integrated in the company's environmental management practices.

Suppliers – Training & Communications

Purchasing Initiatives

In support of the company's Environmental Policy, Bell Canada's Sourcing Policy states that: "Suppliers must demonstrate strong environmental stewardship in the performance of their operations, products and services and have an articulated vision of environmental consciousness and protection."

Bell's Purchasing group continues to identify and encourage green-friendly suppliers through the regular use of its environmental questionnaire. All new suppliers are asked to fill out the questionnaire prior to contract negotiations. This allows companies to demonstrate their environmental commitment and performance during requests for quotations or requests for information.

2002 Achievements

- Environmental questionnaires were received from 42 new suppliers. Questionnaire results for 150 suppliers or supplier divisions are now included in our database.
- On-site audits were also conducted on key suppliers to verify their responses to the environmental questionnaire.
- Supply chain managers attended lunch-and-learn sessions on Bell Canada's environmental initiatives and the importance of using the questionnaire; this was a part of promoting environmental awareness to our supplier community. Sessions were held in 4 locations: Toronto, Montréal, Ottawa and London.

Program Objectives

To pursue initiatives that will support Bell's Sourcing Policy, and ensure that the company is dealing with suppliers that respect the environment.

Targets

In 2003, Bell will:

- ensure that all new suppliers fill out an environmental questionnaire and that environmental considerations are a part of contract negotiations;
- ask suppliers who had completed the questionnaire more than two years ago to update information; and,
- pursue environmental awareness training to supply chain personnel.

Environmental Risk Evaluation

Bell's Environmental Risk Evaluation (ERE) procedure is an integral part of the company's Environmental Management and Review System. It is a tool that is used to evaluate the environmental risks associated with Bell's suppliers who provide services related to the transportation, handling, recycling or elimination of residual materials. A total of 39 EREs have been conducted since 1995, including three in 2002.

Environmental Training

The construction, maintenance and dismantling of our network involves a diversity of suppliers, who along with our employees, attend sessions on the Internal Environmental Evaluation program and the management of hazardous and non-hazardous residual materials.

Seven suppliers participated in our training sessions in 2002, for a total of 501 suppliers during the last six years.

Employees – Communications & Training

Enviro-Line

Our Enviro-line is the main entry door for questions and answers regarding any environmental issue at Bell.

The line can be used 24 hours a day, 7 days a week to reach the on-duty manager in the case of environmental incidents.

Calls and e-mail messages are handled by an Environmental Services specialist. In 2002, our specialists received and responded to 186 calls and 84 electronic messages.

Telephone:	**1 877 BELL-ENV**
E-mail:	**enviroline@bell.ca**

Training – Face-to-face

1,463 employees were trained by the Environmental Services group during 2002, which brings the total number of employees trained since 1996 to 10,231. On-site courses were provided to employees, encouraging direct input and sharing of information on a diversity of subjects. The content of each course was adapted to the needs of the various operational groups. Videos, pamphlets and presentations were also made available to support training. The topics covered under this training program include:

- **Internal Environmental Evaluation (IEE):** addresses environmental issues, pertinent environmental policies and procedures, and options to improve the integration of Bell equipment into the environment. Students are also given an overview of permit requirements determined by municipal, provincial and federal authorities.
- **Hazardous Residual Materials:** provides students insight into managing various types of hazardous substances within the company and the responsibilities of operational groups throughout Bell. Hazardous materials targeted in the HazMat Recovery Program include empty aerosol cans, oil bottles, oily absorbents and batteries.
- **Recyclable Materials**: addresses the new collection process for all recyclable materials generated during the construction, maintenance and dismantling of the outside plant network. Students also learn about various recyclable products, as well as how they are collected at work centers and recycled.
- **Environmental Incidents**: covers the different types of environmental incidents that can happen at Bell, roles and responsibilities of various groups, legal requirements, and the response structure in place.
- **Environmental Guide – Fleet Services**: addresses all environmental procedures related to vehicle fleet management and operations, and covers documentation related to environmental regulations. Subjects include the management of petroleum equipment, hazardous materials and emergency procedures in case of an incident.

Program Objective

To provide face-to-face training to all employees from the operational groups who have not yet been trained, as well as to new employees within the first six months of their employment at Bell.

Target

In 2003, the company plans to provide face-to-face training to approximately 1,000 employees.

Training – On-line

Since 2000, Bell Environmental Services has used the Intranet to inform employees about their environmental responsibilities. Along with getting direct access to current environmental procedures, employees can visit Enviroville, an interactive site that offers a multitude of information on Bell's environmental issues.

During waste reduction week in October 2002, more than 1,700 employees viewed a Zero Waste™ presentation on the Intranet, providing the program results and promoting the 3Rs principles. This presentation featured automated slides with voice-over.

Program Objective

To facilitate access to regular environmental training for all employees.

Target

In 2003, the company will complete and test an on-line training site that will enable employees to obtain self-paced training on key environmental issues. Employees will be able to select modules that are related to their work responsibilities and access the information that they need to carry out their daily activities.

Code of Business Conduct

Bell Canada's Code of Business Conduct provides employees with guidelines for ethical behaviour based on our mission and values, as well as applicable legislation. A section dedicated to environmental responsibility outlines how we are each personally responsible for protecting the environment in our job activities, and complements our formally adopted values, such as integrity, teamwork and excellence.

Customer Products & Services

Telecommunications companies of Bell Canada's size and scope have a responsibility to minimize their impact on the environment, as well as contribute to sustainable development and improved quality of life.

The company focuses on telecommunications solutions for customers, such as e-commerce and teleconferencing, that help reduce travel, air pollution and energy consumption.

As well, Bell has a diversity of ongoing customer product and service initiatives in place that support reduction, reuse and recycling principles.

Telephone Sets & Accessories

Telephones

Used residential and business telephone sets are sold on secondary markets and others are returned to the manufacturer for refurbishing or recycling. Plastic from non-repairable sets is also recovered and used in the production of new sets. As well, the company continues to reuse face plates and adapters when possible

In 2002, 16,721 telephone sets were repaired, and 174,000 sets were sold or recycled. More telephone sets were recycled instead of being repaired, largely due to the fact that Bell discontinued its telephone rental program in 2000. This has also had an impact on the total quantity of sets returned to Bell, which decreased by 47%, when compared to 2001.

Cell Phones

In 2003, Bell Mobility, a subsidiary of Bell Canada, will introduce a pan-Canadian program where customers can bring back cell phones for reuse or recycling. The details of the program will be announced in Bell World™ stores.

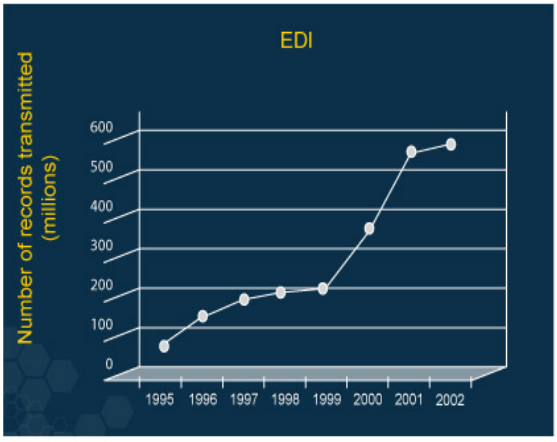
Printed Phone Books

Telephone directories, which are used by a large number of Bell Canada's customers, are now published by Yellow Pages Group. The directories contain a minimum of 40% recycled paper. They are also fully recyclable and are used to manufacture a wide range of paper and cardboard products, as well as building materials.

E-commerce Solutions

Electronic Data Interchange (EDI)

Bell uses Electronic Data Interchange (EDI) in all types of transactions with customers and suppliers, significantly reducing paper usage and mailings. More than 575 million records were transmitted during 2002, which represents approximately 79 billion letter characters, an 8% increase relative to 2001. The rapid growth since 2000 is mainly due to more customers receiving their bills electronically.



Bell's EDI relies on a business-to-business data gateway, which enables the secure exchange of billing, finance and sales & marketing data between Bell Canada affiliates and their external partners.

Today, Bell offers customers a complete range of services in order to build integrated communications solutions, including Connectivity, E-Marketing Consulting Services, Web Site Creation, Catalogues, Web Hosting, Security, and Secure Virtual Private Network.

E-commerce Solutions for Other  Companies

Using the expertise of BCE Emergis, Bell offers clients network-centric e-commerce business solutions, such as electronic bill presentment systems that enable organizations to better compete in the global marketplace. These systems link participating financial institutions, billers and customers, enabling customers to receive, review and pay their bills on-line.

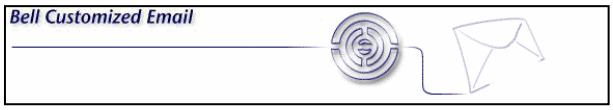
On-line Billing for Customers

Bell has an on-line billing system where customers can view and pay their bills on the Internet at their convenience, 24 hours a day, 7 days a week. Gains for the environment range from paper savings to reduction of energy consumption.

The service is also available through the Integrated Voice Response (IVR) or Vista† 350, 390, 450, Cybiolink 2000 or Cybiolink 8000 telephones.

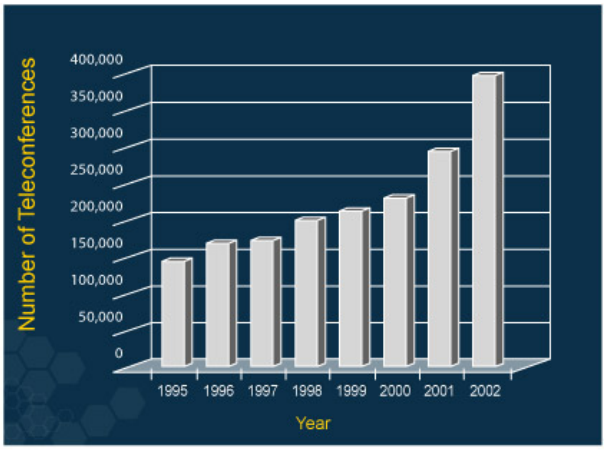
Bell Customized E-mail

Bell provides its customers a free service to get customized on-line information about products and services. Ultimately, clients can obtain the information that suits their particular interests.



Teleconferencing

Teleconferencing continues to gain popularity in the business world, helping companies reduce air emissions, save money through reduced meeting and travel costs, as well as increase efficiency and productivity through better time management.



The number of teleconferences has sharply increased during the last two years, with an increase of 36% in 2002.

As well, the policy at Bell to reduce travelling remained in place and bridge usage time continued to increase.

Today, Bell offers many conferencing services, ranging from traditional teleconferencing to high impact, Web-enabled conferencing. Along with saving time and money, the services provide benefits, such as more effective communications, faster decision-making, improved productivity and teamwork, and reduced travel costs.

Customers can also enhance their conference calls with Show and Tell™ Web Conferencing, which allows them to share PowerPoint presentations, as they talk.

Teleconferencing - Environmental Benefits

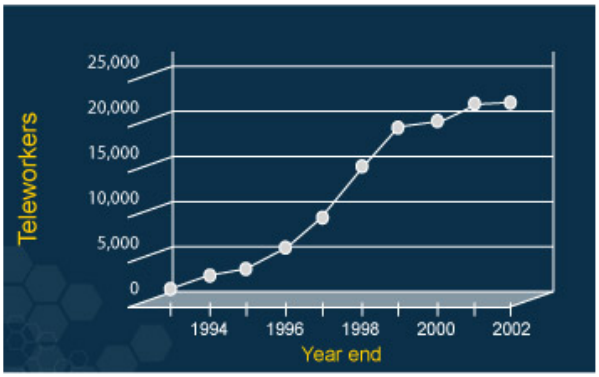
A study was conducted in 1999 by McGill University engineering students, as part of their course, to assess the environmental benefits of using telecommunication services, such as teleconferencing compared to physical travel for face-to-face conferences.

Typical business scenarios that contrasted travelling from Montréal to Toronto, Chicago, and Ottawa for telecommunications meetings were developed in order to quantify the possible differences in energy consumption and air emissions. Factors such as mode, distance, duration of meeting, load factor, number of passengers and vehicles were considered in the analysis.

Here are some findings:

- Four persons travelling by plane from Montréal to Toronto for a four-hour meeting consume 87 times more energy than using teleconferencing services, and produce 26 times more air emissions (in grams of CO, CO_2, NOx, PM-10, SO_2 and VOC).
- When travelling by train, they consume 70 times more energy and produce 61 times more air emissions.
- A vehicle making a roundtrip between Montréal and Ottawa can have an energy consumption of up to 180 times greater and generate up to 30 times more air emissions than a two-hour teleconference.

Teleworking



Bell has now more than 21,560 employees equipped for teleworking, either full-time or part-time. This increase is largely due to the rollout of our internal communications system that has enabled more employees to use portable computers and remotely access our network. Combining hands-on teleworking and our extensive knowledge of integrated communications, the company is now designing and implementing teleworking solutions for a number of large corporations.

6,000 employees can now take advantage of their high-speed Sympatico connections to access Bell's internal communications network using the Virtual Private Network service. Users also have the added ability to access the network using Sympatico dial accounts from any location.

The preliminary findings of a study conducted by the Global e-Sustainability Initiative (GeSI) show that teleworking has a positive effect on family life for most teleworkers. Spending more time at home enables teleworkers to be more active in their family lives, social network and local community. From an environmental perspective, teleworking contributes to lowering energy consumption and to reducing air emissions from vehicles.

Program Objective

To explore new and innovative ways to provide better, ubiquitous service to teleworkers.

Target

In 2003, we expect the high-speed service to continue growing; this service will provide employees faster and more efficient access to the information that they need to do their jobs.

Electronic Phone Books

Using Vista† 350, 450 and 390, as well as the Cybiolink 8000 and 8500 technology, the Electronic Phone Book provides Quebec and Ontario Bell Canada customers free electronic access to more than four million Bell Canada business and residence listings. Moreover, customers have the choice of using voice commands or a keypad to get the listings they want. The first of its kind in North America, this service uses speech recognition technology, and is ideal for visually impaired customers.

2002 Achievements

This service is well established and widely used by our customers. No major modifications were introduced in 2002.

See our on-line directories: Canada 411™

YellowPages™.ca For whatever you have in mind.™

Operations

Bell's efforts are largely focused on minimizing the impact of its overall operations on the environment.

In this section, you'll find our key priority areas, which include an overview of issues, on-going measures, achievements for 2002, and objectives.

Environmental Incidents

Issue

The sheer scope of Bell Canada's operations increases the potential for environmental incidents. The impact of an incident can range from a minor event, such as spilling a litre of oil, to an emergency, such as fire in a hazardous material storage facility.

Bell must comply with provincial, federal and municipal laws requiring that specific environmental incidents be reported to authorities and remediation actions be undertaken when required.

On-going Measures

Bell has strict measures in place to deal with environmental incidents.

Employees from the operational groups must to promptly report all environmental incidents to the company's Environmental Services group, which can respond on a 24-hour basis. The group relies on its expertise to determine the appropriate plan-of-action, and analyzes, tracks and reports incidents to the appropriate governmental authorities. The group also trains employees to deal with environmental incidents.

2002 Achievements

In 2002, 134 incidents, such as ODS leaks, oil spills or fires, were reported by employees from Bell and participating subsidiaries. This enabled the company to address the root causes of problems and introduce preventative solutions. The appropriate governmental authorities were advised by the Environmental Services Team when necessary, and remediation actions were undertaken when required.

To meet our 2002 training target, 1,217 employees have now been trained on dealing with environmental incidents.

Program Objectives

To reduce the number of environmental incidents, quickly remediate any situation that could not be prevented, and promptly report incidents to proper authorities.

Target

In 2003, the company will continue to train employees and maintain a diligent approach in managing environmental incidents.

Internal Environmental Evaluations (IEE)

Issue

Bell Canada's access network, which includes approximately 1.4 million poles, 65,000 manholes and 500,000 kilometers of cables, extends over a vast territory that supports many interconnected ecosystems.

As a result, the company's network planning, construction, maintenance, operating, and modernization activities can have an impact on human activity (visual, functional & cultural) and on natural elements (water, air, soil, fauna & flora). The type and magnitude of the impact varies depending on the physical environment itself, and special care must be taken when working near sensitive natural areas.

On-going Measures

Bell has built a strong reputation as an environmentally responsible corporate citizen. To minimize the impact that the company has on the environment, Bell initiated an Internal Environment Evaluation (IEE) program in 1994, which integrates environmental evaluations into current practices and operating procedures. The program is designed to minimize the visual and functional impact of our infrastructure on environmentally sensitive areas.

A key component of the program is training employees and contractors on various environmental requirements. This training is supported with a guide, which provides preventive and remediation measures related to all aspects of network development, construction and removal. This guide is available to all employees on Bell's intranet site.

As part of developing and improving its telecommunications network, Bell currently is conducting a number of environmental impact studies, environmental assessments, and fish habitat site inspections. These are conducted to obtain the necessary approvals from regulatory authorities in order to proceed with our work. Environmental evaluations also help us identify environmentally sensitive areas and to build the network in a manner that minimizes potential impact. The projects involve network development on federal lands, provincial parks and native reserves.

2002 Achievements

In 2002, Bell was involved in a number of initiatives to improve streetscapes in our communities. As part of this commitment, various groups within Bell helped develop and install outside plant equipment that minimizes the visual impact of the network infrastructure.

Examples include the use of Trafalgar poles (right) servicing all utility companies and flush mounted pedestals (left), that contain hardware that is now less visible.

The Municipal Liaison group at Bell also developed Community Design Guidelines aimed at optimizing design and location of equipment, and minimizing the impact of construction and maintenance

activities. These type of initiatives help improve our relationship with customers, developers, and municipalities.

Moreover, the company continued to participate in the Québec government's program to bury network cable at tourism, cultural or heritage sites. Overall, 98 municipalities have shown interest in this program. So far, twenty projects have been announced by the Québec Ministry of Natural Resources. Two projects were completed in 2002, three were initiated and 15 more will be started in 2003 or 2004.

Program Objective

To minimize the impact of the network infrastructure on the natural and human environment during planning, construction, maintenance and dismantling activities.

Targets

Specific targets for 2003 are to:

- Continue participating in the buried network cable program for tourism, cultural and heritage sites.
- Maintain employee training and support to ensure proper environmental management of network projects.

Energy Conservation

Issue

Today, invaluable energy is generated through hydro, thermal or nuclear means, each of which can have a different impact on the environment, whether it's flooding, air emissions or disposal of waste materials. By reducing the use of energy, we clearly decrease the need to produce it.

On-going Measures

Over the past ten years, Bell has initiated many measures to reduce energy consumption required to operate telecommunications services equipment and to heat or cool buildings. Some examples are:

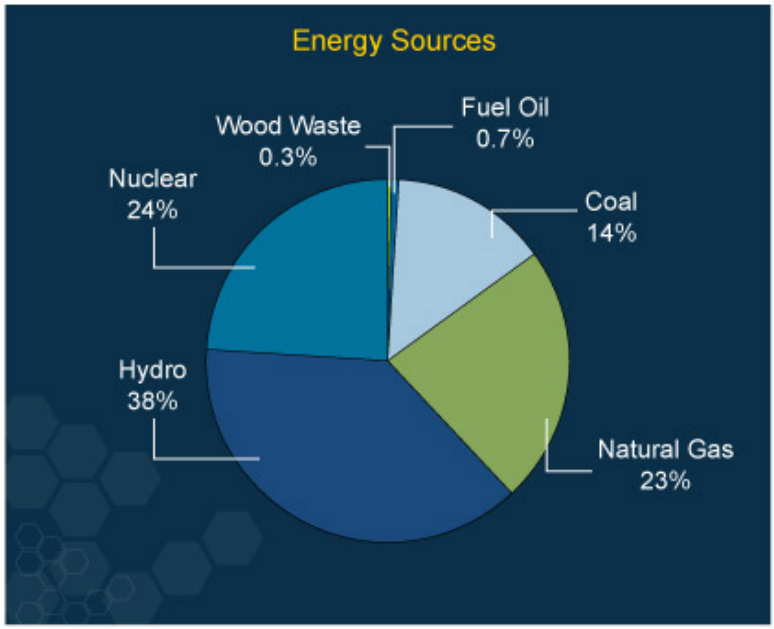
- installation of more efficient lighting fixtures and motion sensors;
- modification of operation schedules for fans and lights to reflect actual building occupation;
- optimization of digital control sequences including humidification, temperature set-points, and outdoor air supply;
- modification of air distribution in order to optimize system;
- increasing insulation thickness during roofing projects;
- replacement of air conditioning units with units incorporating free cooling;
- installation of fluid coolers on chilled water systems to provide free cooling;
- installation of interlocks to suspend heater operation when garage doors are open;
- replacement of electric motors with high-efficiency models;
- re-commissioning digital control systems to ensure proper operation; and,
- benchmarking of building consumption to identify buildings with energy- savings potential.

2002 Achievements

The company is now using electricity (82%), natural gas (17.4%) and fuel oil (0.6%) related to its network and real estate. Approximately 65% of the total energy consumption is used for network operations, while the remainder is related to Bell's real estate.

Electricity was produced by utility companies in Québec and Ontario. In Québec, most of the electricity came from hydro sources, which are renewable. In Ontario, electricity was produced from nuclear, coal, hydro, natural gas and wood waste.

The following chart illustrates the percentage of each type of energy source used by Bell, taking into consideration the electricity production by utilities:



In 2002, energy initiatives were implemented in more than 500 locations. These contributed to reducing energy consumption for non-network related equipment by approximately 3 million kWh, or by 1.5%.

However, total energy consumption increased by 3.3% or 25.9 million kWh in 2002, compared to 2001 consumption. This increase was mainly attributable to a growth of 3.2% in network equipment, most of which was related to Digital Subscriber Line (DSL) services. The warmer summer also required more energy to cool down buildings. From 2001 to 2002, Bell saw a 16% increase in days that buildings needed cooling.

	Consumption (millions kWh)	Total Area (000 ft^2)	kWh/(ft^2)	NAS (000)	kWh/NAS
Total 2002	814.3	11,569	70.4	11,276	72.2
Total 2001	788.4	11,563	68.2	11,444	68.9
% 02/01	3.3 %	0.0	3.2 %	(1.5 %)	4.8 %

kWh/ft^2 is an indicator used to compare consumption in buildings of different sizes.

kWh/NAS allows us to analyze a variation in consumption based on our business activities. (NAS stands for Network Access Services, and represents the level of

Program Objective

To pursue the implementation of energy reduction initiatives for network-related equipment and estates.

Targets

The energy initiatives underway for 2003 include:

- identifying high energy users through benchmarking and energy-saving opportunities;
- improving the operating efficiency of the electromechanical building systems in 28 large properties by re-commissioning digital control systems;
- using more cooling towers and heat exchangers instead of operating refrigeration equipment, during winter season; and,
- evaluate the possibility of cooling additional buildings during costly peak consumption periods using ice produced during the night.

Noise

Issue

Unwanted noise can be considered a pollutant in our environment.

At Bell, noise may be emitted, for example, by stand-by generators, air conditioners and ventilators.

The company is aware of the potential impacts of noise in our community, and has initiated several measures to address this issue.

On-going measures

The company adopted a noise management policy in 2001. Under this policy, Bell is committed to undertaking and implementing appropriate measures to minimize the risk of nuisance caused by noise emissions.

2002 Achievements

- The company implemented noise guidelines for the installation of new equipment. These guidelines specify the maximum acceptable level at property limits and propose solutions to reduce noise level when needed.
- In order to reduce the possible impact of noise, Bell standardized new network equipment that is less noisy and meets the company's new guidelines. The materials chosen, along with the type and location of ventilators, contributed to reducing the noise level by 5 to 16 dB(A).
- A study has been initiated to evaluate the noise generated by stand-by generators that are used to maintain telephone service during power failure. 134 stand-by generators out of 436, and with a capacity greater than 40 kW, were measured in 2002.

Program Objectives

To maintain initiatives to reduce noise emissions, and to ensure that operational equipment meets the new guidelines.

Targets

In 2003, Bell will pursue the noise assessment of stand-by generators, and will standardize noise reduction solutions for network equipment cabinets already in operation.

Vegetation

Issue

Control of vegetation using pesticides is a common but recent human activity. Certain pesticides break down relatively quickly once they are in the environment, whereas others persist over longer periods of time and can accumulate in the food chain or transform into toxic by-products. Pesticides can cause other problems such as the destruction of useful organisms, including earth worms, bees and natural predators of undesirable organisms. In addition, pesticides represent the largest single cause of surface water pollution.

For these reasons, Bell has undertaken a series of measures to minimize the use of pesticides. It is now a company policy to not use pesticides for aesthetic reasons such as keeping grass free of any other plant species.

On-going measures

On locations where brush control is deemed necessary, mechanical methods are the preferred measure, as opposed to the use of chemicals.

2002 Achievements

- Under the terms of its new vegetation management policy adopted in February 2002, Bell stopped using pesticides on its properties for aesthetic reasons.
- Realty Services managers were trained on the ecological management of vegetation.
- As well, Bell worked in partnership with the Coalition for Alternatives to Pesticides (CAP) to use environmental vegetation management measures such as organic lawn care, alternative landscaping and site naturalisation, while promoting biodiversity and conservation of water and fuel resources. The efficiency of these methods is now being assessed at three Bell sites, under a pilot project that was initiated in 2001.

Program Objective

To diligently manage green spaces at Bell using ecological methods while ensuring the promotion of biodiversity, as well as water and energy conservation.

Targets

In 2003, planned activities include:

- informing employees about the impact of using pesticides and the alternative methods of controlling vegetation;
- informing the public and community members living near Bell properties about the company's new pesticide-free policy and management;
- applying new landscaping methods in five additional sites; and,
- establishing the best sustainable landscaping strategies for 50 priority sites.

Petroleum-related Equipment

Issue

For nearly fifty years, throughout many industries, tanks containing motor oil, heating oil, diesel and gasoline have been generally buried for aesthetic, practical and safety reasons. Some of the earlier tanks that were buried don't conform to today's standards that help prevent leaks, environmental impact and costly clean-up.

Bell Canada has underground and aboveground tanks that store various petroleum products including gasoline, diesel, heating oil, lubricants and used oil. These are usually situated in or near work centres, office buildings, microwave towers, central offices and vehicle maintenance centres.

On-going Measures

Over the years, through its modernization program, Bell has:

- reduced the total amount of tanks from 924 down to 688, (may vary from year to year, depending on network operational needs);
- increased the proportion of aboveground tanks from 26% up to 49%;
- replaced all underground steel tanks with new tanks constructed with double-wall non-corrosive fibreglass. These are also equipped with a high-tech monitoring system that remotely and rapidly obtains specific information on the condition of tanks, such as product levels. As well, the tanks are connected to a central alarm system, which allows the company to act quickly in case of leaks; and,
- replaced all aboveground, single-wall storage tanks located outside buildings and containing more than 4,000 litres, with double-wall tanks.

Bell has a private and government-approved inspection program for petroleum-related equipment in Québec. Under this prevention program, all storage tanks are inspected every year; databases are verified and updated every month; and, fuel inventories are rigorously controlled. Similar controls are applied to petroleum-related equipment in Ontario.

As well, the company is required by law to monitor soil and ground water contamination levels. When removing or replacing storage tanks, Bell cleans up and restores all soil that has been contaminated by petroleum product spills and leaks.

2002 Achievements

Bell pursued the modernisation of its underground and aboveground petroleum equipment. The company:

- replaced underground black steel pipes at five locations with double-wall flexible piping. Single-wall fibreglass underground storage tanks were also replaced with double-wall fibreglass tanks at those locations. This replacement program for black steel pipes has now been completed; and,
- installed eleven overfill protection and spill containment boxes for underground storage tanks larger than 10,000 litres; this prevents accidental leaks during the filling of tanks. Under this program, a total of 35 systems will be gradually upgraded.

Program Objective

To prevent leaks and accidental spills of petroleum products.

Targets

In 2003, Bell will:

- install eight overfill protection and spill containment boxes for underground storage tanks larger than 10,000 litres;
- continue to modernize fuel dispensing systems used for company vehicles by repairing or replacing accessory equipment and facilities; and,
- continue to replace underground storage tanks with aboveground tanks.

PCBs

Issue

PCBs are toxic chemical substances that are extremely resistant to natural biological and chemical breakdown. As a result, they remain in the environment and accumulate in the food chain. Today, the resale of any device designed to operate with PCBs is prohibited, and the discharge, transportation and storage of PCBs is subject to strict federal and provincial standards.

PCBs were commonly used over many years in a variety of products because of their electrical properties and their resistance to biological and chemical breakdown.

A key milestone was achieved at Bell with the removal of the last remaining telecommunications equipment containing PCBs. Only a low percentage of the in-service ballasts used in lighting systems may contain a very low quantity of PCBs.

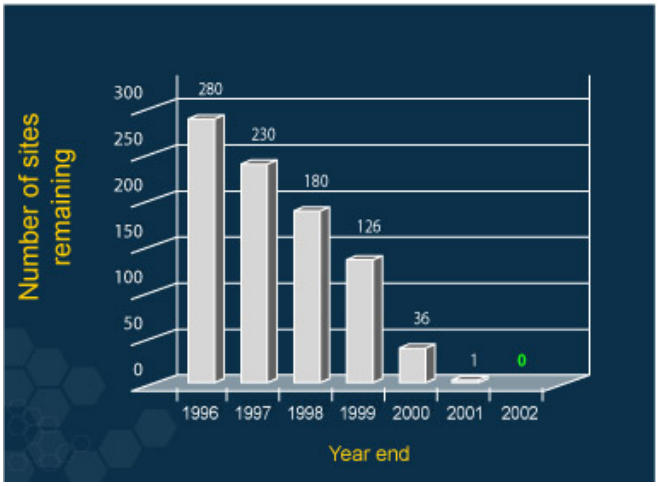
On-going Measures

Bell has a process in place to identify PCB-bearing ballasts and to control their destruction. The company sends these ballasts to its PCB storage facilities, where they are then sent to a specialized firm for destruction.

2002 Achievements

The PCB declassification project for telecommunications power equipment was completed in 2002.

Drums containing PCB ballasts and capacitors were transported from the storage facilities to specialized firms for recycling and destruction.



Hazardous Residual Materials

Issue

Many residual materials are defined by law as hazardous because they can threaten human health or the environment when stored, transported, treated or disposed of. If sent to landfill sites, these materials increase the amount of toxic substances that leach into groundwater and enter drinking water supplies. However, management options are available to properly handle hazardous materials in a safe manner and reduce their impact to the environment

Hazardous materials must be disposed of according to current laws and regulations.

2002 Achievements

Bell collects hazardous materials generated from its operations and manages them according to the required standards. Materials are either returned to inventory or manufacturer, reused within the operations, recycled or safely disposed of.

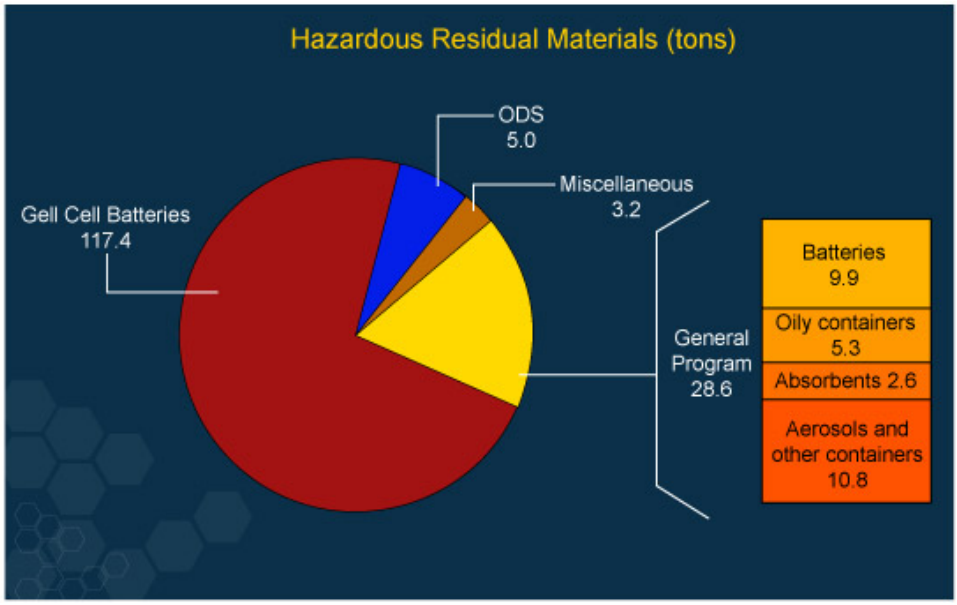
The following programs have been developed to prevent, control and reduce their release into the environment:

Centralized Collection Program

Bell Mobility, Northern Telephone and Télébec subsidiaries are now participating in the centralized collection program. A total of 154.2 tons of hazardous residual materials were recovered from 231 sites across Québec and Ontario and sent to our two centralized recovery sites. This recovery level is similar to 2001, and is broken down as follows:

- 117.4 tons (76.2%) of these materials were generated by the Gel Cell battery maintenance program that ensures that telecommunications equipment remains fully operational;
- 8.2 tons (5.3%) were generated from Ozone Depleting Substances and other miscellaneous items; and,
- 28.6 tons (18.5%) were generated from our general HazMat recovery program, which is implemented in our work centres and Central Offices.

The following chart details the various materials that were managed in our hazardous material collection centres in 2002.



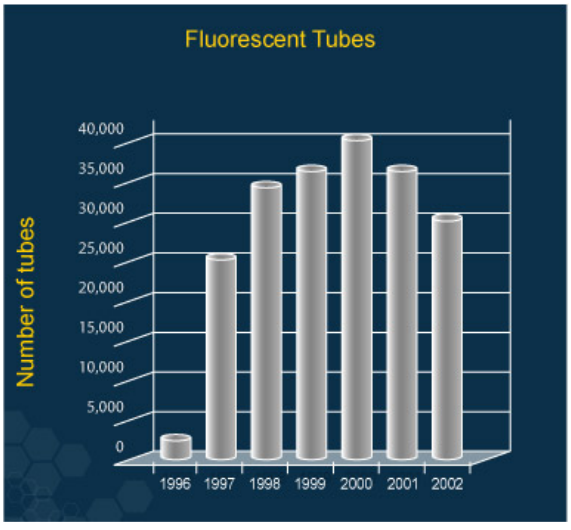
Rechargeable Batteries

Bell Mobility has introduced a pan-Canadian collection program to take back rechargeable batteries mainly used for cellular and cordless phones. The program was launched in June 2001. 221 of a total of 350 Bell World™ and Bell Mobility stores are now participating in the program. Batteries are picked-up by Rechargeable Battery Recycling Corporation (RBRC) which ensures that batteries are recycled. 1,550 kg of batteries were collected in 2001 and 8,200 kg in 2002.

Fluorescent Tubes

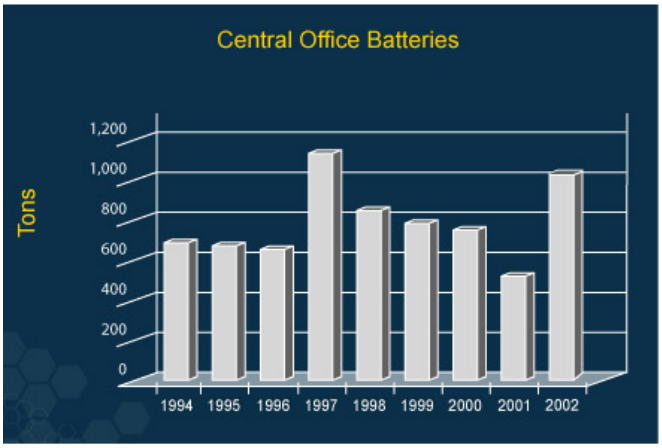
Bell collected and sent 29,380 fluorescent tubes to recyclers in 2002. Aluminium and brass were recycled; glass was reused within the foundry process; mercury was extracted from the phosphoric powder in a distillation process and recycled; and, the powder was used as a pigment in paint.

This highly successful initiative now includes sodium and mercury lamps, and covers all Bell buildings, huts and vaults.



Central Office Batteries

998 tons of obsolete central office batteries were sent for recycling in 2002.



The recycler recovered lead and plastics; neutralized acids for disposal or for use in producing sodium sulfate; and burned ebonites.
The quantity of batteries sent for recycling varies with the dismantling and renewal activities of the network. The higher quantity in 2002 was a result of replacing a large number of twenty-year-old batteries that had reached the end of their useful life.

Automotive Fleet

A number of products from Bell's vehicles are now included in our collection process. The following table provides quantities that were sent to various recyclers in 2002. The data includes products generated from the maintenance of vehicles belonging to Bell, its subsidiaries and other independent companies.

Product	Quantity	Treatment
Tires	8,545	Recycled or used in cement kilns for their energy value
Used batteries	1,346	Lead & plastics recovered or exchanged for new batteries
Used oil (litres)	123,594	Regenerated in refineries
Used oil filters	16,800	Oil recovered and components recycled
Solvents (litres)	3,400	Recycled or safely disposed
Engine antifreeze (litres)	6,624	Recycled into new antifreeze base stock

- All mechanics and managers have now been trained to use the Automotive Fleet Environmental Guide which addresses procedures such as: management of petroleum products and equipment, hazardous materials, and spills or other environmental incidents.
- A new biotechnology, water-based solution to clean automotive parts was successfully trialed to replace the use of solvents at four maintenance centers in 2002.
- Since 2001, the company has been trialing two energy-efficient hybrid vehicles, which use both fuel and electricity. Two more vehicles have been purchased and will be tested in 2003.

Program Objectives

To minimize the consumption of hazardous materials and to avoid sending them to landfill sites through reuse, recycling and recovering.

Targets

In 2003, the company will:

- maintain current programs and pursue its employee environmental training on the management of hazardous residual materials. *Link to section 4.4*
- begin to use the new cleaning solution to clean automotive parts in 15, out of 60, additional maintenance centers.

Air Emissions

1- Ozone Depleting Substances

Issue

Ozone Depleting Substances (ODS), such as chloroflurocarbons (CFCs), some chlorinated solvents and Halon, deplete the stratospheric ozone layer that protects the earth from ultraviolet rays (UVB). Ultimately, UVB rays are harmful to the environment, and prolonged exposure can cause skin cancer.

These substances are contained in various products. For example, CFCs are an active agent in aerosols employed for cleaning electronic parts, and are commonly used as coolants in refrigeration, freezer and air conditioning units. Halon is used in some portable and engineered fire extinguishing systems.

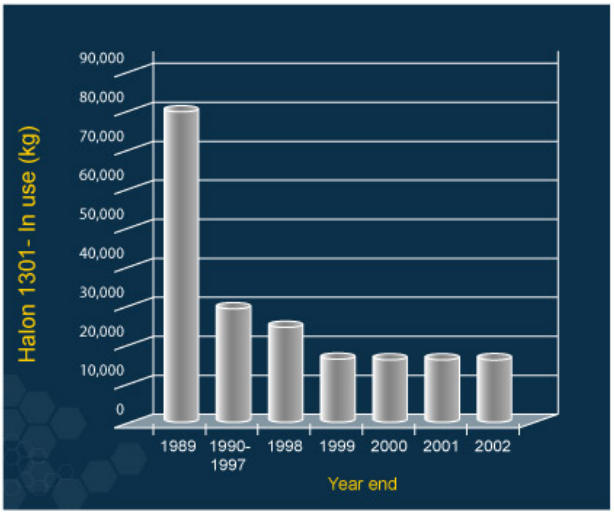
On-going Measures

Bell continues to rely on a number of highly successful measures to minimize ODS releases.

- Only CFC-free aerosols may be used at Bell.
- CFCs were replaced with nitrogen to detect leaks under cable sheaths.
- CFCs are recovered and condensed during maintenance of refrigeration and air conditioning systems – as per regulation requirements.
- Halon recovered is safely stored and managed.
- All portable fire extinguishers that contain Halon 1211 have been replaced with water, CO_2 or dry chemical extinguishers.
- The replacement program for chillers containing CFCs is now 81 % completed. Of the 108 targeted chillers inventoried in 1996, only 21 remain.

2002 Achievements

244 kg of Halon 1301 used in fire protection systems was decommissioned in 2002, and consolidated at the Bell Canada storage facilities for eventual sale or disposal with an approved supplier. 25,910 kg of Halon that were in storage have been sold to an approved supplier. Compared to the 1989 baseline, Bell Canada has reduced company usage of Halon 1301 by 79%.



Program Objective

To ultimately replace all systems using ODS with more environmentally friendly substitutes.

Target

In 2003, the company plans to replace five chillers containing CFCs.

2- Greenhouse Gases

Issue

Bell is also working to reduce its emissions of greenhouse gases to support the Kyoto Protocol. This protocol mainly targets the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride.

At Bell, greenhouse gases are produced indirectly through electricity consumption, and directly by the consumption of hydrocarbons. This consumption is necessary to light, heat or cool Bell buildings, power telecommunications and electronic equipment, and fuel vehicles used to build and maintain Bell's telecommunications network.

2002 Achievements

Bell completed a first estimate of greenhouse gases produced in 2001.

The following table provides the details of the emissions. They are presented in terms of "CO_2 equivalent" (CO_2E), in line with global Canadian and provincial inventories. This measure includes other greenhouse gases, such as nitrous oxide and hydrofluorocarbons. Calculations have been made using a tool developed and provided by the Office of Energy Efficiency, Natural Resources Canada.

Activity	**Estimate of CO_2E (tons)**
Bell vehicle fleet	49,920
Building heating and air conditioning	102,285
Cooling systems (HFCs)	118
Employees' personal traveling	7,018
Mobile generators	158
Total	**159,499**

The total quantity represents 0.02% of the total CO_2E emitted in Canada.

Program Objectives

To precisely document and quantify Bell's greenhouse gases, and report these annually. The figures will also include Bell subsidiaries.

Evaluate the reduction opportunities for Bell's operations.

Environmental Site Assessment

Issue

Today, environmental site assessments are performed on a routine basis to assess the environmental conditions of a property. These assessments also ensure that Bell meets the environmental criteria related to the use of its properties. Assessments are mainly conducted when buying, leasing, selling properties or when contamination is suspected.

Past or present activities conducted by Bell or previous owners may have lead to soil and water contamination at certain sites. The sources of contamination can vary and include: former industrial sites, snow deposits, storage of petroleum products, pole storage yards, and vehicle maintenance facilities.

On-going Measures

Environmental Site Assessments (ESAs) greatly reduce exposure to environmental liabilities and allow Bell to exercise due diligence in its approach, while meeting the requirements of applicable legislation. Along with assessing existing contamination, the company identifies and assesses activities that could potentially contaminate the sites. When contaminants exceed applicable criteria, Bell proceeds with remediation work in the most effective and cost-efficient manner.

Remediation projects at remote sites in Northern Ontario are closely monitored and near completion. These projects mainly involve petroleum hydrocarbon contamination.

Bell participates in a number of research projects that address the specific impacts of contaminants on soil and water, as well as the development of remediation techniques.

2002 Achievements

Bell conducted 33 projects to assess or remediate sites in 2002. Projects included soil and water sampling, ground water monitoring, in-situ remediation as well as excavation and treatment work. Bell combined leading-edge environmental remediation technology and the company's telecommunications network to ensure proper monitoring of remediation activities at selected sites.

Over the years, Bell has successfully addressed groundwater and soil contamination issues on its properties as well as significantly reduced the risks associated with petroleum-related equipment. As a result, the number of environmental site assessments conducted annually has decreased because of better environmental management of our assets.

Program Objectives

Pursue environmental site assessments and remediation projects to reduce exposure to environmental liabilities and to minimize soil and groundwater contamination.

Northern Ontario sites

In 1996, Bell Canada began clean-up and bioremediation on a total of 19 sites in remote Northern communities. These sites, mostly on First Nations reserves, were contaminated when the Government of Ontario began to operate diesel-powered generators that provided electricity for Bell's installations in 1975. This prompted a co-operative effort between Bell and the Ontario government to begin cleaning up the sites in 1995. Those sites have seen their generators removed and the installations dismantled.

2002 Achievements

Seventeen bioremediation sites have reached soil remediation target concentrations and require no further attention.

Monitoring and remediation activities have been completed at all but two sites. At some locations, the naturally occurring soil micro-organisms were used to break down the remaining fuel products in the soil. On other sites, the process was activated by excavating a small quantity of contaminated soil, mixing it with fertiliser and placing it back into the excavation, which was lined with aeration pipes.

Program Objective

Continue to monitor and manage the remaining remediation projects by bringing them to an economical and timely close.

Manhole Effluents

Issue

Bell Canada's network includes approximately 65,000 manholes that house cables and splices. As these manholes are not watertight, they can become contaminated with urban run-off such as road water and sediments. When they contain pollutants in concentration that exceed discharge standards, the manholes can not be pumped into storm or sanitary sewers.

On-going Measures

Bell has a variety of measures in place to improve manhole effluent management.

- The company constantly adapts its standard pumping procedure to minimize environmental impacts of manhole effluent in accordance with legislation.
- Bell uses accredited, licensed suppliers to pump contaminated effluents from manholes, to remove contaminated sludge, and to dispose of them.
- The company has introduced new types of hardware that either prevent or reduce the release of contaminants in water, such as non-metallic ladders and cable supports.
- Bell constantly evaluates ways to prevent entry of external contaminants into manholes.

2002 Achievements

Bell installed 500 new watertight covers. This initiative considerably reduces the quantity of water and contaminants from street run-off, which seeps into Bell's manholes. As a result, the covers reduce the need for specialised pumping.

As well, the company continued employee training on pumping procedures aimed at preventing contaminants from going back into the streets and municipal sewers.

Program Objectives

To minimize the quantity of manhole discharges, and to ensure that these do not exceed discharge limits set by municipalities.

Targets

In 2003, Bell will pursue the above-mentioned initiatives, and will put a computerized system in place to collect data from activities in manholes. This data will help us identify recurrent situations and find solutions.

Poles

Issue

Bell owns approximately 1.4 million poles throughout its territory. Telecommunications companies and utilities alike use poles to support their physical infrastructure. The most common poles used at Bell are made from pine trees, which are treated to slow down the natural biodegradation process of the wood, and thereby extend the life of the pole. Although treating wood poles can help preserve our natural forest resources, the preservatives used can cause environmental impacts throughout the pole's life cycle.

On-going Measures

Bell has been proactive in managing environmental issues with respect to pole use through their entire life cycle and has continued supporting initiatives, such as:

- actively participating since 1994 with key stakeholders in the Strategic Option Process (SOP) for the Wood Preservation Sector chaired by Environment Canada. This initiative is aimed at developing and implementing best management guidelines for the safe storage, use and disposal of treated wood in Canada; *link to Section 4.1 - SOP*
- implementing or modifying 15 pole storage yards, since 1996, with highly efficient protection systems that meet the Quebec government's requirements. Every pole storage yard in Quebec has been approved and is operated under a Certificate of Approval obtained from the Québec Ministry of Environment. On-going monitoring is being performed at these yards to ensure proper operation and Certificate of Approval compliance;

- standardizing the use of steel and non-treated cedar poles in environmentally sensitive areas, such as near watercourses;
- standardizing the use of site selection criteria for the installation of poles;
- conducting research to evaluate the impact associated with the use of treated wood poles; *link to*
- establishing a product stewardship agreement with its pole supplier, which imposes strict requirements on how poles are treated and which requires the supplier to repatriate poles at the end of their useful life. Moreover, the company conducts Environmental Risk Evaluations of its supplier to ensure due diligence; and,
- prohibiting the sale or donation of used poles to the public, since 1995.

2002 Achievements

- Ten new storage units for used poles were constructed in Ontario, and six were upgraded. These storage facilities incorporated all practical aspects of the new SOP guidelines for treated wood storage facilities. The company also initiated a soil sampling program at all 35 storage yards in Ontario in order to monitor any potential accumulation of wood preservatives at pole storage units.
- Bell continued its efforts to increase employee and supplier awareness on the importance of recovering poles, and returning them for recycling or safe disposal. A total of 4,721 poles were recovered from Bell's operations in 2002. As a result, the recovery rate reached 80%, an increase of 20% from 2001.

Program Objectives

- Minimize contamination risks by designing and constructing pole storage yards that meet stringent guidelines, as well as monitoring their performance.
- Minimize contamination risks by avoiding the use of treated poles in environmentally sensitive areas.
- Maximize the recovery rate of poles removed from the network.
- Minimize disposal of used poles by reusing poles whenever practical and by recycling poles that cannot be reused.

Non-Hazardous Residual Materials

Issue

Bell uses literally tons of materials and products in its operations, and their disposal has to be managed with the environment in mind. With careful vigilance and the application of the reduction, reuse and recycling principles, the company can avoid using non-renewable resources, occupy less space at landfill sites and ultimately generate cost-savings.

All operations within Bell generate non-hazardous residual materials: construction and demolition of our buildings; administrative operations; construction, maintenance and dismantling of the old network; and automotive fleet maintenance.

2002 Achievements

In 2002, the company adopted a non-hazardous residual management policy. Under this policy, Bell is committed to promote and support cost-effective resource and waste minimization initiatives that are aligned with waste reduction objectives set by governmental authorities. These initiatives are also based on sustainable development decision criteria that include financial, environmental and social objectives.

The company also maintained many successful programs to manage non-hazardous materials. The following initiatives are closely monitored and continuously improved.

Network Operations Activities

Materials from the construction, maintenance and dismantling of the old network are collected to be reused, sold or recycled. Residual materials, such as copper cables, steel hardware and lead sleeves, are sent to recyclers for secondary markets. Equipment in good operating condition is sold for reuse, and any hazardous materials are handled according to environmental legislation. In 2002, a total of 5,740 tons of materials were collected from all work centers and central offices. Quantities vary over years depending on the intensity of dismantling activities.

A Material Collection Centre has been implemented in 51 of our main work centres (70% of all work centers). Containers used for hazardous and non-hazardous materials, as well as poles and waste destined to landfill, are relocated in a centralized area in each of the work centres. This simplified process helped the company divert a significant quantity of material from landfill. The total diversion rate for 2002 was 72%. This rate, which was 30% before the implementation of this program, has been maintained at more than 71% during the last four years.

Bell has also found a way to contribute to a good social cause and help protect the environment at the same time. The Centre de formation en entreprise et récupération (CFER) is now collecting and sorting recyclable materials generated at fourteen of our work centers located in Québec. CFER is a recycling training school that provides useful manual skills to youth without high school diplomas. The diversity of materials from Bell creates an excellent training ground for these students. The program also favours local recycling of many materials such as cardboard, steel or aluminum, while helping Bell to reduce transportation costs.

Target

In 2003, increase the current diversion rate by implementing additional controls at the sorting stage.

Zero Waste™

Our Zero Waste program is aimed at diverting non-hazardous residual materials, such as paper, cardboard, glass, steel and aluminium used during our administrative activities, from landfills. Over the past years, we have implemented recycling processes for various materials in most of our administrative offices and network maintenance centres. As well, the company has actively promoted the application of the 3Rs principles to our employees. During waste reduction week in October 2002, more than 1,700 employees viewed a Zero Waste presentation on the intranet. This presentation featured automated slides with voice-over, and employee feedback was very positive.

We now have a data collection process in place that enables us to track results on our progress and the efficiency of the Zero Waste program in each location. The tracking process targets 240 sites throughout Bell's territory, and addresses costs, revenues and quantities for recyclables and waste to landfill.

Last year's results indicate an average diversion rate of 26.5% at the participating sites. This rate was calculated based on the total quantity of residual materials generated. These efforts contributed to the diversion of 930 tons of material from landfill sites, 17 tons more than last year. 5,900 employees in 16 administrative offices owned by Bell achieved a diversion rate of more than 40% in 2002.

Target

In 2003, implement paper recycling for 2,800 employees at 91 additional sites in 2003. This will provide paper recycling service to more than 98% of Bell employees located in Bell-owned buildings. The remaining sites will use the municipal collection service where available.

Reduce and Reuse programs

Beyond recycling, Bell's efforts also encompass programs to reduce and reuse:

- In 2002, Bell implemented a new process to collect and refurbish splicing closures and aerial terminals commonly used in our network. A product refurbishing specification and training video was developed, and a collection procedure was distributed to employees. This process will be monitored in 2003.
- In 2002, the company continued efforts to minimize paper consumption for its operations. Overall paper consumption was 4,707 tons, which represents a reduction of 3,609 tons since 1991, and saves more than 61,000 trees annually. The reasons for reduction include the increasing use of electronic tools, such as e-mail and Internet, bill redesign and bill suppression projects, mechanization of business forms, and availability of on-line reports.
- Bell is maintaining its successful collection program for laser printer toner cartridges of various types. In 2002, we purchased 12,000 refurbished cartridges from our supplier, reducing the consumption of new materials and reducing waste to landfill. As in the past, savings from this initiative continue to be substantial. Using refurbished cartridges instead of purchasing new ones generates an impressive cost reduction of 30% to 50%.

- We are also using reusable Universal Boxes to store and transport

delicate printed circuit cards that provide customer telephone features, such as high capacity data, teleconferencing and call display. The boxes are produced in four standard sizes and can safely store circuit cards in various sizes and shapes. Circuit cards received from major suppliers are removed from the original packing boxes and stored immediately in Universal Boxes. These durable boxes can be reused more than 90 times and eliminate approximately 1,000,000 non-reusable packages (bubble pack) used for temporary storage every year.

This innovative process garnered public recognition with the 1998 Financial Post Product Stewardship Award.

Program Objective

To maintain current efforts and to pursue the promotion and support of cost-effective resource and waste minimization initiatives.