

AT&T Citizenship and Sustainability Report 2007/2008

# Connecting for a Sustainable Future

The new  at&t

## Our Vision

Connect people with their world,  
everywhere they live and work,  
and do it better than anyone else.

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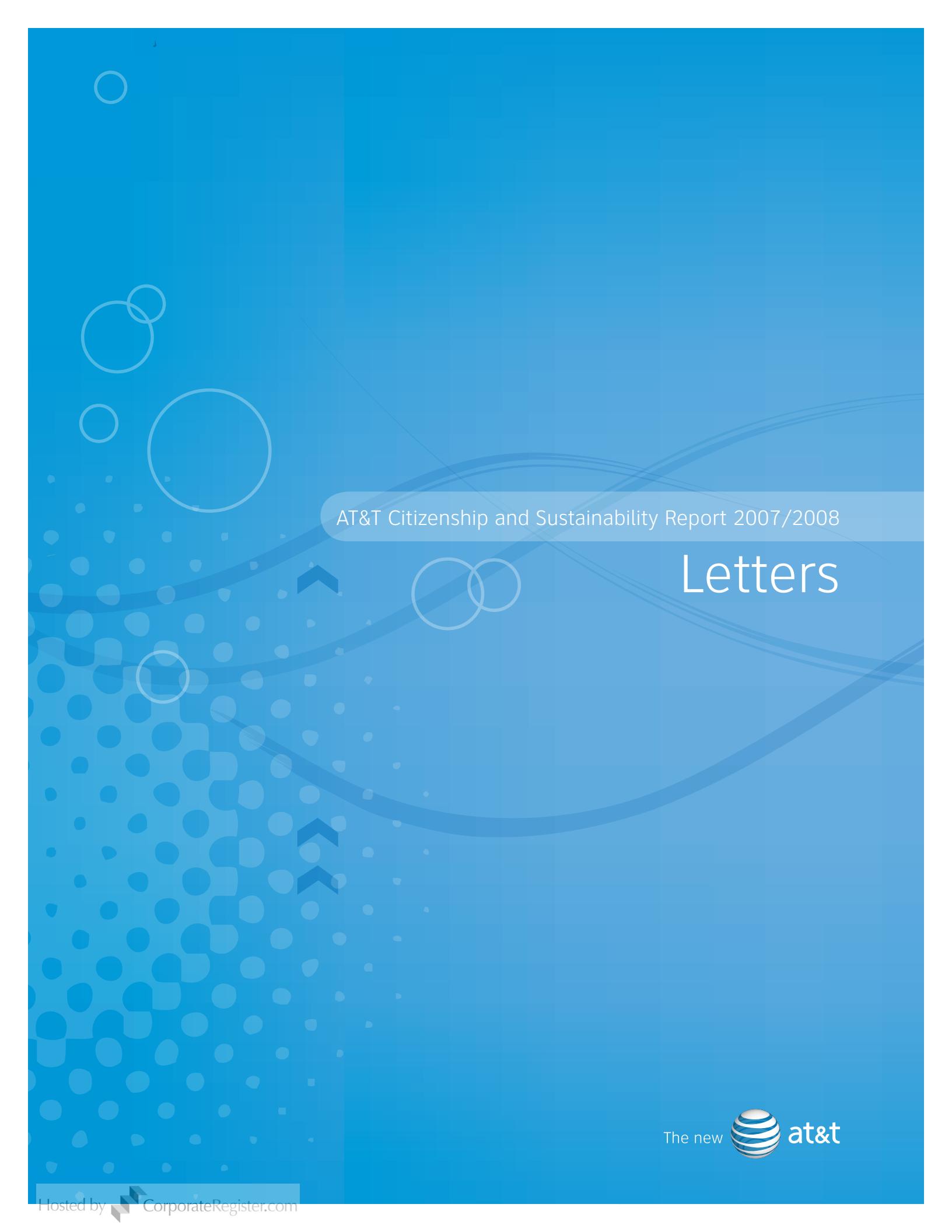
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For ease of reading, AT&T Inc. is referred to as "we," "AT&T" or the "company" throughout this report, and the names of particular subsidiaries and affiliates providing services have been omitted. AT&T Inc. is a holding company and does not provide communications services. Its subsidiaries and affiliates operate in the communications services industry both domestically and internationally. Before the Nov. 18, 2005, acquisition of AT&T Corp., the company was known as SBC Communications Inc. This report includes certain activities of AT&T Corp. prior to the acquisition.



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# Letters

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“I take this commitment seriously, and I’m very proud of the progress we’ve made. We’ll work hard to do even more, embracing this with the same passion and leadership that we bring to every part of our business.”





**AT&T's business is to connect people with their world, everywhere they live and work. We've been doing that for more than 100 years, and we work very hard to do it better every day.**

Our approach to citizenship is a natural outgrowth of that commitment. It's a responsibility that's woven into our DNA. We've always been committed to our people, our communities and our planet. But we recognize the need to strengthen that commitment. That's why I felt it was important for AT&T's Board of Directors to expand the responsibility of its Public Policy Committee and take on greater oversight of citizenship and sustainability. I'm pleased that accountability is now at the very highest level of our company.

Under the leadership of Charlene Lake, Vice President of Public Affairs, Corporate Citizenship and Sustainability, we're taking deliberate and positive steps to integrate citizenship and sustainability into our daily business operations. These steps reflect our desire to be a force for positive change — one that will contribute to the long-term sustainability of the world we serve.

I take this commitment seriously, and I'm very proud of the progress we've made. We'll work hard to do even more, embracing this with the same passion and leadership that we bring to every part of our business.

We appreciate the enthusiasm that our customers, employees, shareholders and other stakeholders have demonstrated as we work to build a better company ... and create a better world and more sustainable future.

Sincerely,



Randall Stephenson  
Chairman, Chief Executive Officer and President



**We've titled this report Connecting for a Sustainable Future - because that's exactly what we're doing. We're making connections, in ways that are meaningful and relevant to both our business and the communities we serve. The title also reflects our commitment to connect innovation to solutions that make our company, our customers and our communities more sustainable.**

This report explains the progress we've made to align the six strategic focus areas of our citizenship and sustainability program with our business principles. While all the areas are key to our mission, we've chosen here to document our progress in three of them:

- > minimizing the environmental impact of our operations.
- > using innovation and technology to enhance people's lives.
- > and connecting people and businesses worldwide in ways that help them reduce their own environmental impact.

As part of our progress, we've transformed how we approach citizenship and sustainability internally. In the first quarter of 2008, we created a Citizenship and Sustainability Steering Committee comprised of officers from across the company. This committee is accountable to the Public Policy Committee of the AT&T Board of Directors, which has oversight for all AT&T's citizenship and sustainability.

We've also worked with a nonprofit organization, Business for Social Responsibility, to conduct a companywide materiality analysis. This process helped us better prioritize our citizenship and sustainability issues and develop a strategic framework for our program.

In short, we've made a lot of progress, but we know there is more to do. We view this as a journey — and we commit to continuous improvement in integrating our commitment to our communities with our business and long-term growth strategies.

We recognize that the dedication, passion and support of our employees makes our progress possible. And we're grateful to our partners and stakeholder organizations who have supported and guided us this year. We look forward to strengthening those partnerships as we continue this exciting work.

Sincerely,

Charlene Lake  
Vice President of Public Affairs, Corporate Citizenship and Sustainability

AT&T Citizenship and Sustainability Report 2007/2008

# Citizenship and Sustainability at AT&T

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We've taken significant steps to better integrate and align our citizenship and sustainability initiatives with our business and long-term growth strategies.

## What's New

Since our last citizenship report in 2006, we've taken significant steps to better integrate and align our citizenship and sustainability initiatives with our business, culture and long-term growth strategies. Accountability for citizenship and sustainability now resides at the very highest levels of our company and is further embedded into our everyday operations.

### Governance

We've taken concrete steps to elevate the importance of citizenship and sustainability and to strengthen the management of related issues throughout our company. In 2008, AT&T's Board of Directors expanded the responsibility of its Public Policy Committee to include oversight in this crucial area. We appointed a senior executive to coordinate our citizenship and sustainability program. And in the first quarter of 2008, we put in place a Citizenship and Sustainability Steering Committee made up of officers from across the company. The committee meets quarterly to provide direction to expert teams within the business that manage specific citizenship and sustainability initiatives on an ongoing basis. Expert teams report regularly to the Steering Committee members on these initiatives.

### Citizenship and Sustainability Steering Committee

Michael G. Antieri, Senior Vice President-Consumer Marketing

William M. Archer, Chief Marketing Officer-Business

Henry Arnold, Vice President-Operations,

Advertising and Publishing

Dorothy Attwood, Senior Vice President-Public Policy  
and Chief Privacy Officer

Terry D. Bailey, Senior Vice President-Mass Markets  
Operations Support

Cindy Brinkley, Senior Vice President-Talent Development  
and Chief Diversity Officer

Keith Cambron, President and Chief Executive Officer-AT&T Labs

David Christopher, Chief Marketing Officer, Mobility

Rick Felts, Senior Vice President-Information  
Technology Operations

Tim Harden, President-Supply Chain and Fleet Operations

Randall Hargraves, Vice President-Global Internet  
Data Centers Operations

Kaveh Hushyar, Senior Vice President-Network  
Planning and Engineering

Charlene Lake, Vice President-Public Affairs, Corporate  
Citizenship and Sustainability

Paul Mancini, Senior Vice President and Assistant General Counsel

Brooks L. McCorkle, Senior Vice President-Investor Relations

Shawn McKenzie, Senior Vice President-Corporate Real Estate

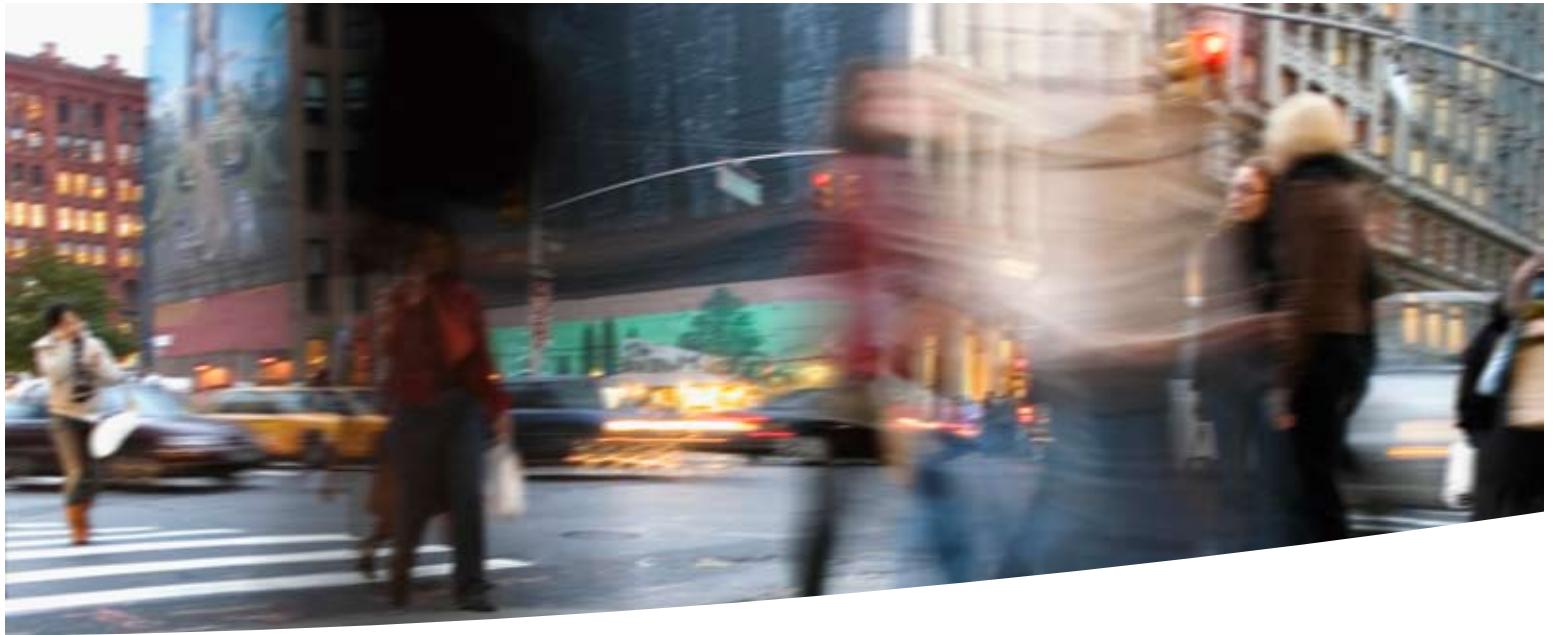
Roman Pacewicz, Senior Vice President-Regional  
Business Markets Marketing

Larry Solomon, Senior Vice President-Corporate Communications

Carol Tacker, Senior Vice President-Compliance

## Citizenship and Sustainability Governance Structure





## Materiality Analysis

Concurrent with our strengthened governance structure, we aligned our initiatives more closely with our business goals. This process, called a materiality analysis, is described on page 48 of this report. The analysis helped us better prioritize our citizenship and sustainability issues and develop a strategic framework for our program.

## Strategic Focus Areas

### Strengthening Communities

We strengthen our communities by providing good jobs, donating our time and talents, supporting underserved populations and promoting education programs that create economic opportunity.

### Investing in People

We strive to be a great place to work, to be respectful and supportive of our diverse workforce and inclusive culture and to recognize the benefits of our diverse suppliers, customers and business partners.

### Leading With Integrity

We demand the highest standards of ethics, integrity and responsibility in our operations.

### Minimizing Our Environmental Impact

We strive to minimize our environmental impact in ways that are relevant to our business and important to the communities we serve.

### Connecting People and Business

We efficiently connect people and businesses everywhere with innovative and sustainable products and services.

### Leading Innovation and Technology

We lead the way in innovation and technology and apply developments to make a sustainable difference in society.



Of our six strategic focus areas, three — Minimizing Our Environmental Impact, Connecting People and Business and Leading Innovation and Technology — represent areas of growing importance and priority at AT&T. For that reason, this report focuses on those topics, including recent activities, challenges and plans for each. We also provide a brief snapshot of the major highlights in our other three focus areas. Our 2009 report will provide more depth on all six strategic focus areas, including performance data, goals and metrics.

## What's Next

**As a next step, we'll focus on advancing two internal elements of our citizenship and sustainability program — employee engagement and key performance indicators to measure our progress in all six of our focus areas.**

### **How we plan to engage our employees to help us be a better corporate citizen:**

Our citizenship and sustainability efforts reflect the work of many expert teams across the company. But our more than 300,000 employees also have a vital role to play in realizing those efforts in the communities we serve.

People enjoy working for and with a company that is a good corporate citizen and a responsible steward of the environment, and we're working hard to live up to that expectation. That's why we've long worked to engage our employees in our citizenship and sustainability activities and why we continue to do so.

We strive to communicate with our employees on a regular basis and involve them on a personal and professional level. We have developed a comprehensive employee engagement program to make communication relevant, frequent and easily accessible. A key milestone toward this commitment will be the launch later this year of an employee Web site specifically focused on our citizenship and sustainability efforts. In addition to engaging employees through interactive components of the Web site, our program involves employees through our volunteer organization, the AT&T Pioneers, and our annual Champions of the Environment awards, which honor individual employees and teams that make contributions to the environment.

We recognize the need to fully understand our existing impacts and to better position our company for the transition to a carbon-constrained economy by reducing our reliance on carbon-intensive energy sources.

### **How we'll measure our performance and report on both the progress and the challenges we face:**

We've gone through a number of recent mergers and acquisitions, and we're continuing to integrate four companies, each with its own operations, systems, history and policies. As we manage these changes and move forward as the new AT&T, we're committed to continuous improvement and increased transparency in communicating our progress. We're taking concrete steps to define and establish measurements for our citizenship and sustainability performance.

We're still in the initial stages of establishing measures that will help us better manage our business and be relevant and understandable to stakeholders. We're paying particular attention to energy consumption and greenhouse gas emissions. We recognize the need to fully understand our existing impacts and to better position our company for the transition to a carbon-constrained economy by reducing our reliance on carbon-intensive energy sources. As a first step, we're focusing on measuring our energy consumption. In the interest of securing and providing detailed and meaningful data, we are actively pursuing a comprehensive, three-step process:

- ① Identifying sources, establishing reliable data access and storage processes and consolidating responsibilities for managing the multitude of data sources related to our energy consumption that existed in the companies merged to create the new AT&T.
- ② Assessing the metrics that will enable us to effectively manage our energy consumption while providing meaningful insight to interested external stakeholders.
- ③ Ensuring that quality assurance processes exist and are operating effectively to maximize the accuracy and reliability of the results we produce.

This process will take time, but it will produce information that will be most useful for our business and meaningful for stakeholders. Our 2009 report will include a more thorough discussion of performance data, goals and metrics, not just for energy consumption but for all six of our strategic focus areas.



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# Six Strategic Focus Areas

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# Six Strategic Focus Areas

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**It's our hope that the information contained in this section will foster an ongoing dialogue — one that will continue to guide our journey in citizenship and sustainability. We pledge to maintain this dialogue and to be transparent in reporting the progress we make and the challenges we face toward achieving our goals.**

## Strengthening Communities *Learn more about our work in this area online.*

**Our Commitment:** We strengthen our communities by providing good jobs, donating our time and talents, supporting underserved populations and promoting education programs that create economic opportunity.

- > Our jobs offer competitive pay, excellent benefits and opportunity for training and advancement. Of our total global workforce — 310,070 employees — about 60 percent is union represented.
- > AT&T and the AT&T Foundation have together provided more than \$1.9 billion of charitable commitment to communities across the country during the course of our history.
- > AT&T Aspire, a \$100 million philanthropic program launched in 2008, focuses on student success and workforce readiness to combat the U.S. high school dropout crisis.
- > The AT&T Pioneers is one of the largest industry-sponsored volunteer organizations in the country, with nearly 365,000 AT&T employees and retirees. In 2007, the AT&T Pioneers donated more than 10 million hours of personal time to community outreach activities — worth more than \$187.7 million in salaried time.





## Investing in People *Learn more about our work in this area online.*

**Our Commitment:** We strive to be a great place to work, to be respectful and supportive of our diverse workforce and inclusive culture, and to recognize the benefits of our diverse suppliers, customers and business partners.

- > We spend more than \$5.5 billion annually for employee and retiree health care, providing coverage for 1.2 million people. AT&T also spent \$200 million on employee-training programs and \$26 million on tuition assistance last year.
- > Today, 44 percent of our U.S.-based employees are women and 39 percent are people of color.
- > In 2008, DiversityInc included AT&T among its Top 50 Companies for Diversity for its commitment to diversity in the workplace and marketplace.
- > We have 10 Employee Resource Groups that are open to all employees. These groups support AT&T's commitment to diversity and inclusion through their efforts in the workplace, the marketplace and the community.
- > We have a 40-year legacy as a pioneer in supplier diversity, and we're one of only 13 companies that spend more than \$1 billion annually with women-, minority- or disabled veteran-owned businesses. In 2007, AT&T spent \$5 billion with diverse suppliers, representing more than 12 percent of our procurement budget.

## Leading With Integrity *Learn more about our work in this area online.*

**Our Commitment:** We demand the highest standards of ethics, integrity and responsibility in our operations.

- > We are committed to the highest standards of ethics, integrity, personal and corporate responsibility and adherence to laws and regulations that govern our business. We've gained and retained the public's trust and confidence for more than a century through our dedication to these corporate values. In keeping with this commitment, we've adopted a number of processes and policies that guide our employees in upholding the integrity of the AT&T name.
- > Specific to our citizenship and sustainability commitment, the AT&T Board of Directors' Public Policy Committee has oversight for corporate policies and practices related to citizenship and sustainability. The Citizenship and Sustainability Steering Committee, made up of officers from across the company, works in concert with the Board and the Citizenship and Sustainability Team.



## Minimizing Our Environmental Impact

**Our Commitment:** We strive to minimize our environmental impact in ways that are relevant to our business and important to the communities we serve.

### Overview

This section highlights the initial steps we've taken to become more energy efficient and to reduce our own environmental impact. Our recently revised environment, health and safety policy is designed to help us do just this — to responsibly use energy and other natural resources. It's our policy to operate and to provide products and services in a sustainable manner.

As we take these steps, we've found many challenges and uncertainties. Some of these include price volatility and uncertainty of various energy sources, the absence of competitively priced alternative-fuel technologies for the type of vehicles we require, rapid increases in data center energy use and mounting electronic waste as the speed of innovation delivers more options. To combat these challenges and others, we'll continue to work with industry and policymakers to create a business and regulatory environment that enables us to further accelerate efforts to reduce our environmental impact.

### Managing Energy

Effective energy management is crucial to the competitiveness of our business and the reliability of our service to customers. That's why it's our policy to conduct our business in a cost-effective and energy-efficient manner. A concerted effort to improve energy efficiency is a responsible corporate practice — one that not only saves money but also helps reduce the risks of adverse environmental effects.

For these reasons, we've recently taken two important steps:

- We developed an energy policy to improve and optimize energy efficiency, while maintaining or improving the quality, reliability and competitiveness of our services. Going forward, we'll implement this strategy by developing specific goals and metrics as well as improved management systems.
- We formed an Energy Council made up of key executives from all business units that directly consume energy in their operations or that design, develop or specify energy-consuming equipment. The Energy Council is responsible for advancing our energy strategy within the company by identifying and assessing ways to operate more efficiently.



## Operating More Efficiently

We work hard to enhance energy efficiency in our buildings, information technology systems and networks. In 2007, we completed 335 comprehensive energy audits at our top energy-consuming locations to identify opportunities to improve energy efficiency. Consolidating operations has allowed us to shed unnecessary building space, and actions taken from the audit findings have resulted in annualized energy savings of more than 230 million kilowatt hours (kWh). This is equivalent to the average annual electricity use of approximately 19,200 households, according to the U.S. Environmental Protection Agency (EPA) [Greenhouse Gas Equivalencies Calculator](#).

We work across functional units to identify ways to reduce energy consumption in buildings, including:

- > Installing high-efficiency lighting and identifying lighting retrofit opportunities.
- > Adding automated controls such as motion sensors and temperature controls.
- > Upgrading heating, ventilating and air conditioning equipment.
- > Optimizing building occupancy to reduce heating/cooling for underused locations.
- > Using variable frequency drives to start large motors such as chillers, hot and cold water pumps and air-handling units.
- > Turning down network equipment components that are no longer required, are obsolete or have reduced need.
- > Using air economizers, which allow AT&T to use outside air on mild days to help cool data centers.
- > Re-commissioning our existing buildings to optimize infrastructure and controls.

In addition, two of our administrative buildings — one in Georgia and one in Tennessee — received ENERGY STAR certification from the EPA in 2007. We're exploring opportunities to get more buildings certified.

## Data Center Strategy

Part of our work to responsibly manage the energy consumption of our own business operations includes managing our data center operations. These are the centralized facilities that provide storage and management of server, network and computer equipment. The industry's data center electricity use has been growing rapidly in recent years. In fact, energy consumed by the industry's data center servers, cooling equipment and infrastructure more than doubled worldwide from 2000 to 2005, according to a February 2007 study conducted by Jonathan Koomey, a consulting professor at Stanford University and a staff scientist at Lawrence Berkeley National Laboratory.

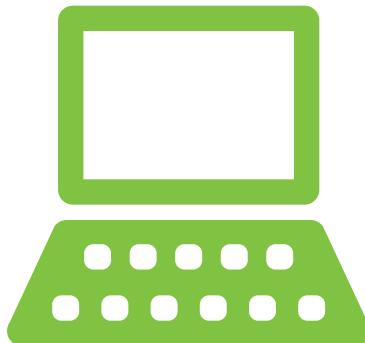
At AT&T, we manage 24 Enterprise Data Centers (EDCs) and 38 Internet Data Centers (IDCs). With rising power costs and increased need for data center power, managing our data centers in an efficient way is

"EPA is very pleased to have AT&T's support for the development of the ENERGY STAR rating for data center infrastructure. It is only with the active involvement of industry leaders like AT&T that EPA will be able to provide the data center industry with the information it needs to most effectively improve the energy efficiency of these critical facilities."

— Mike Zatz, manager of EPA's ENERGY STAR Commercial Buildings Program

a significant challenge for us. That's why we're aggressively working to refine our energy-saving practices, sharing information among groups responsible for AT&T's internal data centers and our commercial IDCs. Data centers will always be heavy users of electricity, but we're working to make incremental improvements that will lead to improved power efficiency. Through constant process refinement and infrastructure tuning, combined with server virtualization programs, we strive to get as much computing power as possible out of our electricity consumption. We do this through five strategies:

- > **Consolidation:** Understanding that data centers have very clear economies of scale, we work to close smaller and less efficient data centers.
- > **Optimization:** We work to improve the utilization and efficiency of resources in our data centers, including cooling, power, space, processors and storage.
- > **Application Rationalization:** We work to unify business applications and eliminate redundant solutions whenever practical.
- > **Supplier/Partner Integration:** We work to integrate our sourcing strategy, suppliers and partners into the company's energy conservation initiative process.
- > **Industry/Government Collaboration:** We participate in forums, committees and commissions to further identify, understand and promote the adoption of best practices and innovation.



### Industry Collaboration

We believe that active involvement in collaborative industry efforts is essential to promoting and advancing energy-efficient solutions.

To further improve energy efficiency in the data center industry, the EPA launched a data collection initiative to develop an ENERGY STAR rating for data centers. As support for this effort, AT&T has committed to monitor and collect performance data for four data centers — two EDCs and two IDCs — and to submit energy data to the EPA from July 2008 to July 2009. This new rating will help data center operators assess the energy performance of their buildings' infrastructure and identify buildings with the greatest opportunity for improvement, allowing them to capture the financial and environmental benefits of improved energy efficiency in their facilities. When fully in place, this initiative will assist industry data center facilities in earning ENERGY STAR certification for superior energy efficiency.

In 2008 we joined The Green Grid consortium, a global group that is dedicated to advancing energy efficiency in data centers and business computing ecosystems. The Green Grid works to provide



industrywide recommendations and best practices on metrics and technologies that will improve energy efficiency in data centers around the world. We're taking an important role in cooperating with other leading companies in this effort.

**"The Green Grid is proud to welcome AT&T as a Contributor Member of the consortium. AT&T brings a breadth of knowledge and experience in the field of communications. The Green Grid is looking forward to collaborating with AT&T and leveraging its expertise to help further the organization's mission."**

— Mark Monroe, director of The Green Grid

AT&T also chairs the Alliance for Telecommunication Industry Solutions (ATIS), a technical planning and standards development organization that works to develop and promote worldwide technical and operations standards for the communications industry and related information technology fields.

We're a chair of the ATIS Network Interface, Power and Protection-Telecommunications Energy Efficiency (NIPP-TEE) committee. The first goal of the NIPP-TEE is to develop a standardized method of measuring and reporting energy efficiency as a function of power consumed versus performance delivered for new equipment and technologies introduced into the network. This will be presented as the Telecommunications Energy Efficiency Rating (TEER). The rating will be the equivalent of the ENERGY STAR ratings for consumer appliances.

The TEER will be used to compare like equipment types during the evaluation and selection process. An industry standard will do two important things — enable better comparison among equipment choices and allow equipment manufacturers to focus their research and development on improvements driven by a common measure.

Working with industry bodies like ATIS allows suppliers and users of telecommunications equipment to coalesce around a widely accepted approach to measuring and improving energy efficiency. In the end, we believe this approach will provide lower-cost solutions and broader benefits for all key stakeholders across our entire industry.

"We applaud AT&T in its initiative to help reduce our city's carbon footprint and encourage others to follow suit. AT&T has been a strong corporate citizen in the Austin community and becoming a Corporate Champion is another way the company is showing its commitment to the sustainable growth of our city."

— Roger Duncan, general manager, Austin Energy

### Investing in Alternative and Renewable Energy Sources

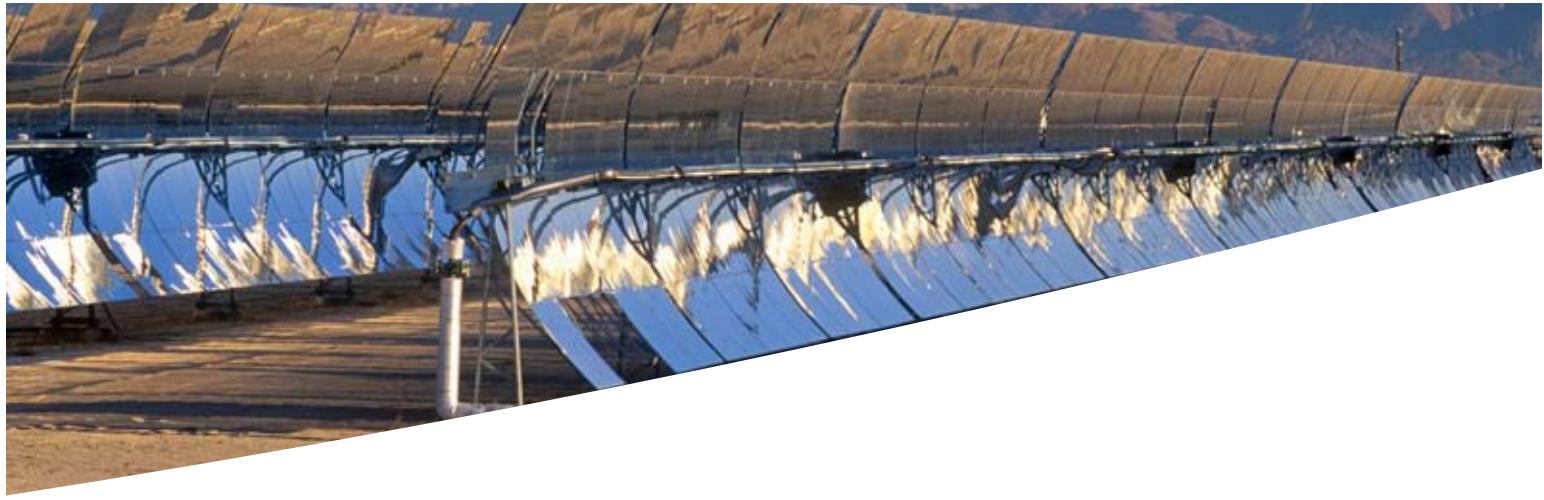
Our energy policy balances our business need for affordable supply with the need to identify alternative and renewable forms of energy that have less impact on the environment. That's why we continue to research and adopt new approaches to how we operate our businesses.

We've begun to use solar power and wind power as alternatives to standard energy sources. These efforts will help us learn about the benefits of renewable energy for our business and help us make educated decisions as we pursue the future use of alternative forms of energy.

In early 2008, we signed an agreement with Austin Energy to participate in the utility's GreenChoice® renewable energy program. Through this program, 10 percent of the electricity purchased for all AT&T facilities in Austin, Texas, will come from wind power. That's equivalent to avoiding 7.2 million kWh of fossil-generated electricity. It's also enough renewable energy to power 600 average homes in Austin for a year, according to Austin Energy.

This places us among the Top 20 GreenChoice subscribers. And it classifies us as a GreenChoice Corporate Champion based on annual energy purchased. More importantly, it's an opportunity for us to support sustainable growth in Austin by helping reduce the city's carbon footprint and by encouraging other companies to follow suit.

This fall we also began work to install a 1 megawatt solar power system on our facility in San Ramon, Calif., one of our largest campuses in the United States. Scheduled for completion in late 2008, the solar power system, which will include nearly 3,700 solar panels, is expected to generate more than 1.6 million kWh of electricity a year and replace the building's normal power consumption by more than 4,300 kWh per day. That's equivalent to the electricity required to power more than 165 homes each year, according to the EPA's [Greenhouse Gas Equivalencies Calculator](#). The system will generate 5.5 percent of the facility's annual electricity consumption, but during peak periods of the day, it will average up to 25 percent.



“I want to congratulate everyone who contributed to this forward-looking project around clean, renewable power. California should continue providing incentives for companies like AT&T to invest in alternative power sources.”

— California Senator Tom Torlakson

#### **Improving Fleet Efficiencies**

Each day, AT&T maintains extensive telecommunications networks that connect nearly 300 million people around the world. That requires a lot of service and support — in terms of our fleet, it means operating about 85,000 vehicles.

Reducing fuel consumption and emissions is a priority and constant challenge for AT&T and the world. Our long-term goal is to reduce dependence on fossil fuels by optimizing our fleet operations and exploring new automotive technologies.

Because we require a fleet with multiple vehicle types, no single technology fits all situations. In fact, for a relatively large number of our service vehicles, there are currently no alternative-fuel vehicle choices available from U.S. manufacturers. But, we can't simply wait for these vehicles to become standard — we're encouraging suppliers to develop solutions that will work for our business.



"More and more fleets are recognizing that hybrid trucks can deliver significant reductions in greenhouse gas emissions and fuel costs. AT&T's investment in these more efficient vehicles will benefit the environment and the bottom line."

— Victoria Mills, project manager at Environmental Defense Fund

### Rolling Out Alternative-Fuel Vehicles

Deploying alternative-fuel vehicles is an important way that AT&T is reducing the environmental impact of our operations, while improving our efficiency. In June 2008, we started to deploy a fleet of 105 alternative-fuel vehicles.

The ultimate transition to an economy with dramatically reduced reliance on fossil fuels requires that we learn how to operate our business, particularly our fleet, in fundamentally different ways. We're using our initial deployment of alternative-fuel vehicles as a learning tool. We want to better understand what types of vehicles work best in our business operations. We want to know the logistics involved with providing alternative fuels, such as Compressed Natural Gas (CNG), to the vehicle. And we want to learn how to maintain the vehicles in peak condition so we can continue to deliver superb customer service. This deployment will help us learn and adapt — which then allows us to further expand our use of alternative-fuel vehicles in places where they'll continue to generate benefits.

We selected three types of alternative-fuel vehicles to roll out, after careful research of available technologies:

- > 25 CNG vans
- > 65 electric hybrid vehicles — Ford Escapes and Toyota Priuses
- > 15 electric hybrid conversion work trucks

**We estimate that our use of these alternative-fuel vehicles will cut fuel consumption by nearly 34,395 gallons a year, reducing carbon dioxide emissions by more than 300 metric tons. That's equivalent to taking 56 passenger vehicles off the road each year, according to the EPA's [Greenhouse Gas Equivalencies Calculator](#).**

More specifically, the CNG vans are expected to emit approximately 30 percent less greenhouse gas emissions than traditional gasoline-powered vans. The electric hybrid original equipment manufacturer vehicles are expected to offer a 39 percent improvement in fuel economy and to reduce greenhouse gas emissions by 29 percent. The electric hybrid conversion work trucks are expected to offer a 38 percent improvement in fuel economy compared with similar gasoline-powered vehicles and reduce greenhouse gas emissions by 28 percent.

The vehicles, which initially will be deployed in more than 30 cities across 17 states, join four Ford Escape hybrids that we deployed in California in late 2007. We've marked our alternative-fuel vehicles with a Green Technology insignia to make them easy to identify on the road.

As we incorporate the alternative-fuel vehicles within our fleet, we'll track fuel efficiency, greenhouse gas emissions, operating costs, performance and driver satisfaction of each vehicle.





## Perspectives

# Q&A with Jerome Webber, vice president of Fleet Operations

**What made AT&T decide to add alternative-fuel vehicles to its fleet? What are the benefits?**

We recognize the importance of reducing our environmental footprint. And we know that doing so makes sense from both a business and an environmental perspective. Really, I think it comes down to three principal reasons why it's a good investment:

- It reduces our operating costs per vehicle.
- It helps reduce our dependence on fossil fuels.
- And it helps reduce emissions to the environment.

**What is most unique about your new fleet?**

First, AT&T's total corporate fleet is unique. For example, unlike many companies with large fleets, we don't have large centralized depots. And, we typically travel short distances to neighborhoods in the communities we serve. We require a fleet with multiple vehicles types, and we recognize that one alternative-fuel technology doesn't fit all situations. That's why we decided to explore multiple fuel-saving and emissions-reducing solutions suited for diverse driving situations and locations.

Given that many alternative-fuel vehicles are geared for companies with high-mileage fleets that make many stops, we placed our electric hybrid vehicles in locations where there is a lot of stop-and-go traffic. We wanted the technology to be used most effectively.

Another example of our tailored approach was in looking at the infrastructure needed to support certain types of alternative-fuel vehicles. We wanted to deploy CNG vehicles, but CNG vehicles require an infrastructure of refueling stations. That's why we're rolling out those 25 vehicles in California, which has more CNG refueling stations than any other state in the country.

**What kinds of challenges have you encountered?**

As we make this change, our main challenge is to understand the ability of alternative-fuel vehicles to perform in uses much different than those when used by a private customer. We have to understand the logistics involved with providing alternative fuels to the vehicle, and we need to maintain them in peak condition. This initial deployment of alternative-fuel vehicles is a learning tool that will guide how we move forward in this area. It would be unwise for us as a business to make a large-scale purchase without a better understanding of what it takes to run a fleet of alternative-fuel vehicles.

**What steps toward creating a greener fleet do you foresee in the future?**

Our deployment of alternative-fuel vehicles is an important step in the right direction. As alternative-fuel technologies evolve, we'll explore those technologies to determine if they're right for our company. Long term, our goal is to develop and implement an alternative-fuel strategy that contributes to a cleaner and more ecologically friendly environment, reduces our dependence on fossil fuels and lowers our vehicle operating costs.

## Daily Fleet Management

Making real changes to our fleet means more than just putting alternative-fuel vehicles on the road. It also means improving how we manage our fleet on a daily basis. We've developed practices to efficiently manage our fleet, and we continue to explore new ways to reduce fuel use and drive fewer miles.

- ① For example, we've completed extensive process work to allow broadband installations to occur without the need for a premises dispatch. That resulted in reduced fuel consumption and greenhouse gas emissions. We're also exploring an idling-reduction policy.
- ② In addition, we encourage our drivers to avoid fast acceleration and hard breaking, to keep tires properly inflated by checking them frequently, to reduce the weight of loads carried and to avoid unnecessary idling.
- ③ Even the smallest improvements in fuel use and efficiency, when applied across our corporate fleet, can make a significant impact on the environment and on our business. That's why we're committed to identifying smart ways to improve the efficiency of our fleet, now and down the road.

## Managing, Recovering and Recycling Waste

Conducting our business in an environmentally responsible way also extends to the waste we produce in our day-to-day operations, our network and our products. We reuse and recycle materials needed to run our business and sell our products. This ultimately helps reduce the resources we consume and delivers results back to our bottom line. This goal extends to our customers as well, as we help them dispose of our products in a more sustainable way.



## Case Study

### Cell Phones for Soldiers Earth Day Challenge

"Having more helping hands to drive our mission to recycle for the troops — and reduce e-waste — is something that makes a huge impact on our ability to reach people and, in the end, send more free calls to the troops."



**On Earth Day 2008, we announced an expansion of our work with Cell Phones for Soldiers (CPFS), a nonprofit organization that uses funds from recycled cell phones to buy prepaid phone cards for active duty military members so they can call home. Between Earth Days 2007 and 2008, CPFS collected more than 900,000 phones. We have pledged to help bring in more than 1.8 million devices by Earth Day 2009 — double the number collected the year before.**

In addition to providing our stores as drop-off locations for recycling wireless devices, the AT&T Pioneers — a network of more than 300,000 active and retired AT&T employee volunteers — assisted with a national donation drive to support CPFS. During the donation drive, which ran from April through July 2008, the AT&T Pioneers collected more than 23,000 wireless devices. We also worked with CPFS to launch an online donation drive "starter kit." This [tool](#) includes environmental tips, planning help and camera-ready artwork to get donation drives started in offices, apartment buildings, places of worship and other community centers.

"We run our charity from home, and we rely on volunteer support to collect phones for recycling," says CPFS co-founder Brittany Bergquist. "Having more helping hands to drive our mission to recycle for the troops — and reduce e-waste — is something that makes a huge impact on our ability to reach people and, in the end, send more free calls to the troops."

In addition to the work of the AT&T Pioneers, the company supports CPFS by providing recycling bins in more than 2,000 of our stores across the country, which serve as drop-off points for those seeking to recycle their wireless devices throughout the year.

## Wireless Device Recycling

Every day, millions of our customers use their wireless devices to connect to their work, family and friends. They can watch TV shows, listen to music, share live video of themselves and even navigate their way through cities around the world using GPS — all through the power of their wireless handsets.

But as customers buy new, innovative devices, the electronic waste left from their old phones continues to mount. As the pace of innovation becomes more rapid and the life cycle of phone technology becomes shorter, this problem increases. According to the EPA, industry e-waste is growing at a rate three times faster than household trash.

We're working to keep these wireless devices from landfills — either by finding a new life for them or by extracting their plastic, copper and other metals for reuse. In 2007, we recycled almost 3.9 million phones, as well as more than 911,000 pounds of accessories and batteries. While this is a small percentage of the industry's estimated wireless devices in service, it's a start — and we're dedicated to finding ways to do more.

We collect used wireless devices and accessories in a number of ways, including through our employees, retirees, company-owned retail stores, other national retailers, dealers and agents, resellers and other avenues. We also use an Exchange-by-Mail handset warranty program, which collects phones in a centrally located warehouse, evaluates them for future use and proceeds with either reusing or recycling them.

We were the first wireless carrier to join the EPA's Plug-In To eCycling program, an initiative the agency has with consumer electronics manufacturers, retailers and service providers. AT&T and other companies have pledged to help the EPA increase use of current recycling programs, teach the public about the benefits of recycling and work in communities to host cell phone collection drives.





We execute efficient delivery operations with an eye toward conservation. We strive to print quantities that meet, not exceed, market demand. We also accept and act on consumer requests for alternatives to books, minimize the number of directories we print and provide electronic options such as YELLOWPAGES.COM, RealYPATT.com, RealPagesLive.com and CD-ROMs.

### Directory Recycling

We continue to offer our customers the most complete and accurate directory information through our AT&T Real White Pages and AT&T Real Yellow Pages directories. At the same time, we assume accountability for responsibly managing our natural resources such as paper. That's why we actively work to reduce the impact on our environment in paper sourcing, production, distribution and recycling.

We require our paper suppliers and printers to adhere to rigorous standards that promote environmentally responsible and sustainable practices. For example, we ask our suppliers to:

- > Practice renewable, sustainable resource management of the forests they use. This includes identification and protection of forestry areas of high conservation value, replanting and renewal programs and harvesting procedures that promote sustainable forestry.
- > Comply with all governmental regulations of their industry for the fiber they use.
- > Produce paper from residual fiber, made from the remnants of other wood-production processes. AT&T Real Yellow Pages directories contain paper made from post-consumer fiber consistent with reasonable availability and product performance, with the remainder made from residual fiber, such as sawdust, wood chips and other fiber that otherwise goes unused. Also, many of our paper suppliers power their production facilities by burning residual leftovers created during manufacturing in a high-efficiency, low-carbon process.
- > Avoid using elemental chlorine bleach in their production processes.
- > Use inks that contain soy oils, which are friendlier to the environment.
- > Recycle printing process byproducts, such as printing plates, paper trim waste and packaging materials.

We execute efficient delivery operations with an eye toward conservation. We strive to print quantities that meet, not exceed, market demand. We also accept and act on consumer requests for alternatives to books, reduce the number of directories we print and provide electronic options such as YELLOWPAGES.COM, RealYPATT.com, RealPagesLive.com and CD-ROMs.

Finally, we endorse and adhere to sound principles of recycling. We produce directories that are recyclable, and we publish a phone number in our directories that provides recycling drop-off locations. Directories can be recycled into a variety of useful products, including animal bedding, insulation, bathroom tissue, cereal boxes and roofing shingles, in addition to new phone books. We also sponsor, manage and invest in recycling initiatives, such as our award-winning Project ReDirectory recycling program and our involvement with Keep America Beautiful.

While we strive to minimize environmental impact in every step of our directory operations, we still face challenges. According to the EPA, phone directories make up just 0.3 percent of the municipal solid waste stream generated each year. Nevertheless, recycling old phone directories remains an important action in

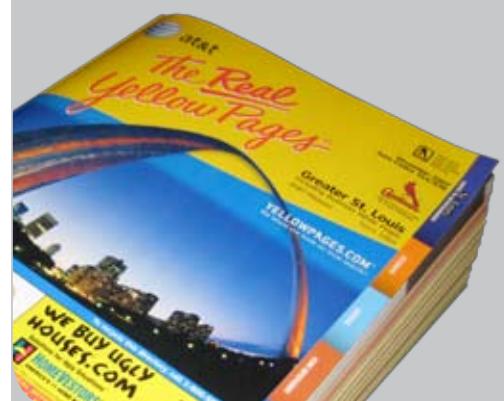
the effort to keep unnecessary paper out of landfills. Understanding that effective recycling depends on more than just our own efforts, we continue to explore partnerships with city and government agencies and local community groups to create recycling programs and awareness activities to promote recycling of old directories (see case study below).

The directory industry has long worked with suppliers to source paper that contains high levels of recycled content, while operating within the constraints of availability and product performance. Our AT&T Real Yellow Pages directories have reached a level of approximately 40 percent post-consumer recycled content. The remaining 60 percent is made from residual fiber, such as sawdust, wood chips and other fiber that otherwise goes unused. Because of print quality production issues, 40 percent post-consumer recycled content is reaching the maximum of recycled content we can use in telephone directories. An additional pressure that affects our ability to maintain this percentage of post-consumer recycled content is an emerging shortage of post-consumer fiber availability, particularly in certain geographic areas where demand is high.

**In March 2007**, we joined the community of Kern County, Calif., and Community Clean Sweep to develop a school phone book recycling challenge. To kick off the program, 1,064 phone books were placed upright in the Kern County Administration building to compete for the world's largest telephone book domino set in the *Guinness World Records*. The phone books were later distributed to the offices of Kern County, and the event helped draw attention to the need for recycling. Sixteen locations throughout Kern County were set up where residents could recycle their phone books, and local schools collecting the highest number of books received cash awards.

In 2008, we joined the Kern County Waste Management organization and Community Clean Sweep again to promote phone book recycling. The 2008 event offered the public the opportunity to bring its outdated AT&T Real Yellow Pages phone books to the Extreme BMX racing event, which featured regional BMX bike racing champions and provided participants with an opportunity to win prizes. Through the event, we collected more than 4 tons of directories in four hours.

## Case Study Directory Recycling Challenge





### Network Reclamation

As one of the largest telecommunications providers, we own an expansive network that connects more than 300 million people each day. This network comprises both wired and wireless infrastructure, all of which is rapidly evolving.

To help reduce waste as we continue to improve our network, the AT&T Investment Recovery group, which is part of our Supply Chain organization, follows an industry best-practice hierarchy for the disposal of company assets. Working in our 22-state landline footprint, the group studies ways to reuse network assets within the company, return products, sell components and trade or donate materials when needed. Ultimately, a landfill is only used as the last resort — helping us reduce our impact on the environment.

In our Southeast region, the Investment Recovery group has developed a real-time system for inventorying and ordering surplus items. This allows our employees in the field to place online orders for materials at no cost, which are then shipped from central hubs using transportation routes already in place for delivering other materials. Since 2003, thousands of users in the Southeast have placed more than 60,000 orders for more than 100,000 individual items — and avoided spending more than \$18 million to buy new equipment. We're able to repurpose computer systems and even take time to consider how things like screws, anchors, cables and other basic construction material can gain new life.

Our national program focuses on recycling. In 2007, this approach helped keep more than 72 million pounds of "scrap" from our 22-state wireline operations out of landfills, and it helped bolster our business. In addition to other materials, our Investment Recovery team received, processed and recycled:

- Copper and copper cable: 34.1 million pounds
- Lead and lead-acid batteries: 8.6 million pounds
- Central office equipment: 6 million pounds
- Steel: 5.9 million pounds
- Plastic: 1.9 million pounds
- Aluminum: 353,000 pounds

As a result of these initiatives, less than 3 percent of the total materials collected were disposed of as trash and sent to a landfill. Moving forward, we'll continue to look for ways to expand this system.



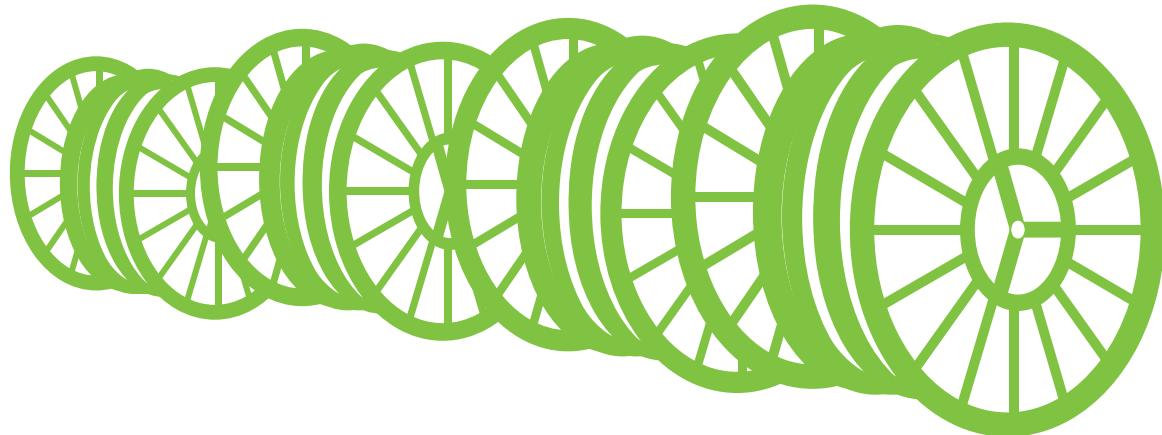
## Engaging Our Suppliers

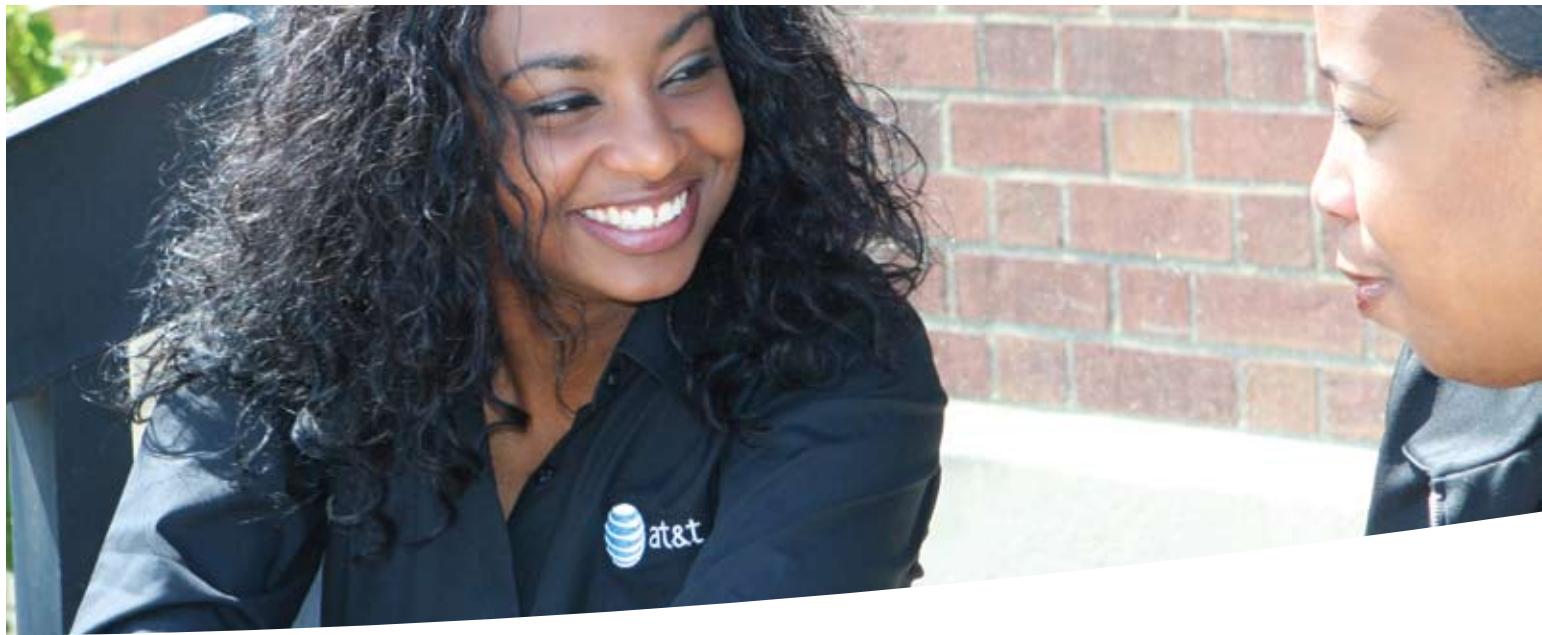
With assistance and thought leadership from suppliers, we can reduce energy consumption and cost without sacrificing performance, features and overall supply chain resilience. We expect our suppliers to respect our values when it comes to energy management and efficiency and waste-stream reductions. And we're working to engage suppliers in proactive strategies to create substantive quality and process improvements.

We're committed to leveraging our purchasing power to drive this kind of systemic change, innovation and improvement. The improvements realized by our suppliers because of the sustainability requirements we demand will benefit not only AT&T but all of the customers who purchase our suppliers' products or services.

We're also collaborating with leading industry associations as participants and contributors in forums designed to establish standards for energy efficiency, environmental impact reduction, adoption of sustainable technologies and other aspects of sustainability.

Our supply chain process is a critical enabler for sustainability, and we encourage our suppliers to integrate sustainable business practices. We're currently developing sustainable supply chain management guidelines and working to determine how to systematically incorporate sustainability into the products and services we buy from our suppliers.





## Connecting People and Business

**Our Commitment:** We efficiently connect people and businesses everywhere with innovative and sustainable products and services.

### Overview

**Information and Communication Technology (ICT) products and services enable people and businesses to make more energy-efficient choices and reduce their own environmental impact. A recent report by The Climate Group, on behalf of the Global e-Sustainability Initiative, indicates that ICT could deliver carbon reductions five times larger than the total emissions from the entire ICT sector in 2020.**

The ICT industry is uniquely positioned to respond to this opportunity. However, we recognize that meeting the increased demand for innovative products and services also means our industry's own footprint will increase. That's why we're working hard to be part of the solution by reducing our environmental impact. And, we're looking forward to working with our supply chain, business partners, customers and policymakers to create the market and regulatory conditions needed to promote greater adoption of ICT products and services in the future.

### Understanding and Promoting Sustainable Solutions

We know that the opportunity for our industry — to harness the power of ICT to enable others to improve energy efficiency and reduce emissions — brings with it responsibility. To better understand the role our products and services can play in helping customers live more sustainably, we joined Cisco and the Economist Intelligence Unit in early 2008 to explore how customers view ICT as a potential solution to reduce their own carbon emissions. Of the 345 top-level executives polled for the survey, 18 percent said their companies have a carbon-reduction strategy and 39 percent said they're in the process of developing one. Yet of those that have a carbon-reduction strategy or are developing one, nearly half said that the role of ICT was not mentioned in their strategy. By getting involved in research efforts such as this, we're working to better understand our customers' views about the role ICT products can play in reducing their own carbon footprint.



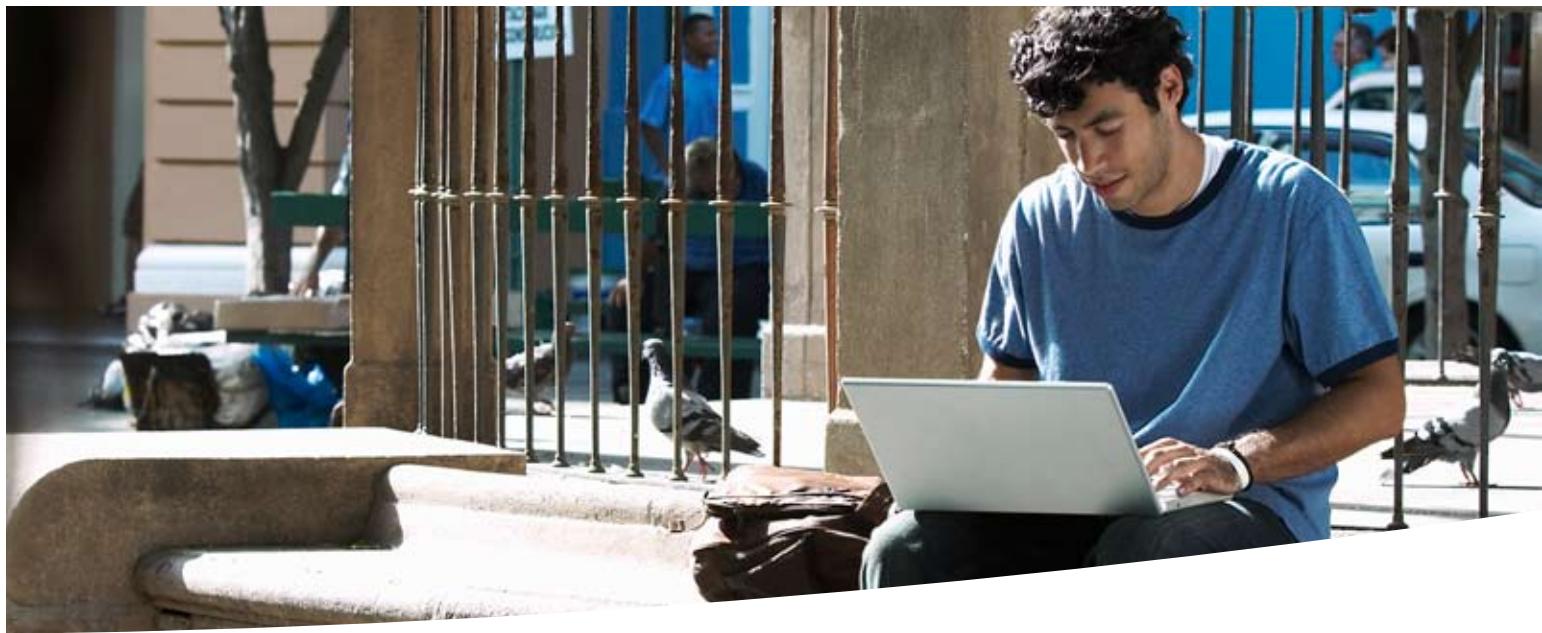
At the same time, we're viewing our own products and services more closely through this lens, so that we can better quantify the energy efficiencies, cost savings and greenhouse gas emission reductions that our products can provide to our customers.

For example, in April 2008 we worked with Cisco to launch the AT&T Telepresence Solution, a new video conferencing service, which combines rich audio with High Definition video to create unique "in-person" experiences among people in different places. We're currently collaborating with Cisco to determine the specific greenhouse gas reductions that our customers are achieving by using Telepresence in place of unnecessary travel. We plan to report our specific findings in the coming months to help educate customers on the role ICT products can play in reducing their own carbon footprints.

According to an October 2007 study by the American Consumer Institute, if video conferencing substituted for 10 percent of business air travel, it would reduce carbon emissions in the U.S. by some 35 million tons annually. At AT&T, we use new technologies such as Telepresence to reduce travel and improve the potential of employees to work anywhere and anytime. And, we've recently developed a new policy that supports telecommuting as an option when it meets the needs of our employees and our business.

Telepresence is just one of several products that have the potential to deliver economic and environmental benefits for our customers. With our network-based Virtual Private Network (VPN), customers can connect from multiple locations with voice, video and data applications on a single network. Our customers can get globally consistent access to corporate information inside the office, as well as to mobile and remote workers. By using the AT&T Global Network Client, end-users control their form of access and businesses control who gains access to specific applications. In addition to the efficiency of using one network for multiple applications, network-based VPNs offer our customers a secure means to enable remote access for virtual office and telecommuting programs.





We also offer a broad portfolio of wireless solutions, including the new iPhone 3G, that integrate mobile workers with their businesses. These devices help employees remain productive while they're away from corporate locations and reduce consumption of natural resources.

In addition, AT&T is probably the largest U.S. wireless provider for commercial truck and van fleets. Our products and services, including powering GPS-enabled devices over our network to provide 24/7 visibility, help our customers maximize vehicle dispatching and routing efficiency, which can help reduce fuel consumption.

### The Promise of Broadband

Broadband — technology that allows high speed data transmission — is quickly becoming one of the most important tools to connect people and businesses to sustainable and innovative products. This technology allows people to communicate more rapidly than ever, more securely and with less environmental impact.

Today, AT&T's network is carrying record volumes of Internet traffic. In the past two years alone, consumer broadband traffic on our network has doubled, and our consumer broadband customers use 40 percent more bandwidth each year. Our network carries more than 16 petabytes of data traffic on an average business day to nearly every continent and country — that's more than 400 times the digitized contents of the Library of Congress. This dynamic growth in Internet use will shape our broadband future, bringing faster connections, robust infrastructure, new investment, innovative services and more sustainable lifestyles.

By allowing people to communicate anywhere they are, broadband has obvious environmental benefits. With broadband capabilities such as Web browsing, e-commerce and online local search, customers can reduce their need for travel, which may also help lower energy consumption.

- Online booksellers use 14 times less energy to sell \$100 worth of books than a traditional store, the American Consumer Institute estimates.
- Just a 7 percent increase in broadband adoption could result in \$6.4 billion per year in mileage savings from unnecessary driving and 3.2 billion fewer pounds of carbon emissions in the United States, according to Connected Nation estimates in February 2008.
- Widespread adoption and use of broadband can reduce carbon emissions by more than 1 billion metric tons, according to an October 2007 study by the American Consumer Institute.

An Economist Intelligence Unit (EIU) [report](#) published this spring, co-sponsored by AT&T and Cisco, found that video and audio conferencing can be used to save on business travel, which in turn reduces the potential of carbon emissions from airplanes, cars and other modes of transport.

In the same report, 43 percent of respondents surveyed selected increasing the use of virtual meetings as the biggest contribution in reducing their carbon footprint. And with 39 percent of companies surveyed having a green strategy in the pipeline, corporate chief information officers are uniquely positioned to demonstrate the benefits that ICT can bring to their companies.

## Case Study

EIU Study Explores Role of ICT in Tackling Carbon Emissions



As consumers look for ways to reduce their environmental footprint and save on energy costs, we're committed to helping them do so by providing energy-efficient products and services.

As the first video service provider to participate in the U.S. EPA's ENERGY STAR program for video set-top boxes, we're providing our U-verse TV customers with set-top boxes that meet energy-efficiency criteria set by ENERGY STAR. We're actually exceeding the EPA requirements with 100 percent of our deployed U-verse TV receivers being ENERGY STAR compliant. The EPA estimates that if all set-top boxes sold in the United States meet the ENERGY STAR requirements, the savings in energy costs will grow to about \$2 billion each year and greenhouse gas emissions will be reduced by the equivalent greenhouse gas emissions from about 2.5 million vehicles annually.

## Case Study

Saving Energy While Watching TV





Services delivered through broadband and Internet Protocol (IP) technology empower our customers to reduce their own environmental footprints at work and at home. With choices such as teleconferencing, video conferencing and Web conferencing, our customers can connect with colleagues across the world without unnecessary travel. Our music and video downloading also helps reduce environmental impacts and waste commonly attributed to CD/DVD packaging, manufacturing, transporting and disposal. A 2007 study from the Consumer Electronics Association estimated that 180 million gallons of oil could be saved and 1.3 million metric tons of carbon emissions could be prevented if just half of all current video/DVD rentals transitioned to video on demand.

**"We applaud AT&T for their commitment to deliver ENERGY STAR qualified set-top boxes to their AT&T U-verse TV customers. Their efforts will bring a new level of energy efficiency to home entertainment, helping households reduce greenhouse gas emissions and save money."**

— Robert Meyers, principal deputy assistant administrator for EPA's Office of Air and Radiation

#### **Broadband also enables advanced applications such as telemedicine and distance learning.**

Telemedicine has the potential to deliver improved health care to every American, including those who live in underserved and remote communities. That's why we're working hard to design the specialized ICT infrastructure and applications that can deliver health care far and wide. As an example, in February 2008 AT&T and the state of Tennessee announced a major initiative to deliver the country's first statewide health information exchange. The Tennessee Information Infrastructure eHealth Exchange Zone will transform how health information is accessed and delivered by the Tennessee care-giving community and, ultimately, enable increased patient safety, reduced spending and improved quality of care for the state's 6 million residents. This new patented health information exchange is AT&T's Healthcare Community Online solution, and it features a secure online collaboration center designed to safely and securely enable health care applications such as e-prescribing.

Enabling distance learning can help institutions reach students anytime and anywhere.

Through distance learning, broadband allows children living in rural areas to have access to the same educational resources as children in urban areas. Enabling distance learning can help institutions reach students anytime and anywhere. As one example, in April 2008 we announced a five-year, \$50 million contract with the Corporation for Education Network Initiatives in California (CENIC), a nonprofit corporation that supports more than 250 educational and research entities across the state, to increase broadband connectivity. The contract will serve every segment of the state's public education system, enabling telepresence and video conferencing, distance learning and large collaborative projects.

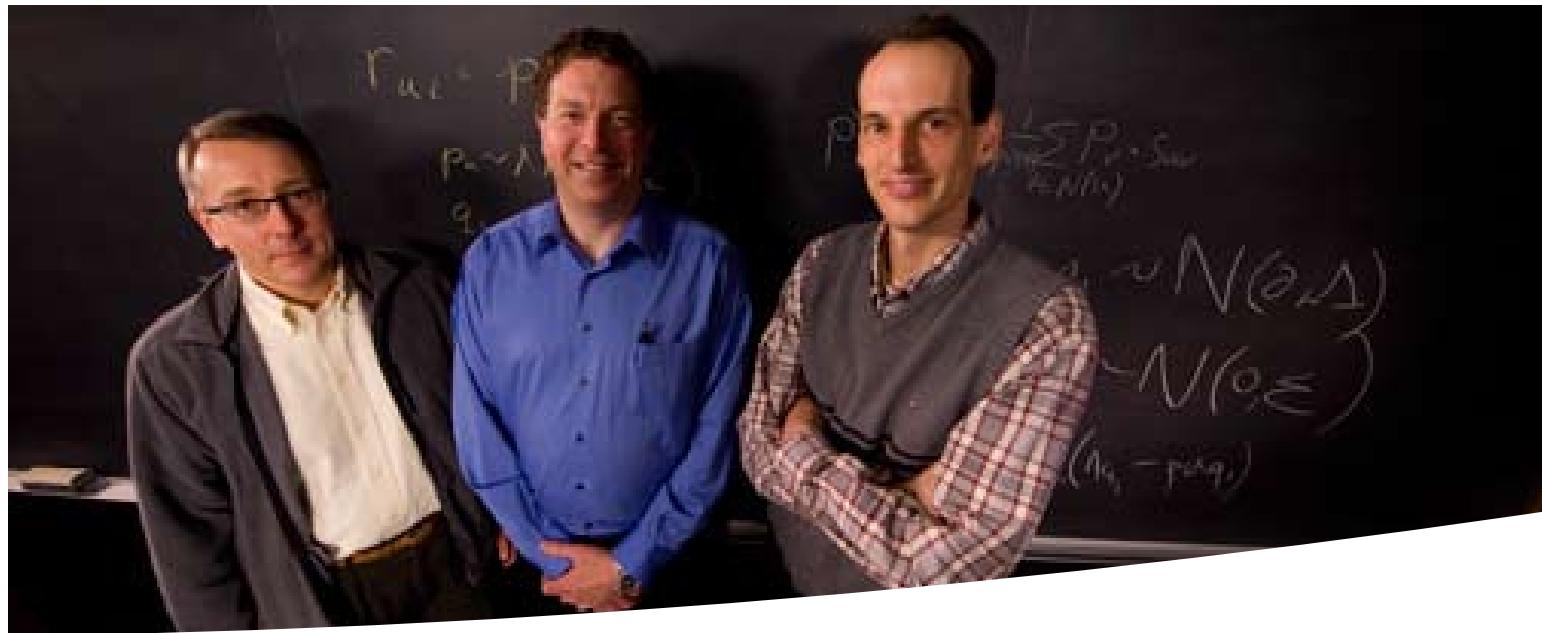
Both telemedicine and distance learning provide alternatives to eliminate unnecessary travel, providing our customers with additional opportunities to reduce their environmental impact.

**Through services such as e-billing and consolidated billing, our customers can reduce unnecessary paper and other waste products.**

More than 3.26 million of our customers do their AT&T billing with us online, which allows them to view and pay bills in seconds, cutting down on mail, checks and paper records. The PayItGreen Alliance estimates that if 20 percent of households switched to online billing, they would avoid producing 1.96 tons of greenhouse gas emissions annually, the equivalent to taking more than 325,000 cars off the road. That's why we're committed to actively educating our customers about the positive environmental benefits of choosing electronic payment options instead of paper. As part of this effort, we established the Web site "[How do you live green?](#)" Customers can register for an online account, enroll in paperless billing and set up automatic payments. They can also submit their own "Living Green Tips" and view previously submitted tips.

**Case Study**  
**Going Paperless**





## Leading Innovation and Technology

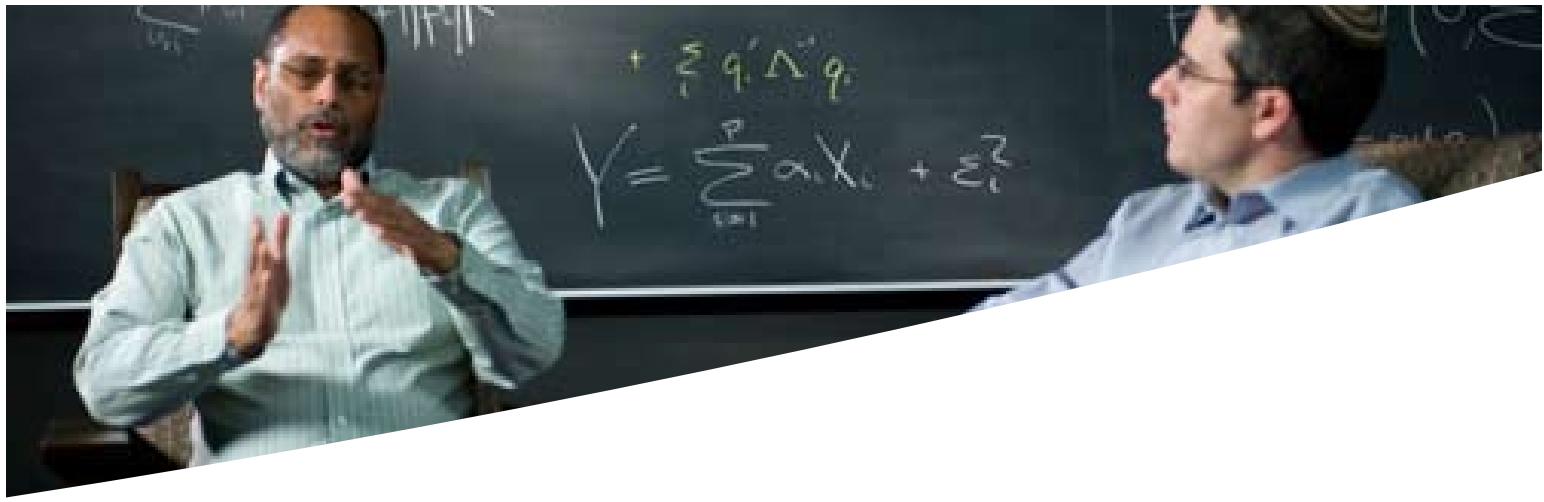
**Our Commitment:** We lead the way in innovation and technology and apply developments to make a sustainable difference in society.

### Overview

Our legacy of innovation is rooted in AT&T Labs — our research and development arm — and began in 1876 with founder Alexander Graham Bell's invention of the telephone. Over the years, AT&T Labs has produced groundbreaking technologies and innovative products and services that have changed the way people live, work and play. With seven Nobel Prizes and thousands of issued and pending patents worldwide, our researchers have invented some of the world's most advanced technological innovations, including the first solar cell, the laser, fiber optic communications, cell phones, satellite communications, machine translation, automatic speech recognition and network fraud detection.

Formerly known separately as SBC Laboratories, BellSouth Laboratories and AT&T Laboratories, the combined AT&T Labs is the driving force behind innovation and exploration at the new AT&T. Our researchers continue to file an average of two patents a day and continue to pioneer new technologies, products and services that contribute to our mission of global connectivity.

AT&T Labs fosters a work environment and culture that encourages our more than 1,100 scientists and engineers to apply their work to pressing social and environmental challenges. We also support their efforts to teach at leading research universities across the country. This culture has helped produce groundbreaking technological advances that have benefited not only our business but also society.



Innovation is the engine that will continue to improve the quality of life in today's fast-changing global economy. And while our work in innovation, research and development is focused on the communications industry, we never lose sight that our innovation has an impact beyond our company's own business needs. That's why we're harnessing our technology and innovation to develop forward-looking technologies that meet social and environmental needs in truly unique ways. We're working to apply technological advancements developed for our business in ways that one might not associate with AT&T — to tackle global issues, such as climate change through work on species migration and energy efficiency.

The internal governance changes we've made will also ensure that AT&T Labs has an increasingly prominent and integrated profile inside our company, enabling us to further drive innovation throughout our business, our products and services and our communities. We look forward to collaborating with stakeholders, leading universities, policymakers and customers to identify the next generation of breakthrough technologies that will help make our company and the communities we serve more sustainable.

AT&T Labs fosters a work environment and culture that encourages our more than 1,100 scientists and engineers to apply their work to pressing social and environmental challenges.



# AT&T Innovation

## Technology Timeline



1800s

1910s

1920s

1930s

1940s

1950s

**1876** The Telephone

**1915** First Transcontinental Telephone Call  
**1917** The First Air-to-Ground and  
Ground-to-Air Radio Communications

**1933** Stereo Recordings,

Radio Astronomy

**1936** Synthetic Speech

**1939** The Digital Computer,  
High Frequency Radar

**1951** First Direct-Dial Transcontinental  
Telephone Call, Microwave  
Radio-Relay Skyway

**1954** The Solar Cell

**1956** Transoceanic Telephone Cables  
**1958** The Laser

**1924** Fax Service, Electrical Sound Recording

**1926** Sound Motion Pictures

**1927** Negative Feedback, The Wave Nature of  
Matter, Long Distance TV Transmission,  
Trans-Atlantic Phone Service

**1929** Broadband Coaxial Cable,  
The Artificial Larynx

**1940** Complex Number Generator

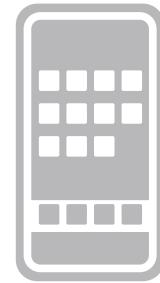
**1941** Touch-Tone Telephones

**1946** First Mobile Telephone Call

**1947** The Transistor

**1948** Error Correction,  
Information Theory

Over the years, AT&T Labs has produced groundbreaking technologies and innovative products and services that have changed the way people live, work and play.



1960s

1970s

1980s

1990s

2000s

.....

**1960** Communications Satellites  
**1962** Satellite Transmission  
**1965** The Echo of the Big Bang  
**1969** UNIX and the Internet

**1970** Picturephone  
**1976** Epitaxy Microchips, First Digital Electronic Switching  
**1977** Fiber Optic Communication

**1983** Cellular Phones, C++  
**1989** HDTV, The Speech-Driven Robot

**1992** The Instant Language Translator, Fault-Tolerance Software  
**1993** The Computer Videophone  
**1997** a2b Music  
**1998** Phone Web  
**1999** Quantum Computing

**2000** Network Fraud Protection  
**2001** How May I Help You?, Natural Videos, Next Gen Network Tools  
**2002** Privacy Bird, CNI  
**2003** Tomo-Gravity, Gigascope  
**2004** Maui, Internet Protect  
**2005** Traffic Analysis Service (TAS)



### Applying Innovation to Address Environmental Challenges

As a global communications company, we're dedicated to creating a better, more resilient Internet. And we want to help create a better, more sustainable world. The integration of these two goals defines both our commitment and our approach. Thanks to our relentless devotion to innovation and our commitment to encouraging the personal research of our team members, software developed by AT&T Labs researchers is now being used to promote a more sustainable world.

How can a telecommunications company help protect lemurs, frogs and geckos on the other side of the earth? By applying the same software used to maintain resilient telecommunication networks, Labs researchers are making the environment more resilient and helping protect rare animals. This "Machine Learning" software, which is available online at no charge for nonprofit and research use, has been downloaded thousands of times — from about 60 different countries — for conservation efforts around the world. In addition to helping animals in Madagascar, other techniques for designing reliable communications networks are helping protect rare vegetation from the impacts of climate change. Labs researchers are also helping to design safe migratory corridors for rare mountain plant species in South Africa that are threatened by global warming.

### Applying Innovation to Address Social Challenges

As we develop new technologies and innovations progress, we identify opportunities to apply our innovation to better society. One such area is health care — improving health care delivery and reducing health care costs. This is not only good for the communities where we operate, but it also is good for our business. As a company, we spend approximately \$5.5 billion in health care for our 1.2 million employees, dependents and retirees each year.

**AT&T shepherds innovative improvements to help patients by delivering medical results faster and with more accuracy and security.**

Through research, philanthropic support and products and services, we've brought technology solutions and strong, dependable information networks to the nation's health care institutions, doctors, nurses, pharmacists, technicians and countless others who provide patient care. Working collaboratively in health and university settings, AT&T shepherds innovative improvements to help patients by delivering medical results faster and with more accuracy and security. We also strongly support the Regional Health Information Organizations that are encouraged by the federal government.

## Q&A with Steven Phillips, lead researcher, AT&T Labs

A few years ago, I was doing some volunteer programming for the Center for Biodiversity and Conservation at the American Museum of Natural History. Some ecologists there were modeling species distributions from museum collection records, and I realized that this modeling task offered an opportunity to do computer science research and contribute to conservation efforts at the same time.

As a researcher at AT&T Labs, I have the luxury of setting my own research agenda. I generally work on algorithms and optimization — finding efficient ways to solve large problems, such as designing and managing continental-scale telecommunications networks. However, it was clear to me that developing a new approach to species distribution modeling entailed research in machine learning, and I hadn't worked in that area before. So, I walked into the office of Rob Schapire, a star researcher in AT&T Research's machine learning group at the time. I described the modeling task to him and asked his advice, and without any hesitation he suggested using a "maximum entropy" approach. We've been working together on Maxent ever since, together with Miro Dudik, who was Rob's first Ph.D. student after Rob moved to the computer science department at Princeton. I've gotten to learn about machine learning along the way and learn some ecology, too.

The first version of the software was ready in just a couple of months, but we've continued working on it for about six years, refining it and adding new features. Biodiversity data is very challenging to work with — the most important species for conservation are often the rarest and hardest to find, so there are very few records to use for modeling, and the records have strong geographic collection biases reflecting the difficulty of reaching and working in some of the areas where the species live. This makes the modeling task challenging and has led us to a number of interesting theoretical questions in machine learning. We've made perhaps a dozen software releases, with the new features deriving both from our theoretical research and from requests from ecologists using the software.



**How did you get involved in conservation biology and developing software for mapping endangered regions and species?**

**How do you make the jump from working with telecommunications networks to creating software that could save wildlife in Madagascar?**

**How long did it take to develop this software?**





## Perspectives (continued)

# Q&A with Steven Phillips, lead researcher, AT&T Labs

**How does the program work?**

Maxent uses a collection of locations where a species has been found, together with environmental conditions (such as rainfall and temperature) across the study area, to produce an estimate of the species' distribution in the study area. It does this by inferring a set of constraints on the species distribution, based on environmental conditions at the presence locations. For example, if most of the presence locations have annual average temperatures above 20 degrees Celsius, we infer that the species likes warm conditions, so most of its distribution should be above 20 degrees. Among all possible distributions that satisfy the constraints, Maxent finds the largest, most spread-out distribution, i.e., the distribution of maximum entropy. Because we maximize entropy, we get a prediction that shows the full extent of areas with similar environmental conditions to the places where the species has been found.

**Did you have an interest in Madagascar or wildlife before working on this project?**

Absolutely. I feel very strongly about conservation of wildlife, because my generation has an extraordinary responsibility — a quarter of all species on earth are likely to be driven to extinction during our lifetimes, and we can't just stand aside and watch. Madagascar is of particular interest, both because it is arguably the hottest of the hot spots (areas of the world with a high concentration of rare and endangered species) and because there is political will to protect Madagascar's biodiversity. President Ravalomanana has committed to protecting 10 percent of the land area in national parks, up from 2.8 percent in 2003.

**What other projects related to the environment are researchers in AT&T Labs working on?**

We're using an approach widely used to optimize flows of data through telecommunications networks to model flows of organisms across a landscape. We've applied it to the proteas, a family of about 300 beautiful flowering plants species in South Africa, to determine how much land we would need to conserve to allow all species to migrate through protected areas in response to climate change. We used integer programming to optimize the configuration of ponds and salt marshes in the South San Francisco Bay, where former evaporative salt ponds are now being managed for bird conservation. This summer, a student on an AT&T graduate fellowship has been working at the Labs on applying optimization methods to "irreplaceability," a way of measuring the relative importance of potential sites to purchase for conservation.



Telemedicine is one of the areas in which AT&T's technological advances are shaping the industry. A 2007 study at Stony Brook University in New York found that telemedicine cuts the cost of managing congestive heart failure by 41 percent. It also reduced the number of physician office visits by 43 percent, emergency room visits by 33 percent and hospital visits by 29 percent. Telemedicine has the potential to deliver the highest quality care to every American, including those who live in underserved and remote communities. That's why AT&T is working hard to enhance America's communications networks and also to design the specialized information technology infrastructure and applications that can deliver health care across the country and across the globe.

AT&T's innovations with in-home health monitoring also are helping families monitor older relatives or family members with chronic illnesses who are living alone. Our technology allows remote monitoring that reduces the need for extended hospital stays and makes it easier for patients to maintain their independence while ensuring that their safety is never compromised. According to a study by Robert E. Litan of the Brookings Institution, broadband-based remote monitoring for all chronically ill patients could reduce U.S. health care expenses by 25 percent — or more than \$350 billion in total savings — over the next 25 years.

AT&T has begun a trial project in Texas aimed at an independent living facility, supported by several lab research centers, to measure the value of remote monitoring systems and develop extensions to make them even more effective.

### Fostering Innovation at Leading Universities

Innovation at AT&T will continue to move beyond the traditional confines of the laboratory to working with groups throughout the company and by continuing our tradition of collaborating with some of the world's finest academic institutions.

For a number of years, we've been teaming up with top universities because collaboration enhances our ability to deliver innovative products and services. We work with researchers at Carnegie Mellon University, Rensselaer Polytechnic Institute and Georgia Tech on joint research ventures. And we fund educational expenses of students at top universities who are working on their Ph.D. dissertations in areas of interest to AT&T through our Virtual University Research Initiative. We know that collaboration is vital to our success. We applaud this with the annual AT&T Labs University Collaborations Symposium. Here, AT&T Labs researchers and university professors and interns gather to discuss current joint research projects, share progress and make plans for future endeavors.



Our collaborations also are helping advance the development of environmental-related research. For the past 14 years, we've teamed with universities to inspire innovative industrial ecology research — a multidisciplinary science that investigates how the economy and the environment can coexist. Established in 1993, the AT&T Industrial Ecology Faculty Fellowship provides awards of \$25,000 to three academic research teams at universities across the country. These grants are helping universities produce faculty and students who can contribute to solving global and regional environmental problems and help shape environmentally and economically efficient strategies (see case study below).

## Case Study

### Fostering Industrial Ecology Research

**In 2008, AT&T awarded grants to support the research projects of three academic research teams through the company's Industrial Ecology Faculty Fellowship program:**

- Carnegie Mellon University, for a project titled "The Role of Information and Communications Technology in Carbon Risk Management." The research team will analyze the impact of information and communications technology (ICT) in helping other industries manage the risks associated with carbon emissions.
- Arizona State University, for a project titled "Virtual Activity Fulfillment: Mapping the Shift From Transport to ICT Infrastructure" and a second titled "Multiple Functionality and Personal Digital Infrastructure: Substitution Versus Complementarities." The first research team will study how an expanded virtual-reality realm is changing the way commerce is conducted, how workplaces function and how public infrastructure systems are used. The second team will research the environmental implications that are associated with the growth of multifunctional electronic devices, such as accumulation of e-waste, and how the telecommunications industry can help address such implications.
- Green Mountain College, Clark University and Oregon State University, for a project titled "Understanding Business and Environmental Value Opportunities in the Global Supply Chain of China's Information and Communication Technology Industry." The research team will investigate and document how the ICT sector can achieve business and environmental value opportunities within a changing policy landscape in China.

AT&T Citizenship and Sustainability Report 2007/2008

# Materiality Analysis

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**In 2008 we embarked on a process to identify the most material, or important, citizenship and sustainability issues to our company. No company has sufficient resources to address every business opportunity and problem it faces. It must make difficult decisions about where it can direct its resources and realize maximum benefit. Citizenship and sustainability initiatives are not exempt from this reality.**

In light of this, we recognized that we needed a process for our citizenship and sustainability programs that assures we focus on the issues that combine business relevance, stakeholder importance and the ability to act in a meaningful way. We worked with a nonprofit organization, Business for Social Responsibility (BSR), to help us undertake a materiality analysis in early 2008. This analysis was designed to meet three objectives:

- 1 Identify a comprehensive set of corporate citizenship and sustainability issues for the company.
- 2 Prioritize the opportunities based on their importance to stakeholders and their relevance to our business operations.
- 3 Help inform and optimize subsequent decisions regarding which issues to pursue and the level of activity.

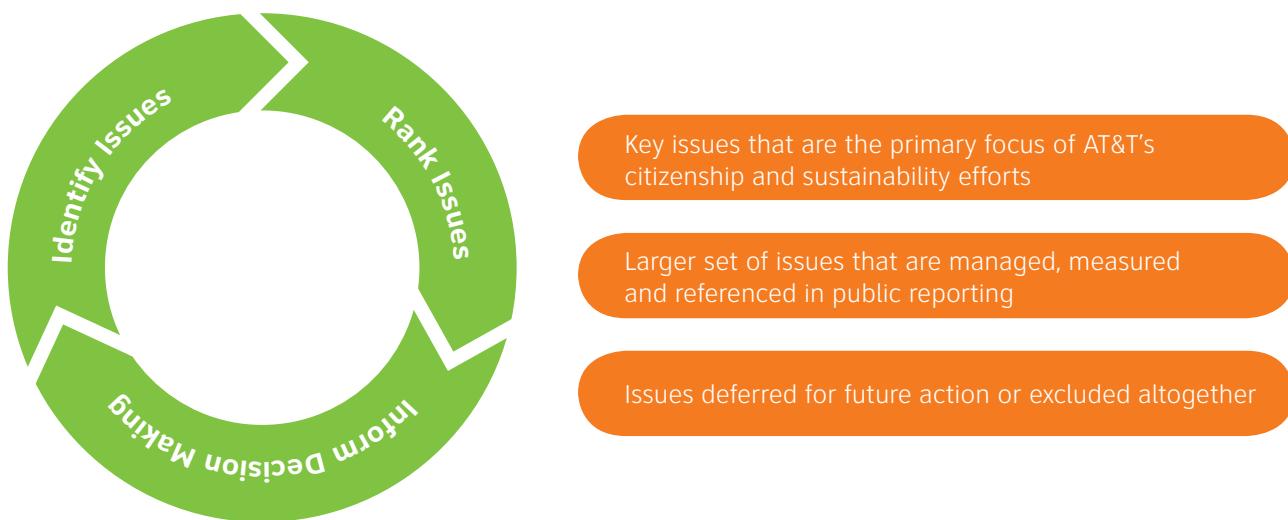
To better understand the relevance of specific issues to AT&T, we conducted in-depth interviews with senior executives across the company. We also conducted interviews with the people most directly responsible for oversight and implementation. The interviews helped us assess the degree to which citizenship and sustainability issues interact with business operations.

To better understand issue relevance to stakeholders, we reviewed reports, public information and position statements published by governments, media, peer companies, socially responsible investors, customers, nongovernmental organizations and experts in the field. The information sources we analyzed are consistent with the guidance accompanying the materiality principle in the *GRI Guidelines*.

After reviewing the public domain information and internal interviews, we created a list of 53 issues with a fairly high degree of relevance to our business and stakeholders. The issues on this list were a balanced mix of both risks and opportunities.

Each issue was then given a short definition to clarify its meaning and relevance to our company. A small team of diverse subject-matter experts representing our various business units met and discussed each of the 53 issues. Each issue was given a ranking that guided us in prioritizing the issues into three categories.

We recognize this process is a snapshot in time and that priorities can and will change. As such, the process we used is both robust and replicable — allowing us to re-evaluate our focus periodically and adapt to new priorities as they emerge.





## Materiality Outcomes

For purposes of this report, the issues that ranked as being most material received high scores on three criterion: significant impact on the company, significant concern to stakeholders and AT&T's ability to act in a meaningful manner.

You'll notice that some of the issues in the chart on page 51 are not covered in this report, which focuses on the areas in which we are intensifying our attention. Our 2009 report will provide more discussion on all of our citizenship and sustainability issues. The key material issues resulting from our materiality analysis that we highlight in this report are:

- > Energy consumption
- > E-waste and recycling
- > Supply chain stewardship
- > Information and communication technology (ICT) products and services
- > Innovation

The outcome of our assessment is a materiality matrix, which plots each of the 53 issues we identified. All issues charted below are important; those issues in the upper right of the matrix represent the issues we identified as most material – at this point in time – in importance to our business and stakeholders.

## Materiality Matrix

Increasing Importance to Stakeholders	Network Recycling Waste Reduction	Products Recycling (e-waste) Inclusivity for Underserved Inclusivity for Developing Markets Economic Development Law Enforcement Online Risks and Safety Protection of Minors Freedom of Expression	GHG Emissions Supply Chain Standards Supplier Performance Products That Enable Environmental Benefit User Access Controls	Company Energy Use Privacy and Data Security Employee Diversity Innovation
	Bribery and Corruption Intellectual Property Rights Obsolescence Freedom of Association	Content Standards Hazardous Materials Clarity of Pricing and Billing Restructuring and Downsizing Comp and Benefits Enabling Work-Life Balance	Supplier Diversity Outsourcing/Off-Shoring Education	Network Reliability Disaster Response Customer Satisfaction Inclusivity based on age, ability, language
		Product Safety Giving Volunteerism Raw Materials Usage Responsible Marketing Occupational Health Paper Use Visual Impact	Health Care Local Environmental Impacts Talent Acquisition	
	Packaging Water Usage Ozone Depleting Emissions Mobile Theft			

All boxes in this assessment comprise the equivalent to the top right box in a traditional four box

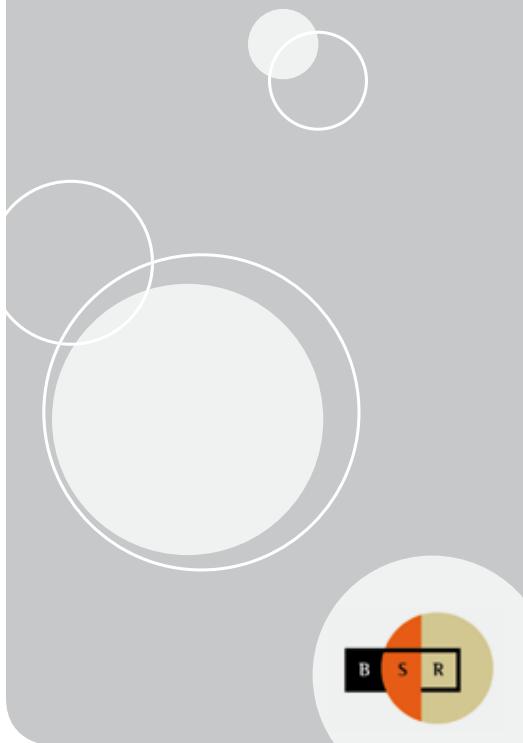
Increasing Influence on Business Success



## Perspectives

# Note From Business For Social Responsibility

"We've been impressed by AT&T's desire to focus on top strategic priorities, and we commend the company for the care it has taken to make the greatest positive difference ..."



**AT&T joined BSR at the end of 2007 and immediately asked us to guide them in establishing strategic priorities and creating a governance and management plan — steps we believe are critical to leadership in sustainability.**

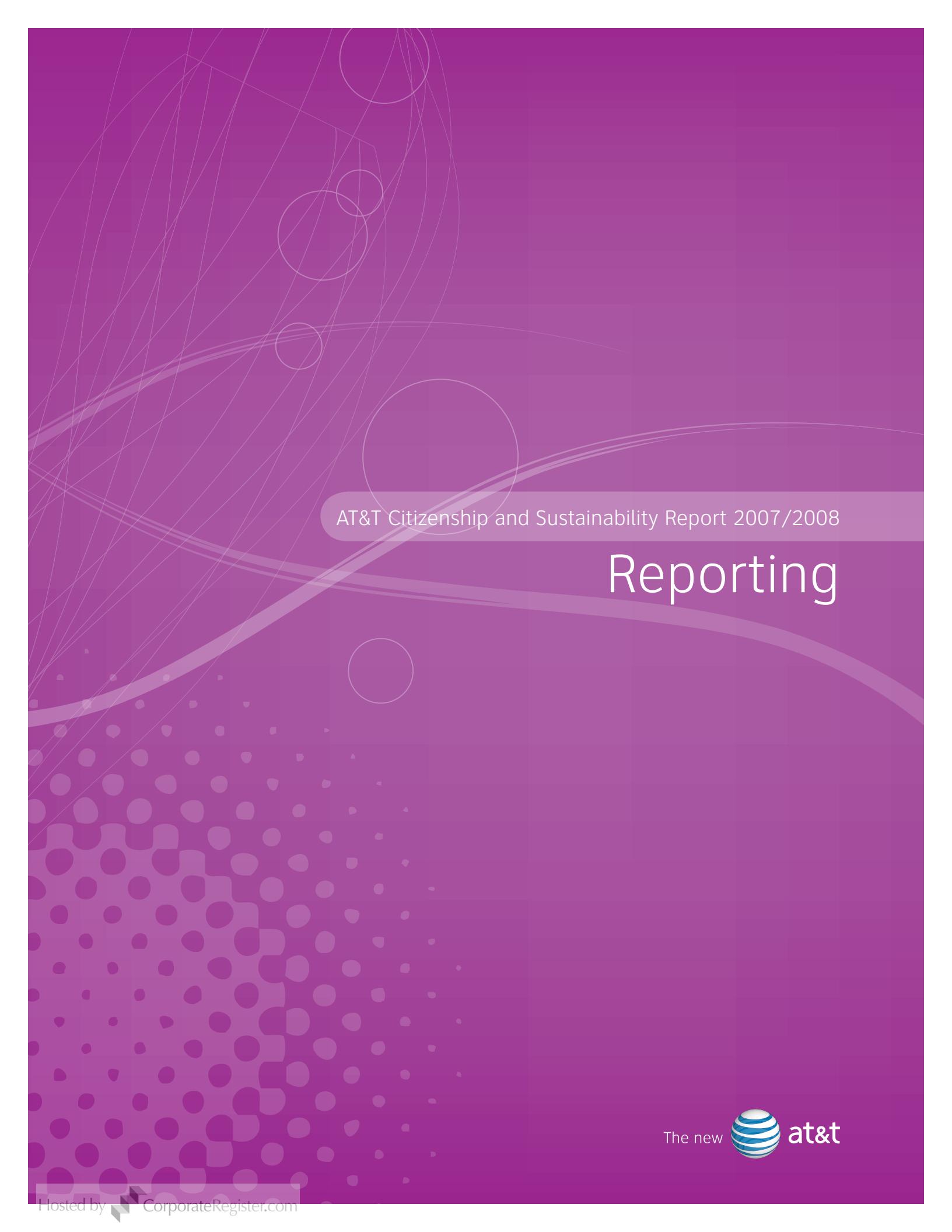
To this end, BSR worked with AT&T to undertake a series of investigative and planning activities during the first half of 2008, including:

- › Engaging in a series of in-depth interviews with senior executives and issue experts within AT&T.
- › Providing our view on where AT&T's sustainability approach is currently weak or strong in comparison with its peers and with stakeholder expectations.
- › Undertaking a materiality exercise (described on page 48) to identify the sustainability issues of greatest significance to AT&T and its stakeholders.
- › Establishing, from the materiality exercise, a set of sustainability priorities for AT&T and an organizational structure to drive change in the company.
- › Creating an approach to responsible supply chain management (described on page 31).
- › Providing counsel on the establishment of energy management and climate change targets that are both ambitious and operationally achievable.

We've been impressed by AT&T's desire to focus on top strategic priorities, and we commend the company for the care it has taken to make the greatest positive difference, especially in addressing energy consumption arising from AT&T's vast network and the opportunities to innovate in the use of information and communications technologies to address climate change.

Looking forward, we hope that AT&T will continue to manage its approach to sustainability with ambition that is commensurate with the size of the company and the sheer scale of challenges we face today as a society. Sustainability requires leadership, and companies such as AT&T — which has a history of driving transformation in its own industry — are well placed to provide it.

Eric Olson  
Vice President - Advisory Services,  
Business for Social Responsibility



AT&T Citizenship and Sustainability Report 2007/2008

# Reporting

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## Reporting

### Scope of This Report

The information included in this report is for AT&T's U.S. operations. At this time, our system for collecting and reporting reliable performance data and anecdotal information is still in development and does not encompass our global operations. We'll explore ways to expand the scope of our reporting and plan to include more global data in future reports.

This publication covers the years 2007 and early 2008. The performance data are primarily for 2007, unless otherwise noted.

### Future Reporting

Moving forward, we plan to produce an annual citizenship and sustainability report with updates on our progress and performance. The topics covered in this current publication, plus additional information on progress in our six strategic focus areas, will be included in future reports. We're committed to continuous improvement and increased transparency in our reporting. As noted on page 12, we're establishing key performance measures that we consider most relevant to our business and stakeholders. We'll define those measures and track our progress against them in future reporting.

### Feedback

We're proud of the initiatives contained in this publication. But we realize that being a responsible corporate citizen is an ongoing and evolving process. In this spirit, we're constantly looking for ideas on how to continue to improve our programs and reporting. We welcome your feedback on this report through our [online survey](#).

AT&T is proud to be affiliated with or recognized by a number of citizenship and sustainability organizations and programs, including:



BOSTON COLLEGE  
CARROLL SCHOOL OF MANAGEMENT  
**Center for Corporate Citizenship**



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