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Air and Radiation Docket and Information Center
Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: AT&T's Comments on Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gases under the Clean Air Act, 73 Fed. Reg. 44354 (July 30, 2008); Docket No. HX-OAR-2008-0318

Dear Sir or Madam:

AT&T respectfully submits these comments in response to the Environmental Protection Agency's ("EPA") Advance Notice of Proposed Rulemaking on Regulating Greenhouse Gases under the Clean Air Act (the "ANPR"). AT&T appreciates this opportunity to describe the tools that the information and communications technology sector ("ICT"), including more specifically the communications and broadband infrastructure and services that companies like AT&T make available, can offer in developing effective solutions to address the goal of reducing greenhouse gas ("GHG") emissions.

At the outset of an era where the United States increasingly appears poised to act to reduce GHGs, AT&T would welcome the opportunity to join EPA and other interested parties as a stakeholder in the process of developing next-generation means to reduce GHGs in a way that protects and promotes economic opportunities to the greatest extent possible. The tools that AT&T can bring to the effort are alternatives and additives to the options considered in the ANPR.

The instant challenge is distinctly different than any other environmental issue we have faced. GHGs are emitted from countless industrial, transportation, commercial, residential, agricultural and forestry sources around the world. The global nature of GHGs, and the vast variation among the types of sources and activities that emit them, has made the regulation of GHGs a complex and controversial challenge. The ANPR itself underscores this complexity by devoting thousands of pages toward hundreds of distinct ideas on how the various sources that emit GHGs could be regulated. The overriding theme of the ANPR is to reduce GHGs at the source by mandating energy efficiency improvements—a formidable challenge for regulators to implement given the widely differing scope of such sources and for industry to accomplish on a national, if not global, scale.

AT&T believes that for regulators and lawmakers to address the novel challenge of reducing GHGs in an effective way, tools outside the traditional toolbox must be considered. As described below, ICT offers opportunities for companies to reduce their GHG emissions while increasing both their energy and economic efficiency. Such opportunities provide the greatest

flexibility for companies to reduce their GHG emissions at the earliest opportunity, and potentially accelerate occasions to reduce GHG emissions sooner and in a more cost efficient manner than might otherwise be available.

AT&T's interest in submitting these comments is threefold. First, and foremost, AT&T seeks to both introduce the opportunities that the ICT sector generally and AT&T specifically offer to achieving reductions in GHGs and underscore that any new regulatory scheme must encourage, not stifle, further investment in ICT. Second, AT&T seeks to establish its interest as a stakeholder in working with EPA and other regulators and lawmakers to help fashion solutions that bring results to both the environment and the economy. Third, we offer our perspective as a corporation that is not widely considered to be a direct GHG emitter on some potential impacts of climate change regulation under the Clean Air Act on AT&T and similar companies. In short, AT&T long has been a company devoted to facilitating global sustainability both for its own operations and for other corporations, and welcomes the opportunity to work with EPA and others to develop solutions to the challenge of reducing GHG emissions.

I. THE INFORMATION AND COMMUNICATIONS TECHNOLOGY SECTOR CAN BE AT THE LEADING EDGE OF CURBING THE GROWTH OF GHG EMISSIONS AND SHOULD BE CONSIDERED AN ESSENTIAL TOOL AVAILABLE TO ACHIEVE GHG REDUCTION MANDATES.

In this context, the nation must consider new opportunities beyond the conventional approaches that have been debated for decades. One critical apparatus that must be considered as a solution is promoting information and communications technology and infrastructure as a mechanism of realizing reductions in GHG emissions across multiple sectors of the economy.

A. Information and Communication Technology Has Been Demonstrated to Promote Energy Efficiency and Reduce Greenhouse Gas Emissions.

The thousands of pages comprising the preamble and supporting documents to the ANPR can be summarized in a single theme: promoting energy efficiency leads to the reduction of greenhouse gases. While the ANPR focuses its efforts on increasing the energy efficiency of transportation, utility, and industrial sources that directly emit greenhouse gases, other options to improve energy efficiency should be considered a key component of addressing climate change. The ICT sector has been and will continue to play a significant role in assisting government, businesses and the public to become more energy efficient and productive, and in facilitating economic growth, while decreasing greenhouse gas emissions in a carbon-constrained economy.

Just a few examples evidence the potential of ICT to increase energy efficiency and productivity while reducing carbon emissions:

- Decreasing energy-intensive travel through telecommuting, teleconferencing and other services;

- Providing centralized data management, Internet access, communications and software services for business and consumers;

- "De-materializing" public and commercial activities through a variety of means, including electronic billing, the provision of governmental services online, and the online delivery of goods and services such as education, libraries, research, medicine, videos and music;

- "Smart logistics:" rationalizing transportation and distribution systems using next-generation dispatching and planning software combined with satellite-based GPS systems;

- "Smart grids:" increasing efficiency, accuracy and control in the delivery of energy through more sophisticated monitoring and dispatching systems linked through the communications infrastructure; and

- "Smart buildings:" optimizing energy consumption in commercial and residential buildings, in real time, by using broadband networks to monitor and command smart appliances, sensors and controls.

Overall, ICT promotes faster, more efficient and better informed decisions and actions, decreases the importance of the location of decision makers, workers and consumers, and enhances the ability to more effectively monitor and control the distribution and use of energy. This promotes more sustainable consumption and production practices (e.g., "production on demand," based on more direct links between consumers and producers) that have environmental benefits that extend beyond reducing GHG emissions.

Deployment of ICT to achieve these goals does more than improve energy efficiency. Several preliminary studies already have recognized and estimated the greenhouse gas benefits of ICT. At the global level, a study conducted by the Climate Group and Global e-Sustainability Initiative ("Initiative") found that transforming the way people and businesses use technology could reduce annual anthropomorphic global GHG emissions by approximately 15% by 2020 and deliver energy efficiency savings to global business of more than $800 billion.[1] The Initiative has since determined that, just in the United States, ICT-enabled solutions could cut annual CO_2 emissions by 13–22% from business-as-usual projections for 2020. This translates into gross energy and fuel savings of $140-240 billion.[2] Further, a study commissioned by the American Consumer Institute forecast that the widespread adoption and use of broadband applications in the U.S. could achieve a net reduction of 1 billion tons of greenhouse gas over the

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[1] *SMART 2020: Enabling the Low Carbon Economy in the Information Age*, A report by the Climate Group on behalf of the Global eSustainability Initiative (2008) ("Climate Group 2008").

[2] *SMART 2020: Enabling the Low Carbon Economy in the Information Age, United States Report Addendum*, A report by the Climate Group on behalf of the Global eSustainability Initiative (2008).

next 10 years, which, if converted into energy saved, would constitute 555 million barrels of oil or roughly 11% of annual U.S. oil imports.[3] Some of the specific predictions were:

- Various forms of telecommuting or teleworking could reduce greenhouse gas emissions by 247.7 million tons due to less driving, 28.1 million tons due to reduced office construction, and 312.4 million tons because of energy saved by businesses.[4] This is the equivalent of taking some 9 million light duty trucks off the road for ten years.[5]

- Teleconferencing could reduce greenhouse emissions by 199.8 million tons if just 10% of airline travel could be replaced by teleconferencing over the next ten years. This is the equivalent of sequestering 100 percent of the CO2 emissions from 4.3 coal-fired power plants for 10 years.[6]

- Business-to-business and business-to-consumer e-commerce is predicted to reduce greenhouse gases by 206.3 million tons.

- Reduction in first-class mail, plastics saved from downloading music/video, and office paper saved through the use of emails and electronic documents could together reduce emissions by 67.2 million tons.

One concrete example of the GHG emissions reduction benefits of the deployment of sophisticated ICT is the Federal Aviation Administration's effort to improve the efficiency of the national air traffic control system as part of the Next Generation Air Transportation System, or "NextGen." FAA is implementing a number of technology-based improvements to air traffic control methods that will decrease the amount of time aircraft need to be in the air and thus save fuel and reduce greenhouse gas emissions. For example, according to the FAA, the introduction of Reduced Vertical Separation Minimum (RVSM) has saved about 3 million tons of CO_2 annually (RVSM reduces the aircraft separation standard at certain high altitudes, allowing aircraft to safely fly more optimum profiles, gain fuel savings and increase airspace capacity). Other ICT-based NextGen initiatives that are being piloted include Required Area Navigation (RNAV) and Required Navigation Performance (RNP) technology, and satellite-based air traffic control paired with Automatic Dependent Surveillance-Broadcast (ADS-B) technology on

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[3] Fuhr, J. P. and S. B. Pociask, *Broadband Services: Economic and Environmental Benefit*, The American Consumer Institute (2007).

[4] It has been widely reported that the deployment of broadband services is a significant factor in encouraging telecommuting. *See, e.g.*, Popuri, Y. D. and C. R. Bhat, *On Modeling Choice and Frequency of Home-Based Telecommuting*, Transportation Research Record No.1858 (2003), pp. 55-60; Pratt, J. H., *Teleworking Comes of Age with Broadband,* Telework America Survey 2002, Sponsored by AT&T, A Telework America Research Report of the International Telework Association & Council (2003); WorldatWork, *Telework Trendlines for 2006, 2007 Survey Brief*, A report by WorldatWork based on data collected by the Dieringer Research Group (2007).

[5] *See* EPA Fact Sheet, Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks at 5 (August 2005) (attributing 8.45 tons per year of CO2 emissions to light duty trucks).

[6] *See* www.epa.gov/greenpower/pubs/calcmeth.htm (attributing 4,643,734 tons per year of CO2 emissions to the average coal-fired power plant).

aircraft, all of which allow for more efficient air traffic control and thus improved environmental performance. FAA reports that a test program at Dallas-Fort Worth International Airport is reducing carbon dioxide emissions by levels equivalent to removing 15,000 cars from the road for a year; trials in Louisville, KY have shown a fuel savings (and thus GHG reductions) averaging about 12 percent for the arrival portion of the flight; and testing at Atlanta Hartsfield International Airport of certain NextGen traffic control methods result in savings of 1,300 pounds of carbon dioxide for each and every flight. All of these achievements and planned improvements rely on the deployment of sophisticated land-based, airborne and satellite ICT. And, while this is a challenging project that will take time to fully implement, it exemplifies that the bold application of ICT will be the backbone of a low-carbon society.

Various studies also have illustrated the benefits of specific ICT applications that shift users from traditional activities or applications to relatively less carbon intensive "virtual" applications. For example, a study commissioned by the Consumer Electronics Association estimated that simply transitioning 50% of DVD/video rentals to broadband video-on-demand would save approximately 180 million gallons of fuel and avoid 1.3 metric tons of CO_2 emissions annually.[7] A World Wildlife Fund report indicated that if 10 million customers shifted from traditional to virtual answering machines (thereby avoiding the energy consumption associated with answering machines), then 330,000 metric tons of CO_2 could be saved; and, if 90 million customers made this shift, it would result in more than 2.6 million metric tons of CO_2 emission reductions.[8]

There also have been efforts to quantify the potential benefits of setting specific ICT-related objectives. For example, the European Telecommunications Network Operators' Association (ETNO) and the World Wildlife Fund have suggested GHG emissions reduction targets that could be achieved through video conferencing, audio conferencing, and teleworking.[9] The year 2010 suggested targets are: video conferencing: a 20% reduction in EU business travel, saving 22 million tons of CO_2; audio conferencing: replace 1 physical meeting per year for 50% of employees in the EU, saving 2.1 million tons of CO_2; teleworking: 19 million EU employees telecommute, saving 22 million tons of CO_2.

B. AT&T provides a full range of ICT through its nationwide broadband, communications, and data management services that improves energy efficiency and reduces GHGs.

AT&T is a world leader in providing and developing the ICT that will combine productivity improvements, energy efficiency, and net decreases in carbon emissions. A complete description of AT&T's ICT infrastructure and services is beyond the scope of these comments, but the

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7 TIAX LLC , *The Energy and Greenhouse Gas Emissions Impact of Telecommuting and e-Commerce*, Final Report by TIAX LLC to the Consumer Electronics Association (2007).

8 World Wildlife Fund and European Telecommunications Network Operators' Association, *Saving the Climate @ the Speed of Light, First Roadmap for Reduced CO_2 Emissions in the EU and Beyond* (2007) ("WWF/ETNO 2007").

9 Id.

highlights discussed below underscore the breadth of capabilities that AT&T can bring to bear on the problem of reducing GHG emissions.

First, AT&T has one of the most advanced and powerful global backbone networks in the world; it carries an average 15.6 petabytes of data traffic on an average business day and includes nearly 879,000 fiber route miles worldwide. Over these facilities, AT&T offers a full suite of Internet Protocol ("IP")-based communications services for businesses. In fact, AT&T serves millions of business on six continents, including all of the companies in the Fortune 1000.

AT&T likewise operates one of the most extensive broadband networks in the United States, serving 14.7 million high speed Internet access customers – more than any other provider. These capabilities include the largest Wi-Fi network in the U.S., offering connectivity from more than 17,000 locations. And, we are adding to these capabilities every day. AT&T currently is investing billions of dollars to further enhance and expand its broadband network. Over these facilities, AT&T will offer even faster and more robust Internet access services and will make one of the most aggressive deployments of next-generation video services of any communications or entertainment company.

AT&T is also the leading provider of wireless services in the U.S., serving 74.9 million customers as of the end of the third quarter of 2008. AT&T has the largest international coverage of any other U.S. wireless carrier – giving customers the ability to make calls on six continents and in more than 200 countries – with wireless data-roaming in more than 150 countries for laptops, PDAs and other data services. And, AT&T is a leader in third-generation ("3G") wireless technology. The company's 3G network is the first widely available service in the world to use HSPA (High Speed Packet Access) technology. Already available in 300 U.S. major metropolitan areas, our 3G services will reach nearly 350 of the leading metro areas by year end and can provide typical wireless broadband speeds between 700 Kbps (kilobits per second) and 1.7 Mbps (megabits per second) on the downlink and 500 Kbps and 1.2 Mbps on the uplink.

Put simply, AT&T is able to provide the full range of communications services – in the United States and around the world – to consumers as well businesses of all sizes. The brief examples outlined below give just a sense of innovations that AT&T is deploying that will encourage and enable the shift to virtual, low-carbon productivity technologies.

- Internet Data Centers ("IDCs") are one of the pillars of AT&T's effort to provide green solutions to its customers. At base, IDCs provide centralized and virtual computing capability to enterprises large and small. With the IDCs, AT&T can provide sizeable computing capacity across a variety of customer needs and applications, and can dynamically balance the demands of different customers to account for the peaks and valleys of capacity usage. For instance, AT&T's Synaptic Hosting[SM] product creates a "cloud computing" platform that can be used by enterprises of any size. Users of the platform – wherever they are in the world – will be able to plug into the system and seamlessly gain access to the full range of available applications – anywhere, anytime,

on-demand, wired or wirelessly. The result is a virtual, on-demand computing environment that provides global and regional access to data and communications for all users. But most notable is that these IDCs, which are efficient by design and employ cutting edge technologies to limit energy usage, obviate the need for the customer to establish and maintain its own, company-specific data center. These company-specific data centers necessarily are over-engineered to account for usage spikes and are consequently under-utilized most of the time. The result: an over-powered facility that consumes a good deal of energy in an inefficient way. By contrast, centralized data centers – those operated by AT&T or other communications companies – can be a particularly potent tool to eliminate unnecessary facilities and power consumption.

- AT&T is deploying an innovative "Telepresence" conference service (in cooperation with Cisco). The functionality of this service far outpaces that of traditional videoconferencing; it gives users the impression that other conferees are on the other side of the table – even when they may in fact be on a different continent – and creates a sensory experience that communicates the full range of human interactions in a live meeting. As such, it represents a virtual-meeting paradigm shift that can enhance collaboration and productivity while simultaneously displacing the need for substantial amounts of business travel. Indeed, forecasts suggest exponential growth in the use of this low-carbon alternative to travel – from 50 sites worldwide in 2006 to over 8,000 by 2012.[10] By way of example, Proctor and Gamble has installed 43 Telepresence units worldwide. At the present rate of travel avoidance, the technology will have paid for itself twice by the end of its first year of operations. And, P&G expects Telepresence room usage to top 60%.[11] Partnering with Cisco, AT&T will establish the Telepresence site(s) for the customer; manage the Telepresence capability in a centralized, hosted fashion; and provide secure, reliable, high-speed connectivity with other Telepresence sites – either within or without the same company.[12]

- AT&T is developing innovative ICT services for such fields as telemedicine (including a major initiative in cooperation with Tennessee) and distance learning (e.g., AT&T just announced a major project to increase the broadband connectivity for California's public education system).

- AT&T's innovative efforts are not limited to deploying low-carbon solutions; it is also developing applications to assist in monitoring and potentially mitigating climate change. For example, "machine learning" software developed by AT&T to guide computer translation and diagnose network problems is now being used to prioritize new public

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10 IDC, *Worldwide Telepresence 2008 – 2012 Forecast and Analysis,* Doc # 211108 *(March 2008).*

11 Forrester Research, Inc., *AT&T And Cisco Systems Announce An Intercompany Telepresence Service* (2008).

12 Recognizing the efficiency and productivity benefits of this technology, AT&T has itself made a significant investment in Telepresence for its own business operations. AT&T already operates 17 sites in facilities across the country and should, by January of 2009, have an additional 12 up and running. By the end of 2009, our plan is to have 40 or more operational locations, including a number of international sites.

land acquisitions to protect a variety of animals and vegetation in Madagascar potentially threatened with extinction from development. AT&T has made the software publicly available – for free – online and some 60 countries are using it in various ways to combat, or plan for the effects of, climate change.

C. Lawmakers should be mindful of the opportunities for ICT to serve as a solution to reducing GHG emissions.

1. *Regulators should consider the full net benefits of ICT technologies in a regulatory scheme.*

In light of the foregoing, it is quite evident that America's communications and broadband infrastructure will be a central component of any effort to reduce GHG emissions. For this reason, policymakers must ensure that any new statutory or regulatory scheme does not lower the incentives for investment and innovation in this area. New regulations or legislation – whether related directly to the climate change challenge or as part of more communications-specific efforts – must not stifle the enormous and risky investments that network and broadband providers like AT&T already are undertaking. The last decade has proven that communications, broadband and Internet innovation and investment are most robust when government does not over-regulate or attempt centrally to control these hotly competitive and vibrant marketplaces. Thus, as the debate over climate change legislation and regulation unfolds, policymakers should be wary of any attempt to impose new or pervasive regulatory regimes for the communications industry that would lead to provider retrenchment.

In addition, when considering technologies related to ICT, the government should consider the fuller context that ICT produces a net energy and carbon emissions reduction benefit even while the ICT sector increases its energy use. Specifically, while the gross carbon emissions of the ICT sector may be expected to increase, one must take into account: (1) the net carbon benefit delivered by the deployment of ICT; and (2) the improved efficiency of the ICT sector, delivering more ICT services for the units of energy consumed. Accordingly, legislative and regulatory policies should encourage the deployment and use of ICT even if, at first blush, they appear to increase the use of energy by the ICT sector.

One study has estimated that global carbon emissions from the ICT sector would increase from 0.5 $GtCO_2e$ in 2007 to 1.4 $GtCO_2e$ in 2020, while the application of ICT over that same period would reduce global carbon emissions by 7.8 $GtCO_2e$ (1 $GtCO_2e = 10^9$, or 1 billion, metric tons of CO_2 equivalent).[13] In other words, this study estimates that between 2007 and 2020, the application of ICT can produce a net annual global carbon emissions reduction equivalent to 6.9 billion metric tons of CO_2. Another study using econometric models estimated that in 2006, the deployment of ICT in the U.S. generated an estimated 2.2 quads[14] of net energy savings throughout the U.S., estimating that every 1 kilowatt-hours (kWh) of energy used by ICT

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13 Climate Group 2008, *supra* note 1.

14 A quad is a unit of energy equal to 1015 BTU or 1.055×10^{18} joules in SI units.

produced 6–14 kWh of energy savings.[15] And, it has been reported that the ICT sector is a major contributor to the trend of the U.S. economy growing faster than its energy consumption (i.e., increased "energy intensity" or, from a different perspective, decreased "carbon intensity").[16]

In short, the economic and social benefits of more effectively and creatively using ICT are achieved, in part, by the ICT sector itself using more energy; that is, the ICT infrastructure (e.g., the broadband) is not "energy-free." Data servers, communications equipment, GPS and similar navigation devices all use energy. However, the energy efficiency benefits generated by the ICT sector for the economy as a whole far outweigh the increased energy use by the ICT sector, creating a net energy and carbon emissions reductions benefit.[17]

2. *Consideration should be given to provide allowance for adoption of ICT to offset other GHG emissions.*

The ANPR includes detailed discussions on various alternative approaches regulators could utilize to achieve GHG reductions across the economy, including approaches that would set caps on GHG releases or require energy efficient standards be met, and permit trading of allowances and credits among different sources. Congress similarly has debated these approaches in considering comprehensive climate change legislation.[18] Traditionally, allowances under these mechanisms would be created for companies that improve the efficiency of sources that directly emit GHGs by, for example, upgrading a boiler or switching to a more fuel efficient engine. At the same time, a GHG-emitting facility similarly could reduce its overall GHG footprint by employing ICT technologies described above and use them in a manner that reduces its overall GHG footprint. Similarly, other companies that do not directly emit GHGs could reduce their GHG footprints by adopting ICT technologies, which in turn would contribute to an overall reduction in the nation's GHG emissions. By generating allowances in both of these scenarios, companies will have greater incentive to adopt GHG-reducing ICT technologies, while facilities faced with mandatory GHG reductions will have more flexibility and options for obtaining credits if necessary. Thus, adopting ICT should be considered among such options and should be an opportunity to generate allowances in a carbon trading or similar mechanism.

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[15] Laitner, J. A. and K. Ehrhardt-Martinez, *Information and Communication Technologies: The Power of Productivity*, American Council for an Energy-Efficient Economy, Report Number E081 (2008).

[16] Romm, J., A. R. Rosenfeld, S. Herrman, *The Internet Economy and Global Warming. A Scenario of the Impact of E-commerce on Energy and the Environment,* The Center for Energy and Climate Solutions, A Division of the Global Environment and Technology Foundation (1999).

[17] It should also be noted that in addition to generating a net reduction in carbon emissions, the net energy efficiency gains produced by ICT also generate other environmental benefits in the form of the reduced emissions of "traditional" criteria pollutants associated with the generation and distribution of energy (e.g., volatile organic compounds, sulphur compounds, particulates, etc.).

[18] AT&T takes no position here on the propriety or ultimate effectiveness of any particular regulatory approach – whether it be cap-and-trade or the direct application of the Clean Air Act or some other system. AT&T nonetheless recognizes that certain distinct regulatory schemes are under serious consideration and offers the following observations in that context.

- For example, a company may spend $50 million installing broadband communications equipment, video links and computer hardware in offices and workers' homes, and establish a policy of encouraging employees to telecommute some number of days per week. It could in turn be awarded allowances for the avoided travel, based on either average commuting distances in the region in which its offices are located, using an average emission factor for single-person automobile travel.

- Another company may examine its worldwide travel budget and decide to spend $20 million to install Telepresence or other video conferencing equipment throughout its major offices and institute policies designed to discourage travel for any kind of meeting that could be handled through a videoconference. It could be awarded allowances based on the reduction in miles traveled compared to prior years, using an emission factor appropriate to air transportation.

- Or, a broadband provider could be awarded allowances for extending service more rapidly or into marginally economic areas, which would enable all the travel-reducing benefits of ICT to become available sooner and more widely. To apply for these offset credits, the provider could submit information on its prior plans for service extensions, together with analysis of why the incentives provided by the offset or bonus allowances were required to make the changes economic or financially feasible. The amount of the allowance award could be based on an estimate of the emission reductions associated with broadband availability, based on the extensive literature that has studied the relationship between ICT and carbon dioxide emissions.

There are at least three reasons to consider allowing ICT use to be a source of allowances. First, implementing ICT may be feasible sooner than other types of equipment upgrades. Transportation sector upgrades can have lead-times of many years while stationary source modifications also can take years to engineer, permit, and implement. ICT technologies are available for implementation now, and are increasingly accessible every day. Second, ICT may provide economically feasible opportunities for companies to realize GHG emission reductions at certain times. While it may not be economically beneficial to upgrade a boiler for a certain number of years, the cost benefit analysis for adopting ICT could be dramatically more beneficial at an earlier date, again leading sooner to GHG reductions. In this way, ICT may enable the nation to take action sooner to reduce GHGs while actually promoting economic and energy efficiency. Third, ICT can enable GHG reductions beyond those that would be achieved through addressing the direct GHG emitters. ICT is an additional tool that, when adopted, realizes GHG benefits regardless of the sources directly emitting GHGs.

In the end, there may be countless ways to incorporate ICT efforts and investment into any eventual carbon-trading or other regulatory system. But, whatever the eventual structure, we believe the government should encourage and support collaboration among technology companies, the securities industry and other stakeholders to develop ways to create additional credits that are linked to companies' use of the communications infrastructure to decrease their carbon footprints.

II. AT&T PLAYS A ROLE IN BRINGING SOLUTIONS TO THE GHG CHALLENGE, BUT ALSO WOULD BE IMPACTED BY REGULATION UNDER THE CLEAN AIR ACT.

The discussion in the ANPR is largely focused on sources that traditionally have been considered direct GHG emitters, such as the transportation, utility, and industrial sectors. However, the regulation of GHG emissions under the Clean Air Act has the potential to impact a much broader range of companies, both through direct regulation and downstream impacts. AT&T therefore urges regulators and lawmakers to be mindful of the role such companies play in bringing solutions to climate change, and the potentially unintended consequences that Clean Air Act regulations may have. In these comments, AT&T respectfully shares its own perspectives as a company that may not be a central focus of GHG regulation, but nonetheless brings solutions and stands to be significantly impacted by new regulations.

A. AT&T, like other companies, already has taken action to reduce its carbon footprint.

As discussed above, the broadband infrastructure and data and information management services provided by AT&T already enable a less carbon-intense community and economy. They should, therefore, be on the leading edge of solutions designed to shrink the nation's carbon footprint. Nonetheless, the clear benefits of ICT – not just in connection with efforts to reduce GHG emissions, but also with respect to our nation's efficiency and productivity – will not fully be realized if we are not mindful of the need to make the ICT infrastructure itself energy efficient. For this reason, AT&T has made minimizing its environmental impact a strategic focus for the company. AT&T embeds sustainability into the company's management and operational structure, including oversight by the Public Policy Committee of the AT&T Board of Directors and our Citizenship and Sustainability Steering Committee, and implements its sustainability initiatives through several core working teams comprising business unit experts. In short, AT&T is working to enhance the energy efficiency of the very communications infrastructure that will be central to a less carbon intense economy and society.

1. *Leadership and Collaboration*

Collaboration is essential to promoting and advancing solutions to make ICT infrastructure more energy-efficient. For this reason, we have put our energies behind – and in many cases are leading – industry efforts to find opportunities to drive energy efficiency. For example, AT&T chairs the Alliance for Telecommunications Industry Solutions ("ATIS"), a technical planning and standards organization that develops and promotes worldwide technical and operations standards for the communications industry. In particular, AT&T is a chair of the ATIS committee on Network Interface, Power and Protection-Telecommunications Energy Efficiency ("NIPP-TEE"). 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"), which 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.

Other key examples include the Green Grid, which AT&T joined in July 2008. As explained above, centralized data centers and aggregation technologies are key components of an ICT infrastructure that can engender a more energy efficient information economy. But it is likewise important that we address the energy efficiency of those very data centers so that we can maximize their carbon-reducing benefits. In this vein, the Green Grid is a global consortium dedicated to advancing – through the development of industry-wide recommendations and best practices on metrics and technologies – energy efficiency in data centers and business computing ecosystems around the world. Along these same lines, AT&T has also agreed to support the EPA's data collection initiative to develop an ENERGY STAR rating for data centers. AT&T will monitor and collect performance data for four data centers – two Enterprise Data Centers and two Internet Data Centers – and submit energy data for the period July 2008 through July 2009. This new rating will help data center operators assess the energy performance of their buildings and identify the greatest opportunity for improvement.

These collaborations are as important as any single technological innovation to maximizing the energy efficiency of ICT infrastructure. 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. The TEER, for instance, will not only enable better comparison among equipment choices, but it will also allow equipment manufacturers to focus their research and development on improvements driven by a common measure. In the end, we believe these collaborative, industry-standard approaches will provide lower-cost solutions and broader benefits for all key stakeholders.

2. *Specific AT&T Initiatives*

For a company with the scale and infrastructure diversity of AT&T, it would seem that the opportunities for energy conservation would be innumerable. But no company has sufficient resources to implement every concept; it must instead direct its resources in a way that realizes maximum benefit. In light of this, we recognized that we needed a process for our citizenship and sustainability programs that combines 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. Among other things, this analysis helped us identify a set of sustainability issues for the company, prioritize opportunities based on their importance to a variety of interested stakeholders (e.g., shareholders, policymakers, our community partners, etc.), and make sound decisions regarding which issues to pursue. While the analysis identified myriad ways to enhance our citizenship and sustainability efforts, the summary below outlines some leading initiatives currently under way.

Overall Energy Efficiency

AT&T has a company-wide initiative to reduce energy costs associated with its buildings and operations. Our Energy Council, which comprises key executives from all business units that directly consume energy in their operations or that design energy-consuming equipment, is responsible for advancing energy strategy within the company and assessing ways to operate more efficiently. In 2007 alone, AT&T conducted over 300 energy audits at top-consuming locations to identify opportunities to improve efficiency. Many energy saving measures have already been implemented, including using more efficient lighting and HVAC systems, optimizing building use and occupancy, consolidating operations to shed unnecessary building space, and using motion detectors and other technologies to decrease energy use when the energy is not needed. Two of our administrative buildings received EPA Energy Star certification in 2007, and actions taken from these audits have already resulted in annualized energy savings of more than 230 million kWh – the equivalent annual electricity use of over 19,000 households.

Data Center Strategy

AT&T currently operates 24 Enterprise Data Centers (EDCs) and 38 Internet Data Centers (IDCs) that provide comprehensive data management, business and communications services to millions of customers and businesses. While data centers will always be heavy users of electricity, AT&T is making incremental improvements to get as much computing power as possible out of its electricity consumption. These steps fall into several categories:

- 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 (a significant issue for the massive server banks necessary to provide comprehensive broadband services), 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.

Improve Efficiency of Fleet Operations

AT&T operates one of the largest fleets of commercial vehicles in the nation to provide services to its customers and business partners. This fleet, then, represents a real challenge and a singular

opportunity in connection with lessening the company's overall carbon footprint. An initial focus has, therefore, been on developing best practices for daily fleet management. AT&T has taken a number of steps to more efficiently use its fleet and decrease associated air emissions. These steps include increasing the services that can be provided online rather than by location visits, such as broadband Internet access services, a larger percentage of which can now be installed without rolling a vehicle; using dispatch software to increase scheduling and routing efficiencies; implementing a reduced idling policy; and enhancing vehicle maintenance (e.g., proper tire inflation, lower vehicle weight, etc.).

In addition, AT&T has deployed over 100 alternative-fuel vehicles in a pilot project to identify the most promising high-efficiency vehicle technologies for broader use. They include 25 Compressed Natural Gas ("CNG") vans; 65 electric hybrid Ford Escapes and Toyota Priuses; and 15 electric hybrid conversion work trucks. There are significant challenges to deploying alternative-fuel vehicles, especially those that use CNG. Among other things, there is no fueling infrastructure available in most f the United States. Alternative-fuel vehicles are also still significantly more expensive than the traditional vehicles the company uses – even when they are available. Nonetheless, AT&T knows that waiting until the economics are optimal will simply put it behind the curve in determining how alternative-fuel vehicles can work for the company in the future as it works to fulfill its environmental and economic objectives. And, even though this is still a pilot program, AT&T estimates that 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 is equivalent to taking 56 passenger vehicles off the road each year.

Investing in Alternative and Renewable Energy Sources

AT&T recognizes that developing and deploying innovative technology is a critical component of the nation's strategy to reduce greenhouse gas emissions. AT&T is translating this awareness into concrete action. By way of example, 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 is equivalent to avoiding 7.2 million kWh of fossil-generated electricity. It is also enough renewable energy to power 600 average homes in Austin for a year, according to Austin Energy. In addition, this fall AT&T began work to install a 1 megawatt solar power system on its facility in San Ramon, Calif., one of AT&T's 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 reduce the building's normal power consumption by 3,500 kilowatt hours per day. 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. That is the equivalent of the electricity required to power 300 homes each year.

B. EPA and other policymakers should take steps to encourage early action, which is essential to any effective long-term solution to combat GHG growth.

While AT&T is proud of its efforts to improve energy efficiency, we recognize that we are not alone in this attitude and approach. Countless other companies making up both the American and global economy in recent years have taken early action to reduce GHGs and promote sustainability for a multitude of reasons, including good environmental and corporate stewardship.

At the same time, it is critical that policymakers recognize these "early action" efforts in formulating any climate change regulatory regime. While in some instances decades of progress already have been made to reduce GHGs, it would be inequitable to ignore these accomplishments at the outset of GHG regulation. Credit should be given to voluntary efforts that have already been invested in reducing GHG emissions. In the absence of such encouragement, companies and other stakeholders will be less likely to take action now and will, instead, wait on the sidelines for any final laws or regulations. The goal of achieving GHG reductions at the earliest possible moment accordingly dictates that credit be given and considered for steps taken voluntarily prior to a mandatory regime. Policymakers thus should signal that any final climate change rules will account for and credit the efficiency improvements and GHG reductions that some companies voluntarily undertake.

C. Regulators should be mindful of the potentially significant impacts of GHG regulation under the Clean Air Act on companies not traditionally considered to be direct GHG emitters.

Because the ANPR is devoted largely to the impacts of directly regulating sources of GHG emissions under the Clean Air Act, it does not touch upon the impact of those regulations on other companies who are not traditionally classified as GHG emitters. Yet, like many other companies regulation under the Clean Air Act will have significant impacts on AT&T. AT&T respectfully requests that regulators ensure they have given full consideration to these consequences before proceeding under the Clean Air Act.

The most imminent impact of regulation of GHGs under the Clean Air Act likely will be the potential need to permit the large number of AT&T commercial buildings, laboratories, and other facilities under the Prevention of Significant Deterioration ("PSD") and Nonattainment New Source Review ("NNSR") programs. As the ANPR acknowledges, lengthy and cost consuming permits could be triggered at emissions of 250 tons per year of GHGs. Such a requirement could hinder the further deployment of ICT if permitting burdens become significant such that the Agency is unable to promptly enable new construction to proceed. AT&T is also concerned that the need for EPA to devote extraordinary resources toward managing a PSD program for thousands of new sources would be at the expense of other environmental initiatives. AT&T appreciates the thought that EPA has put into the ANPR to develop potential alternative systems of complying with PSD requirements, but as the ANPR acknowledges none of the proposals definitively would address these concerns. AT&T also supports EPA's suggestion in the ANPR that "Congress could consider legislative alterations" to the Clean Air Act to avoid these adverse consequences. 73 Fed. Reg. 44,354, 44500 (July 30, 2008).

However, under the existing Clean Air Act language, EPA should avoid triggering PSD for GHGs until these concerns can be addressed.

Beyond direct impacts, GHG regulation under the Clean Air Act likely will have significant downstream impacts on all companies. The ANPR devotes significant attention to cost benefit analysis on specific sectors that emit GHGs, such as the increased impact to increased manufacturing costs of vehicles, more expensive fuel, and the cost impacts of having to engage in stationary source upgrades. These costs undoubtedly will flow downstream. GHG regulation could lead to more expensive fleets, increased maintenance, and higher fuel costs, as well as a potential rebound effect of delaying costly increasingly purchases of new vehicles. Such increased costs, in turn, could have an impact on the company's ability to deploy further ICT and on similarly situated consumers to be able to afford to adopt such technologies. It is therefore critical that the cost benefit analysis not be so narrowly focused as to ignore the true impacts of GHG regulation, and that policy makers be fully informed of the full impacts of GHG regulation on the economy before deciding the proper course of action.

III. AT&T WELCOMES THE OPPORTUNITY TO SERVE AS A KEY STAKEHOLDER IN THE EVALUATION OF POTENTIAL SOLUTIONS.

AT&T is willing to work shoulder to shoulder with regulators and lawmakers in advising on our perspectives, providing technical and scientific expertise, and suggesting possibilities for implementing ICT as a means of realizing GHG reductions. We also respectfully request the opportunity to further share our views on how GHG regulation under the Clean Air Act and other possible frameworks stand to impact corporate America beyond direct GHG emitters.

Sincerely,