



The GIIC Tokyo Declaration

April 25, 2008

Senior corporate executives from the Global Information Infrastructure Commission (GIIC)¹ and other global experts have convened in Tokyo, Japan, on April 25, 2008, to conduct a forum, “The Power of Green: In the Future of ICT, Is It Part of the Problem or the Solution?”

The purpose of the GIIC forum this year has been to address the global awareness of the challenge of climate change, and to assess the contributions that information and communications technology (ICT) can make to help reduce the burden on the environment with a focus on the actions required by ICT sector stakeholders. The main focus points are: (1) to reduce the burden of ICT products and services by introducing environmental friendly design and innovation; and (2) pervasive models of business and social applications of ICT to market efficiencies, business culture, and social processes.

As a result of the forum, GIIC executives have concluded that the ICT sector has a mixed impact on the environment, and will continue to remain a challenge to the environment as ICT becomes increasingly central to economic growth and innovation. Currently, the ICT sector contributes approximately 2% of the global greenhouse gas (GHG) volume, principally as a result of the environmental burden of electrical energy production. As economies leverage ICT for economic sustainability and advancement, there is a risk that the growing prevalence of ICT-dependent appliances will increase that percentage and add to the perception that ICT is an overall drain on environmental health, even while it is a central driver of economic health.²

¹ The Global Information Infrastructure Commission is a confederation of chief executives and other officers of business firms engaged in the development, manufacture, deployment, operation, modernization, financing, and use of services and products based upon information and communications technologies. These executives head enterprises headquartered throughout the world and, as GIIC commissioners, are convinced that ICT-based capabilities have given rise to a rapidly evolving new era, denoted most frequently as an “information society,” and widely regarded as one that transcends borders and is an increasingly powerful force in all societies. As such, they acknowledge and are dedicated, through the instrumentality of the GIIC, to fulfill the essential role that must be played by the private sector (by virtue of its technological, human, and financial resources) to foster the development of an information society that is sustainable, equitable, and enhances the economic and social well-being of people everywhere. Toward these ends, the GIIC mission is to: (1) advocate the promulgation, adoption, and enforcement of representative public policies; (2) convene forums within which to address public policy challenges and different approaches thereto; (3) collaborate with other sectors of society; (4) conduct formal studies; and (5) publish and in other ways share and disseminate the conclusions of its deliberations and research.

² Gartner and Intellect. ICT sector carbon dioxide production currently accounts for about 2 percent of global carbon dioxide emissions. If all else remained equal, a straight line projection based on ICT sector growth would suggest that by 2050, a five-fold increase in emissions related to ICT and a six-fold increase in emissions related to consumer electronics would occur.

To respond to this challenge, the ICT sector has addressed the issue of Climate Change through various power-saving technologies and an embrace of energy efficient multi-core processors. The ICT sector is committed to setting its own “house in order” through a focus on efficiencies in computing design, ICT sector energy use, while also emphasizing the positive impacts of ICT on efficiencies in other sectors of the economy.

Absent a change in the energy-consumption matrix, the GIIC recognizes that energy consumption could develop into the new “digital divide” as the ICT sector attempts to service its next billion users.

Given that ICT is a driver of economic growth, but the state of our environment is impacted by the energy demands of ICT, it is clear to the GIIC that economic growth and environmental stewardship are linked. The expanded utilization of ICT will be as vital to economic growth in the 21st century as the use of fossil fuels were to economic growth in the 20th century. But our industries must recognize that the environmental burden of ICT use in the future cannot follow the same path that it has in the past – greater efficiencies must be realized in enabling other industries.

Achieving sustainable ICT growth coupled with environmental stewardship is critically important for the reduction of GHG production even as economies turn to ICT for innovation in the delivery of products and services.³

ICT has a tremendous potential to mitigate the challenges of climate change, and therefore "ICT is a solution, not the problem". ICT has historically been viewed as a tool to advance productivity. We found and confirmed that the use of ICT can change the behavior of business and consumers, and through these changes, ICT can help the environment without sacrificing economic output. The GIIC executives have agreed to commit to minimize the burden of ICT products and services, and to maximize the helpful effects by using ICT products and services, and therefore, maximizing the difference between the burden and the benefit of our sector. We have agreed to these commitments as the Tokyo Declaration and have established the GIIC Working Group on ICT and Environmental Stewardship to monitor developments and report on members' environmental initiatives and activities.

Background

1. The GIIC has been addressing, since its outset in 1995, major issues facing the information and communications technologies and the information society and that there may be no more critical and relevant challenge today than to make the case of the relevance of ICT for solutions to the various issues associated with Climate Change.

³ One example, clearly outlined in discussions of the World Economic Forum, for example, is the positive impact of the shift away from physical goods to the delivery of digital services. The entertainment industry serves as a model of this shift.

2. The GIIC recognizes that businesses around the world are starting to respond as important organizations are raising awareness on this issue. The Stern Review (October 2006) in the United Kingdom has been the catalyst for the British industry to make recommendations on climate change. At the UN Internet Governance Forum in November 2007, a major speech raised the issue of "Internet and Environment". In January 2008, the World Economic Forum discussed the issue of climate change as the most important shift affecting business, technology, society, and the global economy. As a result, 41 CEOs of global ICT companies attending the forum agreed on a preliminary report.
3. The GIIC also acknowledges the work of international organizations, such as the World Bank, the Organization for Economic Cooperation and Development (OECD) and the International Telecommunication Union (ITU). At our forum, we heard leading experts talk about ways to address the ICT aspect of climate change, and acknowledged the common challenges.
4. The reduction of the burden on the environment by ICT itself, and the benefits by using ICT have to be further studied and analyzed, and then better used and understood in order to advance progress in this area to the next level.

Advocacy

5. The messaging of climate change efforts by the ICT sector, and the GIIC commissioners, in particular, needs to be clear and concise. Climate change is of great concern to the entire ICT sector. For example, the energy demands of data centers alone threaten to hamper the continued pace of growth of the networked economy. ICT industries, typically as component companies, have only begun to consider the messaging of these concerns and focus on internal challenges. These worthwhile efforts, such as Green Grid, Climate Savers, and Green IT Promotion Council of Japan must be matched with appropriate outreach strategies to be accepted by consumers.
6. ICT solutions should be more clearly explained to capitalize on the environmental benefits of the transition to an information society. The replacement of physical goods with networked services is perceived as an economic productivity-boosting influence rather than a tool to address climate change. It should be recognized as both.
7. Policy makers could benefit from the informed and expert opinions and experience of the private sector even as they contemplate the correct policies to address climate change. For example, the Federal Trade Commission of the United States is considering how best to regulate the "green" market claims of products. In Japan, the Ministry of Internal Affairs and Communication organized a study group to discuss the role of ICTs for global warming issues last year and published a final report on April 10. The study group estimated the number of CO2 reduction when ICT is aggressively used, and then concluded that

the effective use of ICT in various fields will contribute to the reduction of CO₂. Also, the "Green IT Initiative Meeting" held by the Ministry of Economy, Trade and Industry invited CEOs of leading IT companies in December 2007 to discuss and to agree on the "Green IT Initiative" which promotes lower electricity use of ICT products, lower energy consumption of society through ICT use, and activities to promote these goals.

8. The ICT sector should inform policymakers and the public of the expected realistic benefit of further ICT adoption and of the internal efforts to meet our environmental challenges.

Suggested recommendations are:

Lower the Environmental Impact of ICT

1. **Lowering electricity consumption of ICT:** ICT sector can lower electricity consumption by identifying and replacing power-hungry components, and adding sustainability to selection criteria for equipment and services. Both industry and government should strive to promote innovative technology development toward next generation low-power IT products.
2. **Responsible Internet Use To Combat Spam:** Communication carriers, Internet Service Providers, and other network operators incur a large cost for additional energy and other mechanisms to deal with Internet spam. For the healthy development of the global Internet, we should pay more attention to assessing how best to combat Spam in order to reduce the energy cost factors and help the environment.

Lower the Impact by using ICT

3. **ICT for Measurement and Compliance.** Sensor technologies should be promoted for the purpose of capturing and quantifying GHG impact, enforcing compliance models, and rewarding good actors for their efforts to reduce GHGs and the overall effects of climate change.
4. **ICT as Enabler for New Business Practices:** By using ICT as the enabler for new business practices across the enterprise, it will have a transformational effect. This will aid business growth and enhance the reputation of the company as an environmentally-responsible organization. It is necessary to introduce a framework for an organization/company to be evaluated, by visualizing the ICT contribution to the environment, so that environmental-friendly organizations and activities can be recognized fairly.

Achieving the Goal

5. **Exchange of Information:** The ICT industry must summarize the studies and analyses and better exchange the information with all parties. Then, the two aspects, "of ICT" and "by ICT", can be well understood by everyone. By doing this, one can communicate a clear message on its role on climate change to those outside of the industry. This active engagement will demonstrate a commitment on the part of the industry to seek solutions which reflect positive business opportunities and good environmental stewardship.

- 6. Development of a Roadmap:** Leaders of the ICT industry and public sectors, particularly in emerging markets, must work together to develop and implement new roadmaps that define ICT use as a tool for clean business and economic growth and competition. While not every economy can leapfrog over old infrastructures to new infrastructures, some infrastructures – such as wireless communications – or energy-saving ICT products and data centers are better positioned to enhance economic growth while promoting concepts that minimize the environmental impact of 20th century industrial practices.
- 7. Market-Based Approaches :** To achieve the goal, market-based approaches should be favored to reward the integration of ICT into economic activities, and foster competition and investment policy based on the adoption of practices that reduce greenhouse gas (GHG) and provide other “green” innovations and products. We expect government to initiate policies to support and stimulate such market-based approaches.
- 8. Early Action Needed:** Viewed from a long-term perspective, the costs of early action are far less than the costs of delaying action. Policymakers, businesses and users all need to play their part to implement the ambitious policy reforms and practices which will deliver the most cost-effective environmental improvements. As an immediate next step, the GIIC urges the G8 ministers to raise and discuss the issue of ICT and sustainable development at the July 2008 G8 Hokkaido Toyako Summit, for the purpose of better understanding the relationship between ICT and the environment and this topic’s future impact on sustainable development.