



CLIMATE SAVERS COMPUTING INITIATIVE TAKES ON ENERGY-EFFICIENT NETWORKING

Summary

The Climate Savers Computing Initiative (CSCI) is expanding its focus to include energy efficiency targets for networking equipment and systems.

Spearheading Energy Efficient Networking

Since motivating the global IT industry to reduce computer system power consumption, CSCI has been exploring new opportunities to encourage IT energy efficiency among enterprise and small- to medium-size businesses. Through extensive research, CSCI recognized the potential energy efficiency gains in end-to-end computing by addressing the energy used by connected devices and their interaction with the network. CSCI has decided to focus its expansion on energy efficiency in commercial networking. We believe this will provide a significant impact toward reducing IT energy consumption. In addition to this expansion into networking, CSCI will continue to focus on IT energy efficiency and reducing barriers to power management adoption among enterprises and consumers.

Why Networking?

In the coming years, the number of connected devices in the home, at work, and on the go is projected to steadily increase. With the demand for network connectivity on the rise, more and more networking hardware will be installed to handle the load. Powering that growth will increase IT energy consumption and subsequent CO₂ emissions. If left unchecked, this situation will lead to exponential increases in emissions and energy consumption, on the order of 6 percent annually.¹

According to a study conducted by the Lawrence Berkeley National Laboratory, networking equipment used 18 billion KWh of energy in the United States in 2008. This is the equivalent of approximately \$2 billion in energy costs.²

Our expansion is designed to address and reduce the environmental and economic impact of networking equipment. CSCI will promote networking equipment efficiency targets that will provide enhanced design, delivery, and adoption of high efficiency electronics. This will help reduce energy use, reduce CO₂ emissions, and save businesses and consumers money.

Goals for Reducing Networking's Impact

Based on our research, we estimate that the global IT industry can offset 38 million metric tons of annual CO₂ emissions by 2015. This is the equivalent of \$5 billion in energy cost savings.



To achieve this goal, we will help steward the development of more energy efficient networking equipment worldwide.

Specifics of the Expansion

For this expansion effort, our organization will focus its resources, abilities, and expertise on energy efficient networking devices and practices. We will initially focus on commercial products, but we eventually plan to expand into consumer products. Possible commercial product categories for energy efficiency improvement include:

- IT front- and back-office devices
- Switches and routers
- WLANs
- Security and access devices

Energy efficient practices will include awareness and adoption of higher efficiency:

- Equipment standards
- Technology
- Best practices

As a secondary phase, CSCI intends to further focus on the way networks communicate with connected devices in home and business environments.

A Collaborative Effort

Our Board of Directors made the decision to expand into networking systems as part of CSCI's renewed commitment to further reduce our industry's energy consumption, costs, and environmental footprint. We have strong leadership in this endeavor from our existing members, including board members CSC, Dell, Google Inc., HP, Intel, Microsoft, and the World Wildlife Fund.

In addition, three top-tier networking manufacturers — Cisco, Emerson Network Power, and Juniper Networks — have now joined the Board of Directors to work collaboratively with the existing leadership to accelerate the shift toward increased energy efficiency in networking.

CSCI also received positive feedback and buy-in for the expansion from important stakeholders, partners, and collaborators such as the U.S. Environmental Protection Agency's (EPA) ENERGY STAR program, the Lawrence Berkeley National Laboratory, and key industry analysts.

Looking Ahead, Honoring Past Commitments

We are still dedicated to our initial program of reducing computer system power consumption globally. To that end, CSCI is making progress toward our goal to reduce the industry's annual greenhouse



gas emissions by 54 million metric tons by July 2011. We expect to achieve this goal by increasing the adoption of power management and higher efficiency equipment.

The CO₂ reductions accomplished from expanding into networking systems will not be factored into the original reduction goal of 54 million metric tons. As originally developed, this goal will be achieved exclusively through desktop infrastructure (desktop PCs and laptops), server efficiencies, and power management deployment.

While this new direction is significant in terms of our growing potential to reduce energy consumption, the expansion into networking will not change our overall mission and goals as an organization. We will remain committed to increasing development and adoption of high efficiency technologies and power management, with the added inclusion of networking equipment and the infrastructure that allows networks to keep us connected.

¹ S. Lanzisera, B. Nordman, R. Brown, "Data Network Equipment Energy use and Savings Potential in Building," Proceedings of the ACEEE Summer Study on Buildings, August 2010.

² This savings assumes \$0.105/kWh. This number is based on the United States' Department of Energy's Energy Information Administration's reported average price of electricity in the United States.