

Proposal for Standards – Consumer Electronics (Docket #12-AAER-2A) – Intelligent Efficiency

Appliance Efficiency Standards and Measures

for California Energy Commission's Invitation to Submit Proposals

Authors:

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Proposal:

ITI and Technet believe that there are significant, cost-effective rewards to be achieved through greater partnership on ICT-enabled intelligent efficiency between our industry, the CEC, and other key stakeholders.

As noted in our ITP response, recent studies have shown impressive impacts from ICT-enabled smart energy solutions. A study undertaken by The Boston Consulting Group and based on cost-curve analysis done by McKinsey, estimated that such ICT-enabled solutions could reduce overall national annual CO2 emissions up to 22 percent as compared to business-as-usual projections for 2020.

The Climate Group and the Global e-Sustainability Initiative (GeSI) in 2008 produced a report entitled, "*Smart 2020: Enabling the Low-Carbon Economy in the Information Age*," that found that ICT strategies could reduce global carbon emissions by up to 15 percent in 2020 against a business-as-usual baseline projection. In December 2012, GeSI released an update of that report, the "*SMARTer 2020*" Report, taking into account new innovations in mobile communications, especially machines talking to machines, cloud computing, and in smarter devices and applications. The new report finds that:

1. ICT-enabled solutions offer the potential to reduce global 2020 GHG emissions by 16.5%;
2. The GHG reduction potential of ICT is over 7 times its own emissions, saving up to \$1.9 trillion annually; and,
3. An enabling policy environment is required to realize the potential of ICT to reduce global GHG emissions.

The American Council for an Energy-Efficient Economy (ACEEE) last year released a new and relevant study, entitled "*A Defining Framework for Intelligent Efficiency*," that included the

following observation,

“System efficiency opportunities produce energy savings that dwarf component-based efficiency improvements by an order of magnitude. System efficiency is performance-based, optimizing the performance of the system overall—its components, their relationships to one another, and their relationships to human operators. One of the cornerstones of systems-based efficiency is information and communication technologies (ICT), such as the internet, affordable sensors and computing capacity that are the foundation upon which systems efficiency are built. We can make great strides using these readily available technologies. If homeowners and businesses were to take advantage of currently available information and communications technologies that enable system efficiencies, the United States could reduce its energy use by about 12- 22% and realize tens or hundreds of billions of dollars in energy savings and productivity gains. In addition, there are technologies that are just beginning to be implemented that promise even greater savings.”

Recent case studies reveal similar rewards to these projections. The Center for Climate and Energy Solutions (C2ES) report issued last fall, “Leading by Example: Using Information and Communications Technologies to Achieve Federal Sustainability Goals” includes eight case studies of US federal agencies achieving substantial energy and cost effective savings. C2ES estimates “widespread deployment of ICT could help reduce greenhouse gas emissions by 12 percent, roughly half the amount called for under a 2009 executive order (Note: EO 13514), and could save an estimated \$5 billion in energy costs through 2020. C2ES goes on to note that several cross-cutting “lessons learned” emerged from their research on these case studies:

- Significant opportunities exist across a range of areas (e.g., fleets, buildings, information technology systems, training and travel) to move toward a more sustainable government, while at the same time reducing costs and enhancing productivity;
- Setting near term goals for specific, measurable targets (e.g., cutting specific costs, goals for energy or greenhouse gas reductions) coupled with aggressive tracking of progress helps ensure meaningful action.
- Federal facilities and expertise offer unique opportunities to advance sustainability objectives.
- The availability of financing is critical to advancing sustainability efforts. The expanded use of performance contracting offers one potential way to address this constraint.
- Harnessing recent advances in ICT solutions open up new opportunities for government agencies to become more sustainable, cut costs and enhance their productivity.

Proposal. The CEC should engage with our industry and other key stakeholders on cost effective measures that could be adopted to attain significant ICT-enabled energy efficiencies and greenhouse gas emission reductions. These measures should consider SMEs, and should fall into the three categories recommended in the ACEEE report mentioned above. These are:

1. Expanding awareness, recognition, and leadership by policymakers to educate and lead by example on the implementation of intelligent efficiency;
2. Enhancing information infrastructure including energy data, communications systems required to allow access to this information, and the human capital required for continual innovation;
3. Redefining regulatory business models under which public and private entities such as utilities and businesses operate to encourage models that promote energy efficiency through greater system efficiencies.