

## GEC Sustainability Through Cloud Computing Initiative

The Green Electronics Council (GEC) has launched the Sustainability Through Cloud Computing Initiative. A mission driven organization known for our management of EPEAT, the global sustainability rating system for electronic products, GEC recognizes the environmental benefits associated with cloud computing and seeks to expand purchaser adoption. The goals of this initiative include:

- Identify the sustainability performance characteristics of cloud computing services and develop a benefits calculation, based on existing metrics, to enable Purchasers to quantify those benefits
- Develop a cloud computing Purchaser's Guide to assist large-scale purchasers in asking for relevant data from their cloud providers to be able to complete the benefits calculation
- Accelerate the transition to high-performance cloud services by developing educational materials about the environmental benefits of high-performance cloud computing

As an independent, mission-driven, not-for-profit, GEC is uniquely positioned to launch and manage this initiative. GEC has extensive contacts with large-scale ICT purchasers and they have requested GEC's assistance to better understand the sustainability benefits of their cloud computing purchasing decisions. GEC strives for a world filled with only sustainable electronics and by stimulating market demand for sustainable cloud computing services, we are fulfilling our mission.

## Why Cloud Computing

There are several publicly available forecasts on the significant growth of cloud computing. A March 2016 aggregation of these forecasts by Forbes magazine<sup>1</sup> highlighted:

- The worldwide cloud computing market grew 28% to \$110B in revenues in 2015. Of that growth, public IaaS/PaaS services attained the highest growth rate of 51%, followed by private & hybrid cloud infrastructure services at 45%. [Synergy Research]
- Worldwide public cloud revenue will increase to \$167B in 2020. 49% of the market believes public cloud is just as or more secure than private cloud. [TRB]

This impressive growth in cloud computing is expected to have positive environmental benefits. Several industry sponsored studies have found that cloud computing can be as much as 87% more energy efficient than traditional owned data centers. [2013 Google-funded study conducted by Northwestern University and Lawrence Berkeley Labs]

Additionally, in August 2016, the US Office of Management and Budget (OMB) released a memo launching the Federal Data Center Optimization Initiative (DCOI) which "requires agencies to develop and report on data center strategies to consolidate inefficient infrastructure, optimize existing facilities,

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<sup>1</sup> Forbes magazine article, <http://www.forbes.com/sites/louiscolombus/2016/03/13/roundup-of-cloud-computing-forecasts-and-market-estimates-2016/#210c291574b0>

improve security posture, achieve cost savings, and transition to more efficient infrastructure, such as cloud services and inter-agency shared services.” By shutting down and consolidating under-performing data centers, optimizing the data centers in the Federal inventory, and increasingly outsourcing federal computing needs to the cloud, the Federal government can save taxpayer dollars and curb spending on underutilized infrastructure.

GEC recognizes the environmental benefits associated with cloud computing and therefore aims to assist large scale purchasers to make the transition to cloud services. Large scale purchasers seek a credible and easily understandable way to identify and calculate the sustainability gains of their shift to cloud computing. The GEC Sustainability Through Cloud Computing Initiative will focus on aggregating existing metrics to develop a purchaser focused cloud computing guide and benefits calculation. By increasing the transparency of cloud computing environmental benefits, GEC’s Sustainability Through Cloud Computing Initiative will assist large scale purchasers in credibly meeting their organizational sustainability goals.

## **Collaborative and Transparent Approach**

Many organizations have an interest in supporting large scale purchaser adoption of cloud services. GEC has a history of working collaboratively and transparently to help define what constitutes sustainable iterations of electronics. Along with large scale purchasers, GEC has engaged with relevant organizations to establish an outline of the structure and timeline for this initiative.

GEC seeks to establish inclusive working groups focused on two specific topics:

1. Identification of Cloud Computing Core Sustainability Characteristics: This Working Group will identify a core set of sustainability characteristics of cloud computing. The emphasis is on reusing sustainability related criteria already relied upon by large scale purchasers when considering cloud services.
2. Cloud Computing Benefits Quantification: This Working Group will develop a benefits calculation that quantifies the environmental gains associated with the transition from in-house data centers to cloud services.

In managing this initiative, GEC will provide the necessary support for these two working groups including project management and logistical support. While not required for participation, GEC welcomes financial support from initiative participants.

## **Initiative Timeline**

In responding to large scale purchaser interest, GEC seeks to have the two working groups formed by March, 2017 and their work complete by Q4 of 2017. GEC will host the first face-to-face meeting of the working groups at the 2017 Sustainable Purchasing Leadership Council meeting in Denver.

Interested parties are welcome to contact Green Electronics Council representatives to learn more about GEC's Sustainability Through Cloud Computing Initiative.

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