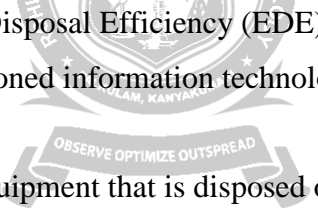


3.7 GREEN GRID FRAMEWORK

The Green Grid is a nonprofit consortium whose mission is to become the global authority on resource efficiency in information technology and data centres. According to The Green Grid website, the organization provides a forum for IT directors, facilities managers and C-level executives to come together and discuss different options for improving resource efficiency. Findings and recommendations from these forums are published on a regular basis. Metrics created and endorsed by The Green Grid include:



Electronic Disposal Efficiency (EDE) - the percentage of decommissioned information technology electronics and electrical equipment that is disposed of through known responsible entities.

Power Usage Effectiveness (PUE) - the ratio of total facilities energy to IT equipment energy.

Data Centre Infrastructure Efficiency (DCIE) - the ratio of IT equipment power to total facility power.

Carbon Usage Effectiveness (CUE) - the product of the amount of carbon dioxide emitted per kilowatt hour (CEF) and the data centre's annual PUE.

Water Usage Effectiveness (WUE) - the ratio of the annual site water usage in liters to the IT equipment energy usage in kilowatt hours (Kwh).

Data Centre Productivity (DCP) - the quantity of useful information processing completed relative to the amount of some resource consumed in producing the work.

Deliverables of Green Grid:

Data Collection

Data Centre Standards and Metrics Inventory – this study will document existing standards and metrics for energy efficiency, identify coverage gaps and make recommendations for future development.

The Green Grid Metrics: Describing Data Centre Power Efficiency – this study will be an update to The Green Grid's existing study on data centre efficiency metrics and will look at workload classification through a data centre segmentation model.

Operationalizing Energy-Efficiency Data Collection – this study will identify the requirements for collecting and aggregating data centre power consumption data.

Data Assessment

Data Centre Efficiency Baseline Market Study – this study on the current state of the industry will allow The Green Grid to identify key factors driving companies to take action on data centre power consumption and the challenges in doing so. Collecting and analyzing this data will help to provide companies with a baseline to compare their own initiatives, goals and performance.

Operational Best Practices – these studies will focus on right-sizing the data centre and will outline best practices in the adoption of virtualization and consolidation technologies.

Database for Data Centre Performance – The Green Grid will begin development work on a database focused on data centre characteristics and performance schema.

Technology Proposals

Initial Technology Roadmap – this roadmap provides an initial assessment of existing and emerging technologies affecting data centre efficiency and performance, taking into consideration both return on investment and risk to the end user.

Power Distribution Options for the Data Centre Study

– this study will look at the qualitative advantages and

disadvantages of data centre power distribution configurations.

Cooling Options Study – this study will focus on the qualitative advantages and disadvantages of data centre cooling architectures.

