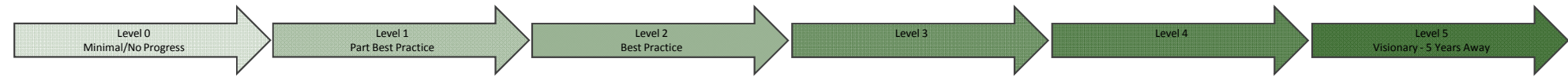


Data Center Maturity Model

IT



Other IT

8.1	Overall		<ul style="list-style-type: none"> Systems designed for optimal cooling with front to rear air flow to provide hot and cold aisle separation 	<ul style="list-style-type: none"> Manual alignment of M&E infrastructure to IT demand IT and Facilities collaboration on unified energy efficiency goals 	<ul style="list-style-type: none"> IT systems to communicate with data center M&E infrastructure in term of required need in order to optimize data center energy and cooling efficiency 	<ul style="list-style-type: none"> IT systems and data center M&E infrastructure to communicate (bi directionally) to operate using minimal energy at an overall level 	<ul style="list-style-type: none"> Automated relational changes to infrastructure based on application demand
8.2	Utilization	<ul style="list-style-type: none"> Utilization unknown 	<ul style="list-style-type: none"> Gathering information on server, storage, network, M&E utilization for key data centers - e.g. using TGG Indicators 	<ul style="list-style-type: none"> Automated information on server, storage, network, M&E utilization for key data centers - e.g. using TGG Indicators and proactively reviewing data to identify opportunities for improvement 		<ul style="list-style-type: none"> Gathering information on server, storage, network, M&E utilization for all data centers - e.g. using TGG Indicators 	<ul style="list-style-type: none"> Automated information on server, storage, network, M&E utilization for all data centers - e.g. using TGG Indicators and proactively reviewing data to identify opportunities for improvement
8.3	IT sizing	<ul style="list-style-type: none"> IT resource sized based on requested resource 	<ul style="list-style-type: none"> IT resource sized based on validated requests 	<ul style="list-style-type: none"> IT resource sized based on actual usage 		<ul style="list-style-type: none"> IT resource optimized to ensure minimal resource consumed 	
8.4	Internal Power Supply Efficiency	<ul style="list-style-type: none"> 30% of IT PSUs - certified by Climate Savers Computing Initiative (CSCI) - Bronze or above 	<ul style="list-style-type: none"> 45% of IT PSUs - certified by Climate Savers Computing Initiative (CSCI) - Bronze or above 	<ul style="list-style-type: none"> 90% of IT PSUs - certified by Climate Savers Computing Initiative (CSCI) - Bronze or above 	<ul style="list-style-type: none"> 100% of PSUs certified by Climate Savers Computing Initiative (CSCI) - 50% above Gold standard 	<ul style="list-style-type: none"> 100% of PSUs certified by Climate Savers Computing Initiative (CSCI) - 85% above Gold standard IT power supplies implement an eco or rapid wake up mode 	<ul style="list-style-type: none"> 100% of PSUs certified by Climate Savers Computing Initiative (CSCI) - greater than 80% at Platinum
8.5	Service Catalogue/SLA's	<ul style="list-style-type: none"> Centralized service catalogue not in place 	<ul style="list-style-type: none"> Centralized service catalogue 	<ul style="list-style-type: none"> Service catalogue strategy based on effectiveness and TCO per business need: 1. Internal service / External service 2. Infrastructure as a service, Platform as a service, Software as a service, Cloud services 		<ul style="list-style-type: none"> Service catalogue strategy based on effectiveness, TCO, energy efficiency, and sustainability per business need 	
8.6	Incentivizing change for efficient behaviour (e.g. chargeback and or cost awareness)	<ul style="list-style-type: none"> Incentive for efficient behaviour not in place 	<ul style="list-style-type: none"> Incentive for efficient behaviour at an organizational level 	<ul style="list-style-type: none"> Incentive for efficient behaviour at a service level 	<ul style="list-style-type: none"> Incentive for efficient behaviour based on usage 	<ul style="list-style-type: none"> Incentive for efficient behaviour based on usage and energy consumed 	<ul style="list-style-type: none"> Incentive for efficient behaviour based on usage at a user level
8.7	E-Waste	<ul style="list-style-type: none"> E-Waste Strategy not in place 	<ul style="list-style-type: none"> Reuse policy for assets across the organization 	<ul style="list-style-type: none"> E-Waste vendor in place to deal with all data center equipment aligned to local/national mandatory regulations 	<ul style="list-style-type: none"> E-Waste strategy in place to promote reselling, recycling, donating and disposal of IT assets based on cost, legislation, ethical and sustainable implications across all data centers 	<ul style="list-style-type: none"> Supplier and supply chain evaluated for waste management and environmental protection practices 	<ul style="list-style-type: none"> Supplier and supply chain waste & environmental compliance programs included as part of procurement/sourcing decision process
8.8	Procurement	<ul style="list-style-type: none"> Energy & sustainability aspects not considered as part of procurement 	<ul style="list-style-type: none"> Procure assets that comply with reducing hazardous substances and recycling such as RoHS/WEEE or equivalent local standard 	<ul style="list-style-type: none"> Procure energy efficient equipment that comply with Energy Star or similar standards and metrics Reduction in waste by minimizing packaging from supplier Purchase only equipment required - rightsize equipment to need 	<ul style="list-style-type: none"> All IT equipment for the data center available to be operated continuously and warrantied at air inlets temperatures between 15°C/59°F and 32°C/89.6°F and 20% - 80% Relative Humidity, non-condensing respectively. 	<ul style="list-style-type: none"> Purchasing decision based on TCO modelling including power consumption of the devices at the expected/actual utilization levels Smart technology components - energized on demand 	<ul style="list-style-type: none"> Cradle to cradle lifecycle view on all IT equipment - looking at embedded carbon, ease of recycling of the product (e.g. RoHS/WEEE), etc. Carbon intensity of different IT options All IT equipment for the data center available to be operated continuously and warrantied at air inlets temperatures between 5°C/41°F and 40°C/104°F (and under exceptional conditions up to +45°C/113°F) and 10% - 80% Relative Humidity, non-condensing respectively.