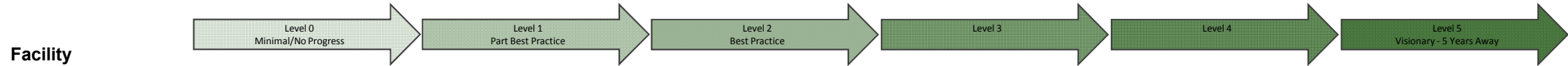


Data Center Maturity Model



Facility Management

4.1	Monitoring	• Monitoring or Manual monitoring not in place	• Automated monitoring of key components in the data center	• Centralized and automated monitoring system inclusive of all mechanical, electrical and facility systems.	• Centralized and automated monitoring system inclusive of all mechanical, electrical, facility and key IT systems.	• "Holistic" monitoring capability across the data center - from source of power to chip performance	• "Holistic" monitoring capability across the data center - from source of power to business benefit of data center
4.2	PUE	• PUE not measured	• PUE Level 1 measured, plan and actions in place for improvements	• PUE Level 2 measured, plan and actions in place for improvements	• PUE Level 3 (including Source Energy implications) measured, plan and actions in place for improvements	• PUE Level 3 measured, plan and actions in place for improvements. Manual analysis/reporting of data to identify energy saving opportunities	• PUE Level 3 measured, plan and actions in place for improvements. Automated analysis/reporting of data to identify energy saving opportunities
4.3	Waste heat reuse (as measured by ERF/ERE)	• No reuse of heat, ERF = 0	• Plan for reuse of heat	• Reuse of heat, ERF not measured	• ERF = 0.1	• ERF = 0.25	• ERF = 0.5
4.4	CUE	• CUE not measured	• CUE measured, plan and actions in place for improvements	• CUE - Scope I and II calculated as part of carbon emissions	• Scope III emissions step 1 included as part of carbon emissions (business and employee travel)	• Scope III emissions step 2 included as part of carbon emissions (outsourced corporate support services, upstream - supply chain and downstream - customers use of product/service)	• Embedded carbon considered as part of calculated carbon emissions
4.5	WUE	• WUE not measured	• WUE measured, plan and actions in place for improvements	• WUE _{source} measured, plan and actions in place for improvements		• WUE _{source} to include water quality	• Embedded water considered as part of calculated usage
4.6	xUE/additional metrics	• xUE not measured	• Basic xUE measured	• Basic xUE measured, plan and actions in place for improvements	• Advanced xUE measured, plan and actions in place for improvements	• Advanced xUE measured, plan and actions in place for improvements. Manual analysis/reporting of data to identify energy saving opportunities	• Advanced xUE measured, plan and actions in place for improvements. Automated analysis/reporting of data to identify energy saving opportunities