Power Usage Effectiveness

Power Usage Effectiveness

Data Center Load

Total Facility Energy

Power
- Transformer
- UPS
- Rectifier
- Light
- PUD
- Etc.

Cooling
- Chillers
- Precision Air
- Comfort Air
- Cooling Tower

IT Equipment Energy

IT Load
- Servers
- Storage
- Telco equipment
- Etc.

$$PUE = \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}}$$

Power Usage Effectiveness 2023

In UPS (kWh)	% Loss	Out UPS (kWh)	Non-UPS (kWh)	Total PUE
24,183,991.41	6.89%	22,516,998.62	13,252,682.35	1.663

$$PUE = \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}}$$

$$= \frac{24,183,991.41+13,252,682.35}{22,516,998.62} = 1.663$$

Power Usage Effectiveness Performance

Year	2020	2021	2022	2023 *
PUE Target	**1.800**	**1.700**		
Average PUE	**1.732**	**1.688**	**1.684**	**1.663**
Coverage (% of total ICT population)	**100**	**100**	**100**	**100**

Note: Combined Performance True and dtac in 2023

Renewable Energy 2023

Data Center Energy Usage (MWh)	Electricity Generated from Solar Cells (MWh)	Percentage of renewable energy (of total energy)
37,437	12,799.60	34.19%

$$\text{\% of Renewable Energy (of total energy)} = \frac{\text{Electricity Generated from Solar Cells}}{\text{Data Center Energy Used}} \times 100$$

$$= \frac{12{,}799.60}{37{,}437} \times 100 = 34.19\%$$

Renewable Energy 2023

Year	2020	2021	2022	2023 *
Renewable Energy Target (Percentage of renewable energy of total energy)	**10**	**15.5**	**25**	**30**
Total energy used in Data Centers (MWh)	**36,847**	**38,143**	**37,586**	**37,437**
Percentage of renewable energy (of total energy)	**15.26**	**21.79**	**33.18**	**34.19**

Note: Combined Performance True and dtac in 2023