

Energy Audit Report

medium_enterprise

US-East

February 07, 2026

D

Overall Score: 54.4 / 100

<div>B</div> <div>74.4</div> <div>Box 1: Current Operations</div>	<div>F</div> <div>28.6</div> <div>Box 2: Legacy & Waste</div>	<div>D</div> <div>53.4</div> <div>Box 3: Future Readiness</div>
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Executive Summary

Your data center 'medium_enterprise' scores 54/100 (Grade D), rated as below average requiring urgent attention.

KEY FINDINGS:

Box 1 (Current Operations): Average PUE is 1.31 (score: 68/100).

Box 2 (Legacy & Waste): 60 zombie server(s) detected (12.0% of fleet) -- consuming power with no useful output.

Box 3 (Future Readiness): Current power utilization: 3% of 5.0 MW capacity.

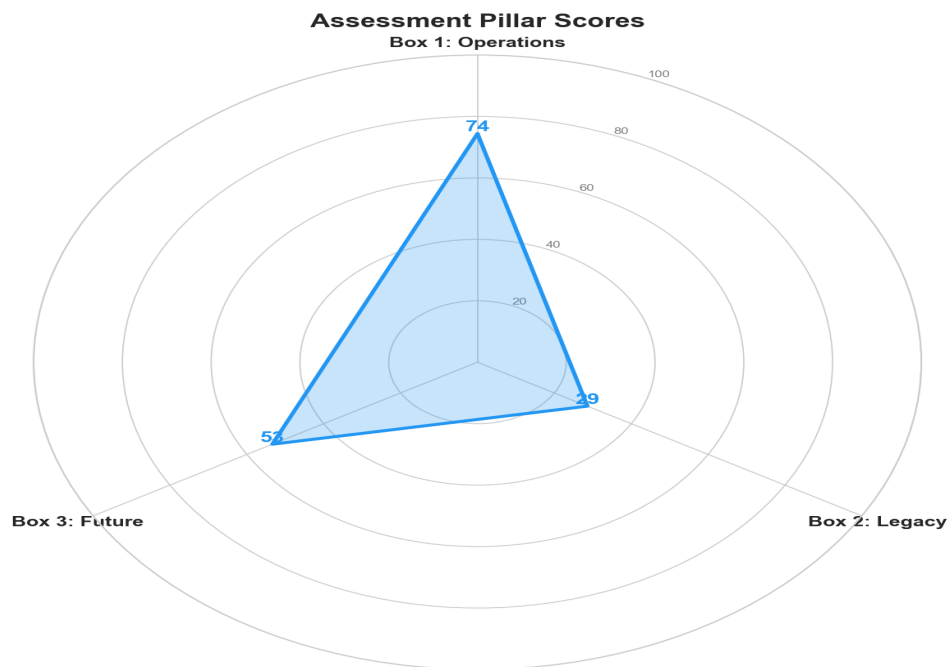
QUICK WINS:

- Optimize Workload Scheduling: save \$740/month (7,403 kWh) | Effort: low
- Decommission Zombie Servers: save \$496/month (4,958 kWh) | Effort: low

TOTAL POTENTIAL SAVINGS: \$5,951/month (\$71,408/year) | 123,207 kWh/month energy reduction

CRITICAL ACTION NEEDED:

Box 2 (Legacy & Waste) scored 29/100 (Grade F). Immediate attention recommended.



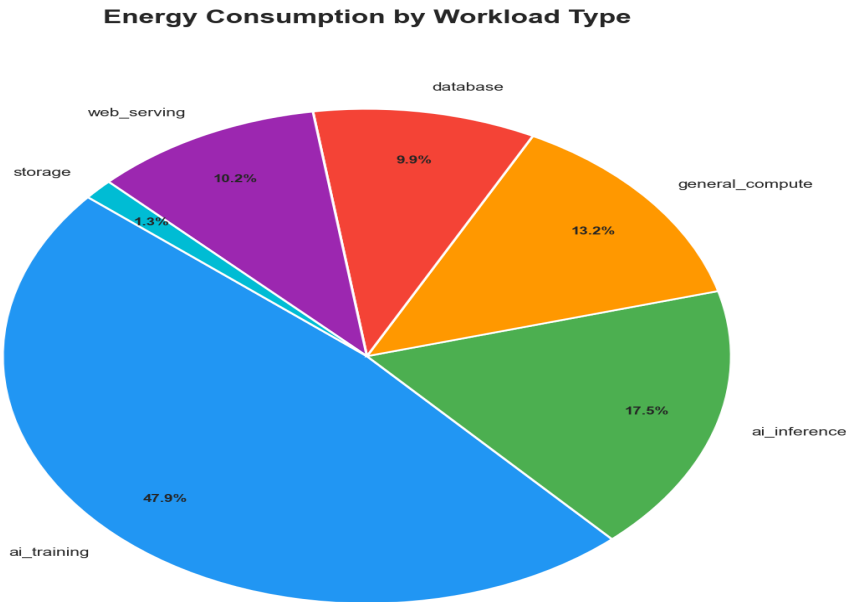
Box 1: Current Operations

Score: 74.4 / 100 Grade: B

Metric	Value	Score	Weight	Grade
PUE Efficiency	1.31	68.5	25%	C
Server Utilization	37.33	52.6	20%	D
Cost Efficiency	0.10	100.0	20%	A
Cooling Performance	3.56	95.0	15%	A
Operational Availability	100.00	100.0	10%	A
Carbon Intensity	400.00	25.0	10%	F

Key Findings

- Average PUE is 1.31 (score: 68/100).
- CPU utilization is critically low at 28.6% -- consolidation recommended.
- Carbon intensity of 400 gCO2/kWh is above average -- consider renewable procurement.



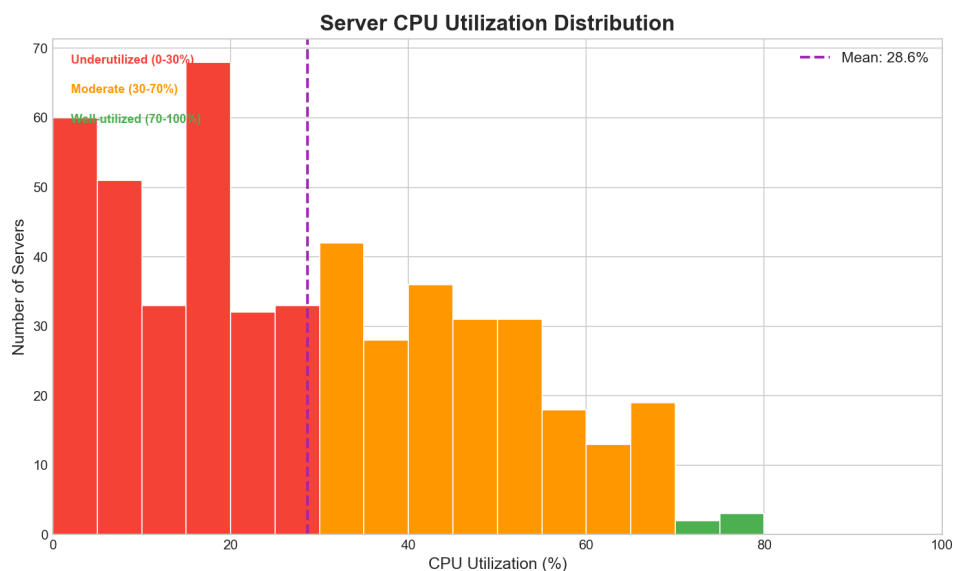
Box 2: Legacy & Waste

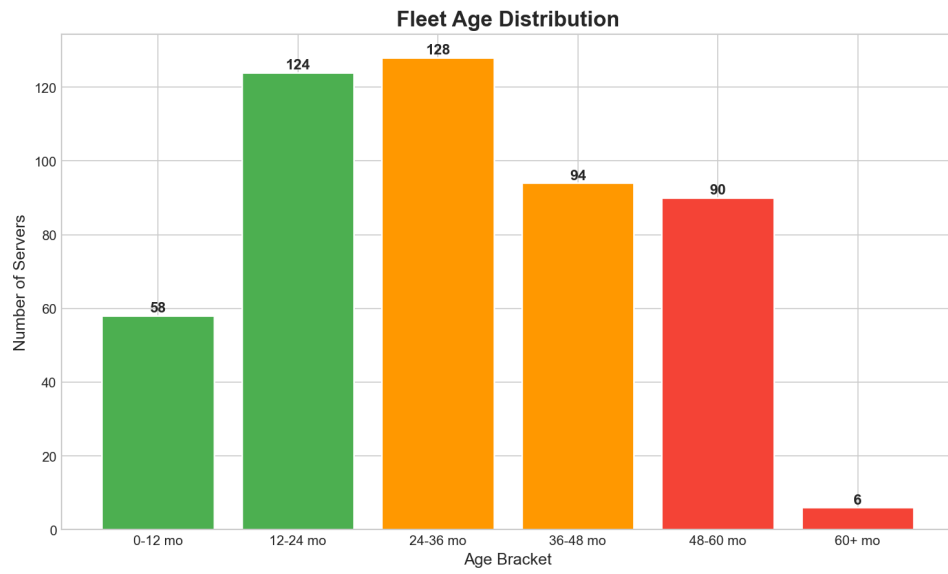
Score: 28.6 / 100 Grade: **F**

Metric	Value	Score	Weight	Grade
Zombie Servers	12.00	40.0	30%	D
Over-Provisioned Resources	20.00	20.0	25%	F
Legacy Hardware	31.24	58.0	20%	C
Cooling Waste	66.67	0.0	15%	F
Stranded Capacity	100.00	0.0	10%	F

Key Findings

- 60 zombie server(s) detected (12.0% of fleet) -- consuming power with no useful output.
- Zombie servers consume approximately 6.9 kW (\$496/month).
- 100 over-provisioned server(s) (20.0% of fleet) -- allocated resources significantly exceed demand.
- 140 server(s) (28.0%) are past warranty -- increased failure risk and maintenance costs.
- Cooling system 'cool-air-002' COP 2.5 is below benchmark 3.0 -- upgrade or maintenance needed.
- Cooling system 'cool-air-003' COP 2.4 is below benchmark 3.0 -- upgrade or maintenance needed.
- Cooling system 'cool-air-004' COP 2.9 is below benchmark 3.0 -- upgrade or maintenance needed.
- Cooling system 'cool-liquid-001' COP 4.7 is below benchmark 5.0 -- upgrade or maintenance needed.
- 30 rack(s) (100.0%) have power utilization below 30% -- consider consolidation to reduce overhead.
- Approximately 348 kW of rack capacity is stranded across under-utilized racks.





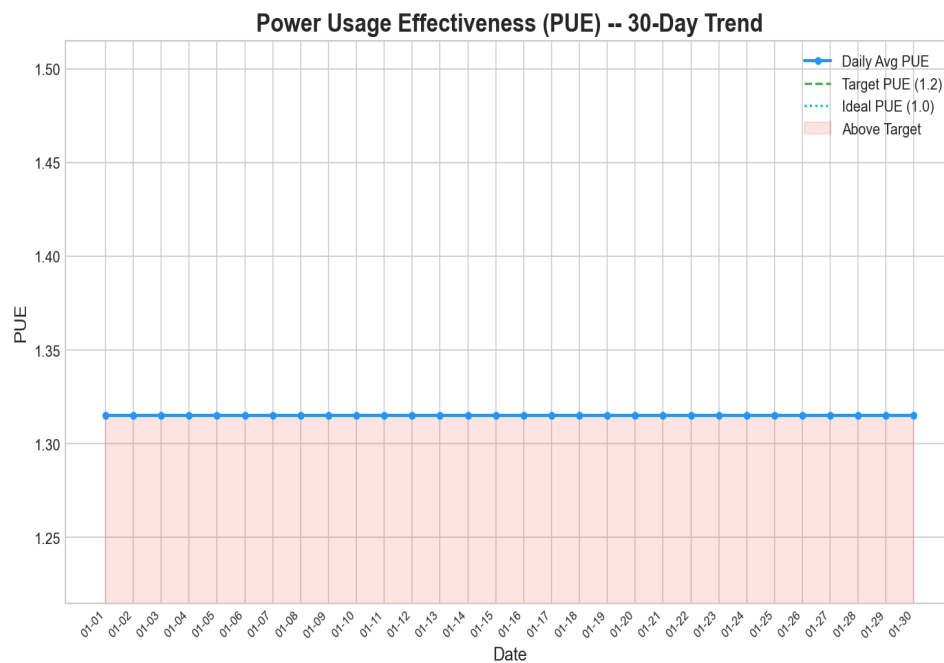
Box 3: Future Readiness

Score: 53.4 / 100 Grade: **D**

Metric	Value	Score	Weight	Grade
Forecast Readiness	120.00	100.0	20%	A
Hardware Refresh	38.00	38.0	20%	F
Scheduling Optimization	32.33	43.8	20%	D
Renewable Energy	25.00	25.0	20%	F
Efficiency Trend	0.00	60.0	20%	C

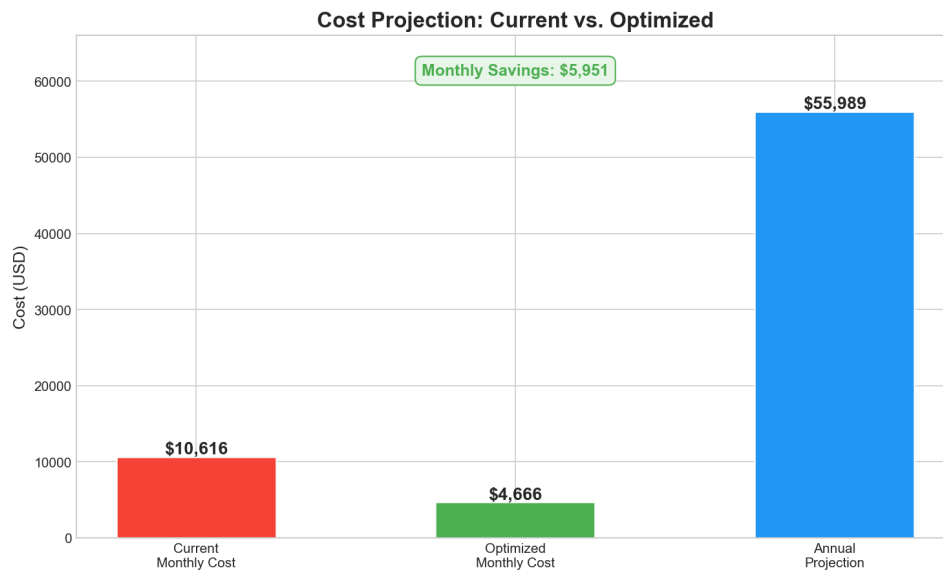
Key Findings

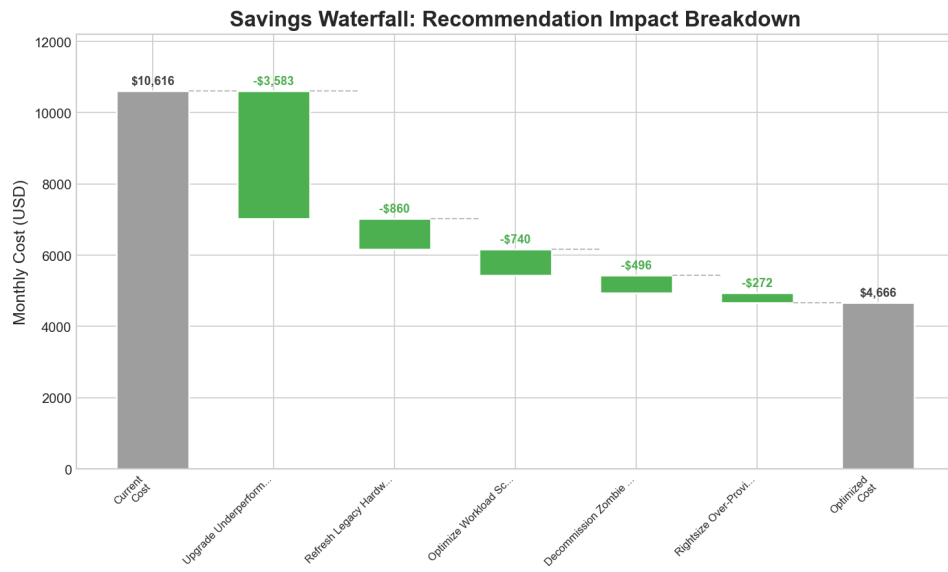
- Current power utilization: 3% of 5.0 MW capacity.
- Estimated 120 months until capacity exhaustion.
- 190 server(s) (38.0%) are within the optimal 36-60 month refresh window.
- 43 of 133 workloads (32.3%) are schedulable for off-peak operation.
- Potential monthly savings from scheduling: 7,403 kWh (\$740).
- Low renewable energy at 25% -- explore solar, wind, or PPA options.
- PUE trend is stable: 1.315 -> 1.315 (delta: +0.000).



Recommendations

Rank	Box	Title	Monthly Savings (\$)	Energy Saved (kWh)	Effort	Impact
1	1	Upgrade Underperforming Cooling Systems	\$3,583	35,827	High	High
2	2	Refresh Legacy Hardware	\$860	8,603	High	High
3	3	Optimize Workload Scheduling	\$740	7,403	Low	Medium
4	2	Decommission Zombie Servers	\$496	4,958	Low	High
5	2	Rightsize Over-Provisioned Servers	\$272	2,716	Medium	Medium
6	3	Increase Renewable Energy Adoption	\$0	63,700	Medium	High
TOTAL			\$5,951	123,207		





Appendix: Methodology

Three-Pillar Assessment Framework

This energy audit organizes findings and recommendations into three strategic pillars that cover current operations, legacy burden, and future readiness:

Box 1 - Current Operations: Evaluates current operational efficiency including PUE (Power Usage Effectiveness), server utilization rates, energy cost optimization, cooling efficiency, and carbon footprint.

Box 2 - Legacy & Waste: Identifies inefficiencies inherited from past decisions, such as zombie servers consuming power without useful work, overprovisioned resources, legacy hardware past warranty, and cooling waste from outdated infrastructure.

Box 3 - Future Readiness: Assesses readiness for future demands through capacity forecasting, hardware refresh planning, workload scheduling optimization, renewable energy adoption, and PUE improvement trends.

Scoring Methodology

Each sub-metric is scored on a 0-100 scale and assigned a letter grade. Sub-metrics are combined using weighted averages to produce box-level scores. The overall score is a weighted composite: Box 1 (40%) + Box 2 (30%) + Box 3 (30%).

Grade	Score Range	Assessment
A	85 - 100	Excellent
B	70 - 84	Good
C	55 - 69	Average
D	40 - 54	Below Average
F	0 - 39	Critical

Data Disclaimer

This report uses simulated data for demonstration purposes. In a production deployment, data would be sourced from live monitoring systems, DCIM platforms, and utility metering.