BofA SECURITIES

Eaton Corp PLC

Closer look at key growth verticals: data center; grid; & more

Reiterate Rating: BUY | PO: 330.00 USD | Price: 297.90 USD

Tech investor showcase: growth is the focus

Eaton's Technology Showcase last week emphasized key areas of growth. Investors are focused on opportunities in data center and grid. While these end markets are growing, the company emphasized growth in its eMobility, residential, industrial, and aerospace businesses. Rising electrical content in homes and on planes, reshoring, electric vehicles (EVs), were all cited as core growth drivers for Eaton beyond data center and grid. The company views its hardware-forward, comprehensive product portfolio as a differentiator vs. peers. While Eaton sees no risk to demand, capacity constraints are limiting market growth. We raise our 2026 adj. EPS estimate to $12.00 (up 3%) to reflect a higher data center forecast and accelerating eMobility growth/profitability in 2026. We raise our PO to $330 from $320 and reiterate our Buy rating. Our new 24x 2025E EV/EBITDA multiple (vs. 23x prior) reflects higher earnings visibility and comps.

Data centers: $34bn TAM growing 10.8% ('23-'28)

We update our data center infrastructure market forecasts for updated AI server and electricity usage forecasts and extend them to 2026E. We see AI (Artificial Intelligence) adoption driving a 14% market-wide CAGR over 2023-26E. On a like-for-like basis, our estimate for the incremental AI benefit in 2025E is 15% higher than our prior October 2023 estimate. An 11% increase in the average AI chip power usage would double the 2026 AI benefit (i.e., from $6bn to $12bn), increasing the 2023-2026E CAGR by 400bps to 18%.

Utility: $28bn TAM growing 8.4% ('23-'28)

The key message of the grid presentation was, "without this, nothing works." Grid demand is fueled by electricity-centric legislation, an aging gid, increasing renewable generation, data centers, and incrementally by AI. Utilities are also learning to manage peaks in demand differently given changing consumer patterns.

eMobility: $60bn TAM growing 24% ('23-'28)

Eaton acknowledged near-term softness, but management views eMobility as the largest opportunity for growth. It sees itself as positioned to succeed by coupling vehicle design expertise and electricity technical knowledge. The presentation cited multiple examples of Eaton's ability to solve engineering and design problems that competitors or customers were unable to do. Eaton is confident on mid-teens profitability long term.

Estimates (Dec) (US$)	2022A	2023A	2024E	2025E	2026E
EPS	7.56	9.12	10.15	10.84	12.00
GAAP EPS	6.14	8.02	9.01	10.05	11.24
EPS Change (YoY)	14.2%	20.6%	11.3%	6.8%	10.7%
Consensus EPS (Bloomberg)			10.20	11.37	12.78
DPS	3.24	3.44	3.76	3.84	3.92
Valuation (Dec)					
P/E	39.4x	32.7x	29.3x	27.5x	24.8x
GAAP P/E	48.5x	37.1x	33.1x	29.6x	26.5x
Dividend Yield	1.1%	1.2%	1.3%	1.3%	1.3%
EV / EBITDA*	34.2x	27.9x	24.9x	23.1x	21.1x
Free Cash Flow Yield*	1.5%	2.2%	2.6%	2.8%	3.2%

* For full definitions of *iQmethod*[SM] measures, see page 19.

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Refer to important disclosures on page 20 to 22. Analyst Certification on page 18. Price Objective Basis/Risk on page 18. 12671269

Timestamp: 18 March 2024 01:00AM EDT

18 March 2024

Equity

Key Changes

(US$)	Previous	Current
Price Obj.	320.00	330.00
2025E Rev (m)	26,643.6	26,717.1
2026E Rev (m)	28,233.9	28,640.2
2026E EPS	11.65	12.00

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Stock Data

Price	297.90 USD
Price Objective	330.00 USD
Date Established	18-Mar-2024
Investment Opinion	B-1-7
52-Week Range	155.38 USD - 303.40 USD
Mrkt Val (mn) / Shares Out (mn)	128,812 USD / 432.4
Free Float	99.7%
Average Daily Value (mn)	568.02 USD
BofA Ticker / Exchange	ETN / NYS
Bloomberg / Reuters	ETN US / ETN.N
ROE (2024E)	21.1%
Net Dbt to Eqty (Dec-2023A)	46.0%
ESGMeter™	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to "BofA ESGMeter Methodology".

iQprofile℠ Eaton Corp PLC

iQ**method*℠ **– Bus Performance

(US$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	9.0%	11.0%	11.7%	12.7%	13.7%
Return on Equity	18.1%	20.2%	21.1%	21.3%	21.7%
Operating Margin	14.4%	16.7%	18.1%	18.6%	19.3%
Free Cash Flow	1,935	2,867	3,383	3,662	4,085

iQ**method*℠ **– Quality of Earnings

(US$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	0.8x	1.0x	1.0x	1.0x	1.0x
Asset Replacement Ratio	1.5x	1.8x	1.5x	1.5x	1.5x
Tax Rate	15.4%	15.8%	18.0%	18.0%	18.5%
Net Debt-to-Equity Ratio	47.4%	46.0%	45.5%	36.0%	26.6%
Interest Cover	21.1x	26.3x	31.8x	37.2x	43.6x

Income Statement Data (Dec)

(US$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	20,753	23,196	24,902	26,717	28,640
% Change	5.7%	11.8%	7.4%	7.3%	7.2%
Gross Profit	6,887	8,434	9,491	10,239	11,116
% Change	8.7%	22.5%	12.5%	7.9%	8.6%
EBITDA	4,009	4,905	5,496	5,933	6,488
% Change	19.8%	22.4%	12.0%	8.0%	9.4%
Net Interest & Other Income	(145)	(152)	(142)	(134)	(127)
Net Income (Adjusted)	**3,030**	**3,658**	**4,040**	**4,280**	**4,713**
% Change	**14.0%**	**20.7%**	**10.4%**	**5.9%**	**10.1%**

Free Cash Flow Data (Dec)

(US$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	2,462	3,223	3,590	3,968	4,414
Depreciation & Amortization	954	926	976	961	946
Change in Working Capital	(688)	(149)	(83)	(166)	(173)
Deferred Taxation Charge	(128)	(182)	(300)	(300)	(300)
Other Adjustments, Net	(67)	(194)	(4)	0	0
Capital Expenditure	(598)	(757)	(797)	(802)	(802)
Free Cash Flow	**1,935**	**2,867**	**3,383**	**3,662**	**4,085**
% Change	**21.9%**	**48.2%**	**18.0%**	**8.3%**	**11.5%**
Share / Issue Repurchase	(286)	0	(1,939)	(955)	(1,135)
Cost of Dividends Paid	(1,299)	(1,379)	(1,488)	(1,508)	(1,531)
Change in Debt	300	488	116	(682)	0

Balance Sheet Data (Dec)

(US$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	555	488	615	1,192	2,676
Trade Receivables	4,076	4,475	4,736	5,082	5,447
Other Current Assets	4,115	4,591	4,744	4,998	5,242
Property, Plant & Equipment	3,146	3,530	3,351	3,191	3,047
Other Non-Current Assets	23,122	25,348	25,348	25,348	25,348
Total Assets	**35,014**	**38,432**	**38,793**	**39,811**	**41,761**
Short-Term Debt	334	1,025	300	300	300
Other Current Liabilities	6,027	6,722	7,053	7,487	7,923
Long-Term Debt	8,321	8,244	9,085	8,403	8,403
Other Non-Current Liabilities	3,257	3,372	3,072	2,772	2,472
Total Liabilities	**17,939**	**19,363**	**19,510**	**18,962**	**19,098**
Total Equity	**17,075**	**19,069**	**19,283**	**20,849**	**22,663**
Total Equity & Liabilities	**35,014**	**38,432**	**38,793**	**39,811**	**41,761**

* For full definitions of *iQmethod*℠ measures, see page 19.

Company Sector

Electrical Equipment

Company Description

Eaton Corp. (ETN) is a leading diversified industrial manufacturer of electrical control products, aerospace systems, and automotive systems.

Investment Rationale

We see ETN as a beneficiary of the US federal government's focus on potential green initiatives and reshoring. ETN is well positioned strategically with a localized supply chain, versus other competitors.

Stock Data

Average Daily Volume	1,906,731

Quarterly Earnings Estimates

	2023	2024
Q1	1.88A	2.25E
Q2	2.21A	2.50E
Q3	2.47A	2.64E
Q4	2.55A	2.77E

Aerospace: $28bn TAM growing 7.4% ('23-'28)

Growth is driven by the aerospace cycle, increasing electrification content on new planes, and winning platforms from incumbents. The meeting was bullish on demand and the company's technology portfolio. The company characterized the Aerospace business as a steady grower and highlighted the new leader, John Sapp, President, Aerospace Group.

Updating our data center forecasts

We update our data center infrastructure market forecasts for updated AI server and electricity usage forecasts and extend our projections to 2026E. We see AI adoption driving a 14% market-wide CAGR over 2023-26E. On a like-for-like basis, our estimate for the incremental AI benefit in 2025E is 15% higher than our prior October 2023 estimate.

Exhibit 1: Data center infrastructure market – AI adoption benefit
Forecast a 13% CAGR over 2023-26E

		No AI adoption scenario			
($bn)	**2023**	**2024E**	**2025E**	**2026E**	**'23-26E CAGR**
Power management	12.1	13.6	15.2	16.8	11%
Thermal management	4.5	5.1	5.8	6.4	12%
IT & Edge	11.3	12.5	13.6	14.8	9%
Services & software	9.5	9.8	10.1	10.5	3%
Data center physical infrastructure	**37.4**	**41.0**	**44.7**	**48.4**	**9%**
y/y % change	13%	10%	9%	8%	
		AI adoption scenario			
($bn)	**2023**	**2024E**	**2025E**	**2026E**	**'23-26E CAGR**
Power management	12.1	14.7	17.0	19.5	17%
Thermal management	4.5	6.5	8.1	10.0	30%
IT & Edge	11.3	12.5	13.6	14.8	9%
Services & software	9.5	9.8	10.1	10.5	3%
Data center physical infrastructure	**37.4**	**43.4**	**48.9**	**54.8**	**14%**
y/y % change	13%	16%	13%	12%	
Incremental AI benefit	**0.0**	**2.4**	**4.2**	**6.3**	

Source: BofA Global Research estimates

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BofA versus Eaton & Vertiv forecast

Since we last published our forecasts, both Eaton and Vertiv have presented market outlooks. Both companies see the $33-34bn data center infrastructure market growing at a 10-11% CAGR over 2023-28.

Exhibit 2: Eaton and Vertiv's data center infrastructure market projections
Both companies forecast a 10-11% CAGR over 2023-28

($bn)	**'23**	**'24E**	**'25E**	**'26E**	**'27E**	**'28E**	**'23-'28 CAGR**	**Range**
Eaton projections								
Data center	18.0	21.2	24.9	28.8	33.2	37.8	16.0%	~16%
Distributed IT	16.0	16.8	17.5	18.0	18.6	19.0	3.5%	N/A
Data center total	**34.0**	**38.0**	**42.3**	**46.9**	**51.7**	**56.8**	**10.8%**	~10.8%
Vertiv projections								
Cloud & colocation	17.0	20.0	23.3	26.9	30.8	35.0	15.5%	14-17%
Enterprise & distributed IT	16.5	17.2	17.9	18.6	19.3	20.1	4.0%	3-5%
Data center total	**33.5**	**37.2**	**41.2**	**45.5**	**50.2**	**55.1**	**10.5%**	9-12%

Source: Company presentations

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Developments we are watching

- Nvidia plans to launch new B100 chips sometime during 2024. According to press reports, these would use 1,000 watts, or 43% more than the current H100 chips. An 11% increase in the average AI chip power usage would double the 2026 AI benefit (i.e., from $6bn to $12bn), increasing the 2023-26E CAGR by 400bp to 18%.

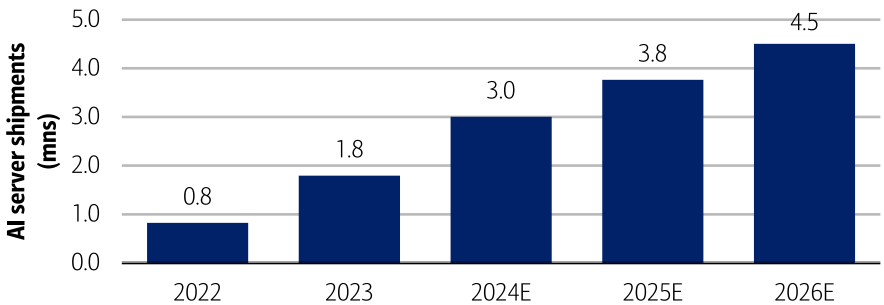
- In August 2023, Digital Realty (DLR, covered by our colleague David Barden), a colocation firm, announced it is offering 70 kilowatt racks using direct-to-chip liquid cooling in 28 markets. In December 2023, peer Equinix (EQIX, also covered by David Barden) announced it was offering direct-to-chip liquid cooling racks in 45 markets.

- Hyperscalers are looking into nuclear power. In March, Amazon Web Services (AWS) signed an agreement to acquire a datacenter next to a nuclear power plant in Pennsylvania. AWS has the option to grow to a dedicated 960 megawatts of power from the plant. Microsoft has hired several people to oversee a nuclear technology program.

What AI server shipments imply

BofA's US Semiconductors & Semiconductor Capital Equipment analyst, Vivek Arya, forecasts AI server shipments will grow from 1.8mn in 2023 to 4.5mn in 2026, or a 36% CAGR.

Exhibit 3: AI server shipments
36% CAGR between 2023-26E



Source: BofA Global Research estimates

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Translating from AI servers to incremental demand

The chart below takes BofA's AI server shipment forecasts and translates those into AI racks. We assume 12 servers/rack then apply the incremental costs per rack of $10,000 for electrical and $20,000 for thermal. This yields a ~$7bn uplift over 2023-26E. On a like-for-like basis, our 2025E estimate is 36% higher versus our October 2023 estimates.

Exhibit 4: Incremental AI opportunity
~$7bn of incremental opportunity over 2023-26

(in mns)	2023E	2024E	2025E	2026E
AI server sales (in '000s)	1,794	3,004	3,763	4,505
Servers/rack	12.0	12.0	12.0	12.0
AI racks (in '000s)	150	250	314	375
Electrical cost/rack (actual $s)	10,000	10,000	10,000	10,000
Thermal cost/rack (actual $s)	20,000	20,000	20,000	20,000
Electrical costs ($bn)	1.5	2.5	3.1	3.8
Thermal costs ($bn)	3.0	5.0	6.3	7.5
Total costs ($bn)	4.5	7.5	9.4	11.3
Incremental growth (versus '23)	-	**3.0**	**4.9**	**6.8**

Source: BofA Global Research estimates

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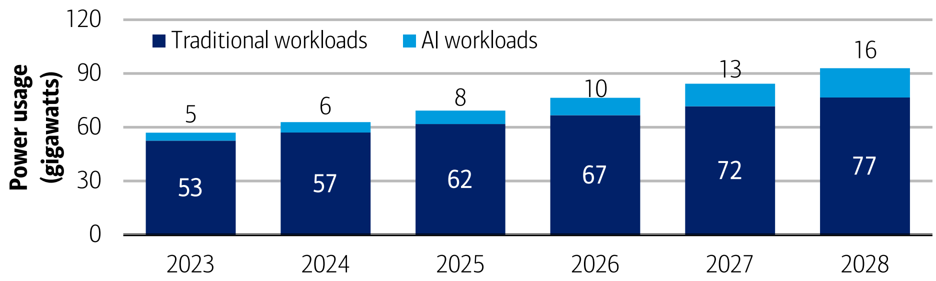
What electricity forecasts imply

Schneider Electric's Energy Management Research Center forecasts that artificial intelligence (AI) applications will use ~4.5 gigawatts (GW) of electricity in 2023, or 8% of total data center electricity usage. They expect this to grow to 14-19GW by 2028.

Exhibit 5: Global data center power usage by application

AI workloads' power usage expected to grow at a 25-33% CAGR over 2023-28



Source: Schneider Electric The AI Disruption: Challenges and Guidance for Data Center Design

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Translating from electricity forecasts to incremental demand

For AI gigawatts, we assume an incremental $1.0mn/MW for thermal content and $0.5mn/MW for electrical content (relative to traditional workloads). This approach implies a ~$5bn uplift in the market over 2023E-26E.

Exhibit 6: Data center physical infrastructure market (2023-26E)

~$5bn of incremental opportunity over 2023-26

		No AI adoption scenario			
($bn)	**2023**	**2024E**	**2025E**	**2026E**	**'23-'26E CAGR**
Electrical	12.1	13.5	15.1	16.8	12%
Thermal	4.5	5.1	5.7	6.3	12%
Total cost	16.6	18.6	20.8	23.1	12%
		AI adoption scenario			
Electrical	12.1	15.1	17.3	19.9	18%
Thermal	4.5	5.8	7.0	8.5	23%
Total cost	16.6	20.9	24.3	28.4	19%
Incremental AI benefit	**0.0**	**2.3**	**3.5**	**5.3**	

Source: BofA Global Research estimates

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Review by end market

At Eaton's customer experience center, we were given a tour through the company's various end markets. While investor focus has centered on data centers and grid, the company was constructive on growth throughout its various end markets.

Data centers & distributed IT (~14% of sales)

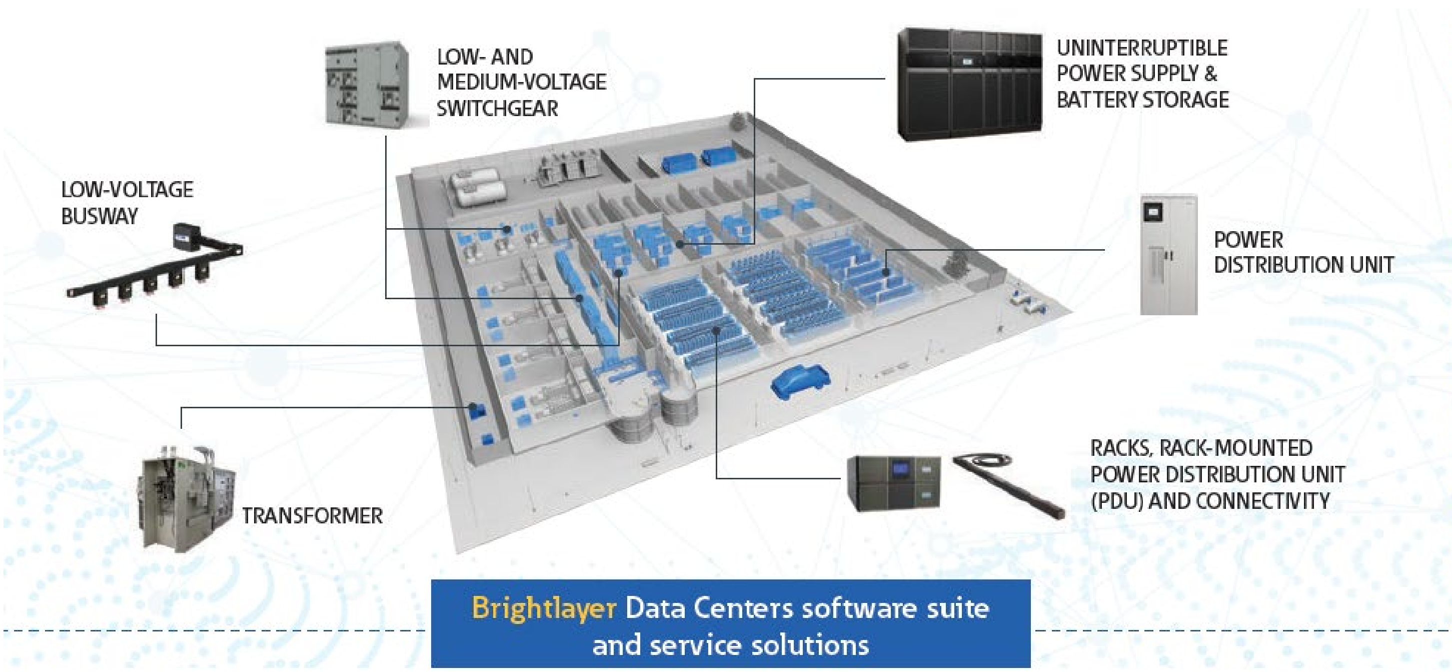
Data centers are receiving the most attention from investors. Demand is driven by an increase in data usage, edge computing, and cloud. AI is incremental to existing secular growth drivers. A >30% CAGR in the hyperscale market seems to be a consensus view; Eaton has stressed its exposure to distributed IT and capacity constraints driving a slower growth outlook. Eaton sees visibility over the next 5 years given supply chain constraints.

Demand trends: sustainability, AI, and grid constraints

The presentation highlighted three key trends in the data center space. The first is sustainability. New regulations are starting to require more sustainable data centers given the power consumption. This is across hyperscalers down to tenant data centers. The second is artificial intelligence (AI). The third trend is grid constraints. Given the extent of supply chain challenges, data centers are leveraging Eaton for innovation and development. Dedicated services are an important point of Eaton's data center value proposition.

Exhibit 7: Eaton data center content

Eaton provides content on the electricity and power management part of data center



Source: Company presentation

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Anecdotally, we have heard that large hyperscalers have approached Eaton with more aggressive demand needs than Eaton embeds in its growth forecasts given available capacity.

Brightlayer: software initiative for data center

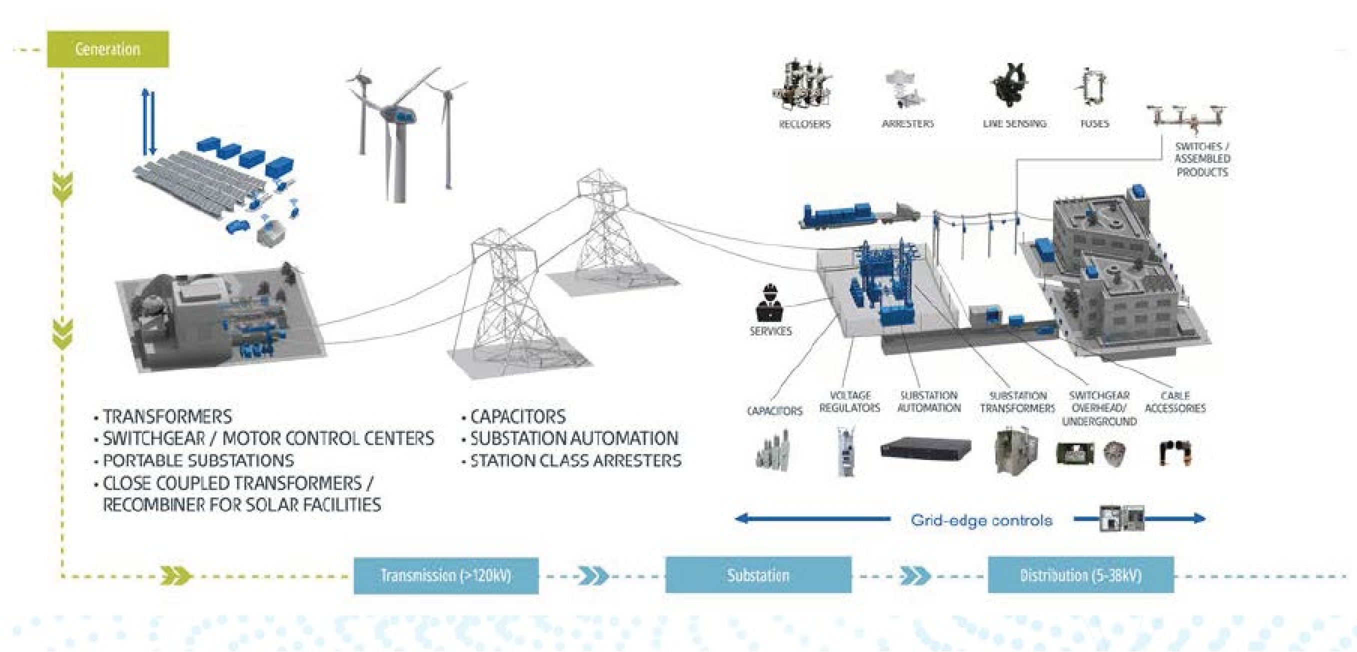
The company highlighted its Brightlayer offering on the tour. It shows the user the effectiveness of water usage for cooling, how effective carbon and power usage can be achieved, and the sources of power (e.g., gas, oil, wind). The software issues alerts to Eaton servicepeople who help to resolve any issues. This could include sending an Eaton employee to resolve the issue or adding another uninterruptible power supply (UPS). Eaton licenses its software with its services, depending on the contract.

Utility (~11% of sales)

"Without this, nothing works"

The utility presentation highlighted a $28bn TAM (total addressable market), with Eaton having ~9% of the market in 2023 sales. Eaton views its portfolio as more complete than competitors, supportive of its moat, with a full hardware and software offering. The company sees a 8.4% market CAGR from 2023-2028. Grid demand is fueled by electricity-centric legislation, an aging gid, increasing renewable generation, data centers, and incrementally by artificial intelligence. Currently, utilities are also learning to manage peaks in demand differently given changing consumer patterns (increased electric heating, for example). The presentation's key message was that without support from the grid, none of the other end uses of Eaton products are able to work. Supply chain remains a constraint, albeit an easing one. While not a focus at the event, we note that historically utility has been a less profitable vertical for Eaton. Following cost takeout and now, volume leverage, profitability has improved.

Exhibit 8: Eaton utility content
Eaton provides content in the "distribution" side of grid



Source: Company presentation

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Medium voltage has been one of the most capacity constrained products and a key focus area for the $1bn of capacity that Eaton is adding. Eaton plays in medium-voltage, and produces low voltage transformers in its residential business. Notably, the same medium-voltage transformers used to step-down high-voltage transmission lines for distribution are used in data centers. We heard questions from investors about how Eaton prioritizes sales activity between data center and utility customers.

Supply chain constraints are a problem, but priority for capacity

The presentation highlighted that lead times remain a problem. While there have been material availability constraints, the key bottleneck is now manufacturers' own capacity. Medium voltage is a key focus area for the $1bn of capacity Eaton is adding. The company is doubling its output capabilities for transformers and voltage regulators and increasing its capacity for dielectric switchgear by 60%. Among other capacity addition announcements, Eaton's $85mn investment to increase capacity in Queretaro, Mexico is focused on utility. The capacity will start to move the needle on output in early 3Q, but we expect the material acceleration to occur in early 2025. The company also sees growth in bidirectional grid (e.g., using an electric vehicle to put power back into the grid) as increasing demand for voltage regulators in particular.

Distribution planning software a highlight

The presentation highlighted its Brightlayer Utilities suite software. This includes distribution planning software, distribution automation software tools, and a growing amount of analytics offerings. The company provided a use case for its distribution planning software. Utilities internally forecast electricity demand to plan for peak loads. If a grid is not performing under an increased low, the traditional solution is to build a new substation, which requires time and money. Eaton's distribution planning software offers a "load relief" model. This helps utilities understand what specifically the system is struggling to handle and how to resolve it. Instead of building a new substation, Eaton's software could recommend installing the battery storage. This would be cheaper and require less labor. Eaton's software could also recommend where to install the battery storage in order to maximize results.

How does the grid work?

The US electrical grid has ~7,000 power plants with capacity of at least one MW. These are connected to step-up transformers to increase the voltage for transmission. Transmission takes place over 642,000 miles of high-voltage lines (i.e., over 34 kilovolts, or kV). High-voltage transmission lines go through step-down transformers for distribution to customers. The US grid has over 200,050 distribution circuits, which run from substations to end users through 6.3mn miles of distribution lines. There are also residential transformers with 120-240 voltage (low voltage), which is typical for single-family homes.

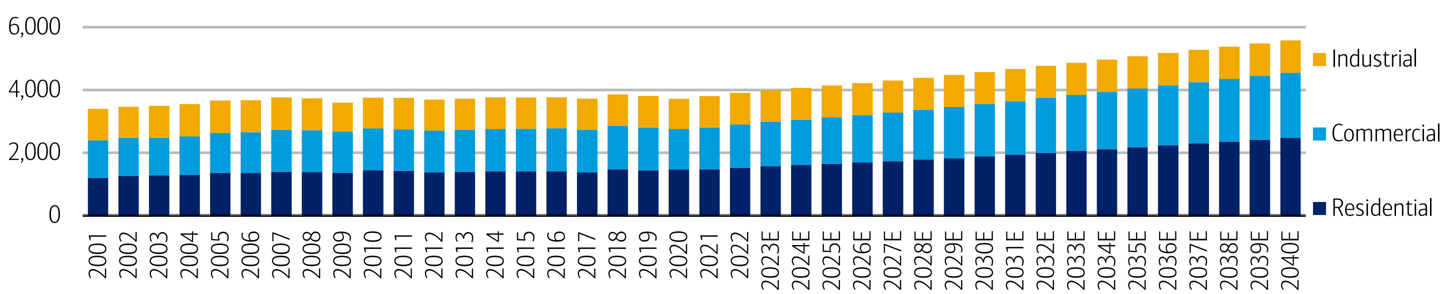
Doing the math on electrification

Below we show our math on US electricity demand. For our complete analysis and in-depth coverage on why the grid needs more reinvestment, please see our full grid report. US electrical demand grew at a 0.6% CAGR over the 2002-22. We estimate that increased adoption of electric vehicles (EVs), heat pumps, and electric water heaters will drive a 2.0% CAGR over 2022-40E. This compares to Eaton's commentary that US electrical demand will grow at a 2-3% CAGR in the future.

This has significant implications for US grid investments, as capacity limits will start to be reached for transformers, substations, and transmission. In the last 20 years, annual US electrical demand increased by 444 terawatt hours. We forecast 1,678 terawatt hours being added over the next 18 years, implying capacity-focused capex would need to increase by nearly 4x.

Exhibit 9: US electrical demand (in terawatts per year) 2001–2040E

We forecast US electrical demand to grow at a 2.0% CAGR over 2022-40E versus 0.6% CAGR over 2002-22



Source: BofA Global Research, EIA

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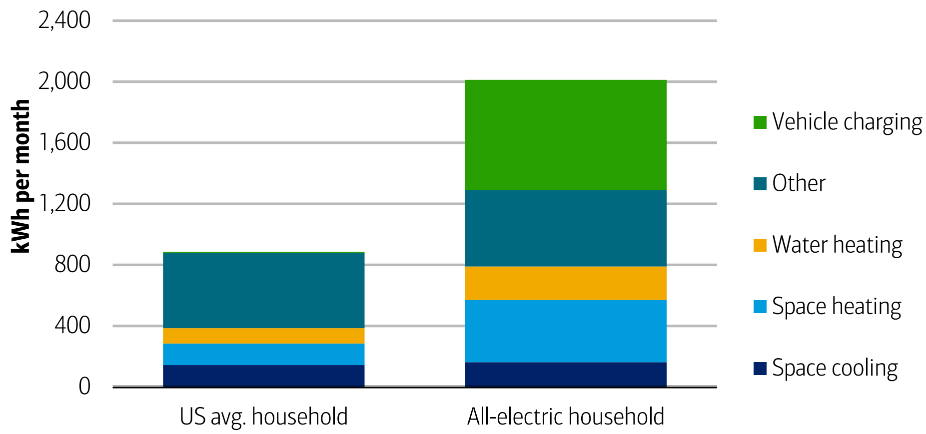
The all-electric home – 125+% more power needed

In 2022, the average US household used 886 kilowatt hours (kWh) per month, according to the Energy Information Administration (EIA). Using EIA data implies that the average all-electric home would use 2,013 kWh/month, or a 127% increase.

Currently fossil fuels power 54% of residential water heaters, 65% of space heating, and 99% of passenger vehicles. Replacing space heating would add 409 kWh/month and replacing water heaters would add 219 kWh/month. For EVs, we used average vehicle data from the Federal Highway Administration. We assume an average of 14,000 miles driven per vehicle, 1.79 vehicles per household, and 0.346 kW/mile efficiency. This yields 723 kWh/month for EV charging (assuming all charging is done at home).

Exhibit 10: Current US household electricity usage versus a hypothetical all-electric household
The average household would need 127% more electricity to go all electric



Source: BofA Global Research, Energy Information Administration, Federal Highway Administration

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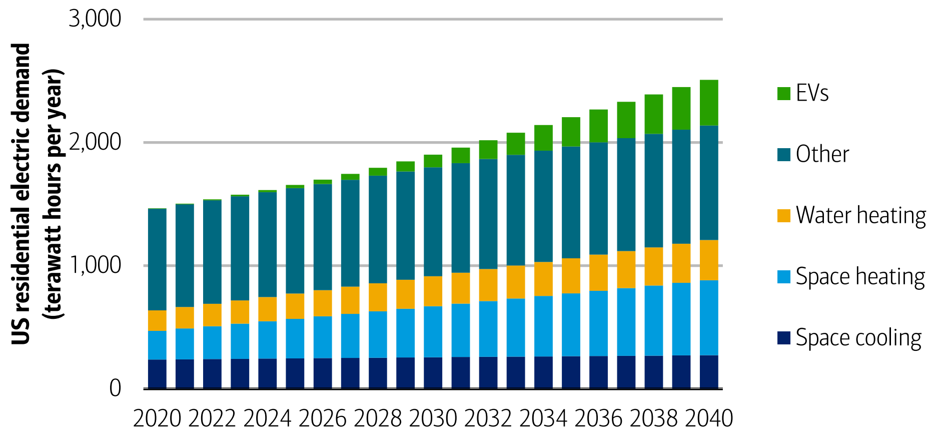
We view this as a conservative estimate for three reasons. First, we do not factor in smaller fossil fuel appliances (e.g., stoves, ovens, clothes dryers, and fireplaces). Second, we do not consider the lower efficiency of heat pumps in colder climates. Third, we do not factor in line losses between power plants and homes, which are typically 5% of total electricity generation.

By 2040, we assume electricity adoption reaches 80% of water heaters (versus 46% today), 80% for heat pumps and other electric heating (versus 35% today), and 40% for EVs (versus 1% today). We also assume 0.6% CAGR for population growth, in line with the US Census forecasts. In line with survey data, we assume 80% of EV charging is done at home.

We forecast total US residential electric demand to rise from 1,535 terawatt hours/year in 2022 to 2,508 terawatt hours/year in 2040, or a 2.8% CAGR. This compares with a 0.9% CAGR over 2002-2022.

Exhibit 11: US residential electric demand forecast
We forecast residential electric demand to grow at a 2.8% CAGR (2022-2040E)



Source: BofA Global Research estimates

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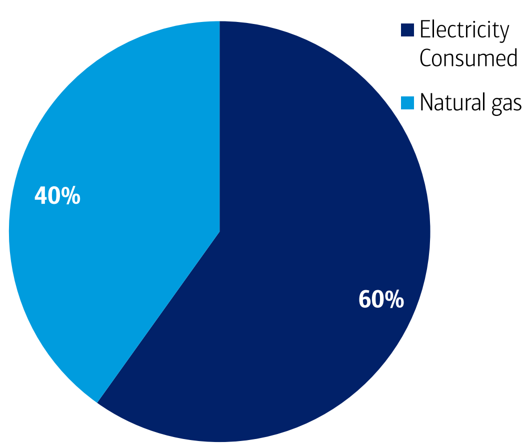
Commercial: electric heating regulations & incentives

In 2022, US commercial buildings used 1,373 terawatt hours of electricity. However, they also used 3,524bn cubic feet of natural gas, which is equivalent to an additional 920-terawatt hours of electricity. In other words, 40% of commercial buildings' total energy usage came from fossil fuels.

Exhibit 12: Commercial building energy consumption
Natural gas consumption is equivalent to 40% of total energy use



Source: BofA Global Research, EIA

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By 2040, we assume more buildings have transitioned to electrification, driven by incentives and regulations. We think that fossil fuels as a % of commercial buildings energy usage will drop to 25% by 2040, driving incremental electrification demand. We also assume 20% of EV charging outside of the home takes place at commercial buildings. This adds an additional 93-terawatt hours/year of electricity usage for commercial buildings, on our math.

Is a shift to electric heating realistic?

- **Regulations:** The state of Washington now requires all-electric heating in new buildings, with New Jersey considering similar legislation. Several cities have also banned fossil fuel heating for new construction. We expect a combination of bans and zero-carbon goals to result in gradually greater use of electricity for space heating.

- **Credits:** The 179D tax credit allows building owners to receive tax credits for upgrades to more efficient heating, ventilation, and air conditioning (HVAC) equipment. The Inflation Reduction Act increased the potential credit from $1.87/square foot to $5.00/square foot.

- **Replacement:** In 2018, the EIA estimated that 29% of US commercial square footage used electricity for primary space heating. Given an average useful life of a natural gas or oil heat furnace of 20-30 years, a significant portion of fossil fuel-heated buildings will face a replacement by 2040.

These factors yield our forecast for US commercial electric demand to rise from 1,373 terawatt hours/year in 2022 to 2,046 terawatt hours/year in 2040. This implies a 2.2% CAGR, which compares to a 0.6% CAGR over 2002-2022.

Our work assumes a 2.0% electricity demand CAGR through 2040. Eaton discussed a slightly higher 2-3% CAGR over the next several years.

Industrial facilities (12% of sales)

Still in early stages of growth

On the tour, Eaton cited four large drivers of market dynamics in industrial facilities: safety, reliability, efficiency, and sustainability. Eaton emphasized its leading market share comes from having the broadest, most complete product portfolio in the industrial space. Its products have extensive board certifications, which are necessary for its customers. Best-in-market delivery was particularly stressed in this business. Notably, this segment particularly benefits from reshoring (EV battery plants and semiconductor fabs). While significant investment has been made in the past two years, the company views this investment as “early stages” and sees more to come in the next five years.

Remote monitoring and APM software offerings

The company has two software offerings currently in this business. The first is remote monitoring, advertised to newer users as a “hook”. For example, if an alarm goes off because humidity is too high, it alerts the user immediately about a potential faulty condition. Asset performance management (APM) is the latest offering. This gives users an enterprise-wide view their company. It allows users to view power management and power quality across its facilities. Given high costs of shutting down equipment (e.g., in a refinery), the company views the ability to monitor uptime, reliability, and safety through software as key to its customers. While the percentage of customers using the software currently is small, the company sees it as growing significantly.

Global Energy Infrastructure Solutions (~11% of sales)

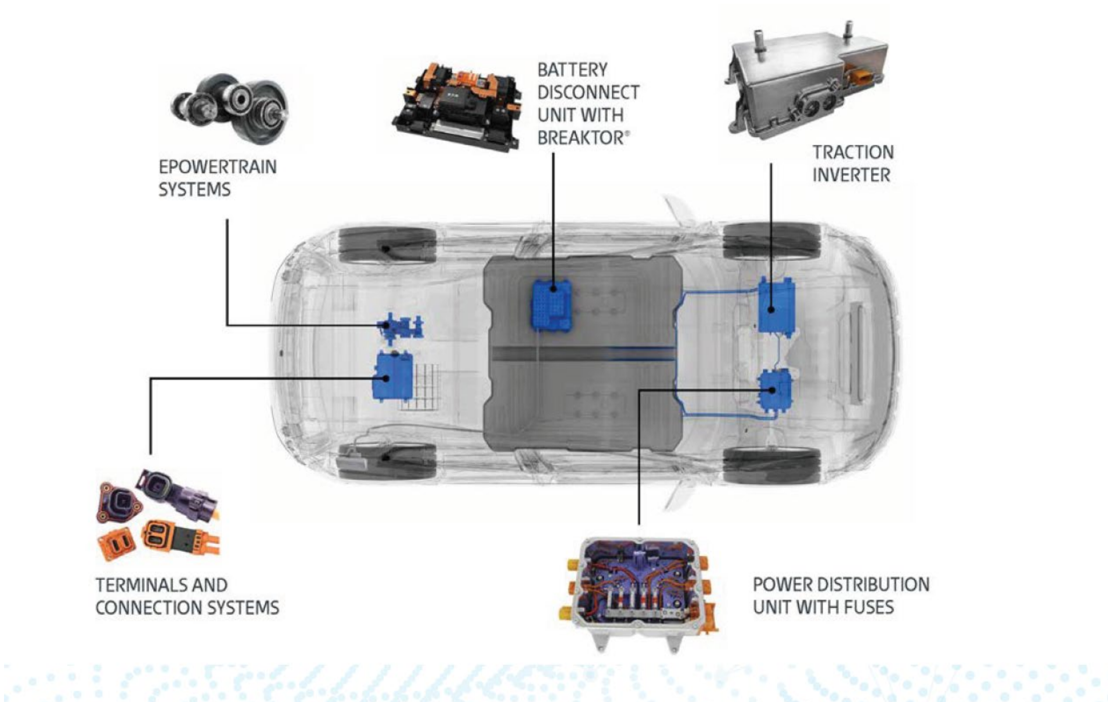
Healthy MRO oil & gas demand coupled with rising mega-project exposure

The Global Energy Infrastructure Solutions (GEIS) business combines Eaton’s Crouse-Hinds and B-Line series. Oil & gas is roughly one-third of the business, with the remainder in institutional/industrial end markets. We estimate Crouse-Hinds is roughly two-thirds of the business and the remainder is B-Line. The business continues to see healthy demand in maintenance, repair, and overhaul (MRO) spending. MRO spending has been driven in particular by aging process infrastructure. We note this is a book-and-ship business, with little backlog build. GEIS has underappreciated exposure to mega-projects. The business is seeing related demand for its products, particularly related to cable support.

eMobility (~3% of sales)

Eaton’s eMobility presentation highlighted a $60bn addressable market (the largest cited TAM of the event). The company sees a 24% market CAGR from 2023-2028. We sense management is the most excited about this particular market for growth and views it as the biggest long-term growth platform. Eaton sees 18x its content on ICE (internal combustion engines) with BEV (battery electric vehicles) and 9x with hybrid. During the Q&A session, Eaton acknowledged a near-term demand slowdown in this business. We heard that customer wins can have very large contract values, e.g., a >$0.5bn/year contract with one large auto OEM.

Exhibit 13: Eaton eMobility content
The company highlighted a more complete product package vs.



Source: Company presentation

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Value proposition in growing market: superior product portfolio
Eaton expects to win share in a nascent market with its superior product offerings, driven by a better understanding of vehicle design and electrical technology than peers. It is able to take technology and design practices from both the Vehicle and the Electrical side. It offers the lightest, smallest, and least vibrational connectors. This is because it specifically designed its connectors for auto applications, whereas other companies have industrial offerings that were applied to vehicles. Eaton views its custom fuse as solving legacy issues with power distribution units and fuses. Its ePowertrain systems build on the company's gear science capabilities. The company's traction inverters, which it developed with Electrical technology, are more efficient than those of competitors. The company views its high-voltage Breaktor battery disconnect unit as a differentiator, as very few other companies are able to design this in house. It had a large win with a customer that was not able to develop its own power distribution unit in-house, which Eaton was able to provide. The company highlighted $1bn of wins from 2018-2023 growing to $1.3bn in 2023 as evidence of its differentiated product capabilities.

Synergies with Vehicle and with Electrical
We heard that the eMobility business is coupled on the facility and design side with Vehicle and blended with Electrical on the product side. The company also described having both eMobility and Vehicle businesses as a "natural hedge for the EV transition."

Initially, the legacy Vehicle business helped support eMobility by leveraging design capabilities and blending facilities (e.g., a facility in Poland shared between Vehicle and eMobility). Vehicle facilities are also largely depreciated, so coupling the assets improves return on capital. Given near-term slowdowns in the EV market, Eaton believes that having both a legacy vehicle business and an eMobility business provide it with optionality.

Visibility on profitable growth

Eaton has a medium-term 2025 target for 11% operating margins. Long-term, it sees mid-teens operating margin or better. 2024 guidance is 1-2% operating margins. The model is relatively asset-light, based around assembly and test. The $1.3bn of wins the company discussed will be going into production in the next two to three years. It seems that more volume leverage is the key to improving margins as the contracts begin to ramp.

Residential (7% of sales)

More content in the home as electricity demand grows

On our tour, the company emphasized growing demand for electricity in the home. Legislative is the largest demand driver. Increased electric vehicle demand will also drive up electricity consumption. Eaton cited studies indicating that 50% of EV charging will occur at home. The company aims to increase content spending in a home with higher end “smart” hardware and software. The company believes consumers will be driven to the higher end hardware by regulations for utility and more constrained electricity availability as demand outpaces supply.

As demand for electricity grows, Eaton is offering products that help manage the demand (“flexible load management”). One product emphasized was Eaton’s circuit breaker, where Eaton embedded a demand response program. Coupled with Brightlayer, the smart breaker allows a homeowner to manage its devices, control essential vs. non-essential uses of energy, view the energy sources into the home (e.g., solar vs. grid vs. battery), set schedules for various appliances, and prioritize load between essential and non-essential. Eaton also added a vehicle charger to the circuit breaker.

Exhibit 14: Eaton smart breakers

Smart breakers allow for flexibility in planning, simplify demand response, prioritize energy use, etc.

Source: Company website

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We think the company has a more constructive outlook on residential growth in ‘25/’26 relative to the past several slow years. We estimate sales declined low-single digits y/y in 2023. The company’s 2024 guidance embeds a flat outlook.

Microgrid

Eaton demonstrated its Power Xpert microgrid controller on the tour. Microgrids are stand-alone electrical systems consisting of multiple generating sources and defined loads that can operate independently from the primary utility grid. In peak demand periods, this allows an operator to change power sources to avoid either paying peak prices or power outages.

Eaton's controller combines hardware and software, embedding HMI (human-machine interface), historian, and automated sequencing and coordination. The controller ROI can vary widely depending on energy costs in a given region. Increased access to battery and solar can increase the ROI of the business, where cheaper utility prices can reduce it. Eaton has already deployed similar offerings in its industrial and military business for energy monitoring and consumption, the offering in its microgrid demo was specifically designed for buildings.

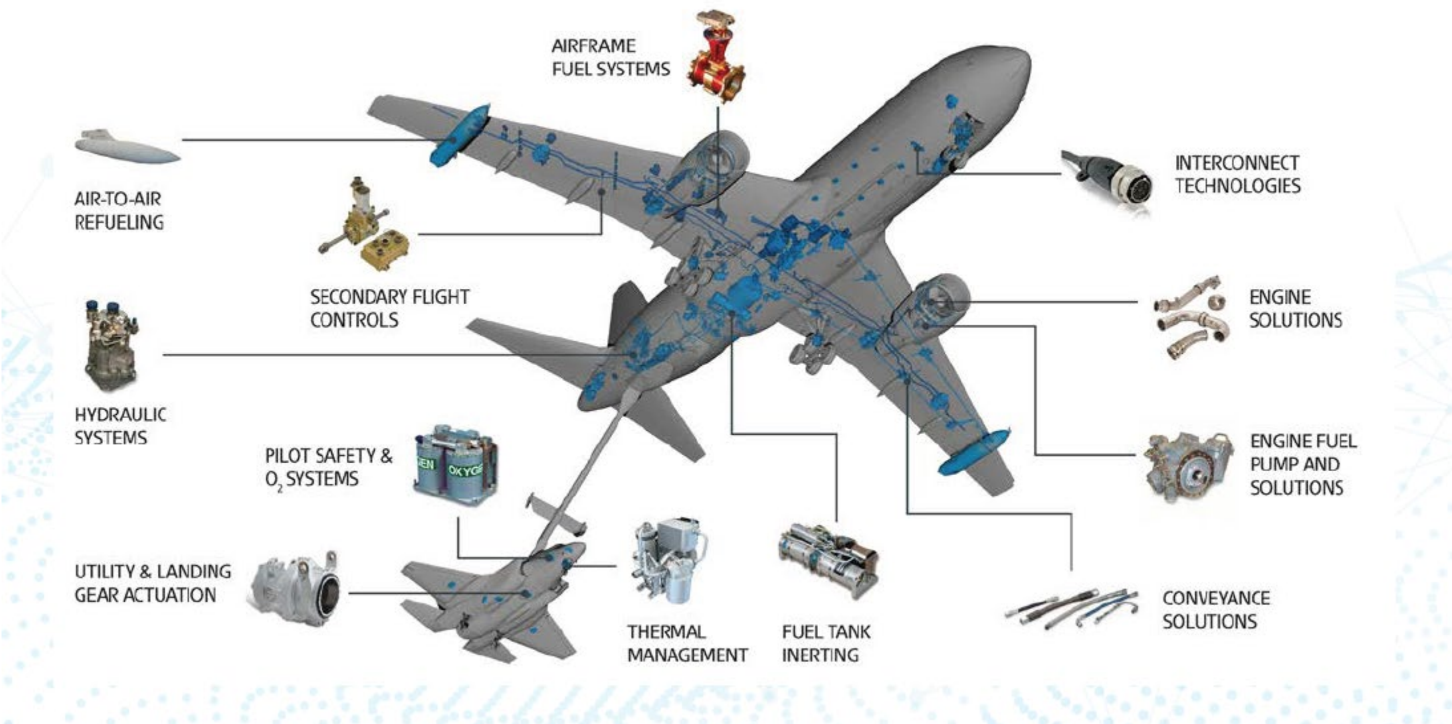
The embedded software (Brightlayer) offerings allow building owners to control and monitor energy consumption and production. It can optimize the different kinds of energy (e.g., between solar, battery, the grid, etc.) based on cost. The software also facilitates "peak-shaving." On the tour, management explained why peak-shaving is so important. Once a business/building hits "peak" demand, it has to pay peak rates for the remainder of the month.

Aerospace (15% of sales)

Steady grower, new leader

Eaton sees a 7.4% market CAGR for aerospace from 2023-2028. Growth is underpinned by secular aerospace demand, increasing electrification content on new planes, and a focus on winning platforms from incumbents. As a result, the meeting was very bullish on demand and the company's technology portfolio The high-single-digit growth framework is consistent with other companies issuing their view on the market. The company framed the Aerospace business as a steady grower and highlighted the new leader, John Sapp, President, Aerospace Group. Sapp becomes the president effective April 1, 2024. He comes from Collins Aerospace; prior to that, GE; and prior to that he spent nine years as an F-15 instructor pilot in the US Air Force.

Exhibit 15: Eaton aerospace content
The company's presentation highlighted air-to-air refueling, among other technologies



Source: Company presentation

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New platforms, beating out incumbents

Winning new platforms, particularly in additive manufacturing, is a priority for the business. The Souriau-Sunbank and Cobham acquisitions have materially expanded Eaton's presence on some key programs including KC-46A, F-35, and T-7A. On the commercial aviation side, Eaton's content on the Boeing 777X is 2x the content on the 777.

Longer-term well positioned for higher electrical content

Electrical vertical take-off and landing (eVTOL) aircraft use electric power to take off, hover, and land vertically. Eaton won the eVTOL platform for Airbus A330 and will be on the next-generation plane. As hybrid electric propulsion gains credibility, our colleagues on the BofA Aerospace team expect to see an increase in defense and civil demand. Eaton believes it established credibility early, so it is well-positioned for the increase in demand.

Longer term, the presentation stressed that Eaton is well-positioned for higher electrical content. New planes have increasingly higher amounts of electrical content in both commercial and on the defense side (e.g., increased laser capabilities). The company stressed a need to continue winning against aerospace incumbents, which include Curtiss-Wright, Crane, Moog, and TransDigm (Esterline Technologies).

We note that the Aerospace segment is ~15% of sales, but the reported segment includes the company's filtration and golf grips businesses.

Capital allocation favors returning cash to shareholders

The message at the event was that the company will continue to favor organic investment and returning cash to shareholders over M&A. Management stressed that at current valuations, it remains difficult to monetize existing assets in an accretive way.

On February 23, 2022, the board of directors adopted a share repurchase program for up to $5.0bn of ordinary shares. It renewed this program on February 23, 2022, providing authority for up to $5.0bn in repurchases to be made during the three-year period commencing at that time. The company purchased $286mn worth of shares (2.0mn) in 2022. The company did not do any share repurchases in 2023. There remains ~$4.7bn in share repurchase availability through February 23, 2025.

Capacity additions to drive North American growth

Eaton has publicly announced plans to add ~$1bn in capacity. We estimate roughly three-quarters of the capacity is tied to Electrical North America. Below we summarize the key areas of investment and size.

- **August 28, 2023:** Eaton announced it would invest more than $500mn to increase capacity in North American manufacturing. This included expanding production capacity of voltage regulators in Nacogdoches, Texas; freeing capacity for three-phase transformers in Waukesha, Wisconsin; increasing busway production for circuit protection and metering, manufacturing growth for switchgear and switchboards; and expanding distribution capacity in Chicago and Dallas.
    - Jobs added: 200
- **September 13, 2023:** Eaton announced it would invest $150mn at locations across El Paso, Texas; Beaver, Pennsylvania; Juarez, Mexico; Arecibo, Puerto Rico; and Haina, Dominican Republic; to increase manufacturing of electrical infrastructure for North America including circuit breakers, switchboards, panelboards, and assemblies.
    - Jobs added: 600
- **October 26, 2023**: Eaton announced it would invest $85mn to increase North American manufacturing of utility solutions in Queretaro, Mexico. Products included line installation and protective equipment, and adding new injection presses and manufacturing equipment.
    - Jobs added: 300

Valuation

We base our $330 price objective on a 24x EV/EBITDA multiple of our 2025 estimates. Our target multiple is at a premium to the 17x peer average on 2024 estimates. We argue a premium valuation is warranted due to expected upside from cyclical operating leverage, strong margin performance, and Eaton's less cyclical portfolio mix.

Exhibit 16: Eaton valuation vs. peers

Our $330 price objective reflects 23x EV/EBITDA multiple on our 2025 estimates

		Stock Price	P/E		EV/EBITDA		EBITDA margin		EPS Growth	
Company	**Ticker**	**3/15/2024**	**2024E**	**2025E**	**2024E**	**2025E**	**2024E**	**2025E**	**2024E**	**2025E**
ABB	ABLZF	$47.83	23.4 x	21.0 x	14.4 x	13.2 x	18.8%	19.4%	1%	11%
Dover	DOV	$175.84	19.4 x	17.5 x	14.8 x	13.7 x	21.8%	22.5%	3%	11%
Emerson	EMR	$109.87	20.5 x	18.8 x	13.8 x	12.9 x	26.0%	26.5%	15%	9%
General Electric	GE	$170.28	39.1 x	31.8 x	23.5 x	18.6 x	15.7%	14.9%	55%	23%
Honeywell	HON	$197.08	19.5 x	17.5 x	13.9 x	12.9 x	26.8%	27.1%	10%	12%
Hubbell*	HUBB	$395.62	24.3 x	22.6 x	17.2 x	15.8 x	22.5%	22.8%	7%	7%
Trane Technologies	TT	$290.32	28.4 x	26.2 x	20.2 x	18.8 x	18.5%	18.9%	13%	8%
Illinois Tool Works	ITW	$264.40	26.0 x	24.1 x	18.9 x	17.9 x	28.1%	28.5%	4%	8%
Johnson Controls	JCI	$63.09	16.2 x	13.8 x	11.4 x	10.5 x	15.8%	16.5%	10%	17%
Legrand	LGRVF	$97.74	22.7 x	21.0 x	15.3 x	14.2 x	22.1%	23.1%	-14%	8%
Schneider	SBGSF	$236.48	32.0 x	28.6 x	19.5 x	17.9 x	19.9%	20.3%	4%	12%
AVERAGE			**24.7 x**	**22.1 x**	**16.6 x**	**15.1 x**	**21.5%**	**21.9%**	**10%**	**11%**
Eaton	**ETN**	**$299.56**	**29.5 x**	**27.6 x**	**23.3 x**	**21.6 x**	**22.1%**	**22.3%**	**11%**	**7%**
Eaton at PO		**$330.00**	**32.5 x**	**30.4 x**	**25.5 x**	**23.6 x**				

Source: BofA Global Research estimates, Bloomberg

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Price objective basis & risk

Eaton Corp PLC (ETN)

We base our $330 price objective on a 24x EV/EBITDA multiple of our 2025 estimates. Our target multiple is at a premium to the 17x peer average on 2024 estimates. We argue a premium valuation is warranted due to expected upside from cyclical operating leverage, strong margin performance, and Eaton's less cyclical portfolio mix.

Downside risks to our PO are 1) a slower-than-expected manufacturing capex growth, 2) a more active M&A is inherently risky as it relies on the availability of accretive synergistic targets and the company's ability to integrate, and 3) the trajectory of the recovery in automotive and aerospace end markets.

Analyst Certification

I, Andrew Obin, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Multi-Industrials/Engineering and Construction Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AspenTech	AZPN	AZPN US	Andrew Obin
	Atmus Filtration	ATMU	ATMU US	Andrew Obin
	Dover Corp	DOV	DOV US	Andrew Obin
	Eaton Corp PLC	ETN	ETN US	Andrew Obin
	Emerson Electric Co	EMR	EMR US	Andrew Obin
	Flowserve	FLS	FLS US	Andrew Obin
	Honeywell International Inc.	HON	HON US	Andrew Obin
	ITT Inc.	ITT	ITT US	Andrew Obin
	Montrose Environmental Group, Inc.	MEG	MEG US	Andrew Obin
	Parker Hannifin Corporation	PH	PH US	Andrew Obin
	PTC Inc.	PTC	PTC US	Andrew Obin
	Rush	RUSHA	RUSHA US	Andrew Obin
	Vertiv	VRT	VRT US	Andrew Obin
	Vontier	VNT	VNT US	Andrew Obin
NEUTRAL				
	3M Company	MMM	MMM US	Andrew Obin
	AMETEK Inc	AME	AME US	Andrew Obin
	Fortive Corporation	FTV	FTV US	Andrew Obin
	Johnson Controls International PLC	JCI	JCI US	Andrew Obin
	Pentair plc	PNR	PNR US	Andrew Obin
	Rockwell	ROK	ROK US	Andrew Obin
	Trane Technologies PLC	TT	TT US	Andrew Obin
UNDERPERFORM				
	Allegion	ALLE	ALLE US	Andrew Obin
	Carrier Global Corp.	CARR	CARR US	Andrew Obin
	Core & Main	CNM	CNM US	Andrew Obin
	Illinois Tool Works	ITW	ITW US	Andrew Obin
	John Bean Technologies	JBT	JBT US	Andrew Obin
	Keysight	KEYS	KEYS US	David Ridley-Lane, CFA

iQmethod SM Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A

Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt – Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense

Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

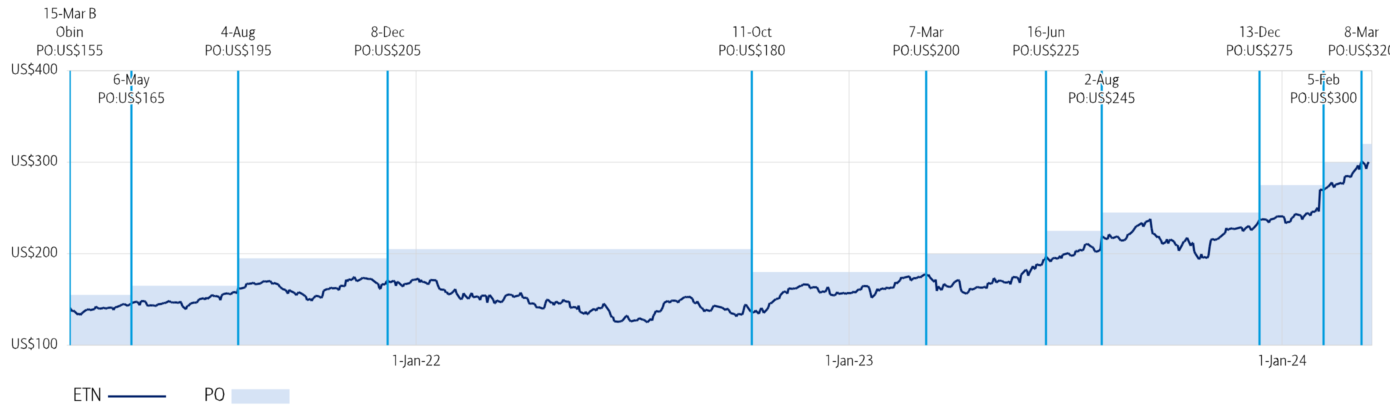
iQmethod SM is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

iQdatabase ® is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

Disclosures

Important Disclosures

Eaton Corp PLC (ETN) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Electrical Equipment Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	14	53.85%	Buy	10	71.43%
Hold	6	23.08%	Hold	3	50.00%
Sell	6	23.08%	Sell	1	16.67%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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